



drishti

**Current  
Affairs  
(CONSOLIDATION)**

**JANUARY 2024  
(PART – II)**

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# Polity and Governance

## Highlights

- Aadhaar is Not a Proof of Citizenship
- Prohibition on Sapinda Marriage
- ASI Survey Report on Gyanvapi Mosque
- Pradhan Mantri Suryodaya Yojana
- Sub-Categorisation of Scheduled Castes
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- Swachh Survekshan Awards 2023



# LOKPAL

It is a statutory body functioning as "Ombudsman" to investigate corruption allegations against specific public officials and related issues.

### HISTORICAL BACKGROUND

**World**

- 1809: Institution of Ombudsman first created in Sweden


**India**

- 1963: Idea of ombudsman first came up in Parliament
- 1971: First Lokayukta established in Maharashtra
- 2011: Anna Hazare Movement for Lokpal
- 2013: Lokpal and Lokayuktas Bill, 2011 passed
- 2014: Lokpal and Lokayuktas Act, 2013 came into force and amended in 2016
- 2019: Justice (Retd) Pinaki Chandra Ghose as first Lokpal of India

**Statutory Provision: Lokpal And Lokayuktas Act (2013)**

Seeks to establish institution of Lokpal at Centre and Lokayukta at State

<p><b>Jurisdiction</b></p> <ul style="list-style-type: none"> <li>Includes Prime Minister, Ministers, MPs and Groups A, B, C and D officers, officials of Central Govt</li> <li>Institutions financed fully or partly by Government</li> <li>Entities getting over ₹10 lakhs annually in foreign donations under FCRA</li> </ul>	<p><b>Appointment</b></p> <ul style="list-style-type: none"> <li>Selection of Chairperson and members through Selection Committee (PM, Speaker-LS, Leader of largest opp. party, CJI or sitting SC Judge nominated by CJI and an eminent jurist nominated by President)</li> <li>Search Committee assists Selection Committee in process of selection</li> </ul>
<p><b>Power</b></p> <ul style="list-style-type: none"> <li>Authority to approve public servants' prosecution instead of government or relevant authority</li> <li>Power of superintendence and direction over any investigating agency, including CBI, for cases referred to them by Lokpal</li> <li>Incorporates provisions for attachment and confiscation of property of public servants acquired by corrupt means, even while prosecution pending</li> </ul>	<p><b>Structure</b></p> <ul style="list-style-type: none"> <li>Chairperson + maximum 8 members</li> <li>50% Judicial members</li> <li>50% from SCs, STs, OBCs, minorities and women</li> </ul>
<p><b>Punishment</b></p> <ul style="list-style-type: none"> <li>Enhances maximum punishment under Prevention of Corruption Act, 1988</li> </ul>	<p><b>Term of office</b></p> <ul style="list-style-type: none"> <li>5 yrs or until the age of 70 yrs</li> </ul>



**Drishti IAS**

Note:

## Aadhaar is Not a Proof of Citizenship

### Why in News?

The Indian government has recently emphasized that **Aadhaar** is not proof of **citizenship** or date of birth (D.O.B).

- The new Aadhaar cards and PDF versions of the identity document have started including a more explicit and prominent disclaimer that they are “**a proof of identity, not of citizenship or date of birth,**” signalling to government departments and other organizations to not use it for those purposes.

### What are the Legal Clarifications on the Use of Aadhaar as an Identity Document?

- **Bombay High Court:**
  - Bombay High Court in *State of Maharashtra vs Unique Identification Authority of India (UIDAI) Case, 2022* clarified the scope and limitations of Aadhaar as an identity document. The Court stated that **Aadhaar is only a proof of identity and residence, not of citizenship or date of birth.**
- **Supreme Court of India:**
  - The **Supreme Court of India** in the case of **Justice K.S. Puttaswamy (Retd.) and Anr. vs Union Of India, 2018** has upheld the constitutional validity of Aadhaar.
    - The Court also clarified that **Section 9 of the Aadhaar Act, 2016** states that “The Aadhaar number or the authentication thereof **shall not, by itself, confer any right of, or be proof of, citizenship or domicile** in respect of an Aadhaar number holder”.
- **Ministry of Electronics and Information Technology (MeitY):**
  - MeitY clarified in a 2018 memorandum that Aadhaar is “**per se ... not a proof of date of birth,**” as the **date of birth is based on a different document given by Aadhaar applicants.**
- **Employees’ Provident Fund Organisation (EPFO):**
  - The **EPFO** which administers the mandatory retirement fund for salaried employees in India.
    - The EPFO issued a circular in January 2024 **deleting Aadhaar from the list of documents acceptable as a proof of date of birth.**

### Aadhaar

- Aadhaar is a **12 digit individual identification number** issued by the **Unique Identification Authority of India (UIDAI)** on behalf of the Government of India. The number serves as a **proof of identity and address**, anywhere in India.
- Aadhaar card, which is a biometric document, **stores an individual’s personal information on a government database.**
- An Aadhaar card can be issued to any person **residing in the country for more than six months continuously**, provided he/she submits one of the 18 listed identity cards and an address proof.
  - Foreign nationals are eligible to obtain one if **they have been living in India for half a year.**
- Aadhaar number will help the residents to avail various services provided by banking, mobile phone connections and other Govt and Non-Govt services in due course.

### What are the Concerns Regarding the Aadhaar?

- Usage of Aadhaar as Proof of Citizenship or D.O.B:
  - The **Election Commission of India** explicitly accepts Aadhaar as proof of date of birth for enrolling people to vote.
    - These new clarifications on Aadhaar usage, prominently printed in the identity document, may challenge such allowances.
- **Privacy and Security:**
  - Aadhaar involves the collection and **storage of sensitive personal information**, such as fingerprints, iris scans, and face photos, which **raises the risk of data breaches, identity theft, and surveillance.**
- **Biometric Authentication:**
  - Aadhaar relies on **biometric verification for accessing services**, which poses challenges such as the **reliability and accuracy of the technology**, the availability and quality of the infrastructure, and the exclusion and **denial of services due to biometric failures.**

### Citizenship

- Citizenship is the legal status and **relationship between an individual and a state** that entails specific rights and duties.

Note:

- The **Citizenship Act of 1955** prescribes five ways of acquiring citizenship, viz, **birth, descent, registration, naturalization and incorporation of territory**.
  - The Act also deals with renunciation of citizenship by way of **termination, deprivation and Voluntary Renunciation**.
- The Indian Constitution defines **citizenship in Part II**, which includes **Articles 5 to 11**.
- Citizenship is listed in the **Union List under the Constitution** and thus is under the exclusive jurisdiction of Parliament.
- A **birth certificate in India** can serve as proof of identity, age, and Indian citizenship.
  - According to the **Registration of Births and Deaths Act, 1969**, births must be registered within 21 days.

## Prohibition on Sapinda Marriage

### Why in News?

Recently, the Delhi High Court in the case of **Neetu Grover v. Union of India & Ors, 2024** has rejected a challenge to the constitutionality of **Section 5(v) of the Hindu Marriage Act, 1955 (HMA)**, which **prohibits marriage between two Hindus** if they are “Sapindas” of each other.

- A sapinda marriage involves **individuals who share a specific degree of familial closeness**.

### Why Was the Law Challenged, and What Was the Court's Ruling?

- **Arguments of Petitioner:**
  - In 2007, the petitioner's marriage was **declared void after her husband successfully proved** that they had **entered into a sapinda marriage**, and that the woman was not from a community where such marriages could be considered a custom.
  - The petitioner challenged the constitutional validity of the **prohibition on sapinda marriages, arguing** that sapinda marriages are **prevalent even when there is no proof of custom**.
  - Hence, **Section 5(v) which prohibits sapinda marriages** unless there is an established custom, violates the right to equality under Article 14 of the Constitution.

- The petitioner also argued that if the marriage had received the consent of both families, **which proved the legitimacy of the marriage**.

### ➤ Delhi Court's Order:

- The Delhi High Court found no merit in her arguments, holding that the petitioner did not **provide “stringent proof” of an established custom**, which is necessary to justify a sapinda marriage.
- The court held that the choice of a partner in a marriage **can be subject to regulation**. With this in mind, the court held that the petitioner did not present any **“cogent legal ground”** to show that the prohibition against sapinda marriages was violative of the right to equality.

### What is a Sapinda Marriage?

#### ➤ About:

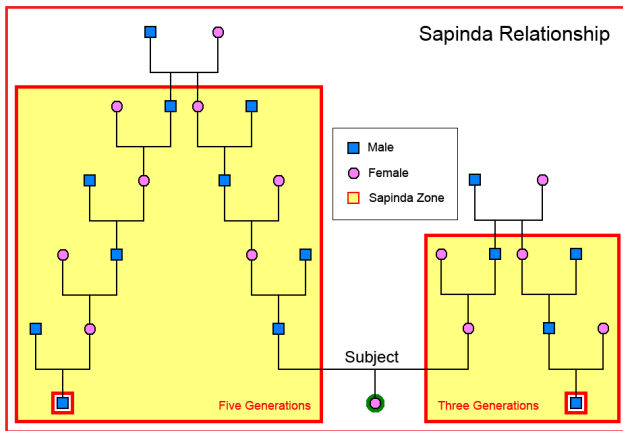
- A sapinda marriage is one **between individuals who are related to each other** within a **certain degree of closeness**.
- Sapinda marriages are defined under **Section 3 of the HMA**, as two persons are said to be “sapindas” of each other if one is a lineal ascendant of the other in the limits of sapinda relationship, or if they have a common lineal ascendant who is within the limits of sapinda relationship with reference to each of them.

#### ➤ Lineal Ascendant:

- Under the provisions of the HMA, on the mother's side, a Hindu individual cannot marry anyone **who is within three generations of them in the “line of ascent”**. On the father's side, this prohibition applies to anyone within five generations of the individual.
  - In practice, this means that on their mother's side, an individual cannot marry **their sibling (first generation)**, their parents (second generation), their grandparents (third generation), or an individual who shares **this ancestry within three generations**.
  - On their father's side, this prohibition would extend up to their grandparents' grandparents, and anyone who shares this ancestry within five generations.

Note:





#### ➤ Section 5(v) of HMA 1955:

- If a marriage is found to violate Section 5(v) for being a sapinda marriage, and there is no established custom that **allows such a practice, it will be declared void.**
- This would mean that the marriage was invalid from the very beginning, and will be treated as though it never took place.

#### Legal Provisions Related to Marriage

- The Constitution of India guarantees the **right to life and personal liberty under Article 21**, which includes the **right to marry a person of one's choice.**
- **The Special Marriage Act of 1954** allows any person to register and **solemnize their marriage with a person of their choice.**
- The **Supreme Court of India has dealt with several cases** involving the marriage of person of his/her choice. Like:
  - **Lata Singh v. State of U.P., 2006:** The Court held that the right to marry a person of one's choice is a fundamental right under Article 21, and that no one, including the parents or the community, can interfere with or object to such marriages.
  - **Shakti Vahini v. Union of India, 2018:** **The Supreme Court** held that consensually choosing life partners is a manifestation of their freedom of choice guaranteed under **Articles 19 and 21 of the Constitution.**

#### What are the Exceptions to the Prohibitions Against Sapinda Marriages?

- The exception is mentioned in Section 5(v) of the Hindu Marriage Act, 1955 and it states that **if the customs of the individuals involved permit sapinda marriages, then such marriages would not be declared void.**

- In other words, if there is an established custom within the community, tribe, group, or family that allows sapinda marriages, and if this custom is continuously and uniformly observed for a long time, it can be **considered a valid exception to the prohibition.**
  - The definition of **"custom"** is provided in **Section 3(a) of the HMA**, stating that a custom must be continuously and **uniformly observed for a long time and should have gained enough legitimacy among Hindus in a local area**, tribe, group, or family, such that it has obtained "the force of law."
- However, **certain conditions must be met for a custom to be considered valid.** The rule in question must be "certain and not unreasonable or opposed to public policy," and in the case of a rule applicable only to a family, it should not have been "discontinued by the family."
  - If these **conditions are satisfied**, and there is a valid custom permitting sapinda marriages, the marriage would **not be declared void under Section 5(v) of the HMA.**

#### Are Marriages Similar to Sapinda Marriages Allowed in Other Countries?

- **France and Belgium:**
  - In France and Belgium, the **crime of incest** was abolished under the **Penal Code of 1810**, allowing marriages between consenting adults.
    - Incest is the crime of sexual relations or marriage taking place between a male and female who are **closely linked by blood.**
  - Belgium maintained this legal stance even after introducing a new Penal Code in 1867.
- **Portugal:**
  - Portuguese law does not criminalise incest, implying that marriages between close relatives **may not be prohibited.**
- **Republic of Ireland:**
  - While the Republic of Ireland recognised same-sex marriages in 2015, the law on **incest has not been updated to explicitly** include individuals in same-sex relationships.
- **Italy:**
  - In Italy, incest is considered a crime only if it causes a **"public scandal,"** suggesting that the legal framework takes into account certain circumstances.

Note:

### ➤ United States:

- In the United States, incestuous marriages are generally banned in all 50 states. However, there are variations in laws related to incestuous relationships between consenting adults.
  - For example, New Jersey and Rhode Island **allow such relationships under certain conditions.**

## ASI Survey Report on Gyanvapi Mosque

### Why in News?

Recently, the **Archaeological Survey of India (ASI)** surveyed the **Gyanvapi mosque** complex, where a total of 55 stone sculptures were found, including the idols of Hindu Deities.

- The ASI report suggests that a temple “appears to have been destroyed in the 17th century, during the reign of Aurangzeb, and part of it was modified and reused in the existing structure.”

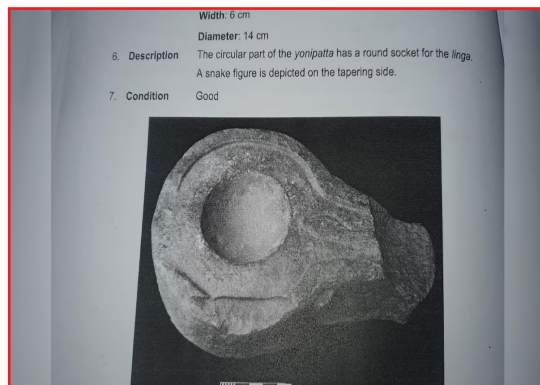
### What are the Key Highlights of the ASI Report?

#### ➤ Discovery of Broken Idols:

- The survey uncovered fragments of what appear to be **statues of Hindu Deities**, including those of **Hanuman, Ganesha, and Nandi**, within the mosque complex.
- Various sculptures and statues were found in varying states of damage, including those of Shiva linga, Vishnu, Ganesha, Krishna, and Hanuman.

#### ➤ Yonipattas and Shiv Linga:

- Several yonipattas, the base of a shivling, were discovered during the survey.
- A shiv linga with its bottom part missing was also found.



### ➤ Indian Inscription:

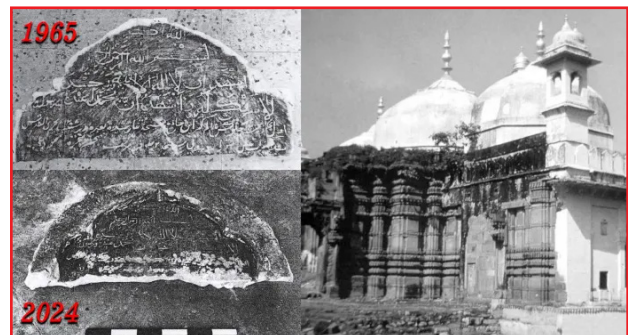
- 32 inscriptions written in the **Devanagari, Grantha, Telugu and Kannada scripts.**
- These are in fact inscriptions on the stone of a preexisting Hindu temple which have been reused during the construction, repair of the existing structure.
- The reuse of earlier inscriptions in the structure suggests that the earlier structures were **destroyed and their parts were reused in the construction and repair** of the existing structure.

### ➤ Swastik and Trident Marks:

- There were marks found on the structure, **including the swastika and the trident.**
  - Swastika is known to be one the most **ancient symbols in the world**, and has been used in all old civilisations.
  - **Trishula** (trident -- the distinct weapon of Lord Shiva), symbol is commonly used as one of the principal symbols by Hindus, **particularly by Shaivites and also Shaktas.**

### ➤ Coins and Sandstone Slab with Persian Inscription:

- Objects such as coins, a sandstone slab inscribed in Persian, and other artifacts were unearthed during the survey.
- Inscriptions in Persian on stone slabs were found, providing an account of the demolition of the temple **during the reign of Mughal Emperor Aurangzeb** in the 17th century.



### What is the Archaeological Survey of India (ASI)?

- ASI, under the **Ministry of Culture**, is the premier organisation for the archaeological research and protection of the cultural heritage of the nation.
  - **Ancient Monuments and Archaeological Sites and Remains (AMASR) Act, 1958** governs the functioning of ASI.

Note:

- It administers more than 3650 ancient monuments, archaeological sites and remains of national importance.
- Its activities include carrying out surveys of antiquarian remains, exploration and excavation of archaeological sites, conservation and maintenance of protected monuments etc.
- It was founded in **1861 by Alexander Cunningham- the first Director-General of ASI**. Alexander Cunningham is also known as the "Father of Indian Archaeology".

### What Method was Used in the Survey at Gyanvapi Mosque?

- The ASI has conducted a detailed **non-invasive survey** of the Gyanvapi mosque in Varanasi to determine if the mosque was built atop a temple.
- Non-invasive methods are used **when investigations are undertaken inside a built structure** and no excavation is permitted.
- **Types of Methods:**
  - **Active Methods: Inject energy into the ground** and measure the response. The methods provide an **estimate of the ground's material properties**, such as density, electrical resistance, and wave velocity.
    - **Seismic Techniques:** Use shock waves to study subsurface structures.
    - **Electromagnetic Methods:** Measure electromagnetic responses after energy injection.
  - **Passive Methods:** Measure existing physical properties.
    - **Magnetometry:** Detect magnetic anomalies caused by buried structures.
    - **Gravity Surveying:** Measure gravitational force variations due to subsurface features.
  - **Ground-Penetrating Radar (GPR):**
    - **ASI used GPR to produce a 3-D model of buried archaeological features.**
    - GPR operates by introducing a short radar impulse from a surface antenna and records time and magnitude of return signals from the subsoil.
    - **Radar beam spreads like a cone**, causing reflections before the antenna passes over the object.
      - Radar beams spread out in a cone, leading to reflections that may not directly correspond to physical dimensions, creating false images.

- **Carbon Dating:**
  - Method used to establish the age of organic materials based on the radioactive decay of Carbon-14 (C-14).

### What is the Gyanvapi Mosque Dispute?

- **Demolition of Temple:**
  - It is a popular belief that the **Gyanvapi Mosque was built in 1669** by the Mughal ruler Aurangzeb by demolishing the ancient Vishweshwar temple.
    - **Saqi Mustaid Khan's Maasir-i-Alamgiri, a Persian-language chronicle** (written shortly after Aurangzeb's death in 1707) also mentioned that Aurangzeb had demolished the temple in 1669 by ordering Governor Abul Hassan.
  - The ASI report stated that the **Arabic-Persian inscription found inside** a room in the mosque mentions that the mosque was built in the 20<sup>th</sup> regal year of Aurangzeb (1676-77 CE).
    - Historian Audrey Truschke wrote that Aurangzeb brought the bulk of Benares's Vishvanatha Temple (Vishweshwar) down in 1669. The temple had been built during Akbar's reign by Raja Man Singh, whose great-grandson, Jai Singh, many believed helped Shivaji flee from the Mughal court in 1666.
- **Legal Battle:**
  - The case of Gyanvapi mosque **has been in court since 1991**, when three persons, including a **descendant of the priests** of the Kashi Vishwanath temple, filed a suit in the court of the civil judge of Varanasi claiming that Aurangzeb had demolished the temple of Lord Vishweshwar and built a mosque on it so that the land should be returned to them.
  - On 18th August 2021, in the same court in Varanasi, five women filed a petition demanding to **worship in the temple of Mata Shringar Gauri**, accepting which the court constituted a commission to know the present status of the Mata Shringar Gauri Temple.
    - Varanasi court had asked the **Commission to give the survey report by videographing the idol of Mata Shringar Gauri** and the Gyanvapi complex.
  - The Hindu side has presented a comprehensive map of the Gyanvapi complex as evidence in court. This map **identifies Hindu deity temples located around the mosque entrance**, along with landmarks such as

Note:

the Vishweshwar temple, Gyankoop (Mukti Mandap), the prominent Nandi statue, and the Vyas family basement.

- The Muslim side argued that no decision can be given on the dispute under the **The Places of Worship Act, 1991**.
  - Under **Section 3 of the Places of Worship (Special Provisions) Act, 1991**, it is prohibited to convert a place of worship into a place of worship of a different religious denomination or a different class of the same religious denomination.
- Gyanvapi Case is still pending before judiciary.

#### What are the Provisions of the the Places of Worship Act 1991?

- **Prohibition of Conversion (Section 3):**
  - Prevents the conversion of a place of worship, whether in full or part, from one religious denomination to another or within the same denomination.
- **Maintenance of Religious Character (Section 4(1)):**
  - Ensures that the religious identity of a place of worship remains the same as it was on 15<sup>th</sup> August 1947.
- **Abatement of Pending Cases (Section 4(2)):**
  - Declares that any ongoing legal proceedings concerning the conversion of a place of worship's religious character before 15th August 1947, will be terminated, and no new cases can be initiated.
- **Exceptions to the Act (Section 5):**
  - The Act does not apply to ancient and historical monuments, archaeological sites, and remains covered by the **Ancient Monuments and Archaeological Sites and Remains Act, 1958**.
  - It also **excludes cases that have already been settled** or resolved and disputes that have been resolved by mutual agreement or conversions that occurred before the Act came into effect.
  - The Act does not extend to the specific place of worship known as **Ram Janmabhoomi-Babri Masjid in Ayodhya**, including any legal proceedings associated with it.
- **Penalties (Section 6):**
  - Specifies penalties, including a maximum imprisonment term of three years and fines, for violating the Act.

## Pradhan Mantri Suryodaya Yojana

### Why in News?

Recently, the Indian Prime Minister launched the 'Pradhan Mantri Suryodaya Yojana,' a pioneering government initiative aimed at **installing rooftop solar power systems in one crore households** across the nation.

### What are Rooftop Solar Panels?

- **About:** Rooftop solar panels are **photovoltaic panels** installed on the roof of a building that is connected to the main power supply unit.
- **Benefit:** It reduces the consumption of **grid-connected electricity** and saves electricity costs for the consumer.
  - Surplus solar power units generated from the rooftop solar plant can be exported to the grid as per the metering provisions.
  - The consumer can receive monetary benefits for the surplus exported power as per the prevailing regulations
- **Related Government Initiatives:** In 2014, the government launched the **Rooftop Solar Programme** that aimed to achieve a cumulative installed capacity of **40,000 megawatts (MW) or 40 gigawatts (GW) by 2022**.
  - However, this target could not be achieved. As a result, the government extended the deadline from 2022 to 2026.
  - According to some reports, the **Pradhan Mantri Suryodaya Yojana** seems to be an attempt to help reach the **target of 40 GW rooftop solar capacity**.

### What is the Current Solar Capacity in India?

- **India's Current Solar Capacity:**
  - **Rooftop Solar Capacity:** Total rooftop solar installed capacity is around **11.08 GW** as of December 2023.
    - **Gujarat tops the list with 2.8 GW**, followed by Maharashtra by 1.7 GW.
    - According to a recent report by **Council on Energy, Environment and Water (CEEW)**, only **20%** of rooftop solar capacity installations are in the residential sector, with the majority in commercial and industrial sectors.

Note:

- The report suggests that **India's 25 crore households could deploy 637 GW of solar energy on rooftops**, and just one-third of this could meet the entire residential electricity demand in the country.
- **Total Installed Capacity:** According to the **Ministry of New and Renewable Energy** solar power installed capacity in India has reached around **73.31 GW as of December 2023**.
  - In terms of total solar capacity, **Rajasthan is at the top with 18.7 GW**. Gujarat is at the second position with 10.5 GW.
  - When it comes to rooftop solar capacity, **Gujarat tops the list with 2.8 GW**, followed by Maharashtra by 1.7 GW.

#### India's Surging Energy Demand

- India is projected to experience the highest energy demand growth globally over the next three decades, as per the **International Energy Agency**.
  - Despite an increase in coal production, India is committed to achieving **500 GW of renewable energy capacity by 2030**.
- Also, the country aims for **50% of electricity generation from non-fossil fuel sources by 2030**, having already reached **43%**, with renewables contributing **30%** to the total installed capacity.
  - Rapid growth in renewable capacity, **especially in solar energy**, is essential to meet the surging electricity demand.

#### What are the Other Government Initiatives to Harness Solar Energy?

- **National Solar Mission**
- **Solar Park Scheme**
- **Kisan Urja Suraksha evam Utthaan Mahabhiyan (PM-KUSUM)**
- **Suryamitra Skill Development Programme**
- **International Solar Alliance**

## Sub-Categorisation of Scheduled Castes

### Why in News?

The **Indian government** has set up a high-level committee, led by the **Cabinet Secretary**, to address the

issue of **dominant Scheduled Caste (SC) communities receiving more benefits than the most backward ones.**

- This development comes particularly in response to the **Madiga community's demands in Telangana**.

### What is the Mandate of the Newly Formed Committee?

- The committee's primary objective is to **explore alternative methods** for addressing grievances faced by various SC communities across the country.
  - While initiated in response to the Madiga community's concerns, the committee's **scope extends beyond one community or state**.
- It aims to evaluate and work out a method for the equitable distribution of benefits, schemes and initiatives to the most backward communities amongst the over 1,200 Scheduled Castes across the country, that have been **crowded out by relatively forward and dominant ones**.

### What are the Major Aspects Related to Subcategorisation of SC in India?

- **About:** Subcategorisation refers to the division or classification of a larger category into smaller, more specific subcategories based on certain criteria or characteristics.
  - In the context of **SC in India**, subcategorisation may involve further classification within the SC group based on factors such as **socioeconomic status or historical disadvantages**.
- **Madiga Community's Struggle:** The Madiga community, constituting **50% of SCs in Telangana**, has faced challenges in accessing government benefits intended for SCs due to dominance by the **Mala community**.
  - Despite their substantial population, the Madiga community argued that it has been excluded from SC-related initiatives.
  - They have been struggling since **1994** for the sub-categorisation of SCs and it was this demand that first led to the formation of the **Justice P. Ramachandra Raju Commission** in 1996 and later a **National Commission in 2007**.
- **Similar Issue Across States:** SC communities in various states have reported similar challenges, leading to the formation of commissions by both State and Union governments.
  - States like **Punjab, Bihar, and Tamil Nadu** attempted sub-categorisation at the state level, but these efforts are currently tied up in legal battles.

Note:

- **Constitutional Stance:**
  - **Articles 341 and 342:** It grants powers to the President to notify SC and ST lists and to Parliament to create these lists.
    - However, there is no explicit prohibition against sub-categorisation.
- **Previous Standpoint of Union Government:** The Union government had in 2005 considered legal options for sub-categorisation of SCs.
  - At the time, the erstwhile Attorney General of India had opined that this could be possible but only if there was **“unimpeachable evidence to indicate a necessity”**.
  - Also, both the **National Commissions for Scheduled Castes and Scheduled Tribes** opposed amending the Constitution at that time.
    - They argued that creating a sub-quota within the existing quota is not enough, emphasising the immediate need to prioritise the allocation of existing schemes and benefits to these communities.

#### What is the Legal Tussle over the Subcategorisation of SC (Case of Punjab)?

- **1975:** The Punjab government issues a notification dividing its **25% SC reservation** into two categories. It was **one of the first instances of existing reservations being ‘sub-classified’ by a state**.
  - While the notification remained in force for nearly 30 years, it ran into legal hurdles in 2004.
- **2004:** Supreme Court strikes down **Andhra Pradesh Scheduled Castes (Rationalisation of Reservations) Act, 2000**, citing **violation of the right to equality** in the **E.V. Chinniah v State of Andhra Pradesh** case.
  - Emphasises that the **SC list should be treated as a single, homogeneous group**.
  - The President has the power to create the SC list (Article 341), and states cannot interfere or disturb it, including through sub-classification.
  - Later, the Punjab & Haryana High Court, in **Dr. Kishan Pal v. State of Punjab**, struck down the **1975 notification, supporting the E.V. Chinniah decision**.
- **2006:** The Punjab government attempts to reintroduce sub-categorisation through the **Punjab Scheduled Caste and Backward Classes (Reservation in Services) Act, 2006**, but it was struck down in 2010.

- **2014:** Supreme Court refers the matter to a **five-judge constitution bench, questioning the correctness of the 2004 E.V. Chinniah decision**.
- **2020:** The Constitution bench holds that the **2004 decision needs reconsideration, rejecting the idea of SCs being a homogeneous group** and acknowledging the existence of **“unequal” within the list**.
  - The concept of the **“creamy layer”** was also recommended by the Supreme Court for SC and ST.
- **Present:** A larger **seven-judge bench is hearing the issue** as only its judgment can prevail over the decision of a smaller bench.
  - Sub-classification will impact various communities across states, including **Balmikis and Mazhabi Sikhs** in Punjab, **Madiga** in Andhra Pradesh, **Paswans** in Bihar, **Jatavs** in UP, and **Arundhatiyars** in TamilNadu.

Benefits of Subcategorisation	Challenges of Subcategorisation
<b>Targeted Policies:</b> Granular available data for targeted policies and programs.	<b>Social divisions:</b> Risk of exacerbating existing social tensions.
<b>Fair Representation:</b> Increased political participation from different sub-groups.	<b>Identification &amp; Verification:</b> Complexities in accurate identification and documentation.
<b>Empowerment &amp; Recognition:</b> Spotlighting the <b>cultural heritage of sub-groups</b> , fostering a sense of identity and belonging.	<b>Politicisation:</b> Potential for manipulation by different groups.

## VAIBHAV Fellowship

### Why in News?

The **Department of Science and Technology (DST)** recently unveiled the first cohort of **fellows under the Vaishvik Bhartiya Vaigyanik (VAIBHAV) scheme**, a strategic initiative aimed at fostering **short-term collaborations with Indian-origin scientists based abroad**.

Note:

- Vaibhav scheme finds similarities with the **Visiting Advanced Joint Research Faculty (Vajra) scheme** initiated in 2018.

### What is VAIBHAV Scheme?

- **About:**
  - The Government has launched VAIBHAV fellowships programme in 2023 to connect the **Indian STEM** (Science, technology, engineering, mathematics, and medicine) **diaspora with Indian academic and R&D institutions** for collaborative research work leading to sharing of knowledge, wisdom, and best practices in the frontier areas of science & technology.
  - The VAIBHAV Fellow would identify an **Indian Institution for collaboration and may spend up to two months there in a year for a maximum of 3 years.**
    - The VAIBHAV fellows are expected to collaborate with their Indian counterparts and help initiate research activities in the host institution in the cutting-edge areas of Science and Technology.
- **Incentives Offered:**
  - Fellowship would include **fellowship grant (INR 4,00,000 per month)**, international and domestic travel, accommodation and contingencies.
  - Host institutions receive research grants to support the collaboration.
- **Significance of Vaibhav Scheme:**
  - Strengthens **global collaboration in scientific research.**
  - Fosters knowledge exchange and expertise infusion in Indian academic and research institutions.
- **Implementation:**
  - The VAIBHAV fellowships programme to be implemented by the **DST**, Ministry of Science and Technology, would be awarded to outstanding scientist/technologists of **Indian origin [Non-resident Indians (NRI) / Persons of Indian Origin (PIO) / Overseas Citizen of India (OCI)]** who are engaged in research activities in their respective countries.

### What is the Visiting Advanced Joint Research Faculty Scheme?

- **About:**
  - **VAJRA (Visiting Advanced Joint Research) Faculty Scheme** is a dedicated program exclusively for

overseas scientists and academicians with emphasis on **NRI** and **PIO/OCI** to work as adjunct / visiting faculty for a specific period of time in Indian Public funded academic and research institutions.

- The Scheme recognizes the value of collaborative research as a crucial element for information sharing among researchers for updating and acquiring knowledge and skills, and also to draw different perspectives to solve a shared problem.
- The area of research undertaken by the Faculty should be of interest to India including **translation of science to practice.**
  - Faculty can also teach/mentor during the period of stay.
  - The Faculty will work for a **minimum of 1 month and a maximum of 3 months** a year in an institution in India.
    - The Indian host institution may engage him/her for a longer duration even after the completion of the assignment.
    - The part-time position for faculty will be **initially offered for 1 year and can be renewed every year.**
- **Incentives Offered:**
  - The VAJRA Faculty will be provided an amount of USD 15000 in the first month of engagement in a year and USD 10000 per month in the other two months to cover their travel and honorarium.
    - While **no separate support is provided** for e.g. accommodation, medical/personal insurance etc., the host institute may consider providing additional support.
    - The payment to the faculty will be made in Indian Rupees.
- **Implementation:**
  - VAJRA Faculty Scheme is implemented by the **Science and Engineering Research Board (SERB).**
    - The SERB is a **statutory body** of the Department of Science and Technology. It was established in 2008 through an Act of Parliament (**Science and Engineering Research Board Act, 2008**).
    - The SERB's objectives include promoting basic research in science and engineering, and providing financial assistance to researchers, academic institutions, and other agencies.

Note:

## Cancellation of FCRA Registration of NGOs

### Why in News?

The cancellation of **Foreign Contribution Regulation Act, 2010 (FCRA)** registrations for two prominent **non-governmental organisations (NGOs)** - the **Centre for Policy Research (CPR)** and **World Vision India (WVI)** - has sparked discussions about the regulatory landscape governing foreign contributions in India.

### What led to the Cancellation of the Registrations of CPR and WVI?

- The **Ministry of Home Affairs (MHA)** accused CPR of redirecting foreign donations to support protests and legal challenges against development projects, claiming misuse of funds to impact India's economic interests.
  - The allegation includes the violation of FCRA norms through the production of current affairs programs, citing CPR's report on air pollution as an example.
    - The MHA asserts that publishing such programs with foreign funds contravenes **Section 3 of the FCRA**.
- Additionally, the registration of **World Vision India** was revoked for alleged FCRA violations spanning from 2012-13 to 2020-21.
  - WVI is the **recipient of the highest amount of foreign donations** among all NGOs registered under the Act in 1986.

### What is the FCRA?

- **About:** The FCRA was enacted in 1976 during the **Emergency period** due to concerns about foreign interference in India's affairs through financial support to independent organisations.
  - It was designed to regulate foreign donations to prevent any adverse impact on internal security, ensuring alignment with the principles of a **sovereign democratic republic**.
- **Evolution of FCRA:**
  - **2010 Amendment:** Enacted to streamline regulations governing the acceptance and use of foreign contributions by specific individuals or associations, and to forbid such contributions for activities harmful to national interests.

- **2020 Amendment:**
  - Providing **Aadhaar numbers of all key functionaries of NGOs**, receipt of foreign contribution only through designated FCRA bank accounts with the State Bank of India
  - Complete ban on domestic transfer of foreign funds
  - Reduction of administrative expense limit from **50% to 20%**
- **Applicability:** FCRA mandates registration for all associations, groups, and NGOs intending to receive foreign donations.
  - Initially valid for **5 years** with the possibility of renewal upon compliance with prescribed norms.
- **Purposes of Foreign Contributions:** Registered associations can receive foreign contributions for social, educational, religious, economic, and cultural purposes.
- **Monitoring Authority: Ministry of Home Affairs**
  - In 2015, the MHA mandated NGOs to operate accounts in banks with core banking facilities for real-time security access.
  - In 2023, the MHA amended rules for FCRA-registered NGOs, now **necessitating the disclosure of assets** created using foreign funds in their annual returns.

### How NGOs are Regulated in India?

- **About:**
  - As defined by the World Bank, NGOs refers to **not-for-profit organisations** that pursue activities to relieve suffering, promote the interests of the poor, protect the environment, provide basic social services, or undertake community development.
    - However, the term NGO in India denotes a wide spectrum of organisations which may be non-governmental, quasi or semi governmental, voluntary or non-voluntary etc.
- **Registration and Regulation:** Majorly, NGOs can register as **either trusts, societies, or companies under Section 8 of the Companies Act, 2013**. Each form has its own set of rules and regulations for registration and governance.
  - **Trusts:** Governed by the **Indian Trusts Act, 1882**, or equivalent state laws, requiring registration with the Charity Commissioner's office.
  - **Societies:** Registered under the **Societies Registration Act, 1860**, or its state-specific variations, with the Registrar of Societies.

Note:



- **Section 8 Companies:** Registered similar to commercial companies **but with non-profit objectives.**
- **NGO-DARPAN Platform:** It provides space for interface between NGOs and Central Ministries / Departments / Government Bodies.
- This is a free facility offered by the **NITI Aayog** in association with National Informatics Centre to bring about greater partnership between government & voluntary sector and foster better **transparency, efficiency and accountability.**

## Pradhan Mantri Rashtriya Bal Puraskar

### Why in News?

The President of India, recently honoured 19 children with the **Pradhan Mantri Rashtriya Bal Puraskar (PMRBP)** in various categories, acknowledging their outstanding contributions in Bravery, Science & Technology, Innovation, Social Service, Sports, and Art and Culture.

### What is Pradhan Mantri Rashtriya Bal Puraskar (PMRBP)?

- **About:**
  - The **PMRBP** is organized to **celebrate the energy, determination, ability, zeal and enthusiasm of children.**
  - The awards are conferred upon the children **for their excellence in seven categories**, viz. Art & Culture, Bravery, Environment, Innovation, Science & Technology, Social Service and Sports, which deserve national recognition.
  - Each awardee of PMRBP is given a **medal, cash prize of Rs. 1 Lakh, a Certificate and a Citation.**
  - The selection of awardees was made by a Selection Committee under the **chairpersonship of the Union Minister for Women and Child Development.**
    - The **Awards are given by the President of India** in the week preceding **Republic Day every year.**
- **Background:**
  - The Government of India has been conferring awards to children for their exceptional achievements.
  - The **awards for child welfare were also conferred, to individuals as well as institutions.**

- These awards were given in the following categories:
  - National Child Award for Exceptional Achievements - since 1996.
  - National Child Welfare Award (Individual) - since 1979.
  - National Child Welfare Award (Institution) - since 1979.
  - Rajiv Gandhi Manav Sewa Award - since 1994.
- Since 2017-18, these Awards were given under the following categories:
  - **Bal Shakti Puraskar** (Earlier known as National Child Award).
  - **Bal Kalyan Puraskar [Individual & Institution]** (Earlier known as National Child Welfare Award).
- From the year 2022 onwards, **Bal Kalyan Puraskar (both Individual and Institution) has been closed** and **Bal Shakti Puraskar has been subsumed** under Pradhan Mantri Rashtriya Bal Puraskar.

### ➤ Eligibility:

- A child who is an **Indian Citizen and is a resident of India.**
- A Child above the age of **5 years and not exceeding 18 years** (as on 31<sup>st</sup> July of respective year).
- The act/incident/achievement should have been within 2 years of the last date of receipt of application/nomination for the year of consideration.

### ➤ Number of Awardees:

- 25, however, any relaxation to this maximum number may be permitted at the discretion of the National Selection Committee.

## Social Audit Advisory Body

### Why in News?

- Recently, the inaugural meeting of the **Social Audit Advisory Body (SAAB)** took place at the **Dr. Ambedkar International Centre in New Delhi.**
  - This pioneering advisory body aims to guide the **Ministry of Social Justice & Empowerment** in the institutionalisation of social audits across its diverse schemes.

### What is a Social Audit?

#### ➤ About:

- A social audit is a **systematic, independent assessment of an organization's or program's social impact** and ethical performance.

Note:

- It evaluates how well their actions and policies align with their stated values and goals, particularly regarding their impact on communities, employees, and the environment.

- **Howard Bowen** proposed the term “social audit” in his 1953 book **Social Responsibilities of the Businessman**.

#### ➤ Key Features of Social Audit:

- **Fact finding not fault finding.**
- Creating the space and platform for dialogue among various levels of stakeholders.
- Timely grievance redressal.
- Strengthening the democratic process and institutions.
- Building people’s pressure for better implementation of programmes.

#### ➤ Types of Social Audits:

- **Organisational:** Assessing a company’s overall social responsibility efforts.
- **Program-Specific:** Focusing on a particular program’s impact and effectiveness.
- **Financial:** Reviewing the social and environmental implications of financial decisions.
- **Stakeholder-Driven:** Involving various stakeholders in the auditing process.

**Note:** In India, **Tata Iron and Steel Company Limited (TISCO)**, Jamshedpur, was the **first company to perform social audits in 1979** for measuring its social performance. **Mazdoor Kisan Shakti Sangathan (MKSS)** started the concept of social audit while fighting corruption in the public works in the early 1990s.

#### ➤ Framework Associated with Social Audit in India:

- **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) 2005: Section 17 of the Act** stipulates that the **gram sabha is responsible for monitoring work execution**.
  - **Independent social audit units in each state** are mandated to operate independently from implementing authorities, emphasizing community-driven verification of program implementation.
- **The Meghalaya Community Participation and Public Services Social Audit Act, 2017:** This state-level legislation stands as the first of its kind in India, **making social audits a mandatory practice**.

- **Framework for Social Audit on Implementation of BOCW Act:** The **Ministry of Labour & Employment** has issued a framework for conducting social audits under the **Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 2013**.

- **Right to Information Act, 2005:** It has played a significant role in supporting the **Social Audit system in India**. It enhances **transparency and access to information**, which underpins the effectiveness of social audits by providing access to relevant documents and data.

- **National Resource Cell for Social Audit (NRCSA):** The Department of Social Justice and Empowerment has established the **NRCSA**. This entity ensures **social audits through dedicated Social Audit Units at the state level**.

#### ➤ Challenges Related to Social Audit In India:

- **Lack of Standardization:** The absence of standardised procedures for social audits lead to **variations in methodologies and reporting**. A lack of uniformity makes it difficult to compare results across different projects and regions.
- **Lack of Awareness and Capacity:** Limited awareness and understanding of social audit processes among stakeholders, including local communities, can **hinder effective implementation**.
  - Limited participation from **marginalized or vulnerable groups in the social audit process** lead to incomplete or biased assessments.
- **Political Interference:** Social audits face **political interference, influencing the independence and objectivity of the audit process**. Pressure from local authorities or political figures can compromise the integrity of the findings.
- **Resource Constraints:** Social audits require resources, both financial and human. Many local bodies **lack the necessary funds and expertise to conduct comprehensive social audits**, limiting their effectiveness.
- **Limited Capacity and Training:** The social audit units, which are meant to detect any cases of malpractice, are suffering because of lack of funds and trained professionals.

Note:

## Recommendations of Vijay Raghavan Panel

### Why in News?

The nine-member Vijay Raghavan panel, established by the government, has recently submitted a comprehensive report addressing concerns about the functioning of the **Defence Research and Development Organisation (DRDO)**.

### What are the Major Recommendations of the VijayRaghavan Committee?

- **Background:**
  - A recent **Parliamentary Standing Committee (PSC) on Defence's Report** expressed concerns about **23 out of 55 mission mode projects** of DRDO facing significant delays.
  - **CAG Report** (December 2022) indicated that **67% (119 out of 178) of the projects examined failed to adhere to proposed timelines.**
    - Multiple extensions were cited, primarily due to design alterations, user trial delays, and supply order issues.
- **Major Recommendations of VijayRaghavan Committee:**
  - **Refocusing on Research and Development (R&D):** Suggested that DRDO should **return to its original goal of focusing on research and development** for defense.
    - **Advised against involving itself in productization,** production cycles, and product management, tasks deemed more suitable for the private sector.
  - **Narrowing Focus and Expertise:** Emphasized that DRDO should identify specific areas of expertise rather than engaging in diverse technologies.
    - Questioned the **necessity for DRDO's involvement in drone development,** proposing a **need to recognize expertise both domestically and internationally.**
  - **Role of Defence Technology Council (DTC):** Advocated a pivotal role of the **Defence Technology Council,** chaired by the Prime Minister, in identifying suitable players for specific defense technologies.
    - DTC should be instrumental in steering the direction of defense technology development.

- **Creation of a Dedicated Department:** Proposed the establishment of the **Department of Defence Science, Technology, and Innovation** under the Ministry of Defence.
  - Recommended that the proposed department should act as the secretariat for the Defence Technology Council.

**Note:** DRDO is the R&D wing of the **Ministry of Defence, Govt of India,** with a vision to empower India with **cutting-edge defense technologies and a mission to achieve self-reliance in critical defense technologies.** It was established in **1958** by amalgamating existing establishments from the **Indian Army and Directorate of Technical Development & Production.**

### What are the Major Issues Related to DRDO?

- **Project Timelines and Cost Overruns:** DRDO projects are notorious for exceeding estimated timelines and budgets by significant margins.
  - This leads to delays in crucial defense capabilities and raises concerns about efficiency and resource allocation.
  - Examples include the **Light Combat Aircraft Tejas,** which took over 30 years to develop.
- **Lack of Synergy with Armed Forces:** DRDO's internal decision-making processes hinder innovation and adaptation.
  - Additionally, reported **lack of smooth collaboration with the Armed Forces in terms of defining requirements** and incorporating feedback, results in technologies not fully meeting operational needs.
- **Technology Transfer and Private Sector Integration:** Efficient transfer of developed technologies from DRDO to private industries for mass production still remains a challenge.
  - This **hinders faster deployment and commercialization of indigenous defence technology,** leading to dependence on foreign imports.
- **Transparency and Public Perception:** **Limited public awareness** and transparency regarding DRDO's activities and achievements lead to negative perception and criticism.

Note:

## In-Flight Unruly Behaviour of Passengers

### Why in News?

Recently, IndiGo, an Indian airline, has started the procedure to add a passenger to the no-fly list. The individual assaulted a pilot due to unruly behaviour after the flight faced significant delays amid heavy fog in Delhi.

- The airline declared the passenger “Unruly”, and further action will be guided by the **Civil Aviation Requirements (CAR) on “Handling of unruly passengers”** issued by the aviation watchdog **Directorate General of Civil Aviation (DGCA)**.

### What is Unruly Behaviour?

#### ➤ About:

- Unruly behaviour includes, but is not limited to, consuming alcohol or drugs resulting in disruptive behavior, smoking, not obeying pilot instructions, using threatening or abusive language, physically threatening or abusive behavior, intentional interference with crew duties, and endangering aircraft safety.

#### ➤ Levels of Disruptive/Unruly Behavior:

- **Level 1:** Verbal harassment, Physical gestures, Unruly inebriation.
- **Level 2:** Physically abusive behaviour, including pushing, kicking, hitting, inappropriate touching, or sexual harassment.
- **Level 3:** Life-threatening behaviour, such as damaging aircraft systems, physical violence, or attempting to breach the flight crew compartment.

### How do Airlines Respond to Unruly Behaviour?

#### ➤ Response to Unruly Behaviour:

- The airline should inform passengers that **unruly behaviour could lead to arrest according to guidelines**.
- In cases where the cabin crew cannot control an unruly passenger in-flight, the pilot must **assess the situation** and, if necessary, **land at the nearest available airport**.
- Upon landing, an **FIR (First Information Report)** should be lodged with the concerned security agency, and the unruly passenger handed over to them.

#### ➤ Procedure After the Incident:

- The airline must refer the complaint of unruly behaviour to an internal committee, including a retired district and sessions judge, a representative of a different airline, and a representative of a passengers’ association.
- The internal committee must decide on the matter within 30 days, categorize the incident into one of three defined levels, and determine the duration of the ban on the unruly passenger.

#### ➤ Penalties for Unruly Behaviour:

- The airline can impose an immediate ban of up to 30 days.
- A No-Fly List is maintained by the DGCA based on data shared by airlines.
- Other carriers can also ban passengers based on the offence level, with varying durations.

### Rising unruliness

#### Passengers put on no-fly list

2023*	37
2022	63
2021	66

#### Airlines that put the highest number on no-fly list

IndiGo 46 (in 2022)
Air India 27*

To place unruly passengers on no-fly list, Centre recently categorised unruly behaviour in three levels

#### Level 1

Unruly behaviour (physical gestures, verbal harassment, unruly inebriation, etc.)

#### Level 2

Physically abusive behaviour (pushing, kicking, hitting, grabbing or inappropriate touching or sexual harassment, etc.)

Air India penalised two times this year by DGCA for not reporting two incidents on its international flights

#### Level 3

Life-threatening behaviour (damage to aircraft operating systems, physical violence such as choking, eye gouging, murderous assault, attempt or breach of flight crew compartment, etc)

\*Till July 15, 2023

### What is the Size of India’s Civil Aviation Market?

#### ➤ Passenger Traffic Growth:

- India is the **third-largest aviation market globally**, trailing behind the United States and China.
- India’s domestic air passenger traffic **hit a record high in 2023 (15.2 crore passengers)**, surpassing pre-pandemic levels (14.4 crore passengers in 2019).

#### ➤ Potential for Growth:

- India’s civil aviation market has significant growth potential, given the large population that remains untapped. As more people join the middle class and air travel becomes more accessible, the demand for flights is expected to rise further.

Note:

### ➤ Government Initiatives:

- The Indian government has also taken steps to promote the aviation sector, such as the **UDAN (Ude Desh Ka Aam Nagrik) scheme**, which aims to enhance **regional connectivity by making air travel affordable** and accessible to a broader population.

### ➤ Forecasted Growth:

- According to the **Directorate General of Civil Aviation (DGCA)**, the outlook for **2024 suggests continued growth**, with estimates ranging from a **5% to 15% increase in domestic air traffic compared to 2023**.

## What are the Rules Governing the Unruly Behaviour?

### ➤ The Aircraft Rules, 1937:

- The Aircraft Rules, 1937 were formed in pursuance of the **Aircraft Act, 1934**. The unruly passengers were governed under this Act conjointly read with the **Indian Penal Code, 1860**.
- This legislation lays down the ideal behaviour which is expected from the passengers.

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

- The Directorate General of Civil Aviation is the principal regulatory body that primarily governs civil aviation in India. It is **responsible for dealing with safety issues, regulation of air transport services, enforcement of civil air rules and regulations and other such tasks**.
  - It also coordinates its functioning with the **International Civil Aviation Organisation (ICAO)**. One of the main tasks of this body is to ensure air safety and airworthiness standards.

### ➤ Montreal Protocol, 2014:

- The Montreal Protocol of 2014 is an **amendment to the Tokyo Convention of 1963**. It specifically **addresses the issue of unruly behaviour on board aircraft**.
- The protocol enhances the legal framework for dealing with offenses and other acts committed on board aircraft.
- It **provides for the jurisdiction of the state in which the aircraft is registered** and gives that state the authority to take legal action against the offenders.

### ○ Tokyo Convention:

- The **Tokyo Convention (Convention on Offences and Certain Other Acts Committed on Board Aircraft)** was adopted in 1963.
- It is an **international treaty that addresses unlawful acts on board civil aircraft**.
- The convention grants **certain powers to the aircraft commander and other relevant authorities to deal with offenses committed on board**, especially during flight.

## What Needs to Be Done to Contain Unruly Behaviour?

### ➤ Montreal Protocol, 2014, and Tokyo Convention:

- Prioritize the **ratification of international conventions such as the Montreal Protocol of 2014**, which amends the Tokyo Convention of 1963.
- Ratification establishes a **clear legal framework for dealing with offenses** and unruly behavior on board aircraft, ensuring uniformity in legal responses.

### ➤ Operationalization of CAT III-Enabled Runways:

- Expedite the **operationalization of (Category-III) CAT III-enabled runways at airports to enhance the capability to handle low visibility conditions**.
- Ensure that **relevant infrastructure and equipment** are in place to support CAT III operations.

### ➤ Issuance of SOP by DGCA:

- Direct the Directorate General of Civil Aviation (DGCA) to **issue a comprehensive Standard Operating Procedure (SOP) for better communication and facilitation of passengers during adverse weather conditions**.
- The SOP should **focus on minimising passenger discomfort in the event of flight cancellations and delays**, providing clear guidelines for airlines, airports, and ground handling agencies.

### ➤ Improved Communication Protocols:

- Establish **robust communication protocols** between airlines, airports, and passengers to provide timely and accurate information about flight status and delays.
- **Utilise modern communication channels**, including mobile apps, SMS, and social media, to keep passengers informed.

### ➤ Crew Training on Handling Unruly Passengers:

- Conduct **specialised training programs for airline crews** to handle unruly passengers effectively and de-escalate potential conflicts.

Note:

- Enhance crew awareness of legal frameworks and procedures for reporting and managing unruly behavior.

## Annual Status of Education Report 2023

### Why in News?

Recently, the 18<sup>th</sup> **Annual Status of Education Report (ASER) 2023** titled '**Beyond Basics**' was released by NGO Pratham, discussing the activities students are engaged in, their basic and applied reading and maths abilities and digital awareness and skills.

### What is the Annual Status of Education Report (ASER)?

- The ASER, is an annual, citizen-led household survey that aims to understand whether children in rural India are enrolled in school and whether they are learning.
- ASER has been conducted every year since 2005 in all rural districts of India. It is the largest citizen-led survey in India.
- ASER surveys provided representative estimates of the enrolment status of children aged 3-16 and the basic reading and arithmetic levels of children aged 5-16 at the national, state and district level.

### What are the Key Highlights of the ASER 2023?

- **Enrollment Rates:**
  - Overall, **86.8% of 14-18-year-olds** are enrolled in an educational institution.
  - However, there are notable differences visible by age, with **3.9% of 14-year-olds and 32.6% of 18-year-olds not enrolled.**
    - Most students in the 14-18 age group are enrolled in the **Arts/Humanities streams, with more than half (55.7%)** in Class XI or higher studying in this stream.
    - There are gender differences, with fewer females (28.1%) enrolled in the **Science, Technology, Engineering, and Mathematics (STEM)** stream compared to males (36.3%).
- **Vocational Training:**
  - Only 5.6% are taking vocational training or related courses. Vocational training is **more prevalent among college-level students (16.2%).**

- Most youth are taking short duration courses of six months or less.

### ➤ Basic Abilities:

- About 25% of the youth **cannot read a Class II level text fluently** in their regional language.
- **Over half struggle with division problems (3-digit by 1-digit)**, with only 43.3% of 14-18-year-olds able to solve such problems correctly.

### ➤ Language and Arithmetic Skills:

- While females (76%) outperform males (70.9%) in reading a Standard II level text in their regional language, **males excel in arithmetic and English reading.**
- Only **57.3% can read sentences in English**, and of those, almost three-quarters understand their meanings.

### ➤ Digital Awareness and Skills:

- Close to 90% of all youth **have a smartphone in the household**, and 43.7% of males have their own smartphone compared to 19.8% of females.
- Males **generally outperform females in digital tasks**, and performance on digital tasks improves with education level and basic reading proficiency.

### ➤ Foundational Numeracy Skills:

- Over 50% of students **in the 14-18 age group face difficulties with elementary division problems**, and around 45% struggle with tasks such as calculating the number of hours a child slept based on bedtime and wake-up time.
  - Inadequate foundational numeracy skills hinder youth proficiency in **everyday calculations, including budget management**, applying discounts, and calculating interest rates or loan repayments.

### ➤ Recommendations:

- Government efforts are needed to bridge the gap in foundational literacy and numeracy skills, with a focus on initiatives for the 14-18 age group.
  - The **National Education Policy (NEP) 2020** recognizes the need for 'catch-up' programs for students who have fallen behind academically.
- There is a need for initiatives aimed at improving foundational literacy and numeracy skills among youth, not only for academic performance but also to meet their everyday requirements.

Note:

### ➤ Digital Education:

#### ○ High Smartphone Penetration:

- Almost **90% of Indian youth have access to a smartphone** in their household and know how to use it. This indicates widespread digital connectivity among this demographic.

#### ○ Gender Gaps in Digital Literacy:

- There is a significant gender disparity in digital literacy. Girls are **reported to be less likely to know how** to use a smartphone or computer compared to boys.
  - **Males (43.7%) were more than twice as likely as girls (19.8%) to own their own smartphone.**

#### ○ There is a **notable gender gap in smartphone ownership**, with males being more than twice as likely as females to own their own smartphone.

- Boys outperformed girls across various digital tasks.

#### ○ Online Safety Awareness:

- **Boys are more familiar with online safety settings compared to girls.** This suggests a need for targeted efforts to educate and empower girls in online safety practices.

#### ○ Smartphone Usage for Education:

- About two-thirds used smartphones for educational purposes, **such as watching online videos related to studies**, solving doubts, or exchanging notes.

#### ○ Limited Connectivity for Assessment:

- While the survey aimed to assess digital skills using smartphones, not all youth could bring a **smartphone with good connectivity**. Boys were more likely to bring smartphones for the assessment compared to girls, indicating discrepancies in access.

#### ○ Educational Activities Among Non-Enrolled Youth:

- A quarter of non-enrolled youth reported engaging in educational activities on their smartphones, **emphasizing the role of digital devices in supporting learning** outside formal educational settings.

### ***What are the Issues Faced by Elementary Education in India?***

#### ➤ School Infrastructure and Amenities:

- Despite improvements in retention rates, there are **concerns about the availability of basic amenities**

**in schools.** While 95% of schools have drinking water and toilets, **over 10% lack electricity.**

- Additionally, there is a **lack of digitization, with more than 60% of schools lacking computers**, and 90% not having access to internet facilities.

#### ➤ Shift Towards Private Schools:

- Over the years, there has been a **shift in momentum towards private schools**. Government data indicates a **decrease in the share of government schools in the elementary category from 87% in 2006 to 62% in March 2020.**

#### ➤ Teacher Shortage and Quality:

- There is a **shortage of teachers in schools, and the student-teacher ratio is high**. The reliance on contractual teachers is noted, and there is **widespread teacher absenteeism**.
- The quality of education varies, with a visible divide between well-funded, formal schools and under-resourced, informal schools.

#### ➤ Social Divides:

- There is the existence of social divides, including caste-class, rural-urban, religious, and gender divides, impacting the quality of education provided.

### ***How Can India Enhance Basic Education?***

#### ➤ Increased Funding and Resource Allocation:

- The government should **allocate more funds to education**, moving towards the **recommended 6% of GDP, as outlined in the National Education Policy (NEP) 2020.**
- Prioritise funding for infrastructure development, teacher training, and the provision of necessary amenities in schools.

#### ➤ Teacher Recruitment and Training:

- Recruit and train a sufficient number of qualified teachers to reduce the high student-teacher ratio.
- Implement programs for continuous professional development to enhance the quality of teaching.

#### ➤ Addressing Dropout Rates:

- Identify and address the **root causes of student dropouts**, including socio-economic factors, lack of infrastructure, and quality of education.
- Implement targeted interventions, such as scholarship programs and mentorship initiatives, to encourage student retention.

Note:

- **Infrastructure Development:**
  - Invest in the **development of school infrastructure**, ensuring that all schools have basic amenities such as electricity, clean drinking water, and proper sanitation facilities.
  - Promote the integration of technology in education by providing schools with computers and internet access.
- **Focus on Quality of Education:**
  - Emphasise the importance of quality education over rote memorization.
  - Implement child-centered teaching methods and assessment strategies that encourage critical thinking and problem-solving skills.
- **Monitoring and Evaluation:**
  - Establish robust monitoring and evaluation mechanisms to assess the effectiveness of education policies and interventions.
  - Use data-driven insights to identify areas for improvement and adjust strategies accordingly.

### **What are the Government Initiatives Related to Education?**

- **National Programme on Technology Enhanced Learning.**
- **Sarva Shiksha Abhiyan**
- **PRAGYATA**
- **Mid Day Meal Scheme**
- **Beti Bachao Beti Padhao**
- **PM SHRI Schools**
- **National Education Policy (NEP) 2020:**
  - The NEP 2020 introduces changes to the education system, including the use of mother tongue or local language up to class 5, comprehensive education frameworks, and the introduction of exams at various levels. However, challenges persist in the implementation of these policies.
  - The NEP 2020 emphasises the **need for increased public investment in education**, recommending a target of 6% of GDP.

## **Govt Jobs for Acquitted Individuals in Criminal Cases**

### **Why in News?**

Recently, The **Punjab** and **Haryana High Court** directed the Centre to reconsider the appointment of a

person from Haryana as a constable in the **Indo-Tibetan Border Police (ITBP)**, given his acquittal in 2019 case under the **Protection of Children from Sexual Offenses (POCSO) Act, 2012.**

- Order issued by the **Ministry of Home Affairs (MHA)** cancelled the person's appointment on grounds of **moral turpitude.**

### **What is the Moral Turpitude?**

- The term "**moral turpitude**," as noted by the Supreme Court in the case of **P. Mohanasundaram vs. the President, 2013**, lacks a specific definition.
- It encompasses actions contrary to **justice, honesty, modesty, or good morals**, suggesting a **depraved and wicked character** or disposition of the individual accused of such conduct.

### **What is the Concerning Case?**

- The constable, appointed on compassionate grounds in 2022, faced the revocation of his appointment after revealing his acquittal in a **2018** criminal case under **Section 4** of the **POCSO Act, 2012**, concerning penetrative sexual assault.
- In addition to this, he faced charges under several sections of the **Indian Penal Code, 1860**, including offences related to causing harm by poison, kidnapping, and criminal intimidation, among others.
- Despite being acquitted of all charges by a **Kaithal Court (Haryana) in 2019**, he faced the cancellation of his appointment.
  - This action was taken according to a policy issued by the **Ministry of Home Affairs** for appointments in the **Central Armed Police Forces (CAPF)**, for individuals with criminal cases registered, under trial, or under inquiry.
  - **Individuals faced serious charges or moral turpitude in a criminal case**, even if acquitted later due to benefit of doubt or witness intimidation, are generally **deemed unsuitable for appointment in the CAPF.**

### **What Mandates has the Court Set for Appointing Individuals with Criminal Cases in Public Jobs?**

- A three-judge bench of the **Supreme Court** in **Avtar Singh vs. Union of India, 2016** dealt with the **appointment of a candidate involved in a criminal case.**

Note:



- It ruled that information given to the employer about a candidate's conviction, acquittal, arrest, or pendency of a criminal case must be true and without suppression or false information.
- For **conviction in cases that aren't trivial**, the employer may cancel the employee's candidature or terminate his services.
- If an acquittal has occurred in a case involving **moral turpitude or a serious offence on technical grounds**, and it's not a clear acquittal or based on reasonable doubt, the employer can assess all pertinent information regarding the individual's background and make a suitable decision regarding the employee's continuation.
- Supreme Court in **Satish Chandra Yadav vs. Union of India, 2023** case "**acquittal in a criminal case would not automatically entitle a candidate for appointment to the post**" and it would be still open to the employer to consider their antecedents and examine their suitability as a candidate.

### What is the Protection of Children From Sexual Offences (POCSO) Act, 2012?

- **About:**
  - **The POCSO Act** came into effect on **14<sup>th</sup> November 2012** which was enacted in consequence to India's ratification of the **UN Convention on the Rights of the Child in 1992**.
  - The aim of this special law is to address offences of sexual exploitation and sexual abuse of children, which were either not specifically defined or adequately penalised.
  - The Act defines a child as any person below the age of **18 years**. The Act provides punishment as per the gravity of the offence.
    - The Act was further reviewed and amended in **2019** to introduce more stringent punishment including the **death penalty for committing sexual crimes on children**, with a view to deter the perpetrators & prevent such crimes against children.
    - The Government of India has also notified the **POCSO Rules, 2020**.
- **Features:**
  - **Gender-Neutral Nature:**
    - The Act recognises that both **girls and boys** can be victims of sexual abuse and that such abuse is a crime regardless of the gender of the victim.

- This is in line with the principle that all children have the right to protection from sexual abuse and exploitation and that laws should not discriminate based on gender.
- **Ease in Reporting Cases:**
  - There is sufficient general awareness now to report cases of sexual exploitation of children not only by individuals but also by institutions as **non-reporting has been made a specific offence under the POCSO Act**. This has made it comparatively difficult to hide offences against children.

### What is the Indo-Tibetan Border Police Force (ITBPF)?

- **Indo-Tibetan Border Police Force (ITBPF)** is a **Central Armed Police Force** functioning under the **Ministry of Home Affairs, Government of India**.
  - The ITBP was raised on **24th October 1962** during the **India-China War** and is a border guarding police force specialising in high-altitude operations.
  - Presently, **ITBP** is deployed on border guarding duties from **Karakoram Pass in Ladakh to Jachep La in Arunachal Pradesh** covering 3488 km of the **Indo-China Border**.
  - The Force is also deployed for **Anti-Naxal Operations** and other internal security duties.

## Prior Approval for Investigation Against Government Officials

### Why in the News?

Recently, the **Supreme Court (SC)** has delivered a split verdict in former Andhra Pradesh Chief Minister's plea to quash an **FIR (First Investigation Report)** in the alleged Skill Development Scam case.

- The disagreement between Judges revolves around whether the Andhra Pradesh **Crime Investigation Department (CID)** was required to seek '**Prior Approval**' from the state government before conducting an inquiry against public officials accused of corruption.

### What Was the Verdict of the Supreme Court?

- The Supreme Court delivered a split verdict on the interpretation and applicability of **Section 17A of the Prevention of Corruption Act, 1988**.

Note:

- One Judge stated that prior approval for conducting a probe for alleged offenses under the PC Act against the former CM was necessary. However, he refused to quash the **remand order and granted liberty to the state** to seek such approval.
- Wherever another Judge held that **Section 17A would not apply retrospectively** and upheld the high court order refusing to quash the FIR.
  - The Justice also stated that the impugned order of remand and the high court judgment did **not suffer from any illegality**.
- Due to the divergent opinions, the matter has been **referred to the Chief Justice of India (CJI)** for appropriate directions.

### **What was Skill Development Scam In Andhra Pradesh?**

- The skill development scam in Andhra Pradesh involves allegations against former Chief Minister Chandrababu Naidu and the **misappropriation of funds** earmarked for a skill development program.
- In 2021, the skill development project, worth Rs 3,356 crores, came under scrutiny
- An FIR was filed against Chandrababu Naidu in December 2021. The Crime Investigation Department (CID) alleged that around Rs 241 crores allocated for the project **were diverted to five shell companies**.

### **What is Prior Approval For Investigation Against Government Officials?**

- **About:**
  - Prior Approval refers to the **requirement for investigators, particularly agencies like the Crime Investigation Department (CID) or the Central Bureau of Investigation (CBI)**, to obtain approval from the government or a competent authority before initiating an inquiry or investigation into allegations of corruption against public officials.
  - This approval is necessary **before any formal action**, such as lodging an FIR (First Information Report) or conducting a detailed investigation, can take place.
- **Legal Provisions:**
  - The need for 'Prior Approval' is rooted in legal provisions introduced through amendments to the **Delhi Special Police Establishment Act, 1946**, and later incorporated into the **Prevention of Corruption Act, 1988**.

- Originally, the requirement was introduced in 2003, stipulating that approval from the central government was necessary **before investigating offenses under the Prevention of Corruption Act** if the accused held a rank higher than joint secretary.
- However, the SC struck down this requirement in 2014. Subsequently, in 2018, a similar provision (Section 17A) was reintroduced through an amendment to the Prevention of Corruption Act.
  - According to this provision, **approval from the central or state government or a competent authority is required** before initiating an inquiry or investigation if a public servant is accused of committing an offense under the Act while discharging their official duties.

### ➤ **Rationale:**

- The rationale behind the 'prior approval' requirement is to balance the need for investigating corruption cases **involving public officials** with the protection of officials from **potentially baseless or politically motivated inquiries**.
- It is seen as a **procedural safeguard to ensure that investigations** are conducted judiciously and with appropriate oversight, preventing misuse of investigative powers.

### **What are the Challenges to the Provision of Prior Approval?**

- Requiring 'prior approval' makes it **extremely difficult to determine** if an offense was committed by a public official while they were discharging their duties.
- Without the ability to conduct an initial investigation, it **becomes challenging to gather evidence** and establish whether there is a valid case against the official.
- Placing the burden of obtaining 'prior approval' on police officers and investigating agencies may hinder their ability to promptly and effectively **address corruption allegations**.
- This burden could slow down the investigative process, **potentially allowing corrupt officials to evade scrutiny** or continue their activities.

## **NHAI Introduces 'One Vehicle, One FASTag' Initiative**

### **Why in News?**

**National Highways Authority of India (NHAI)** has

Note:

launched the 'One Vehicle, One FASTag' initiative that aims to **discourage user behavior of using single FASTag for multiple vehicles** or linking multiple FASTags to a particular vehicle.

- NHA is also encouraging FASTag users to complete the '**Know Your Customer**' (KYC) process of their latest FASTag by updating KYC **as per RBI guidelines**.
- FASTags with valid balance but with incomplete KYC will get deactivated/blacklisted by banks post **31<sup>st</sup> January 2024**.

### What is FASTag?

- **About:** FASTag is a device that employs **Radio Frequency Identification (RFID) technology** for making toll payments directly while the vehicle is in motion.
  - NHA launched two mobile Apps—**MyFASTag and FASTag Partner** to facilitate the availability of FASTags.
  - The tag is valid for **5 years** from the date of issuance and comes in seven different colour codes.

Description	NPCI Vehicle Class	Tag Color	TAG COST	Tag Deposit	Threshold amount	SALE AMOUNT
Car/Jeep/Van/Tata Ace and similar mini/light commercial vehicles	Class 4	Violet	100	200	100	400
Light commercial vehicles 2-axle/Mini Bus	Class 5	Orange			140	140
Bus 3-axle/Truck 3-axle	Class 6	Yellow			300	300
Bus 2-axle/Truck 2-axle	Class 7	Green			300	300
Tractor/Tractor with trailer/Truck 4-axle/Truck 5-axle/Truck 6-axle	Class 12	Pink			300	300
Truck 7-axle and above	Class 15	Blue			300	300
Earth Moving/Heavy Construction Machinery	Class 16	Black			300	300

- **Benefits of FASTag:**
  - **For Road Users**
    - Near non-stop motion through toll plazas
    - Convenience for cashless payment of toll fee
    - Less traffic congestion and reduced commute times
  - **For Toll Operator**
    - Lower operating costs
    - Better audit control through centralized user accounts
    - Improved capacity without being required to build more infrastructure
  - **For Government**
    - Savings on fuel and reduction of emissions from idling and repeated stops at toll plazas.
    - Improves transparency of toll transactions

**Note:** **Radio Frequency Identification** is a technology that uses radio waves to passively identify a tagged object. The system has two basic parts: **tags and readers**.

- The reader gives off radio waves and gets signals back from the RFID tag, while the tag uses radio waves to communicate its identity and other information.

### What is the National Highways Authority of India?

- NHA was constituted by an Act of Parliament in **1988** under the administrative control of the **Ministry of Road Transport and Highways** as a Central Authority to **develop, maintain and manage the National Highways** entrusted to it by the Government of India.
  - The authority, however, became operational in **February, 1995**.
- The Authority consists of a **full time Chairman, and not more than five full time Members and four part time Members** who are appointed by the Central Government.

### What is the National Electronic Toll Collection Programme?

- The **National Payments Corporation of India (NPCI)** has created the **National Electronic Toll Collection (NETC)** program to fulfill India's electronic tolling needs.
  - This program provides a **nationwide, interoperable toll payment solution**, covering clearing house services for settlement and dispute resolution.
- In the context of NETC, interoperability means a standardized set of processes and technical specifications, **allowing FASTag users to use their tags for payment at any toll plaza**, regardless of the plaza's operator.

## All India Conference of Director Generals of Police

### Why in News?

- Recently, the Prime Minister of India attended the **58<sup>th</sup> All India Conference of Director Generals/Inspector Generals of Police** in Jaipur, Rajasthan.
  - It was a three-day being held in hybrid mode with **DGPs (Director general of police), IGPs (Inspector-General of Police)** and Chiefs of Central Police Organisations.

Note:

- A wide range of policing and internal security issues including Cyber Crime, Technology in Policing, Counter Terrorism challenges, Left Wing Extremism, and Prison Reforms were discussed at the conference.
- Another key agenda of the conference is **deliberations on the road map for implementation of the new Criminal Laws**.

### **What are the Key Highlights of the PM's Address?**

- **Paradigm Shift in Criminal Justice:**
  - The PM emphasized the **significant shift brought about by the enactment of new criminal laws**, advocating for a justice system focused on **citizen dignity, rights, and justice first**, moving away from punitive measures to data-driven approaches.
  - He highlighted the **importance of sensitizing women and girls** about their rights under the new laws, urging the police to ensure their safety and freedom to work fearlessly anytime, anywhere.
- **Positive Image of Police:**
  - He stressed the **need to enhance the positive perception of the police** among citizens, suggesting the use of social media at the grassroots level to **disseminate positive information** and messages.
  - Additionally, proposed leveraging social media for **disaster alerts and relief efforts**.
- **Citizen-Police Connect:**
  - He advocated for **organizing sports events as a means to strengthen** the bond between citizens and the police force.
  - He also encouraged government officials to stay in border villages to establish better connections with the local populace.
- **Transformation of Police Force:**
  - He encouraged the Indian police to **evolve into a modern, world-class force in alignment with India's rising global profile**, aiming to contribute to the vision of a developed India by 2047.

### **What are the Issues Associated with the Police Forces?**

- **Custodial Deaths:**
  - Custodial deaths refer to **fatalities that occur while a person is in the custody of the police** or other law enforcement agencies.

- According to the **National Crime Records Bureau (NCRB)**, while the number of such **custodial deaths** had declined over three successive years from 146 in 2017-18 to 100 in 2020-21, **they had recorded a sharp rise to 175 in 2021-22**.

#### ➤ **Excessive Use of Force:**

- Instances of excessive force by the police have been reported, leading to injuries and fatalities.
- Lack of proper training and oversight contributes to the misuse of force in some cases.
  - A police officer is a public servant and hence is expected to treat its citizens in a lawful manner.

#### ➤ **Corruption:**

- Corruption within the police force, including bribery, and other forms of misconduct, undermines public trust.
- High-ranking police officials have occasionally been exposed as engaging in corrupt practices, and lower-ranking police officers have also been exposed as accepting bribes.
  - **Ex: Prohibition law enforcement.**
    - The laws **create a fertile ground for police corruption** by boosting demand for banned substances, such as alcohol.
    - The combination of increased profitability and law enforcement discretion tempts **officers to engage in corrupt practices**.

#### ➤ **Trust Issues:**

- There is a significant **trust deficit between the police and the community**, affecting cooperation and information sharing.
- High-profile cases of police misconduct contribute to public skepticism and mistrust.

#### ➤ **Extrajudicial Killing By Police:**

- There have been many instances of Extrajudicial killings by the police in the name of self-defence, which is commonly known as 'encounter.'
- There are no enigmatic provisions or statute in Indian law that **legalizes encounter killing**. In various judgments of the Supreme Court, it had limited the use of police excesses.
  - During 2020-2021, 82 **people were killed in the name of encounter** which increased to **151 during 2021-2022**.

Note:

## What are the Recommendations for Police Reforms?

- **Police Complaint Authority:**
  - In the case ***Prakash Singh v/s Union of India, 2006***, the **Supreme Court** directed to **establish the Police Complaint Authority in all the states of India.**
    - The Police Complaint Authority is authorized **to investigate matters relating to any kind of misconduct by police of, above, below the rank of Superintendent of Police.**
    - SC also directed separation of investigation and law and order functions to better improve policing, **setting up of State Security Commissions (SSC)** that would have members from civil society and forming a **National Security Commission.**
- **National Police Commission Recommendations:**
  - The National Police Commission (1977-1981) in India made recommendations for police reforms, emphasizing the **need for functional autonomy and accountability.**
- **Shri Ribero Committee:**
  - Shri Ribero committee was constituted in 1998, on the directions of the Supreme Court, **to review action taken on police reforms**, and to suggest ways of implementing recommendations of the Commission.
  - The Rebeiro Committee **endorsed major recommendations of National Police Commission (1978-82) with certain modifications.**
- **Malimath Committee on Reforms in the Criminal Justice System:**
  - The **Malimath Committee** on Reforms in the Criminal Justice System set up in 2000, headed by V.S. Malimath made 158 recommendations including that of **setting up a central law enforcement agency.**
- **Model Police Act:**
  - In accordance with the **Model Police Act, 2006**, each state must establish an authority made up of retired High Court judges, civil society members, retired police officers, and public administrators from another state.
    - It focused on the functional autonomy of the police agency, encouraged professionalism and made accountability paramount for both performance and conduct.

## Dispute Over Minority Status of AMU

### Why in News?

Recently, the **Supreme Court (SC)** has observed on the Aligarh Muslim University's (AMU) minority status that an educational institution does not lose its minority status merely on the ground that its administration is regulated by a statute.

- The Centre before the SC had said minority educational institutions are not required to implement the reservation policy under **Section 3 of the Central Educational Institute (Reservation in Admission) Act, 2006 (as amended in 2012).**

### When did the University's Minority Character Come Under Dispute?

- **History of AMU:**
  - The roots of **Aligarh Muslim University (AMU)** can indeed be traced back to the **Muhammadian Anglo-Oriental (MOA) College**, established by **Sir Syed Ahmad Khan** in 1875.
  - The primary aim was to **address the educational backwardness among Muslims** in India during that period.
  - In 1920, the institution gained **University status through an Act of the Indian Legislative Council.** This transition elevated the MOA College to become Aligarh Muslim University (AMU).
  - The university inherited all the assets and functions of the MOA College. The official title of the AMU Act was "An Act to incorporate a teaching and residential Muslim University at Aligarh."
- **Origin of Dispute:**
  - **Legal Challenges to the AMU Act 1920:** The dispute over the minority character of Aligarh Muslim University (AMU) emerged prominently in 1967, stemming from **legal challenges to amendments made in 1951 and 1965** to the AMU Act of 1920.
    - Key changes included **replacing the position of the 'Lord Rector' with a 'Visitor,'** who would be the **President of India.**
  - **Allowed Non-Muslims to be Part of University Court:** Provisions restricting membership in the University Court solely to Muslims were removed, allowing **non-Muslims to participate.**

Note:

- Furthermore, these **amendments reduced the authority of the University Court** while enhancing the powers of the Executive Council, essentially making the **Court a body appointed by the 'Visitor.'**
- The legal challenge in the Supreme Court was primarily based on the assertion that Muslims had established AMU and thus had the right to manage it.
- **Supreme Court's Ruling:** In 1967 the SC held that while Muslims might have initiated the establishment of a university in 1920, this **wouldn't have guaranteed official recognition of its degrees by the Indian government.**
  - A five-judge constitution bench of the top court in the *S Azeez Basha versus Union of India case, 1967* held that since **AMU was a central university, it could not be considered a minority institution.**
  - The crucial point in the court's ruling was that **AMU was established through a central Act to ensure government recognition of its degrees, indicating that the Act itself wasn't solely the product of the Muslim minority's efforts.**
  - The court emphasised that while the Act might have been a result of the Muslim minority's endeavours, **it didn't imply that the university, under the 1920 Act, was established by the Muslim minority.**
- **Minority Character:** This legal challenge and subsequent SC's ruling in 1967 brought into question the perception of AMU's minority character, arguing that its establishment and administration **weren't solely rooted in the efforts of the Muslim minority** as initially argued.
  - The **AMU** had been accorded the status of **"institution of national importance"** by the Union government of India through the AMU Act of 1981.

### Why Does the Dispute Persist?

- The SC's ruling led to nationwide **protests from Muslims, prompting a 1981 amendment** affirming AMU's minority status.
  - In response, the Union government introduced an **amendment to the AMU Act in 1981** and explicitly affirmed its minority status by adding **Section 2(I) and Subsection 5(2)(c) of the AMU Act.**

- In 2005, AMU reserved 50% of postgraduate medical course seats for Muslim candidates. However, the **Allahabad High Court overturned** this reservation, **nullifying the 1981 Act.**
  - The court reasoned that as per the SC's *S. Azeez Basha vs Union of India*, case **AMU didn't qualify as a minority institution.**
- In 2006, eight petitions, including one from the Union government, contested the decision of Allahabad High Court before the Supreme Court.
  - In 2016, the **Union government withdrew its appeal**, stating that establishing a minority institution contradicted a secular state's principles.
- In 2019, a three-judge Bench **presided by the then CJI Ranjan Gogoi referred** the matter to a seven-judge Bench.

### What are the Observations of the Supreme Court in the Ongoing AMU Case?

- **Doesn't Lose Minority Status if Regulated by Statute:**
  - The court highlighted that the regulation by statute **doesn't diminish an institution's minority status**, emphasising that **Article 30 of the Constitution** doesn't mandate exclusive administration by the minority community.
- **Can have Secular Administration:**
  - A minority institution need not exclusively offer religious courses and can have a secular administration, admitting students from diverse communities.
    - One of the questions before the Constitution Bench is whether an institution could be regarded as a minority educational institution for the reason that it was "established by a person(s) belonging to a religious or linguistic minority.
- **Majority community in Administration does not affect the Minority Status:**
  - The presence of office-bearers from a majority community in some administrative wings of educational institutions does not **necessarily dilute their minority character.**

### What are Different Cases of the Supreme Court Related to Minority Community?

- **TMA Pai Case:**
  - The SC had said that for the purposes of Article 30 that deals with the rights of minorities to establish and administer educational institutions, **religious and linguistic minorities have to be considered state-wise.**

Note:

- **Bal Patil Case:**
  - In 2005, the SC in its judgement in 'Bal Patil' referred to the TMA Pai ruling.
  - The legal position clarifies that **henceforth the unit for determining status of both linguistic and religious minorities would be 'state'.**
- **Inamdar Case:**
  - The SC judgement in the *Inamdar case, 2005* ruled that the state cannot impose its **reservation policy on minority and non-minority** unaided private colleges, including professional colleges.
    - The court declared that reservation in private, unaided educational institutions was unconstitutional.

### **What are Constitutional and Statutory Provisions Regarding Minority Communities?**

- **Article 29:**
  - It provides that **any section of the citizens residing in any part of India** having a distinct language, **script or culture of its own**, shall have the right to conserve the same.
  - It grants **protection to both religious minorities** as well as linguistic minorities.
    - However, the SC held that the scope of this article is not necessarily restricted to minorities only, as the **use of the word 'section of citizens' in the Article includes minorities as well as the majority.**
- **Article 30 (1) of the Constitution** empowers all religious and linguistic minorities to establish and administer educational institutions.
  - The SC stated that **Article 30 of the Constitution is not to "ghettoise the minority"**.
  - This provision reinforces the **Union government's commitment to foster growth** and development of minority communities by guaranteeing that it will not discriminate in giving aid on the basis of **their status of Minority Institutions.**
- **Article 25:**
  - Article 25 of the Indian Constitution protects **freedom of conscience and free profession, practice and propagation of religion.**
- **Article 26:**
  - The **Article 26** of the Indian Constitution provides **every religious denomination** (or any section of

it) the right to establish and maintain institutions for religious and charitable purposes.

- **Article 27:**
  - It sets **freedom as to payment of taxes** for the promotion of any particular religion.
- **Article 28:**
  - It gives freedom **as to attendance at religious instruction** or religious worship in certain educational institutions.
- **National Commission for Minorities (NcM):**
  - The **NCM** is an autonomous body established by the **Indian government in 1992 under the National Commission for Minorities Act, 1992.**
    - The setting up of the Commission was envisaged in the Ministry of Home Affairs Resolution of **1978 for the enforcement and implementation** of all the safeguards provided for the Minorities in the Constitution.
      - It is responsible for advising the central and state governments on matters related to the **welfare and development of minority communities** in India.
      - Initially five religious communities, viz., **Muslims, Christians, Sikhs, Buddhists and Zoroastrians (Parsis)** were notified as minority communities by the Union Government. In **2014, Jains were also notified as another minority community.**

## **Assam's Mukhyamantri Mahila Udyamita Abhiyaan**

### **Why in News?**

Recently, the Assam government introduced the **Mukhyamantri Mahila Udyamita Abhiyaan (MMUA)**, a financial support scheme aimed at empowering **rural women entrepreneurs.**

- This initiative carries unique conditions, particularly focusing on the **number of children women can have to qualify for the benefits.**

### **What are the Major Points Related to the MMUA Scheme?**

- **Objectives of MMUA Scheme:** The MMUA scheme is designed to foster the development of **rural women who are part of self-help groups**, transforming them into **"rural micro-entrepreneurs"** with a target annual income of Rs 1 lakh per member.

Note:

- **Child Limitations:**
  - **General and OBC women:** Limited to three children to qualify for the scheme.
  - **STs and SCs:** Allowed up to four children to avail benefits.
  - **Moran, Motok, and 'Tea Tribes':** Subject to a four-child cap.
- **Additional Conditions for Beneficiaries:** In addition to child limitations, beneficiaries must fulfil two other conditions:
  - **Education of Girl Children:** If beneficiaries have girl children, they must be enrolled in school.
    - For non-school-going age girls, a signed undertaking for future enrollment is required.
  - **Tree Plantation Drive:** Beneficiaries must ensure that trees planted under the government's tree plantation drive, **Amrit Brikshya Andolan**, are surviving.

**Note:** Approximately 5 lakh women from the 39 lakh involved in rural self-help groups may be excluded due to child limitations.

#### What are the Indian Government Initiatives Related to Women Entrepreneurship?

- **Women Entrepreneurship Platform:** It is a first-of-its-kind, unified access portal which brings together women from different parts of India to realize their entrepreneurial aspirations. It is an initiative of NITI Aayog.
- **Mudra Yojana:** This scheme provides microloans to women entrepreneurs for starting or expanding their businesses
- **Stand up India Scheme:** It aims at promoting entrepreneurship among women and scheduled castes and tribes.
- **Mahila Coir Yojana:** It is being implemented by the Coir Board for the **empowerment of women artisans in the coir sector** with an aim to provide self-employment opportunities to rural women artisans.

## Swachh Survekshan Awards 2023

### Why in News?

The President of India conferred **Swachh Survekshan**

**Awards 2023** at Bharat Mandapam, New Delhi hosted by the **Ministry of Housing and Urban Affairs (MoHUA)**.

- **Indore and Surat** were jointly awarded the **cleanest city** title. **Maharashtra** secured the top position among states in the annual **cleanliness** rankings for urban areas.

### Swachh Survekshan awards 2023



Indore and Surat were declared the joint cleanest cities of India as part of the Swachh Survekshan Awards. A look at the highlights

#### TOP 10 CITIES

Rank	Urban local body, State
1	Indore, Madhya Pradesh
1	Surat, Gujarat
3	Navi Mumbai, Maharashtra
4	Visakhapatnam, Andhra Pradesh
5	Bhopal, Madhya Pradesh
6	Vijaywada, Andhra Pradesh
7	New Delhi (NDMC), Delhi
8	Tirupati, Andhra Pradesh
9	Greater Hyderabad, Telangana
10	Pune, Maharashtra

#### BOTTOM 3

Rank	ULB, State
1	Kolkata, West Bengal
2	Asansol, West Bengal
3	Haora, West Bengal

#### TOP STATES

Rank	State	No of ULBs
1	Maharashtra	411
2	Madhya Pradesh	378
3	Chhattisgarh	169

#### THE MOST IMPROVED

**PANAJI, GOA**  
Fastest moving city with population of over 100,000

**NOWROZABAD, MP**  
Fastest moving city with population less than 100,000

### What are the Major Highlights of Swachh Survekshan Awards 2023?

- **About:** Swachh Survekshan, conducted by the MoHUA since 2016, is the **world's largest urban sanitation and cleanliness survey**.
  - It has been instrumental in fostering a spirit of healthy competition among towns and cities to improve their service delivery to citizens and towards creating cleaner cities.
  - It has evolved, covering an increasing number of cities each year. The **2023 round encompassed 4,416 urban local bodies**, 61 cantonments, and 88 Ganga towns.
- **Ranking of Cities:** **Indore** has retained its cleanest city title for the **7<sup>th</sup> consecutive year**. Surat, consistently second behind Indore in recent years, claimed the top spot for the first time.

Note:



- This year marked the first instance of two cities sharing the top prize in the annual awards since **2016**.
- Both cities achieved **100% door-to-door waste collection, 98% source segregation, and 100% remediation of dumpsites**.
  - **Navi Mumbai** secured the third cleanest city position.
- **Key Parameters in Evaluation:** The Swachh Survekshan 2023 rankings considered various factors, including:
  - **Door-to-door waste collection**
  - **Source segregation**
  - **Cleanliness of public areas**
  - **Clean water bodies**
  - **Citizens' feedback on city cleanliness**
- **Cleanest State Award:** Maharashtra claimed the cleanest state award with **89.24% door-to-door waste collection** and 67.76% source segregation.
  - **Madhya Pradesh** secured the second position in state cleanliness rankings.
  - **Bottom Five States:** Arunachal Pradesh, Mizoram, Rajasthan, Nagaland, and Tripura were ranked as the bottom five states in cleanliness.
- **Other Specialized Awards:** Chandigarh received the **Safaimitra Surakshit Shehar award for the city** with the best safety standards for sanitation workers.
  - **Varanasi** was recognized as the **cleanest Ganga town**.
  - **Sasvad in Maharashtra** earned the cleanest city title among those with a population below 1 lakh.
  - **Mhow Cantonment** was declared the cleanest cantonment in the country.



Note:

# Economic Scenario

## Highlights

- FPI Disclosure Norms
- India's Geographical Indication Landscape
- Funding Winter Impact on Start-ups
- States' Startup Ranking 2022
- Market Monopoly and Laws in India
- Investment Under PLI Schemes
- Infrastructure Push in Kerala
- World Economic Forum
- Shifts in Foreign Portfolio Investments In India
- What is Foreign Portfolio Investment?

## FPI Disclosure Norms

### Why in News?

Recently, the **Securities and Exchange Board of India (SEBI)** has extended more months to provide additional disclosures by the **Foreign portfolio investors (FPIs)**.

- In May 2023, SEBI estimated that **FPI Assets Under Management (AUM)** of around Rs 2.6 lakh crore **may potentially be identified as High-Risk FPIs** requiring additional disclosures based on data as of 31<sup>st</sup> March 2023.
- **High-risk FPI** that own more than 50% or more of their equity (AUM) in a single corporate entity.

### What are SEBI's FPI Disclosure Norms?

- **Requirement for Additional Disclosures:**
  - FPIs holding **more than 50%** of their Indian equity **Assets Under Management (AUM)** in a single Indian corporate group or holding over Rs 25,000 crore of equity AUM in the Indian markets are **required to provide additional details**.
- **Timeline for Compliance:**
  - Existing FPIs that are in breach of the investment limits as of October 2023, are required to bring down their exposure **within 90 calendar days** unless **they fall under any exempted categories**.
  - If FPIs do not meet the January-end deadline for disclosing data about their investors, they will reportedly get an additional seven months to liquidate their holdings.
    - **Liquidation of holding** refers to the **act of exiting a securities position, usually by selling the position for cash**. For example, an investor can decide to sell some or all of the shares held for cash in their portfolio.

### ➤ Exempted Categories:

- Certain categories of FPIs are exempted from making additional disclosures.
  - These include **Sovereign Wealth Funds (SWFs)**, listed companies on certain global exchanges, public retail funds, and other regulated pooled investment vehicles with diversified global holdings.

### ➤ Why has SEBI Asked FPIs to Provide Additional Disclosures?

- **Risk of Market Disruption:** SEBI is concerned that FPIs with concentrated equity portfolios in a single investee company or corporate group may **pose a risk to the orderly functioning of Indian securities markets**.
  - There is a worry that such entities, especially those with significant holdings, could potentially disrupt the **market by misusing the FPI route**.
- **Potential Regulatory Circumvention:** The regulator is wary of the possibility that promoters of investee companies or other investors acting in concert might use the FPI route to circumvent regulatory requirements.
  - This includes **avoiding disclosures mandated by the Substantial Acquisition of Shares and Takeovers Regulations, 2011** (SAST Regulations) or failing to meet the **Minimum Public Shareholding (MPS)** requirements in the listed company.
- **Alignment with Regulatory Objectives:** SEBI aims to ensure the integrity, transparency, and stability of the Indian securities markets.
  - By obtaining detailed information from FPIs, the regulator seeks to align FPI activities with regulatory objectives, preventing misuse and maintaining market integrity.

Note:

# FDI and FPI



## Foreign Direct Investment (FDI)

### About:

- Investment made by foreign entities/individuals in **businesses and assets** located in a different country

### FDI Routes:

#### Automatic Route:

- No prior government approval required
- Up to 100% allowed in non-critical sectors

#### Government Approval:

- Necessary in certain sectors or for investments above specific thresholds
- Administered by **Department for Promotion of Industry and Internal Trade (DPIIT)** and RBI

### Examples of Approval via Auto and Govt Route:

- Banking (Private sector): up to 49% (auto) + above 49% and up to 74% (Govt)
- Defence: up to 74% (auto) + above 74% (Govt)
- Healthcare (Brownfield): up to 74% (auto) + above 74% (Govt)
- Telecom Services: up to 49% (auto) + above 49% (Govt)

### Foreign Investment Promotion Board (FIPB):

- Comes under Ministry of Finance
- Responsible for processing FDI proposals – facilitated by **Foreign Investment Facilitation Portal (FIFP)**
- Making recommendations for Government approval

Govt's prior approval is mandatory for FDI from countries sharing land border with India (China, Bangladesh, Pakistan, Bhutan, Nepal, Myanmar and Afghanistan)

### India's Top 5 FDI Sources (FY 2022-23):

- Mauritius
- Singapore
- USA
- Netherlands
- Japan

### India's Top Sectors Attracting FDI (FY 2022-23):

- Services Sector
- Computer Software & Hardware
- Trading
- Telecommunications
- Automobile Industry



## Foreign Portfolio Investment (FPI)

### About:

- Investments made by foreign individuals, institutions, or funds in financial assets
- Known as Fly by Night or Hot Money

### Imp Features:

- Purchase of financial assets** occur without gaining ownership
- Passive investment approach
- Investors earn returns through **dividends, interest, and capital appreciation**

### Example:

- Stocks, Bonds etc.

### Regulatory Body:

- Securities and Exchange Board of India (SEBI)

### Difference between FDI and FPI

Features	FDI	FPI
Nature of Investment	Long-term	Short-term
Objective	Long-term presence in a foreign country	Earning quick returns on investments
Control	Significant (over the invested entity)	No or limited control
Investments in	Tangible assets (e.g., factories, buildings)	Financial assets (e.g., stocks, bonds)
Returns	Profits, Dividends, and Capital appreciation	Dividends, Interest, and Capital appreciation
Policy Regulations	Govt policies and sector-specific regulations	Flexible regulations and easier entry/exit
Impact on Economy	Job creation, technology transfer, and economic growth	Short-term liquidity and impact on stock market performance



- **PN3 Exclusion:** While Press Note 3 (PN3) issued by the Union government in April 2020 does not specifically apply to FPI investments, SEBI is still concerned about the **potential misuse of the FPI route**.
  - SEBI believes that obtaining additional disclosures from FPIs is **necessary to address these concerns** and protect the interests of the Indian securities markets.

### What is Press Note 3?

- During the **Covid-19 pandemic**, the Union government amended the **Foreign Direct Investment (FDI)** policy through a Press Note 3 (2020).
  - The amendments were said to have been made to **check opportunistic takeovers/acquisitions of stressed Indian companies at a cheaper valuation**.
- The new regulations required an entity of a **country, sharing a land border with India** or where the beneficial owner of an investment into India is situated or is a citizen of any such country, **to invest only under the Government route**.

Note:

- There are **two routes of Investment for foreign investors**, the Government Route and the Automatic Route.
- The **government route refers to obtaining official approval** from regulatory bodies for foreign investments, whereas the **Automatic Route allows investments without prior approval**, common in sectors where foreign participation is encouraged.
- Also, **in the event of the transfer of ownership of any existing or future FDI** in an entity in India, directly or indirectly, resulting in the beneficial ownership falling within the restriction/purview of the said policy amendment, such subsequent change in beneficial ownership will also require government approval.
- Press Note 3 (2020) was **enforced through Foreign Exchange Management (Non-Debt Instruments) Amendment Rules 2020**.
  - Press Note 3 is still enforceable as of January 2024.

### What are Foreign Portfolio Investors?

- 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.
  - Examples of FPIs include stocks, **bonds, mutual funds, exchange-traded funds, American Depositary Receipts (ADRs), and Global Depositary Receipts (GDRs)**.
- 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.
- The **Securities and Exchange Board of India (SEBI)** brought new FPI Regulations, 2019, replacing the erstwhile FPI Regulations of 2014.
- 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.**

### What are the Advantages and Concerns Related to FPI?

- **Advantages:**
  - FPI brings key advantages to India, **including increased liquidity, higher stock market valuations and global market integration.**
  - The influx of foreign capital contributes to economic growth and **competitiveness, particularly in technology-oriented sectors.**
- **Concerns:**
  - FPI entails risks, **with market volatility influenced by global economic factors potentially causing instability and currency fluctuations.**

- The intricate nature of FPI structures presents challenges in determining beneficial owners, **raising concerns about potential fund misuse and tax evasion.**
- **Regulatory risks, shifts in global economic conditions**, and reliance on foreign investment trends contribute to additional challenges in the FPI landscape.

## India's Geographical Indication Landscape

### Why in News?

- India's **Geographical Indication (GI) tags** journey of over two decades faces challenges, with limited outcomes indicating the **need for reforms in the registration processes.**

### What is the Geographical Indication (GI)?

- **About:**
  - A geographical indication (GI) is a designation applied to products originating from a specific geographical area, indicating that the qualities or reputation of the products are inherently linked to that particular origin.
  - Article 22 (1) of **Trade-Related Aspects of Intellectual Property Rights (TRIPS)** defines GIs as "indications which identify a good as originating in the territory of a member, or a region or locality in that territory, where a given **quality, reputation or other characteristic** of the good is essentially attributable to its geographic origin".
    - In many EU nations, GI is classified in two basic categories **Protected GI (PGI)** and **Protected Destination of Origin (PDO)**. **India only has the PGI category.**

Note:

- This certification is also extended to **non-agricultural products**, such as **handicrafts** based on human skills, materials and resources available in certain areas that make the product unique.
- GI is a powerful tool for **protecting traditional knowledge**, culture and can boost socio-economic development.
- **Legal Framework and Governance:**
  - GI is governed under the **Agreement on TRIPS** at the **World Trade Organisation (WTO)**.
  - The **Geographical Indications of Goods (Registration and Protection) Act, 1999** seeks to provide for the registration and better protection of geographical indications relating to goods in India.
  - **Paris Convention** emphasises **protecting industrial property and geographical indications in Articles 1(2) and 10**.
- **Status of GI Tags Registration:**
  - Compared to other nations, **India lags in GI registration**. Till December 2023, **Intellectual Property India** received just 1,167 applications, of which **only 547 products have been registered**, as per the GI Registry.
  - **Germany leads in GI registrations**, with 15,566 registered products, **followed by China (7,247)**, as per 2020 data with the **World Intellectual Property Organization**.
  - **Globally, wines and spirits comprise 51.8% of registered GIs**, followed by agricultural products and foodstuffs at 29.9%.
    - **In India, handicraft (about 45%) and agriculture (about 30%)** comprise the majority of the GI products.
- **Concerns Regarding the GI Tags in India:**
  - Concerns with GI Act and Registration Process:
    - The **GI Act, 1999** framed over two decades ago, requires timely amendments to address current challenges.
    - **Registration forms and application processing times** need simplification for easier compliance.
      - The current application acceptance ratio is only about 46% in India.
    - Lack of **suitable institutional development** hampers effective implementation of GI protection mechanisms.
    - Producers often struggle **post-GI registration due to a lack of guidance and support**.

- **Ambiguity in Producers' Definition:**
  - The lack of clarity in **defining "producers" in the GI Act of 1999** leads to the involvement of intermediaries.
    - Intermediaries benefit from GIs, diluting the intended advantages for genuine producers.
- **Disputes at the International Level:**
  - Disputes, especially regarding products like **Darjeeling tea** and **Basmati rice**, indicate that GIs receive less attention compared to patents, trademarks, and copyrights.
- **Academic Attention:**
  - **Limited academic focus on GIs is evident**, with only seven publications from India.
    - A recent surge in publications indicates growing academic interest, with 35 articles published in 2021.
  - **European nations**, such as Italy, Spain, and France, lead in GI-related academic publications.

### **What Can be Done to Realise the Potential of GI-based Products?**

- Government initiatives should **incentivize producers at the grassroots level** to boost GI numbers.
  - Laws should **exclude "non-producers" from benefiting**, ensuring direct benefits to genuine producers.
- Technology, skill-building, and **digital literacy among GI stakeholders** are crucial for modernization.
- Government agencies should collaborate with trade associations to organize exhibitions and promote GI-based products through various media.
- Indian **embassies** should actively promote GI-based products to encourage growth in the **foreign market**.
  - Favourable international tariff regimes and special attention to GI products at WTO can boost global presence.
- **Integrating GIs with the One District One Product scheme can enhance promotion and market reach.**
  - Developing market outlet schemes, especially **rural markets** (gramin haats), can boost GI product visibility.
- Establishing testing laboratories at marketplaces is essential to **ensure consumer faith in the quality of GI products**.
- Aligning startups with GIs and linking their performance with **Sustainable Development Goals (SDGs)** can contribute to social development.

Note:

# Funding Winter Impact on Start-ups

## Why in News?

Bengaluru, often hailed as the **Silicon Valley of India**, has faced a significant setback in its vibrant **start-up ecosystem** due to a **funding crunch** triggered by global events. The aftermath of the **funding winter** has left many regional start-ups grappling with challenges ranging from layoffs to cautious investor sentiment.

## What is Funding Winter?

### ➤ About:

- Funding winter is a term used to describe a **period of reduced capital inflows to startups**.
- During a funding winter, investors and lenders become more cautious and **selective in providing financial support**, leading to a decrease in the overall funding available in the market.
- Funding winters can significantly **impact businesses and entrepreneurs**, particularly those in the early stages of development or those seeking to expand their operations.

### ➤ Reasons for Funding Winter in India:

- Fluctuations in Indian Start-up Funding:
  - In 2021, Indian start-up funding surged to a **record USD 42 billion, creating 42 new unicorns**. However, **2022 witnessed a 40% funding drop**, marking a shift from pandemic-driven optimism.
  - The initial boom was fueled by massive investments in digital ventures during the **Covid-19 pandemic**.
  - There was an assumption that the **digital trend would continue** at the same pace, but as the world returned to normalcy, a reassessment of investments occurred.
    - As per data, tech companies in India saw funding to the tune of **USD 8.3 billion in 2023, a 67% drop from 2022**.

### ➤ Global Macroeconomic Factors:

- Global events, including the **Russia-Ukraine** and **Israel-Palestine conflicts**, played a crucial role in triggering the funding winter.

- The resulting **uncertainty in the global supply chain** and trade outlook contributed to a bleak investment scenario for start-ups.
- The general **slowdown in global economies** had a cascading effect on investor confidence and capital flow.

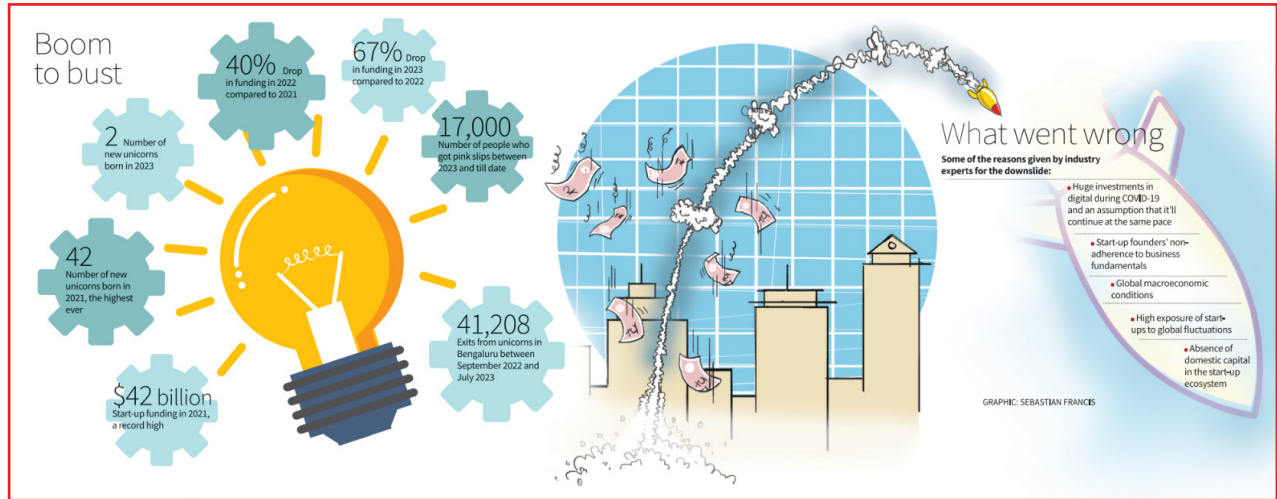
### ➤ Return on Investments (ROI) Focus:

- Investors began scrutinizing the **sustainability and profitability of start-ups, leading to a correction in the market**.
- Investors exhibit **decreased confidence in unicorns** and late-stage start-ups that **prioritise growth over profitability**.
- Investor interest and activity have shifted towards **early-stage start-ups**, emphasising caution and a focus on revenue models.
- The absence of **mergers and acquisitions**, coupled with **poor performances** of listed start-ups, left investors without viable exit options.
  - The dearth of exit strategies contributed to a challenging environment for both investors and late-stage start-ups.

### ➤ Absence of Domestic Capital:

- Lack of **domestic capital in the Indian start-up ecosystem** worsens the funding crisis.
- **Domestic Pension Funds** are not investing in technology, venture, and start-ups, which is a missed opportunity for the country.
- The Union Ministry of Finance and regulatory system are hostile to the tax issues of start-ups.
  - The latest regulations by the **Reserve Bank of India** restrict banks and **Non-Banking Financial Company (NBFC)** from investing in **Alternate Investment Funds (AIF)**, which is seen as authoritarian.
- **Macro and Microeconomic Challenges:**
  - Both macroeconomic conditions and the failure of some start-up founders to adhere to fundamental business principles compounded the crisis.
  - The crisis was not only a result of external factors but also **internal decisions and strategies** within the start-up ecosystem.

Note:



### What is the Impact on Start-ups and Employees?

- **Mass Layoffs:**
  - A major repercussion of the funding winter has been mass layoffs. According to data from the **international layoffs.fyi** (tracks tech startup layoffs), tech companies gave the **pink slip to around 17,000 people in India from 2023 to January 2024.**
- **Silent Layoffs:**
  - Companies resort to '**silent layoffs**' by giving **lower ratings**, nudging employees to leave, rather than explicit layoffs.
- **Attrition Rates:**
  - Between September 2022 and July 2023, 111 Indian unicorns experienced an **attrition rate (rate at which employees depart an organisation) of 4.72%**, with 41,208 employees exiting in Bengaluru alone.

#### Startup Ecosystem in India

- India has emerged as the **3<sup>rd</sup> largest ecosystem for startups globally** with over 1 Lakh **Department for Promotion of Industry and Internal Trade (DPIIT)**-recognized startups across 763 districts of the country as of 3<sup>rd</sup> October 2023.
- India ranks **2<sup>nd</sup> in innovation quality with top positions in the quality of scientific publications and the quality of its universities among middle-income economies.**
  - The innovation in India is not just limited to certain sectors it spans in 56 diverse industrial sectors with 13% from IT services, 9% healthcare and life sciences, 7% education, 5% agriculture and 5% food & beverages.

### ➤ Indian Startup Ecosystem has seen exponential growth in past few years (2015-2022):

- **15 times increase in the total funding of startups.**
- **9 times increase in the number of investors.**
- **7 times increase in the number of incubators.**
- As of October 2023, **India is home to 111 unicorns with a total valuation of USD 349.67 billion.** Out of the total number of unicorns, 45 unicorns with a total valuation of USD 102.30 billion were born in 2021 and 22 unicorns with a total valuation of USD 29.20 billion were born in 2022.
  - **2023 saw the emergence of Zepto as the latest and only unicorn in the year.**

### What are the Indian Government's Initiatives for Startups?

- **Pradhan Mantri Mudra Yojana.**
- **Stand-Up India Scheme.**
- **Atal New India Challenge 2.0.**
- **National Initiative for Developing and Harnessing Innovations (NIDHI).**
- **Startup India Action Plan (SIAP).**
- **Ranking of States on Support to Startup Ecosystems (RSSSE).**

## States' Startup Ranking 2022

### Why in News?

The results of the **4<sup>th</sup> edition of Ranking of States on Support to Startup Ecosystems** were released by the **Ministry of Commerce and Industry.**

Note:

- This edition's ranking exercise saw the **highest-ever participation** with 33 States and UTs participating.
  - A '**National Report**' encompassing the full exercise, along with a '**Compendium of Best Practices**' and individual '**State Report**' for all participating states was also launched, celebrating the spirit of entrepreneurship in India with a total of **31 States/UTs** having formulated **State Startup Policies**.

### What is States' Startup Ranking?

- **About:**
  - The **Start-up India** initiative of the Government of India envisages to build a robust Start-up ecosystem in the country for nurturing innovation and providing opportunities to budding entrepreneurs.
  - The **Department for Promotion of Industry and Internal Trade (DPIIT)** under the **Ministry of Commerce and Industry** has been **conducting the States' Start-up Ranking Exercise since 2018**.
    - The exercise plays a crucial role in **easing the business environment** for start-ups in the country.
- **Objectives:**
  - Help **bring to the fore progress made by the States/ UTs** for promoting the Startup ecosystem.
  - Foster **competitiveness** & propel the States/ UTs to work proactively.
  - Facilitate States/ UTs to **identify, learn and replicate** good practices.
- **Classification:** States and Union Territories are classified into **5 Categories**:
  - Best Performers
  - Top Performers
  - Leaders
  - Aspiring Leaders
  - Emerging Start-up Ecosystems.
    - **Note:** The '**Beginner list**' was part of earlier rankings but has been **discontinued since 2019**.

### What are the Findings of States' Startup Ranking 2022?

States and UTs were divided into two categories:

- **Category A (Population > 1 crore) and Category B (Population < 1 crore)**



Figure 12 : Category Overview of Performance

### ➤ 7 broad Reform Areas:

- The participants were evaluated across **7 broad Reform Areas** consisting of **25 Action Points** such as:
  - Institutional Support
  - Fostering Innovation and Entrepreneurship
  - Access to Market
  - Incubation and Mentorship support
  - Funding Support
  - Capacity building of enablers
  - Roadmap to a sustainable future.
- 15% of the total scores were awarded based on 10,000+ survey responses collected in 9 languages (telephonic and web-based).



Note:



### Status of Indian Startup Ecosystem:

- The number of recognized Startups has grown at **120% (CAGR)** over the last **7 years** and stands at over **one lakh Startups** as of October 2023.
- The coverage of Startups has **increased sixfold in the last seven years** with presence in close to 670+ districts across the country.
- **Close to 50% of the recognized Startups are based out of Tier 2 and Tier 3 cities.**

### What are the Initiatives Taken to Promote Startup?

- **Funds of Funds (FoF) Scheme:**
  - The **FoF for Startups Scheme**, established in June 2016 with a corpus of Rs. 10,000 Cr, aims to **boost the Indian Startup ecosystem** by spreading contributions over the **14<sup>th</sup> and 15<sup>th</sup> Finance Commission** cycles based on implementation progress, facilitating access to domestic capital.
- **Startup India Seed Fund Scheme (SISF):**
  - **SISF**, approved for a **four-year period from 2021-22** with a corpus of Rs. 945 Cr, **provides financial aid to Startups** for proof of concept, prototype development, product trials, market entry, and commercialisation.
- **Startup India Investor Connect:**
  - Startup India Investor Connect **facilitates AI-based matchmaking** to connect startups with investors, streamlining the process for entrepreneurs to pitch their ideas to multiple investors through a single application.
- **Startup India's Multilateral Engagements: Startup20:**
  - **Startup20**, established during **G20 India Presidency 2023**, is a dedicated global platform for startups, **mirroring B20 for large enterprises**. India's Startup20, now the **third-largest ecosystem globally**, boosts its standing as a startup hub.
  - As a **dialogue forum**, it engages with G20 leaders on macroeconomic issues, supported by G20 India Sherpa and the Startup20 secretariat.
- **Other Intervention Under the Startup India Initiative:**
  - Startup India Innovation Week:
    - **DPIIT** organises **Startup India Innovation week** around the **National Startup Day**, i.e., 16th January, with the **primary goal to bring together the country's key Startups, entrepreneurs,**

**investors, incubators, funding entities, banks, policymakers,** and other national/international stakeholders to celebrate entrepreneurship and promote innovation.

- **Handholding support under National Startup Awards (NSA):**
  - It is an initiative undertaken **by Startup India to recognize and reward Startups and ecosystem enablers** who are building innovative products and scalable enterprises, with high potential of employment generation or wealth creation, demonstrating measurable social impact.
- **MAARG Portal:**
  - **MAARG Portal by Startup India is a one-stop mentorship platform to facilitate mentorship for startups across diverse sectors**, functions, stages, geographies, and backgrounds.
- **Other Related Initiatives for Startups:**
  - **Open Network for Digital Commerce**
  - **Fisheries Startup Grand Challenge**
  - **Start Up India Fund**
  - **Policy Reforms for Startups**
  - **Start-up Cells**
  - **National Startup Advisory Council**
  - **Aatmanirbhar Bharat ARISE-Atal New India Challenge**
  - **AIM-iCREST**
  - **National Startup Day 2024**

### What are the National Startup Awards 2023?

The **National Startup Awards 2023** is one of the flagship initiatives undertaken **by Startup India to recognize and reward outstanding startups** and enablers that demonstrate exceptional capabilities.

- Consideration is also given to champion sectors identified by the Government with a focus on improving India's manufacturing capabilities towards the mission of an "Atma Nirbhar Bharat".
- **Key Facts:**
  - The **fourth edition** of the **National Startup Awards** has received over 2,000 applications, testifying to the **increasing acceptance** of the initiative among startup ecosystem stakeholders across the board.
  - NSA 2023 has actively engaged across **diverse sectors** of the economy and showcased a remarkable commitment to **inclusivity**.

Note:

- A large number of **startup applications for NSA 2023 have women in the leadership positions** of their enterprises.
- Additionally, many applications have also nominated themselves as **sustainability champions, focused on climate change, sustainability, waste management, renewables, or allied sectors.**

## Market Monopoly and Laws in India

### Why in News?

Recently, the **Competition Commission of India (CCI)** has dismissed a complaint against PVR, a leading multiplex chain, for allegedly abusing its Dominant Market Position, raising the Concern of **Market Monopoly.**

### What were the Allegations and CCI's Verdict?

- It was alleged that PVR abused its dominance by giving special treatment to films of powerful and monetarily **affluent production houses**, thus creating entry barriers to films by independent filmmakers.
  - PVR refuted the allegations, asserting they lacked supporting evidence, arguing that the complaint aimed to **pressurise the exhibition of his film without any legal obligation.**
- CCI found no discernible competition concerns. It emphasised that unless harm **to competition was evident**, regulatory **intervention could lead to undesirable consequences**, preserving exhibitors' autonomy.

### What is Market Monopoly?

- **About:**
  - Market monopoly **refers to a situation in which a single company or a group of companies dominates** and controls a significant share of a particular market or industry.
  - In a monopoly, there is **only one seller or producer that provides a specific product** or service, and there are no close substitutes available to consumers.
  - This gives the monopolistic entity substantial market power, allowing it to influence the market conditions, set prices, and control the supply of goods or services.

### Features of Market Monopoly:

- **Single Seller or Producer:**
  - In a monopoly, there is only one entity that dominates the entire market. This company is the exclusive provider of a particular product or service.
- **High Barriers to Entry:**
  - Monopolies often **arise when there are significant barriers** preventing new competitors from entering the market. Barriers may include high startup costs, exclusive access to resources, **government regulations, or strong brand loyalty.**
- **No Substitutes:**
  - Consumers have **limited or no alternative options** for the product or service offered by the monopolistic company. There are no close substitutes available in the market.
- **Market Power and Pricing Control:**
  - The monopoly has **considerable market power, allowing it to control prices without significant fear** of competition. This can lead to higher prices for consumers and potentially reduced output.
- **Influence Over Supply:**
  - The monopoly has **control over the supply of the product** or service. It can determine the quantity produced and adjust supply to impact market conditions.
- **Lack of Competition:**
  - Due to the **absence of competitors, monopolies operate** in an environment where there is no direct competition for their specific product or service. This lack of competition can result in reduced incentives for innovation and efficiency.

### Key Terms Related to Anti-Competitive Practices

- **Predatory Pricing:**
  - Predatory pricing occurs when a **company intentionally sets its prices below cost** in order to **drive competitors out** of the market. Once competitors are eliminated, the **company can raise prices** to recoup losses and enjoy a monopolistic position.
- **Cartels:**
  - Cartels are **associations of independent businesses or countries** formed to regulate production, pricing, and marketing of goods or services.
  - Cartels are **typically illegal and are known for fostering anti-competitive behaviour.**

Note:

- **Collusion:**
  - Collusion is an agreement **between two or more parties to limit competition** by misleading, deceiving, or defrauding others. It often involves **secret cooperation** to gain an unfair advantage.
- **Mergers:**
  - Mergers involve the **combination of two or more companies into a single entity**. While not all mergers are anti-competitive, some **may reduce competition in a particular market**, leading to regulatory scrutiny.
- **Price Discrimination:**
  - Price discrimination occurs when a seller charges different prices to different customers for the **same product or service**. While not always illegal, it can be considered **anti-competitive if it harms competition**.
- **Price Fixing Agreements:**
  - Price fixing involves an agreement between competitors to set a **specific price for their products or services**. This eliminates competition and artificially inflates prices, violating antitrust laws.

### ***How does India Deal with the Practices of Market Monopoly?***

- **Competition Act, 2002:**
  - The **Competition Act, 2002**, is the primary legislation in India addressing antitrust issues. It was enacted **to promote and sustain competition in markets**, prevent anti-competitive practices, and protect the interests of consumers.
    - The Act prohibits **anti-competitive agreements, abuse of dominant position** by enterprises, and regulates combinations that may have an appreciable adverse effect on competition within India.
  - **Competition Amendment Bill, 2022:**
    - The proposed amendment **aims to further strengthen the regulatory framework**, address emerging challenges, and enhance the effectiveness of competition law enforcement.
- **Competition Commission of India (CCI):**
  - **CCI** is the regulator of competition under the **Competition Act, 2002** in the Indian market, it is responsible for enforcing the **provisions of the Competition Act 2002**. It consists of a Chairperson and Members appointed by the Central Government.

- The CCI investigates and **takes actions against anti-competitive practices**, abuse of dominant position, and anti-competitive agreements.
- **Competition Appellate Tribunal and NCLAT:**
  - The **Competition Appellate Tribunal (COMPAT)** was initially responsible for hearing appeals against CCI decisions.
  - However, in 2017, the government replaced COMPAT with the **National Company Law Appellate Tribunal (NCLAT)**, which now handles appeals related to competition matters.

### ***What are the International Initiatives to Curb Anti-Competitive Practices?***

- **OECD Competition Committee:**
  - The **OECD (Organisation for Economic Cooperation and Development)** addresses anti-competitive practices through various initiatives, including the **OECD Competition Committee**, which facilitates discussions and cooperation among **member countries on competition-related issues**.
- **United Nations Conference on Trade and Development (UNCTAD):**
  - **UNCTAD** works to promote international trade and development. It provides guidance on competition policy and **law through its Intergovernmental Group of Experts on Competition Law and Policy**, supporting countries in implementing effective competition frameworks.
    - It also deals with the polices to **Protect consumers from abuse and Curb regulations that stifle competition**.
- **International Competition Network (ICN):**
  - The ICN is a network of competition authorities from around the world. It facilitates **communication and cooperation among member jurisdictions** to address global competition challenges. The ICN provides a platform for sharing best practices and **developing guidelines on various aspects of competition law**.
- **World Trade Organization (WTO):**
  - While primarily focused on trade issues, the **WTO addresses competition policy through its Working Group** on the Interaction between Trade and Competition Policy.
    - The aim is to **ensure that competition policies do not create unnecessary barriers to trade**.

Note:

### **What are the Judgements Related to Market Monopoly in India?**

- **Competition Commission of India v. Steel Authority of India Ltd (SAIL), 2010:**
  - The SC upheld the CCI's order to investigate SAIL for anti-competitive practices in supplying rails to Indian Railways.
  - SC ruled that SAIL was not exempt from the Competition Act and that its order was not appealable at the initial stage.
  - The Court also said that the CCI was a necessary or proper party in any appeal before the COMPAT.
- **Competition Commission of India v. Google LLC & Ors, 2021:**
  - CCI appealed against Karnataka HC's order, investigating alleged anti-competitive practices by Google in India's smart TV and Android app store markets.
  - The HC quashed CCI's order due to lack of jurisdiction and the absence of Google's opportunity to present its case.
  - The SC stayed CCI's investigation and issued notices to all parties involved.

## **Investment Under PLI Schemes**

### **Why in News?**

Recently, **Production Linked Incentive (PLI) Schemes** witnessed over **Rs. 1.03 lakh crore of investment** till November 2023.

- It has **led to production of Rs. 8.61 lakh crore and employment generation of over 6.78 lakhs.**

### **What are the Key Achievements of PLI Scheme?**

- **PLI Schemes** have witnessed exports surpassing **Rs. 3.20 lakh crore**, with significant contributions from sectors such as **Large-Scale Electronics Manufacturing, Pharmaceuticals, Food Processing, and Telecom & Networking products.**
- 176 **Micro, Small and Medium Enterprises (MSME)** are among the PLI beneficiaries in sectors such as **Bulk Drugs, Medical Devices, Pharma, Telecom, White Goods, Food Processing, Textiles & Drones.**

- Incentive amount of around **Rs. 4,415 crore** disbursed under PLI Schemes for **8 Sectors viz. Large-Scale Electronics Manufacturing (LSEM), IT Hardware, Bulk Drugs, Medical Devices, Pharmaceuticals, Telecom & Networking Products, Food Processing and Drones & Drone Components.**
- Due to the **PLI Scheme**, there has been a **significant reduction in imports of raw materials in the Pharma sector.**
  - **Unique intermediate materials and bulk drugs** are being manufactured in India including **Penicillin-G.**
  - **Production of 39 Medical Devices** have commenced such as CT-Scan, Linear Accelerator (LINAC), Rotational Cobalt Machine, C-Arm, MRI, Cath Lab, Ultrasonography, Dialysis Machine, Heart Valves, Stents, etc.
- **Import substitution of 60% has been achieved in the Telecom sector** and sales of **Telecom & Networking Products** by PLI beneficiary companies in **FY 2023-24.**
  - Significant impact on **investment in the Drone industry with a Compounded Annual Growth Rate (CAGR) of 90.74%.**
- The **PLI Scheme for Food Processing**, sourcing of raw materials from India has significantly **increased which has positively impacted income of Indian farmers and MSMEs.**
  - **Sales of Organic Products increased and Indian brand visibility enhanced in the international market** through Branding & Marketing abroad.
  - **The Scheme has also led to increased Millet procurement** – from 668 MT (FY 20-21) to 3,703 MT (FY 22-23).
- The PLI Scheme across these key specific sectors has started to make Indian manufacturers globally competitive, attract investment in the areas of core competency and cutting-edge technology and make India an integral part of the global value chain.
  - It has **transformed India's export basket from traditional commodities to high-value-added products** such as electronics & telecommunication goods, processed food products etc.
- **Production of mobile phones increased by more than 125% and export of Mobile Phones increased ~4 times since FY 2020-21.**
- Foreign Direct Investment (**FDI**) **increased by ~254%** since the inception of the PLI scheme for LSEM.

Note:

### What is the Production Linked Incentive Scheme (PLI)?

- **About:**
  - The **PLI scheme** was conceived to scale up domestic manufacturing capability, accompanied by higher import substitution and employment generation.
  - Launched in **March 2020**, the scheme initially targeted three industries:
    - Mobile and allied Component Manufacturing
    - Electrical Component Manufacturing and
    - Medical Devices.
  - **The scheme is currently active in 14 key sectors:** mobile manufacturing, manufacturing of medical devices, automobiles and auto components, pharmaceuticals, drugs, specialty steel, telecom & networking products, electronic products, white goods (ACs and LEDs), food products, textile products, solar PV modules, advanced chemistry cell (ACC) battery, and drones and drone components.
  - **Under PLI scheme, Domestic and Foreign companies receive financial rewards** for manufacturing in India, based on a percentage of their revenue over up to five years.

### What are the Concerns Regarding the PLI Scheme?

- **Competition and Market Dynamics:** The scheme may create **price wars or market distortions** among the participating companies, **affecting their profitability and sustainability.**
- **Compliance and Reporting Burden:** The scheme requires companies to submit various documents and reports to claim the **incentives**, which may increase their **administrative costs and delays.**
- **Assembly vs. Value Addition:** The scheme does not differentiate between the value added by manufacturing in India and the value added by importing components and assembling them in India. This may result in **low value addition and innovation in the domestic industry.**
- **Production of Low-value Goods:** **Low-value goods production is more prevalent than that of high-value goods.** The United States and the European Union primarily engage in transactions involving high-value goods.
- **Research and Development:** Insufficient attention is dedicated to Research and Development in the formulation of export-oriented policies.

- **Implementation and Coordination Issues:** The scheme involves multiple ministries and departments, which may create **confusion and inconsistency** in the implementation and monitoring of the scheme.

## Infrastructure Push in Kerala

### Why in News?

Recently, the **Prime Minister (PM)** inaugurated three projects in Kochi, Kerala which include the **New Dry Dock (NDD) at Cochin Shipyard Limited (CSL)**, the **International Ship Repair Facility (ISRF) of CSL**, and the **LPG Import Terminal** of Indian Oil Corporation Limited (IOCL).

- These major infrastructure projects are in line with the Prime Minister's **vision to transform India's ports, shipping, and waterways sector**, and build capacity and self-sufficiency in it.

### What are the three Different Projects Inaugurated in Kerala?

- **New Dry Dock:**
  - The NDD, with a length of 310 meters, is built **at par with international standards.**
  - This national pride is an engineering marvel which is **capable of handling aircraft carriers** twice the displacement of **INS Vikrant or other larger ships.**
  - It is a flagship project reflecting India's engineering prowess and project management capabilities, the **NDD is one of the largest marine infrastructures in the region.**
  - It has incorporated the latest technology and innovations to ensure efficiency, safety, and environmental sustainability.
- **International Ship Repair Facility:**
  - The ISRF is **India's first fully developed pure ship repair ecosystem** which will **add 25% capacity of ship repair industry in the country.**
  - Built at an investment of ₹970 crores, it will also **provide rapid turnaround for India's Naval and Coast Guard ships** during emergencies as planned refits.
  - The ISRF will modernise and expand the existing ship repair capabilities of CSL and to transform it as a global ship repair hub.
- **LPG Import Terminal for IOCL:**
  - An LPG Import Terminal for IOCL was also inaugurated at Kochi with a **state-of-the-art**

Note:

infrastructure connected with **Multi-User Liquid Terminal Jetty** through a 3.5 km Cross Country Pipeline.

- **The terminal aims at achieving a turnover of 1.2 million metric tons per annum (MMTPA).** It will ensure LPG distribution through road and pipeline transfers, which will directly benefit bottling plants in Kerala and Tamil Nadu.
- It will also significantly enhance India's energy infrastructure by ensuring a steady supply of LPG, benefiting millions of households and businesses in and around the region.
- This project will further strengthen India's efforts towards ensuring accessible & affordable energy for all.

### What is the Significance of These Projects?

- **Strategic Vision for Maritime Development:**
  - Prime Minister emphasises the global benchmark set by the projects aligned with '**Sabka Saath, Sabka Vikaas**' vision.
  - The **Maritime Amrit Kaal Vision 2047** outlines ambitious goals to elevate Kochi into a prominent **Maritime Cluster and a Global Hub for Green Ship**, reflecting a commitment to excellence and innovation.
- **Investment and Employment in Maritime Sector:**
  - The initiatives launched aim to bring significant investment of Rs 45,000 Crores and generate employment of over 50,000 people in the maritime sector.
  - Efforts focus on increasing India's tonnage, becoming **Atmanirbhar**, and minimizing dependency on foreign ships.
- **Role of Cochin Shipyard Limited (CSL):**
  - CSL, recognized globally for **delivering autonomous electric barges to Norway**, plays a pivotal role in India's resurgence as a major maritime player.
  - The shipyard's strong product portfolio, **including Next-Generation Green Technology ships**, positions it as a key contributor to India's maritime industry.
- **National Pride and Environmental Impact:**
  - The projects in Kochi, symbolising national pride, showcase India's engineering prowess. They are expected to lead to **significant logistic savings and reduce CO<sup>2</sup> emissions, emphasizing environmental responsibility.**

### ➤ Alignment With Global Vision:

- Throwing light on the agreements made during **India's G20 Presidency** regarding the **Middle East-Europe Economic Corridor (MEEEC)**, PM underlined that the MEEEC will further strengthen the **creation of Viksit Bharat by giving a boost to the coastal economy of India.**

### ➤ Future Plans for Maritime Infrastructure:

- The Ministry of Ports, Shipping & Waterways outlines future plans on the basis of these projects which includes:
  - Establishment of a **Centre of Excellence in Shipbuilding & Repair.**
  - Creation of **ship repair clusters in strategic locations.**
  - Relaxation of trade conditions to propel the Ship Repair Sector.
  - Discussions for a Ship Repair facility at Vadinar are underway.

### Major and Minor Ports

#### ➤ Number of Major Ports:

- There are **12 major ports and 200 non-major ports** (minor ports) in the country.
- **Major ports** include Deendayal (erstwhile Kandla), Mumbai, JNPT, Marmugao, New Mangalore, Cochin, Chennai, Kamarajar (earlier Ennore), V O Chidambaranar, Visakhapatnam, Paradip and Kolkata (including Haldia).

#### ➤ Major Ports vs Minor Ports:

- Ports in India are classified as Major and Minor Ports according to the jurisdiction of the Central and State government as defined under the Indian Ports Act, 1908.
- All the **12 Major Ports are governed under the Major Port Trusts act, 1963 and are owned and managed by the Central Government.**
- All the Minor Ports are governed under the Indian Port Act, 1908 and are owned and managed by the State Governments.

#### ➤ Recent Developments:

- **Indian ports achieved double-digit annual growth in the last 10 years.**
- India has surpassed many developed nations when it comes to their turnaround time.
- **Timely changes to laws related to Indian seafarers have led to an increase in their numbers by 140%.**

Note:

# Roadblocks in key sectors



## HIGHWAYS

- Delays in land acquisition; lenders stop lending midway
- Tendering of projects to low-traffic entity
- Unclear exit policy for road developer; NHAI is a developer as well as the regulator which causes a conflict of interest in case of arbitration so there is a need for a clear distinction of roles for NHAI

## PORTS

- Multiple changes in tariffs setup by the Tariff Authority for Major Ports make it difficult to evaluate the cost of projects
- Delays in tariff fixation

## AIRPORTS

- Lack of consistency in tariff methodology and concession tariff framework
- Switching from single till tariff method to hybrid till creates difficulty in assessing the cost of projects
- Delays in the passage of tariff orders cause problems in the timely execution of projects

## WIND

- Inconsistent policy at Central and State govt level
- Accelerated depreciation leads to non-viability
- State regulators do not honour renewable purchase obligation

## TELECOM

- Lack of predictability
- Inconsistent policy and regulatory framework; govt refuses to honour PPAs signed earlier
- Aggressive bidding to some extent

## POWER

- Coal block deallocation causing execution delays and losses to project developers
- New auction-based coal linkage approved by government in 2017, uncertainty remains regarding the validity of old contracts
- Inconsistency in the interpretation of PPA
- Inconsistency in Central & State regulation, for instance, the Central electricity Act allows open access, but State governments do not adhere to it causing the problem in execution
- Unstable financial health of State utility causes a delay in the payment cycle

## GREENFIELD PROJECTS

- Land acquisition delay
- Nature of developers have been contractors which leads to low-cost bidding making the project unviable
- Bank loans are given out for **10/15/18 years** but the interest reset clause poses a high risk on overall investment return evaluation, sometimes **8%** interest rates are increased up to **14-15%** rendering the project unviable

## BROWNFIELD PROJECTS

- Government questions the validity of existing projects (eg, with rates of solar energy slashing, will the contracts entered on higher tariffs remain valid or not?)
- There is a strong need for the ability to have more credible infrastructure developers and partners

**UNIFIED LOGISTICS INTERFACE PLATFORM (ULIP) IS DESIGNED TO ENHANCE EFFICIENCY AND REDUCE THE COST OF LOGISTICS BY CREATING A TRANSPARENT, ONE-WINDOW PLATFORM**

## What Measures Can be Taken to Strengthen the Infrastructure Sector?

- **Ensuring Consistency in Policy/Regulatory Framework:**
  - There is a need for a better regulatory environment and consistency in the tendering process. **Lack of consistency and policy coherence across different government departments** should be addressed as a priority.
  - Between the government and the RBI, **there needs to be a holistic way to deal with the issue of stressed assets.**
    - A dedicated policy needs to be formed across sectors for non-performing assets and revamp of PSUs.

## ➤ Reasonable User Charges:

- It is necessary for **augmenting infrastructure financing**, financial viability of infrastructure service providers, and for environmental and resource use sustainability.
- User charges are crucial because in many areas across the country, **partly because of zero or very low user charges, there is over-use and wastage** of the precious resources.
- Besides the environmental sustainability and resource use efficiency that would emanate from reasonable user prices, this **policy priority has immense resource generation potential.**

Note:

- **Autonomous Regulation of Infrastructure:**
  - As India and the world opens up more sectors to private participation, the **private sector would essentially demand autonomous infrastructure regulation.**
  - The world-wide trend is towards multi-sectoral regulators as the **regulatory role is common across infrastructure sectors**, and such institutions build regulatory capacity, conserve resources and prevent regulatory capture.
- **Asset Recycling (AR) and BAM:**
  - The basic idea of **BAM (Brownfield Asset Monetisation)** is to **augment infrastructure resources through brownfield AR** for accelerated greenfield investment by freeing up funds tied up in de-risked brownfield public sector assets.
  - These assets can be transferred to a **trust (Infrastructure Investment Trusts (InvITs))** or a corporate structure (**Toll Operate Transfer (TOT) model**), which receive investment from institutional investors against a capital consideration (which captures value of future cash flows from these underlying assets).
  - **India has a large stock of brownfield assets across infrastructure sectors.**
- **Utilising Domestic Funds:**
  - Domestic sources such as **India Pension Funds** which have **been lying dormant could give a big boost to the sector if utilised efficiently.**
  - India can emulate the practices in Canada, the Netherlands, Australia and the likes on efficient usage of domestic funds to push infrastructure development.

### **What are the Different Government Initiatives Related to Infrastructure?**

- **PM Gati Shakti Scheme**
- **National Infrastructure Pipeline**
- **Urban Infrastructure Development Fund**
- **National Logistics Policy**
- **Dedicated Freight Corridors**
- **Sagarmala Projects**

## **World Economic Forum**

### **Why in News?**

The **World Economic Forum (WEF)** is holding its Annual Meeting from 15th January to 19th January, 2024 in **Davos, Switzerland.**

### **What are the Major Points Related to the World Economic Forum (WEF)?**

- **About:** WEF is the International Organization for Public-Private Cooperation. The Forum engages the foremost **political, business, cultural and other leaders of society** to shape global, regional and industry agendas.
    - It is headquartered in **Geneva, Switzerland.**
  - **Foundation:** **Klaus Schwab**, a German professor with a background in mechanical engineering and a Master of Public Administration from **Harvard**, founded **WEF in 1971**, originally known as the **European Management Forum.**
    - He introduced the concept of **“stakeholder capitalism.”**
    - According to Schwab, “It is a form of capitalism in which companies do not only optimize short-term profits for shareholders, but **seek long term value creation**, by taking into account the needs of all their stakeholders, and society at large.”
- Note:** The European Management Forum was the first non-governmental institution to initiate a partnership with China’s economic development commissions, spurring economic reform policies in China.
- **Evolution:** Events in **1973**, namely the collapse of the **Bretton Woods fixed exchange rate mechanism** and the **Arab-Israeli War**, saw the Annual Meeting expand its focus from management to economic and social issues.
    - Two years later, the organization introduced a system of membership for ‘the **1,000 leading companies of the world.**
    - In 1987, the European Management Forum formally **became the World Economic Forum** and sought to broaden its vision to include providing a platform for dialogue
    - In 2015, the Forum was formally recognised as an **international organization.**
  - **Funding:** Primarily supported by partnering corporations, typically with annual turnovers exceeding **USD 5 billion.**
  - **Annual Meeting in Davos:** Davos brings together around **3,000 participants** (including paying members and select invitees): investors, business leaders, political leaders, economists, celebrities, and others to discuss global issues across 500 sessions

Note:



### ➤ Key Diplomatic Moments at WEF:

- **Korean Diplomacy:** North and South Korea held first ministerial-level meetings in Davos.
- **German Reunification (1989):** East German Prime Minister and German Chancellor met at WEF to discuss reunification.
- **South African Milestone (1992):** South African President de Klerk, Nelson Mandela, and Zulu prince Mangosuthu Buthelezi made their inaugural joint appearance outside South Africa, marking a significant milestone in the country's political transition.
- **G20 Genesis(1998):** WEF emphasized the need to involve major developing countries. Therefore, the concept of G20 emerged, initially limited to finance ministers.
  - G20, born from WEF discussions, evolved into a summit.

- **Major Reports:** WEF regularly publishes globally recognized reports, including the **Global Competitiveness Report and the Global Gender Gap Report, Energy Transition Index, Global Risk Report, Global Travel and Tourism Report.**

- Luxembourg hosts over **1,400 FPI accounts out of 3,000 in Europe (excluding the UK).**
- Collaborations, notably with **GIFT City**, have further strengthened financial ties between India and Luxembourg.

### ➤ France's Notable Gains:

- France has entered the top ten FPIs with a remarkable 74% growth in AUC, reaching ₹1.88 lakh crore.
- This ascent is fueled by the **favourable tax provisions under the Double Taxation Avoidance Agreement (DTAA)** between India and France.

### ➤ Other Players in the Reshuffled Landscape:

- **Ireland and Norway** have climbed one position each, now ranking **5th and 7th among FPI jurisdictions.**
  - Ireland's attractiveness stems from its tax efficiencies and global reach, offering regulated funds exemption from Irish tax on income and gains.
- Also, despite a 19% year-on-year growth in AUC, **Canada dropped one place in the rankings.** The impact of the diplomatic tensions between India and Canada on investments remains uncertain.

## Shifts in Foreign Portfolio Investments In India

### Why in News?

**Foreign portfolio investments (FPIs)** into India have witnessed a **significant reshuffling in the pecking order among regions.**

- This transformation is attributed to various factors, including **regulatory changes, geopolitical events, and strategic alliances.**

### What are the Significant Changes in India's FPI Landscape?

#### ➤ Luxembourg's Ascendancy:

- Luxembourg has become the **third-largest region for FPIs in India**, surpassing Mauritius, with its **Assets Under Custody (AUC)** growing by 30% to ₹4.85 lakh crore.
  - Globally, its equity assets are now second only to the United States.
- The surge is linked to **strengthened India-Europe ties, resulting in three financial agreements.**

## What is Foreign Portfolio Investment?

### ➤ About:

- FPI refers to investments made by foreign individuals, corporations, and institutions in the financial assets of India, such as **stocks, bonds, and mutual funds.**
  - These investments are mainly for the purpose of **short-term gains and portfolio diversification**, unlike **Foreign Direct Investment (FDI)** which involves long-term ownership of assets.

### ➤ Benefits:

- **Capital Inflow:** FPI results in the **inflow of foreign capital into the Indian financial markets**, which contributes to increased liquidity and capital availability.
- **Boost to Stock Market:** Increased FPI can positively impact the stock market, **leading to higher valuations** and increased investor confidence.
- **Technology Transfer:** FPI often involves investments in technology-oriented sectors, leading to **induced technology transfer and advancements in various industries.**

Note:

- **Global Integration:** FPI promotes global integration of financial markets, allowing Indian markets to align with global trends and attract foreign investors.
- **Risk:**
  - **Market Volatility and Capital Flight:** FPI flows can be volatile, driven by global economic and geopolitical factors.
    - Sudden inflows or outflows can lead to **market instability and currency fluctuations**, harming both domestic investors and the economy.
  - **Transparency and Identification of Beneficial Owners:** Identifying the ultimate beneficiaries

of complex FPI structures can be challenging for regulators, **raising concerns about potential misuse of funds** and tax evasion.

- **Assets Under Custody:** AUC refers to the total value of **financial assets that a custodian manages for their clients**. It can also refer to the closing market value of all equities held by FPIs.
- **Pecking Order:** The pecking order in the context of FPIs refers to the **ranking or hierarchy of regions or countries** from which foreign investors channel their investments into a target country, in this case, **India**.

# FDI and FPI

## Foreign Direct Investment (FDI)

- **About:**
  - Investment made by foreign entities/individuals in **businesses and assets** located in a different country
- **FDI Routes:**
  - **Automatic Route:**
    - ◆ No prior government approval required
    - ◆ Up to 100% allowed in non-critical sectors
  - **Government Approval:**
    - ◆ Necessary in certain sectors or for investments above specific thresholds
    - ◆ Administered by **Department for Promotion of Industry and Internal Trade (DPIIT)** and RBI
- **Examples of Approval via Auto and Govt Route:**
  - Banking (Private sector): up to 49% (auto) + above 49% and up to 74% (Govt)
  - Defence: up to 74% (auto) + above 74% (Govt)
  - Healthcare (Brownfield): up to 74% (auto) + above 74% (Govt)
  - Telecom Services: up to 49% (auto) + above 49% (Govt)
- **Foreign Investment Promotion Board (FIPB):**
  - Comes under Ministry of Finance
  - Responsible for processing FDI proposals - facilitated by **Foreign Investment Facilitation Portal (FIFFP)**
  - Making recommendations for Government approval

*Govt's prior approval is mandatory for FDI from countries sharing land border with India (China, Bangladesh, Pakistan, Bhutan, Nepal, Myanmar and Afghanistan)*

- **India's Top 5 FDI Sources (FY 2022-23):**
  - Mauritius
  - Singapore
  - USA
  - Netherland
  - Japan
- **India's Top Sectors Attracting FDI (FY 2022-23):**
  - Services Sector
  - Computer Software & Hardware
  - Trading
  - Telecommunications
  - Automobile Industry

## Foreign Portfolio Investment (FPI)

- **About:**
  - Investments made by foreign individuals, institutions, or funds in financial assets
  - Known as Fly by Night or Hot Money
- **Imp Features:**
  - **Purchase of financial assets** occur without gaining ownership
  - Passive investment approach
  - Investors earn returns through **dividends, interest, and capital appreciation**
- **Example:**
  - Stocks, Bonds etc.
- **Regulatory Body:**
  - Securities and Exchange Board of India (SEBI)

Difference between FDI and FPI		
Features	FDI	FPI
Nature of Investment	Long-term	Short-term
Objective	Long-term presence in a foreign country	Earning quick returns on investments
Control	Significant (over the invested entity)	No or limited control
Investments in	Tangible assets (e.g., factories, buildings)	Financial assets (e.g., stocks, bonds)
Returns	Profits, Dividends, and Capital appreciation	Dividends, Interest, and Capital appreciation
Policy Regulations	Govt policies and sector-specific regulations	Flexible regulations and easier entry/exit
Impact on Economy	Job creation, technology transfer, and economic growth	Short-term liquidity and impact on stock market performance

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Note:

# International Relations

## Highlights

- India-France Relations
- Third South Summit
- India-Bangladesh Relations
- 19th NAM Summit and India-Uganda Relations
- Iran, Pakistan, and the Baloch Militancy
- India-Nepal Power Pact

## India-France Relations

### Why in News?

Recently, the President of France visited India on the Occasion of **Republic Day (26<sup>th</sup> January)**, where India and France discussed Bilateral cooperation, expressing satisfaction with the increasing “complexity and interoperability” of India-France joint defence exercises.

### What are the Key Highlights of the India-France Bilateral Meeting?

- **Intensification of Cooperation in Southwest Indian Ocean:**
  - Both countries agreed to **intensify cooperation in the Southwest Indian Ocean**, building on joint surveillance missions carried out **from the French island territory of La Reunion** in 2020 and 2022.
  - This cooperation contributes **positively to the securitisation** of strategic sea lanes of communication.
- **Indo-Pacific Partnership:**
  - Both sides emphasized the **significance of the Indo-Pacific Region** for their sovereign and strategic interests.
  - They committed to **deepening the long-standing partnership** in the Indo-Pacific, based on their common vision, and expressed satisfaction with the expanding **nature of their engagement in the region**.
- **Defence and Security Partnership:**
  - The defence and security partnership between India and France in the Indo-Pacific region was highlighted as a cornerstone of their collaboration.
  - This partnership includes a comprehensive range of bilateral, multinational, regional, and institutional initiatives, especially in the **Indian Ocean Region**.

- The leaders **discussed joint tri-services exercises** and increasing capacities, particularly in the **maritime domain**.
- **Trilateral Cooperation:**
  - Both countries committed to **revitalising trilateral cooperation with Australia**, deepening cooperation with the **United Arab Emirates (UAE)**, and exploring new trilateral **partnerships in the region**.
    - In June 2023, the first edition of **India, France and UAE Maritime Partnership Exercise** commenced in the Gulf of Oman.
- **Economic Development and Connectivity:**
  - Both countries acknowledged the importance of joint and multilateral initiatives for supporting sustainable economic development, human welfare, environmental sustainability, resilient infrastructure, innovation, and connectivity in the region.
  - They called for the early launching of the **Indo-Pacific Triangular Development Cooperation Fund** to facilitate the scaling up of green technologies.
- **India-Middle East-Europe Corridor (IMEC):**
  - The leaders recalled the launch of the **India-Middle East-Europe Corridor (IMEC)**, considering it of great strategic importance for enhancing the potential and resilience of commerce and energy flow between India, the **Middle East**, and Europe.
- **Multilateralism and UN Reform:**
  - Both countries called for **reformed and effective multilateralism**, stressing the urgent need for the reform of the **United Nations Security Council (UNSC)**.
    - France reiterated its support for India’s permanent membership in the UNSC.
  - Both Sides highlighted the need for the reform of **Multilateral Development Banks** and welcomed

Note:

the report submitted by the Independent Expert Group for providing concrete suggestions in this regard.

- They acknowledged enhanced cooperation between the **Paris Club and India** in official debt restructuring cases.

#### ➤ **Defence Industrial Cooperation:**

- Both sides reiterated their commitment to **deepening integration between the two countries' defense industrial sectors**. They discussed co-design, co-development, and co-production opportunities for defence supplies, not only for India but also for other friendly countries.

##### ● **Tata Group and Airbus Agreement:**

- **Tata Group and Airbus** signed an agreement for the development and manufacturing of **civilian helicopters**.

- ◆ Tata and Airbus are already cooperating to make the **C-295 Transport Aircraft** in Gujarat.

- The industrial partnership aims to produce **H125 helicopters with a significant indigenous and localization component**.

##### ● **Shakti Jet Engine Deal:**

- Ongoing discussions between India and **Safran regarding the Shakti jet engine deal** were highlighted. The focus of these discussions is on achieving specifications aligned with India's future fighter jet requirements, involving aspects beyond just the transfer of manufacturing technology.

##### ● **CFM International and Akasa Air:**

- French jet engine maker CFM International also announced an agreement with India's Akasa Air to buy **more than 300 of its LEAP-1B engines** to power 150 Boeing open new tab 737 MAX aircraft.

#### ➤ **Space Cooperation:**

- The countries launched the **Strategic Space Dialogue**, signed a Letter of Intent on Defence Space Cooperation, and an MoU between **ISRO's New Space India Limited (NSIL)** and **Arianespace of France** for satellite launch missions.
- The leaders expressed dedication to expanding space cooperation, including co-development, manufacture, and launch of satellites.



### **What are the Major Areas of Cooperation between India and France?**

#### ➤ **Pillars of Relationship:**

- India and France **share long-standing cultural, trade and economic linkages**. The India-France strategic **partnership, signed in 1998**, has gathered significant momentum over time and has today evolved into an even closer multifaceted relationship that spans diverse areas of cooperation.
- Both countries **have held on to three pillars in the relationship**:
  - Mutual respect for **non-interference in internal matters**.
  - A firm commitment to **strategic autonomy and non-alignment**.
  - A shared stance of **refraining from involving each other** in respective coalitions and alliances.

#### ➤ **Defence Partnerships:**

- At the core of the **Indo-French relationship** is the **defence partnership**; France comes across as a far more willing and generous partner when compared to other western countries.
- Starting with the **Rafale deal** to the acquisition of 26 Marine versions of Aircraft, the French have been willing to give the Indians some of their best defence systems.
- The technology transfers by France have already helped India construct **six Scorpene-class submarines** with another three now being procured to boost the navy's falling numbers.
  - **Joint Exercises: Exercise Shakti (Army), Exercise Varuna (Navy), Exercise Garuda (Air Force)**.

#### ➤ **Similarity in Stand on NATO+ (Plus):**

- France announced publicly that it disapproves of a **North Atlantic Treaty Organisation (NATO)-**

Note:

plus (NATO+) partnership plans, that would see the Trans-Atlantic alliance build direct ties with Japan, Australia, New Zealand, South Korea and even India.

- India has also rejected the plan saying that NATO “is not a template that applies to India”.
- **Economic Cooperation:**
  - Bilateral trade between the two countries reached a new **peak at USD 13.4 billion in 2022-23**, with exports from India crossing USD 7 billion.
  - France is the 11<sup>th</sup> largest foreign investor in India, with a cumulative investment of USD 10.49 billion from April 2000 to December 2022.
- **Cooperation at International Forum:**
  - France supports India’s bid for permanent membership of the **United Nations Security Council** as well as its entry into the **Nuclear Suppliers Group**.
- **Climate Cooperation:**
  - Both countries are concerned about climate change, and India has supported France in the **Paris Agreement** expressing its strong commitment to mitigating the effects of climate change.
  - Both countries, as part of their joint efforts on climate change, launched the **International Solar Alliance** in 2015.

### **What are the Challenges Between India-France Relations?**

- **FTA and BTIA Stagnation:**
  - The absence of an **FTA (Free Trade Agreement)** between France and India hinders the maximisation of their trade potential.
  - Additionally, the slow progress on the **India-EU Broad-Based Trade and Investment Agreement (BTIA)** further compounds the challenges in fostering comprehensive economic cooperation.
- **Differing Defense and Security Priorities:**
  - Despite a strong defense partnership, differences in priorities and approaches can influence defence and security cooperation.
    - India’s regional focus and its “non-aligned” policy may at times clash with France’s global interests.
- **Intellectual Property Rights Concerns:**
  - France has raised concerns about India’s inadequate protection of **intellectual property rights**, impacting

French businesses operating within India. This presents a challenge to fostering a conducive environment for bilateral trade.

- **Trade Imbalance and Dominance of Defense Products:**
  - Although France is India’s 11<sup>th</sup> trade partner, there is a notable trade imbalance.
  - The dominance of defence products in the trade relationship **poses challenges for diversification and achieving a more balanced** economic exchange.
- **Barriers to Indian Products in France:**
  - India has faced challenges in exporting its products to France, particularly in the context of **Sanitary and Phytosanitary (SPS) measures**. This can act as a discouragement to Indian products entering the French market.
- **Student Mobility:**
  - While the French President announced plans to **welcome 30,000 Indian students to France**, issues related to student mobility, including visa processes and cultural integration, may pose challenges to realising this goal.
- **Human Trafficking Concerns:**
  - **Instances such as the Nicaragua flight case** involving **human trafficking raise** concerns and underscore the need for enhanced cooperation in addressing transnational crimes and ensuring the safety and well-being of individuals.

## **Third South Summit**

### **Why in News?**

Recently, the **3<sup>rd</sup> South Summit** was held in Kampala, Uganda, bringing **together the** members of the **Group of 77 (G77) and China**.

- The Third South Summit brought together the **134 members of the Group of 77 and China** to boost **South-South cooperation** on trade, investment, sustainable development, climate change, poverty eradication, and digital economy, among other areas. The **theme of the summit was “Leaving No One Behind.”**

### **What is Group of 77 (G77)?**

- **Establishment:**
  - The **Group of 77 (G-77)** was established on **15<sup>th</sup> June 1964** by signatories of the “**Joint Declaration of the Seventy-Seven Developing Countries**”

Note:

issued at the end of the first session of the **United Nations Conference on Trade and Development (UNCTAD)** in Geneva.

- The **G77 group has 134 members excluding China** because the **Chinese government does not consider itself a member, but rather a partner** that provides political and financial support to the group. **Although the group (G 77) mentions China as its member.**

➤ **Aims:**

- The Group of 77 is the **largest intergovernmental organization** of developing countries in the United Nations.
- It provides the means for the countries of the **South to articulate and promote their collective economic interests** and enhance their joint negotiating capacity on all major international economic issues within the United Nations system.

➤ **Structure:**

- A Chairman, who acts as its spokesman, coordinates the Group's action in each Chapter.
- The Chairmanship, which is the highest political body within the organizational structure of the Group of 77, **rotates on a regional basis** (between Africa, Asia-Pacific, Latin America and the Caribbean) and is **held for one year in all the Chapters.**

- **Chapters** refer to the **regional divisions**, currently, Uganda is the chairman, acts as the spokesperson and coordinates the actions of the G-77 on behalf of the **member countries within the African Chapter.**

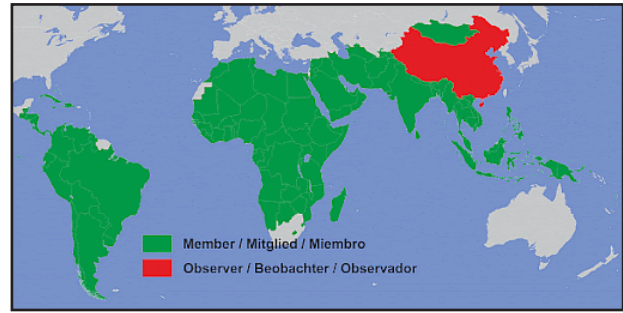
- **Chapters in G77 are the offices of the group in different locations** where they coordinate their activities and represent their interests in various UN agencies and international forums.

- The chapters of the G77 are in Geneva (UN), Rome (FAO), Vienna (UNIDO), Paris (UNESCO), Nairobi (UNEP) and the Group of 24 in Washington, D.C. (IMF and World Bank).

- For the year **2024, the Republic of Uganda** holds the Chairmanship of the G-77.

➤ **South Summit:**

- The South Summit is the **supreme decision-making body of the Group of 77.**
  - The First and the Second South Summits were held in Havana, Cuba, in 2000 and in Doha, Qatar, in 2005, respectively.



**What are the Key Highlights of the Third South Summit Outcome Document?**

➤ **Call for Peaceful Solution of Palestinian-Israeli conflict:**

- Member countries emphasised that **“there can be no sustainable development without peace and no peace without sustainable development”** and called for a **“just and peaceful solution of the Palestinian-Israeli conflict.”**

➤ **Universal Implementation of Agendas:**

- The Outcome Document reaffirmed the commitment to implementing various global agendas, including the **2030 Agenda for Sustainable Development**, the **Addis Ababa Action Agenda (AAAA)**, the **Paris Agreement on climate change**, the **New Urban Agenda (NUA)**, and the **Sendai Framework for Disaster Risk Reduction (DRR).**

➤ **Poverty Eradication:**

- Member countries reaffirmed **poverty eradication as the greatest global challenge** and an indispensable requirement for sustainable development.
- Stressing the importance of adequate means of implementation, leaders called upon developed countries to commit to a **new phase of international cooperation through a strengthened and scaled-up global partnership** for development.

➤ **Strengthening Multilateral Institutions:**

- The summit stressed the need to strengthen the role of the **UN General Assembly (UNGA)** and the **Economic and Social Council (ECOSOC)** in dealing with the reform of the international financial architecture.
- It was highlighted that the **Global Financial System** failed to provide a global safety net for developing countries. Deep reforms were proposed, including an **SDG Stimulus of USD 500 billion annually**, adequate capitalization of MDBs, and **expansion of contingency financing** for countries in need.
- Called for meaningful contributions to climate finance, including the delivery of **USD 100 billion**

Note:

per year and the doubling of adaptation finance by 2025, encouraging an ambitious new finance goal at the 2024 UN Climate Change Conference (UNFCCC COP 29).

#### ➤ Financing Needs and Debt Solutions:

- Member countries urged **Multilateral Development Banks (MDBs)** to meet the financing needs of all developing countries, including Low- and Middle-Income Countries, through concessional finance and grants.
- The leaders called for scaling up **debt swaps for the Sustainable Development Goals (SDGs)**, including swaps for Climate and nature.

#### ➤ Urgent Reforms for Inclusion and Equity:

- Leaders at the summit called for **urgent reforms in multilateral organisations** to recognize and leverage the significance of the **Global South**, emphasizing the **need for an international financial system** rooted in inclusion and equity.

### What is Global South?

#### ➤ About:

- The Global South, often **misconceived as a purely geographical concept**, encompasses diverse countries, drawing upon geopolitical, historical, and developmental factors.
  - While it is not solely defined by location, it broadly represents nations facing developmental challenges.
  - Many countries included in the Global South are in the northern hemisphere, such as India, China and all of those in the northern half of Africa.
    - Whereas, Australia and New Zealand, both in the southern hemisphere, are not in the Global South.

#### ➤ Historical Context:

- **Brandt Line:** The line was proposed by former German Chancellor Willy Brandt in the 1980s as a visual depiction of the north-south divide based upon per-capita GDP.
  - This line symbolizes the global economic divide, zigzagging across continents, encompassing parts of **Africa, the Middle East, India, and China, excluding Australia and New Zealand.**



- **G-77:** In 1964, the **Group of 77 (G-77)** countries came into existence when they signed a Joint Declaration during the first session of the **UN Conference on Trade and Development (UNCTAD)** in Geneva.

- The G-77 is a coalition of developing nations, **primarily from the global south**, formed to collectively address economic and development issues at the United Nations.

#### ➤ Resurgence of Global South:

##### ○ Economic Dynamics:

- **Economic Imbalances Exposed by Covid-19:** The pandemic amplified existing economic disparities, disproportionately impacting Global South countries due to limited healthcare infrastructure, disrupted supply chains, and heavy reliance on sectors vulnerable to lockdowns.
- **Shifts in Trade and Supply Chains:** Reevaluations of global supply chains post-pandemic and in context of recent geopolitical conflicts like **Russia-Ukraine war**, opened discussions on repositioning production centers, providing an opportunity for some Global South economies to restructure and enhance their roles.

##### ○ Geopolitical Realities:

- The Global South's collective voice gained traction in international forums like **G20**, altering power dynamics and prompting greater consideration of their perspectives and interests.

##### ○ Environmental and Climate Impact:

- **Vulnerability to Climate Change:** The Global South is disproportionately affected by climate change, driving discussions on climate adaptation, resilience-building, and the need for equitable global climate action.
- **Renewable Energy and Sustainable Development:** Emphasis on sustainable development goals, renewable energy investments, and

Note:

environmental conservation initiatives within the Global South attracted global attention and support.

## India-Bangladesh Relations

### Why in News?

Recently, the Prime Minister of Bangladesh Sheikh Hasina returned to power in Bangladesh for a **historic fourth straight term**. India was among the first countries to congratulate, illustrating the close bilateral relationship between the two countries.

### How Have the Ties Between India-Bangladesh Flourished?

#### ➤ Historical Ties:

- The foundation of India's relationship with Bangladesh was laid in the 1971 **Bangladesh Liberation War**. India provided critical military and material support to assist Bangladesh in its fight for independence from Pakistan.
- Despite this, relations soured within a few years as military regimes took control. There was a rise in **anti-India sentiment in the mid-1970s** over issues ranging from boundary disputes and insurgency to the sharing of water.
- The instability continued for a few decades until **Sheikh Hasina came to power in 1996** and scripted a new chapter in bilateral ties with a **treaty on the sharing of Ganga waters**.
- Since then, India and Bangladesh have built cooperation in **Trade, Energy, Infrastructure, Connectivity and Defence**.

#### ➤ Economic Cooperation:

- Bilateral trade between India and Bangladesh has grown steadily over the last decade.
- Bangladesh has emerged as **India's largest trade partner in South Asia**, with bilateral trade reaching USD 18 billion in 2021-2022 from USD 10.8 billion in 2020-21, though there was a dip in 2022-23 due to the **Covid-19 pandemic** and the **Russia-Ukraine War**.
- **India is also the second biggest trade partner of Bangladesh**, with exports amounting to USD 2 billion in Indian markets.
- In 2022, both nations concluded a joint feasibility study on a **Comprehensive Economic Partnership**

**Agreement (CEPA)**. The CEPA gains additional significance as Bangladesh is set to lose its **Least Developed Country (LDC) status after 2026**, thereby losing its duty-free and quota-free market access in India.

- Bangladesh will be eager to finalize a **Free Trade Agreement (FTA)** with India, and also pursue the China-backed **Regional Comprehensive Economic Partnership (RCEP)**. This dual approach raises concerns for India.

#### ➤ Infrastructure:

- Since 2010, India has extended **Lines of Credit** to Bangladesh worth over USD 7 billion.
- India and Bangladesh have **successfully resolved long-pending issues**, like the **Land Boundary Agreement (LBA) in 2015** and a maritime dispute over territorial waters.
- India and Bangladesh in 2023 inaugurated the **Akhaura-Agartala Rail Link** that connects Bangladesh and the northeast through Tripura.
- The link has given **India access to Chattogram and Mongla ports** in Bangladesh for the movement of cargo.
  - It is likely to boost small-scale industries and development in Assam and Tripura.
- The **BIMSTEC Master Plan for Transport Connectivity** focuses on connecting major transport projects in India, Bangladesh, Myanmar and Thailand, thereby establishing a shipping network.
  - India will focus on the Matarbari Port, 100 km from Tripura, being built by Bangladesh. This port will create a vital industrial corridor connecting Dhaka and Northeast India.

#### ➤ Energy:

- In the energy sector, Bangladesh imports **nearly 2,000 megawatts (MW) of electricity from India**.
- **In 2018, Russia, Bangladesh and India** signed a memorandum on cooperation in the implementation of the **Rooppur Nuclear power plant project, Bangladesh's first nuclear power reactor**.

#### ➤ Defence Cooperation:

- India and Bangladesh share 4096.7 km of border; **the longest land boundary that India shares with any of its neighbors**.
  - Assam, West Bengal, Mizoram, Meghalaya, and Tripura share borders with Bangladesh.

Note:



- The two also conduct Joint Exercises - Army (**Exercise Sampriti**) and Navy (**Exercise Bongo Sagar**).
- **Multilateral Cooperation:**
  - India and Bangladesh are also engaged in regional cooperation through multilateral forums such as **SAARC (South Asian Association for Regional Cooperation)**, **BIMSTEC (Bay of Bengal Multi-Sectoral Technical and Economic Cooperation)** and **Indian Ocean Rim Association (IORA)**.



### What are the Points of Tensions Between India and Bangladesh?

- **Sharing of Transboundary River Waters:**
  - India and Bangladesh share 54 common rivers, but only two treaties have been signed so far of **Ganga Waters Treaty** and The **Kushiyara River Treaty**.
    - The other major rivers, such as the **Teesta and Feni** are still under negotiation.
- **Illegal Migration:**
  - The issue of illegal migration from Bangladesh to India, encompassing both refugees and economic migrants, continues to be a significant concern.
  - This influx strains Indian border states, impacting resources and security. The problem intensified with **Rohingya refugees** entering India through Bangladesh.
  - The **National Register of Citizens (NRC)**, aimed at curbing such migration, has raised concerns in Bangladesh.
    - Bangladesh seeks **Indian support in persuading Myanmar to take back the Rohingyas** who were forced to take refuge in Bangladesh.

- **Drug Smuggling & Trafficking:**
  - There have been many incidences of cross border drug smuggling & trafficking. Humans (especially children & women) are trafficked & various animal & bird species are poached through these borders.
- **Growing Chinese Influence in Bangladesh:**
  - At present, Bangladesh is an active partner in the **Belt and Road Initiative (BRI)** (India is not a part of BRI).
  - China's increasing involvement with Bangladesh could potentially

## 19th NAM Summit and India-Uganda Relations

### Why in News?

Recently, Ugandan President Yoweri Museveni, who hosted the **19th Summit of the Non-Aligned Movement in Kampala**, expressed his regret over the **expulsion of Indians by Idi Amin in the 1970s**.

- He praised the achievements of the **Indian diaspora in Uganda** and lauded India's role in the global south.

### What are the Key Highlights of the 19th Summit of the Non-Aligned Movement?

- The 19th Summit of the **NAM** was held in Kampala, Uganda, with the **theme of "Deepening Cooperation for Shared Global Affluence"**.
  - Uganda has taken over as chair from Azerbaijan, to run until 2027.
- The summit adopted the **Kampala Declaration**, slamming Israeli military aggression and calling for the **implementation of the UN Security Council resolution** to allow humanitarian aid into the besieged **Gaza Strip**.
- The External Affairs Minister (EAM) of India led the Indian delegation at the 19th NAM Summit, calling for a **sustainable solution to the Gaza crisis**. He emphasised the need for **immediate relief in the humanitarian crisis** and urged the prevention of the conflict's spread in the West Asian region.
- The **NAM was established in 1961 in Belgrade, Yugoslavia**, through the initiative of five leaders of newly independent countries: Josip Broz Tito of Yugoslavia, Gamal Abdel Nasser of Egypt, **Jawaharlal Nehru of India**, Sukarno of Indonesia, and Kwame Nkrumah of Ghana.

Note:

- It was formed during the **Cold War** as an **organisation of States that did not seek to formally align** themselves with either the United States or the Soviet Union but sought to remain independent or neutral.
- At present, the **Movement has 120 Member States**, 17 Observer Countries and 10 Observer organizations.
- **NAM does not have a permanent secretariat** or a formal founding charter, act, or treaty.
- The **summit usually takes place every three years**.

### **What Happened to the Indians in Uganda under Idi Amin?**

- In August 1972, **Idi Amin, the dictator of Uganda**, ordered the expulsion of Indians and other Asians who were living and working in Uganda.
- Around 80,000 Indians were forced to leave the country within 90 days, leaving behind their properties and businesses.

- The expulsion had a **devastating impact on the Ugandan economy**, which suffered from a loss of skilled workers, entrepreneurs, and investors.

### **How have been India-Uganda Relations?**

#### ➤ **Political Relations:**

- India and Uganda share historical relations spanning over a century. Indians first came to Uganda at the beginning of the 20<sup>th</sup> century.
  - **India's freedom struggle inspired the early Ugandan activists** to fight colonization and eventually **Uganda achieved freedom in 1962**.
- India **established its diplomatic presence in Uganda in 1965**. During the reign of President Amin in the **early 1970s, around 60,000 Indians/PIOs were expelled**. However, After Amin was overthrown in 1979, the **succeeding governments of Uganda invited the expelled Indians** to return and reclaim their properties and citizenship.



Note:

- **Indian Diaspora:**
  - The Indian community presents the strongest and most durable economic and cultural links with Uganda.
  - Indian Nationals/PIOs who constitute less than **0.1% of Uganda's population, contribute about 70% of Uganda's direct taxes** as per statistics of the Bank of Uganda and the Uganda Revenue Authority.
  - **'India Day', an annual feature**, showcases Indian culture and attracts thousands of visitors. The event serves to bring together the Indian and Ugandan communities.
- **Defence**
  - India conducts training courses for Uganda's defence personnel.
  - **Commercial Relations:**
  - Uganda is a beneficiary of the **Duty Free Tariff Preference (DFTP) Scheme of India for Least Developed Countries(LDCs)**.
    - Major items of **Indian exports to Uganda** include pharmaceutical products, vehicles, plastic, paper and paperboard, organic chemicals.
    - Major commodities of **imports from Uganda to India** are edible vegetables and certain roots and tubers, coffee, tea, mate and spices and cocoa and cocoa preparation.
    - A **Double Taxation Avoidance Agreement** between India and Uganda is in effect since 2004.
      - A DTAA is a tax treaty signed between two or more countries. Its key objective is that **tax-payers in these countries can avoid being taxed twice for the same income**.
        - ◆ A DTAA applies in cases where a taxpayer resides in one country and earns income in another.
- **Scholarships and Capacity Building Training Programmes:**
  - The Government of India offers scholarships and fellowships to Ugandans from the Government and private sector to enable them to pursue under-graduate, post-graduate and research courses in India.

## Iran, Pakistan, and the Baloch Militancy

### Why in News?

Recently, the relationship between **Iran and Pakistan** has taken serious hits over Iranian missiles and drones

that struck two alleged bases of the **Jaish al-Adl (JAA), an anti-Iran Baloch militant group**, in Pakistan's Balochistan province.

- Pakistan reacted strongly to the "blatant breach" of its sovereignty and carried out its own cross-border missile strikes on **alleged terrorist sanctuaries in Iran**.
- **The JAA came under the scanner of Indian security agencies** following the abduction of an Indian, **Kulbhushan Jadhav**. The group allegedly traded Jadhav to Pakistan's Inter Services Intelligence (ISI).



### Who is Jaish al-Adl?

- Jaish al-Adl, or the Army of Justice, is a **Sunni Militant group that emerged in 2012**. It is primarily composed of **members from the ethnic Baluch community**, residing on both sides of the Iran-Pakistan border.
- The group is considered an **offshoot of the Jundullah organisation**, which saw its strength diminish after Iran arrested many of its members.
- Jaish al-Adl's main objectives include **seeking independence for Iran's eastern Sistan province and Pakistan's southwestern Baluchistan province**. These goals, advocating for the **rights of the Baluch people**, make the group a **common target for both the Iranian and Pakistani governments**.
- The ethnic Baluch community faces discrimination in both Iran and Pakistan, with concerns about a lack of fair distribution of resources and wealth in their respective provinces. Baluch separatists and nationalists demand a more equitable share and often resort to insurgency as a means of expressing their grievances.
- The group's presence in Balochistan, particularly in the border regions, has been a source of tension between Iran and Pakistan.
  - Both countries have a history of suspicion and accusations regarding each other's involvement in supporting militant activities.

Note:

## How has been the Relationship Between Pakistan and Iran?

### ➤ Pre-1979 Alliance:

- Before the **1979 Islamic Revolution in Iran**, both countries were firmly allied to the **United States** and had, in 1955, joined the **Baghdad Pact**, later known as the **Central Treaty Organization (CENTO)**, a military alliance modeled on **NATO (North Atlantic Treaty Organization)**.
- Iran provided material and weapons support to **Pakistan during its wars against India in 1965 and 1971**.
- The Shah of Iran expressed concern about the “disintegration” of Pakistan after the **Liberation of Bangladesh**.

### ➤ Post-1979 Shift:

- The Islamic Revolution in Iran led to the **rise of an ultra-conservative Shiite** regime under **Ayatollah Khomeini**. This was concurrent with Pakistan’s own Islamization under military dictator **General Zia-ul-Haq**.
- The two countries found themselves on opposite ends of the sectarian divide.

### ➤ Geopolitical Differences:

- Iran went **from being an ally to a sworn enemy** of the United States almost overnight, the Americans embraced Pakistan closer.
- Since 1979, has been a major reason for the Iranian distrust of Pakistan, which increased after **09/11 as Islamabad extended unqualified support to the US “War on Terror”**.
- Iran’s post-1979 foreign policy, which focused on exporting the revolution, made its Arab neighbours nervous.
  - Each of these oil-rich kingdoms was **effectively controlled by a small group of families**, not unlike the Shah’s regime in pre-revolution Iran. Pakistan’s continued strategic ties with these Arab kingdoms **added rough edges to its relationship with Iran**.

### ➤ Afghanistan Conflict:

- Iran and Pakistan found themselves on **opposite sides in Afghanistan after the Soviet withdrawal**.
- Iran backed the **Northern Alliance against the Taliban**, a group initially supported by Pakistan.

- Tensions escalated after the Taliban **massacred Persian-speaking Shia Hazaras** and Iranian diplomats in **Mazar-i-Sharif in 1998**.

### ➤ Attempts at Reconciliation:

- Despite historical tensions, both countries **made attempts to improve ties**. Prime Minister Benazir Bhutto expressed regret over tightening U.S. sanctions against Iran in 1995, and Pakistan **imported gas from Iran during her government**.
- However, relations soured after General Pervez Musharraf took power in 1999.

## What is the Balochistan Dynamics between Iran and Pakistan?

### ➤ Geographical and Demographic Context:

- The Iran-Pakistan border, known as the **Goldsmith Line**, spans approximately 909 kilometres from a tripoint with Afghanistan to the northern **Arabian Sea**.
- Roughly 9 million ethnic **Baloch people inhabit both sides of the border**, residing in the **Pakistani province of Balochistan, the Iranian province of Sistan and Baluchestan**, and neighbouring areas of Afghanistan.

### ➤ Shared Baloch Identity:

- Baloch people share a **common cultural, ethnic, linguistic, and religious identity** that transcends the modern borders imposed on the region.
- Despite living in different countries, the **Balochs maintain strong ties based on historical and cultural connections**.

### ➤ Marginalisation and Grievances:

- The Baloch in both **Iran and Pakistan have experienced marginalization**, feeling politically and economically distant from the dominant regimes in each country.
  - **In Pakistan**, the Baloch face **challenges as an ethnic minority** within a Punjabi-dominated political structure.
  - **In Iran**, they are not only an **ethnic minority but also a religious minority**, with the majority being Sunni in a predominantly Shia country.

### ➤ Economic Disparities:

- The Baloch homeland is **rich in natural resources**, but economic disparities persist. In Iran, a significant portion of the **Baloch population lives under the poverty line**.

Note:

- In Pakistan, despite massive investments in projects like **China's Belt and Road Initiative**, **improvements in their lives have been limited.**
- **Nationalist Movements:**
  - Baloch nationalism has **historical roots dating back to the early 20<sup>th</sup> century** when new international borders were drawn in the region.
  - The marginalisation of the Baloch people in both Iran and Pakistan has fueled separatist **movements seeking a "Greater Balochistan" nation-state.**
- **Insurgency and Cross-Border Movements:**
  - Baloch insurgents operate on both sides of the Iran-Pakistan border, attacking military and occasionally civilian targets.
  - Insurgents, affiliated with groups like the **Baloch Liberation Army (BLA)** and the **Baloch Liberation Front (BLF)**, have been involved in armed struggles against the respective states.

### ***What are the Implications of Escalating Tensions Between Pakistan and Iran?***

- **Regional Stability:**
  - Escalating tensions between Pakistan and Iran **could contribute to regional instability**, especially given the complex geopolitical landscape of the Middle East and South Asia.
  - The relationship between Pakistan and Iran **may further strain, impacting diplomatic, economic, and cultural ties.**
- **Proxy Dynamics:**
  - Both Pakistan and Iran have been accused of **supporting proxies in regional conflicts.** Escalations may heighten proxy dynamics, with each country trying to exert influence in the other's internal affairs or supporting certain factions in ongoing regional conflicts.
- **Impact on Balochistan:**
  - Balochistan could witness increased unrest. **The Baloch nationalist movements might gain momentum**, and there could be repercussions for the local populations.
  - The situation might draw in **other regional actors, such as India, the United States, Saudi Arabia, or Israel**, further complicating the geopolitical landscape and potentially leading to a broader regional conflict.

- **Security Concerns:**
  - Escalating tensions may raise security concerns for neighbouring countries, particularly Afghanistan. The region is already grappling with **security challenges, and heightened tensions could exacerbate the situation.**
- **Implications for India:**
  - The tensions **may impact India's relations with Iran**, especially considering India's involvement in projects like the Chabahar port. India may find itself in a delicate diplomatic position, balancing its ties with both Iran and the United States.

### ***What is India's Stance over the Faceoff Between Pakistan and Iran?***

- **Zero Tolerance Towards Terrorism:**
  - India emphasised its **"uncompromising position of zero tolerance towards Terrorism."** This statement underscores India's consistent stance against terrorism, aligning with its long-standing concerns regarding cross-border terrorism emanating from Pakistan.
- **Understanding Actions in Self-Defense:**
  - India acknowledged and **expressed an understanding of "actions that countries take in their self-defence."** It suggests a recognition of the complex security dynamics in the region and a cautious approach to the actions taken by countries to address their security concerns.

## **India-Nepal Power Pact**

### ***Why in News?***

**India and Nepal** recently signed a long-term agreement for the **export of power.** The agreement was inked during the **7th meeting of the Nepal-India Joint Commission**, highlighting the strengthening ties between the two nations.

### ***What are the Key Takeaways From the 7th Meeting of the Nepal-India Joint Commission?***

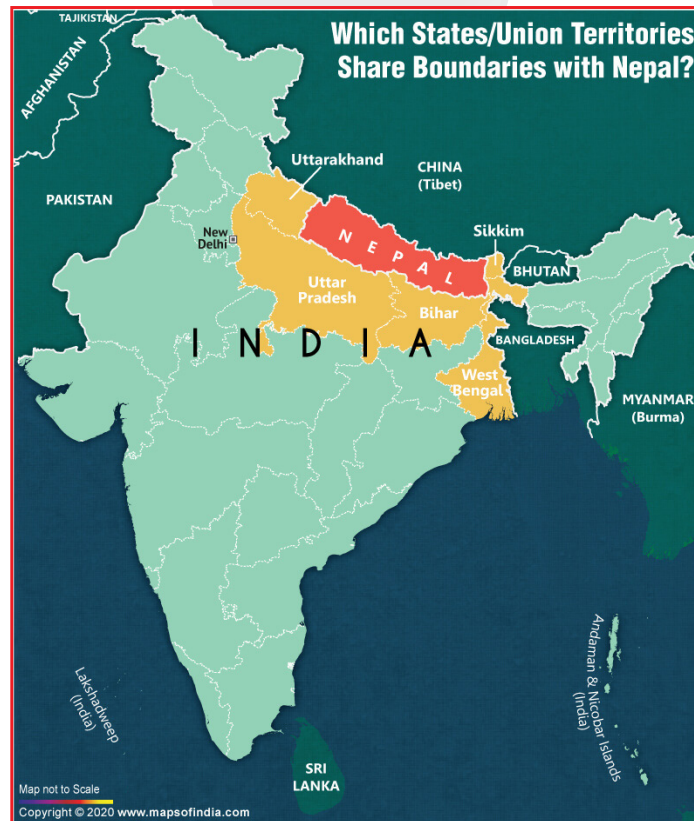
- **Power Export Agreement:** India and Nepal signed a bilateral agreement for the export of **10,000 MW of power in the next 10 years.**
- **Cross-Border Transmission Lines Inauguration:** Three cross-border transmission lines were jointly inaugurated including the 132 kV **Raxaul-Parwanipur**, 132 kV **Kushaha-Kataiya**, and **New Nautanwa-Mainahiya** lines.

Note:

- **Renewable Energy Cooperation:** A **Memorandum of Understanding (MoU)** was signed between the **Nepal Electricity Authority and India's National Thermal Power Corporation Limited** for cooperation in renewable energy.
- **Agreement for Satellite Service :** The Service Agreement for **Munali Satellite** developed by Nepal Academy of Science and Technology between **Nepal Academy of Science and Technology and NewSpace India Limited** was launched.
  - This satellite developed by Nepali students shall be launched on a gratis basis on an Indian launch rocket.

### **What are the Major Areas of Cooperation Between India and Nepal?**

- **About:**
  - India and Nepal, **being immediate neighbors**, enjoy special bonds of friendship and collaboration marked by an **open border and strong people-to-people connections** rooted in kinship and culture.
  - Nepal shares a border of over 1850 km with five Indian states – **Sikkim, West Bengal, Bihar, Uttar Pradesh and Uttarakhand**.
- The **India-Nepal Treaty of Peace and Friendship of 1950** forms the bedrock of the special relations that exist between India and Nepal.
- **Economic Cooperation:** India is **Nepal's largest trade partner** and the **largest source of foreign investments**, besides providing transit for almost the entire third country trade of Nepal.
  - India accounts for about **two-third of Nepal's merchandise trade and about one-third of trade in services**.
  - Recently, India and Nepal agreed to review the **Treaty of Transit and the Treaty of Trade**, proposed amendments to existing agreements, strategies for enhancing investment, the harmonization of standards and the synchronized development of trade infrastructure.
- **Defense Cooperation:** India has been aiding the modernization efforts of the Nepal Army through equipment supply and training provisions.
  - The joint military exercise, '**Surya Kiran**,' at the battalion level, is conducted in both India and Nepal on a rotational basis. In 2023, it was held in **Pithoragarh, Uttarakhand**.



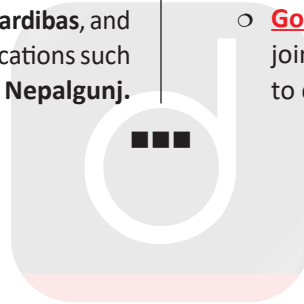
Note:

- **Cultural Cooperation:**
  - The **Embassy of India in Nepal**, in collaboration with **Lumbini Development Trust and Lumbini Buddhist University** organized the inaugural **India-Nepal Cultural Festival** in Lumbini in December 2023.
    - The festival showcased the rich cultural heritage and traditions of India and Nepal, with a **focus on Buddhism**.
- **Water Sharing:** The **Koshi Agreement (1954, revised in 1966)** and **Gandak Agreement (1959, revised in 1964)** were the initial significant agreements fostering India-Nepal cooperation in the water resources sector.
  - Another pivotal pact, the **Mahakali Treaty (1996)**, ensures the fair utilization of Mahakali river, waters for both countries.
- **Connectivity:** India is assisting Nepal by upgrading **10 roads in the Terai area**, establishing cross-border rail links at **Jogbani-Biratnagar and Jaynagar-Bardibas**, and setting up Integrated Check Posts at key locations such as **Birgunj, Biratnagar, Bhairahawa, and Nepalgunj**.

- Also, India exported about 2200 MUs of electricity to Nepal in 2021.

### ***What are the Major Challenges to India Nepal Relations?***

- **Boundary Dispute:** The boundary dispute has become a significant source of tension in recent India-Nepal relations, particularly concerning the **Kalapani-Limpiyadhura-Lipulekh trijunction area in western Nepal and the Susta area in southern Nepal**.
- **China's Rising Footprint:** China has provided financial and technical assistance to Nepal in areas such as infrastructure, industrialization, human resources, health, education, and water resources. Rising Nepal and China cooperation can undermine Nepal's distinction of a buffer state between India and China.
  - **Gorkhas**, traditionally in the Indian Army, might join **China's People's Liberation Army (PLA)** due to concerns over **India's new Agniveer scheme**.



Note:

# Social Issues

## Highlights

- Delhi High Court Reverses Abortion Approval Order
- Idate Commission Report
- Alliance for Global Good- Gender Equity and Equality
- Multiple Sclerosis
- Global Surgery
- Cabo Verde Declared A Malaria-Free Country
- Concerns Related to Anganwadi Workers
- Status of Adivasi Livelihoods (SAL) Report, 2022
- Multidimensional Poverty Index: NITI Ayog

## Delhi High Court Reverses Abortion Approval Order

### Why in News?

Recently, the **Delhi High Court** has reversed its order that permitted a **26-year-old woman** to terminate her 29-week-old **pregnancy**.

- The court, now **advocating for the unborn child's right to life**, has directed the woman to undergo delivery at either AIIMS or any central or state hospital.

### What is the Status of Medical Termination of Pregnancy in India?

- **Background:** In the 1960s, in the wake of a high number of induced abortions taking place, the Union government ordered the constitution of the **Shantilal Shah Committee** to deliberate on the **legalisation of abortion in the country**
  - Resulting from its recommendations, the **Medical Termination of Pregnancy (MTP) Act, 1971** was enacted, permitting safe and legal abortions to protect women's health and decrease maternal mortality.
- **MTP Act and Subsequent Amendment:**
  - The **MTP Act, 1971** permits licensed medical professionals to perform **safe and legal abortions** in specific predetermined situations (as provided under the legislation), to protect women's health and decrease maternal mortality.
    - It underwent subsequent amendments through the **MTP Amendment Act, 2021**.

### ➤ Provisions for Terminating Pregnancy:

Time Since Conception	MTP Act, 1971	MTP (Amendment) Act, 2021
Up to 12 weeks	On the advice of one doctor	On advice of one doctor
12 to 20 weeks	On advice of two doctors	On advice of one doctor
20 to 24 weeks	Not allowed	On advice of two doctors for special categories of pregnant women
More than 24 weeks	Not allowed	On advice of medical board in case of substantial fetal abnormality
Any time during the pregnancy	On advice of one doctor, if immediately necessary to save pregnant woman's life	On advice of one doctor, if immediately necessary to save pregnant woman's life

**Note:** Under MTP Amendment Act 2021, special categories of women, includes **survivors of rape, victims of incest** and other vulnerable women like **differently abled and minors**.

- **Other Key Features of MTP Amendment Act 2021:**
  - Termination Due to Failure of **Contraceptive**

Note:



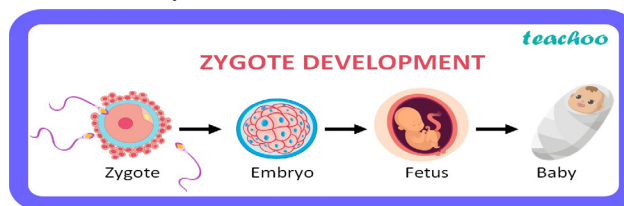
**Method or Device:** The MTP Act permitted married women to terminate pregnancies up to 20 weeks in case of contraceptive method or device failure.

- The MTP Amendment Act **extended the allowance to unmarried women as well.**
- **Medical Boards:** The board will assess pregnancies beyond 24 weeks for substantial foetal abnormalities.
  - It should comprise specialists like gynaecologists, paediatricians, and radiologists, and will be established by all state and union territory governments.
- **Privacy Measures:** A registered medical practitioner can only disclose details of a terminated pregnancy to **individuals authorised by law**. Violation carries penalties of **imprisonment up to a year, fines, or both.**
- **Constitutional Stance:**
  - Although the **Constitution does not explicitly mention the right to abortion**, certain fundamental rights have been associated with **reproductive rights and women's healthcare.**
    - **Article 21 - Right to Life and Personal Liberty:** The Supreme Court interprets this broadly to encompass reproductive autonomy and healthcare (**Suchita Srivastava vs. Chandigarh Administration case, 2009**)
      - Also, recently the **Supreme Court** observed that the **rights of an unborn child must be balanced with a woman's reproductive right.**

**Note:** The fetus's moral status, legal standing, and constitutional rights still remain a grey area in India. However, **section 20 of the Hindu Succession Act, 1956, protects the fetus's life from conception.**

- **Global Trends:**
  - Worldwide, there is a noticeable trend toward the liberalisation of abortion laws and improved accessibility to abortion services.
  - Since the early **1990s**, approximately **60 countries globally have relaxed abortion laws**, broadening the legal grounds for abortion.
  - Notably, only four countries: the **United States, El Salvador, Nicaragua, and Poland**, have tightened abortion laws during this period by removing legal grounds for the procedure.

- A significant development occurred in 2022 when the U.S. Supreme Court eliminated the constitutional right to abortion (**Roe v. Wade case**).



- **Zygote:** The initial cell formed by the fusion of sperm and egg during fertilisation.
- **Embryo:** Early stage of development, from the moment of fertilisation until about the 8<sup>th</sup> week of pregnancy.
- **Fetus:** The later stage of prenatal development, starting from the **ninth week until birth**, characterised by the development of organs and systems.

## Idate Commission Report

### *Why in News?*

Recently, the **National Human Rights Commission (NHRC)** emphasised the importance of executing the recommendations of **the Idate Commission report**, to address the concerns of **Nomadic, Semi-Nomadic, and De-Notified Tribes** (NTs, SNTs, and DNTs) in India.

- The NHRC urged the government to repeal the **Habitual Offenders Act, 1952**, or appoint a representative from the De-notified Tribe community along with **nodal officers** as mandated by the Act.
  - Additionally, it recommended excluding DNTs/NTs/SNTs from SC/ST/OBC categories and creating tailored policies for them.

### *What were the Major Recommendations of the Idate Commission?*

- **About:**
  - It was **established in 2014** under the leadership of **Bhiku Ramji Idate**, to compile a statewide catalogue of Denotified, Nomadic, and Semi-Nomadic Tribes (DNTs).
  - Another mandate was to **recognize those excluded from Scheduled Castes (SC), Scheduled Tribes (ST) and Other Backward Classes (OBC)** categories and recommend welfare measures for their well-being.

Note:

### ➤ Recommendations:

- Assign individuals not identified in the SCs/STs/OBCs list to the OBC category.
- Enhance legal and constitutional safeguards by incorporating a third schedule into the Scheduled Castes and the Scheduled Tribes (Prevention of Atrocities) Act, 1989 to prevent atrocities and restore the feeling of security amongst the members of the community.
- Create a **permanent commission** with legal standing for the DNTs, SNTs, and NTs.
- Form a **distinct department** to address the welfare of these communities **in states with significant populations**.
- Undertake a **thorough survey of DNT families** to determine their estimated numbers and distribution.

### **Who are Denotified, Nomadic, and Semi-Nomadic Tribes?**

#### ➤ About:

- They are also known as '**Vimukt Jatis**'. These communities are among the most vulnerable and disadvantaged.
- De-notified communities, once labelled as '**born criminals**' during British rule under laws like the **Criminal Tribes Act, 1871**.
  - They were officially de-notified by the **Indian Government in 1952**.
- A few of these communities which were listed as de-notified were also nomadic.
  - **Nomadic and semi-nomadic communities** are defined as those who move from one place to another rather than living in one place all the time.
- Historically, Nomadic Tribes and De-notified Tribes **never had access to private land** or home ownership.
- While most DNTs are spread across the **Scheduled Castes (SC), Scheduled Tribes (ST)** and **Other Backward Classes (OBC)** categories, some DNTs are not covered in any of the SC, ST or OBC categories.

#### ➤ Major Committees/Commissions for NTs, SNTs, and DNTs Communities:

- The **Criminal Tribes Inquiry Committee**, 1947 constituted in the United Provinces (now Uttar Pradesh).

- **Ananthasayanam Ayyangar Committee**, 1949.
  - **Criminal Tribes Act, 1871 was repealed** based on the recommendation of this committee.
- **Kaka Kalelkar Commission** (also called first **OBC Commission**), 1953.
- The **B P Mandal Commission**, 1980.
  - The commission also made some recommendations related to the issue of NTs, SNTs, and DNTs Communities.
- The **National Commission to Review the Working of the Constitution (NCRWC)**, 2002 held that **DNTs have been wrongly stigmatised as crime prone** and subjected to high handed treatment as well as exploitation by the representatives of law and order and general society.

#### ➤ Distribution:

- In India, roughly **10% of the population** is composed of NTs, SNTs, and DNTs Communities.
- While the number of Denotified Tribes is about 150, the population of Nomadic Tribes consists of about 500 different communities.
  - It has been estimated that **South Asia** has the world's **largest nomadic population**.

### **What are the Challenges Faced by Nomadic Tribes?**

- **Lack of Basic Infrastructure Facilities:** Communities lack essential facilities such as access to drinking water, shelter, and sanitation, which deprives them of basic amenities. Additionally, healthcare and education services are unavailable to them.
- **Lack of Social Security Cover:** Due to their frequent mobility, these individuals lack a permanent settlement, leading to an **absence of social security** coverage and exclusion from government welfare schemes that require **documents** like **Ration Cards, Aadhar Cards** and caste certificates.
- **Bad Treatment by Local Administration:** Due to the stigma of being labelled as criminals in the past, they continue to be treated as such and subjected to torture by the local administration and police.
- **Ambiguous Caste Categorisation:** The **classification of castes is ambiguous for these communities**, as they are categorized as Scheduled Castes (SC) in certain states and as Other Backward Classes (OBC) in others.

Note:

### What Developmental Efforts have been Taken for these Tribes?

- **Dr Ambedkar Pre-Matric and Post-Matric Scholarship for DNTs:**
  - This **Centrally Sponsored Scheme** was launched in 2014-15 for the welfare of those DNT students who are not covered under **SC, ST** or **OBC**.
  - The scheme of **Pre-matric Scholarships** for DNT students is helpful in spreading education amongst DNT children, especially the girl child.
- **Nanaji Deshmukh Scheme of Construction of Hostels for DNT Boys and Girls:**
  - This Centrally Sponsored Scheme, launched in 2014-15, is implemented through State Governments/UT Administrations/Central Universities.
  - The goal of the program is to offer hostel accommodations to DNT students who do not fall under the categories of SC, ST, or OBC.
    - This support is intended to facilitate their pursuit of higher education.
- **Scheme for Economic Empowerment of DNTs:**
  - It aims to provide **free competitive exam coaching**, health insurance, housing assistance, and livelihood initiatives.
  - It ensures expenditure of Rs. 200 crores to be spent over five years beginning 2021-22.
  - The **DWBDNCs** (Development and Welfare Board for De-notified, Nomadic and Semi-Nomadic Communities) has been tasked with the implementation of this scheme.

#### National Human Rights Commission (NHRC)

- **About:**
  - Ensures protection of rights related to life, liberty, equality, dignity of individuals and rights guaranteed by the Indian Constitution and **international covenants** enforceable by Indian courts.
- **Establishment:**
  - Established on October 12, 1993, under the **Protection of Human Rights Act, 1993**.
  - Amended by the Protection of Human Rights (Amendment) Act, 2006, and Human Rights (Amendment) Act, 2019.

- Established in conformity with the **Paris Principles**, adopted for promoting and protecting human rights.

#### ➤ **Composition:**

- The Commission consists of a chairperson, five full-time Members and seven deemed Members.
- Chairman is a former Chief Justice of India or a Supreme Court judge.

#### ➤ **Appointment and Tenure:**

- Chairman and members appointed by the President on the recommendations of a six-member committee.
- The committee consists of the Prime Minister, the Speaker of the Lok Sabha, the Deputy Chairman of the Rajya Sabha, leaders of the Opposition in both Houses of Parliament, and the Union Home Minister.
- Chairman and members **hold office for a term of three years or until they reach the age of 70**.

#### ➤ **Role and Function:**

- Possesses **powers of a civil court with judicial proceedings**.
- Empowered to utilise services of central or state government officers or investigation agencies for investigating human rights violations.
- Can investigate matters within one year of their occurrence.
- Functions are primarily recommendatory in nature.

## Alliance for Global Good- Gender Equity and Equality

### Why in News?

India established the “Global Alliance for Global Good - Gender Equity and Equality” at the 54<sup>th</sup> annual **World Economic Forum (WEF)** in Davos, gaining full support from WEF for promoting **women’s empowerment and gender equality**.

### What are the Key Highlights of the Alliance for Global Good- Gender Equity and Equality?

- The alliance is a response to the **G20 Summit 2023 Leaders’ Declaration** and India’s commitment to women-led development.

Note:



- It seeks to build on the initiatives of the Engagement Group and frameworks like **Business 20, Women 20, and G20 EMPOWER**.
  - The G20 Alliance for the **Empowerment and Progression of Women's Economic Representation (G20 EMPOWER)** is an initiative that aims to increase **women's leadership and empowerment in the private sector**.
- The **primary objective of this new Alliance** is to bring together global best practices, knowledge sharing and investments in the **identified areas of women's health, education, and enterprise**.
- Supported by the **Bill and Melinda Gates Foundation**, the alliance will be housed and anchored by the **Confederation of Indian Industry (CII) Centre for Women Leadership**.
  - **CII is a non-government, not-for-profit, industry-led and industry-managed organisation** that works to create and sustain an environment conducive to the development of India.
- The **WEF** has come on board as a **'Network Partner'** and **Invest India** as an **'Institutional Partner'**.
  - **Invest India** is a national Investment Promotion & Facilitation Agency. It was set up in **2009 as a non-profit venture** under the **Department for Promotion of Industry and Internal Trade**, Ministry of Commerce and Industry.
- The alliance aims to champion women-led development, leveraging India's spectacular inclusive growth story and its philosophy of **"Sabka Saath, Sabka Vikas and Sabka Prayas" (Together with all, Development for all and Effort for all)**.

#### World Economic Forum

- The World Economic Forum is the **International Organization for Public-Private Cooperation**.
  - The Forum engages the foremost political, business, cultural and other leaders of society to shape global, regional and industry agendas.
- The WEF was founded on **24<sup>th</sup> January, 1971** by **German engineer Klaus Schwab**, headquartered in Geneva.
  - He introduced the concept of **"stakeholder capitalism."**

- The WEF is best known for its **annual meeting at Davos, Switzerland**. The event attracts political and business leaders from around the world for discussions about global issues.
- **Major Reports:**
  - **Global Competitiveness Report, Global Gender Gap Report, Energy Transition Index, Global Risk Report, Global Travel and Tourism Report.**

## Multiple Sclerosis

### Why in News?

- **Deoxyribonucleic Acid (DNA)** obtained from the bones and teeth of ancient Europeans who lived up to **34,000 years** ago provides insight into the origin of the often-disabling neurological disease **Multiple Sclerosis**.
  - The findings stemmed from research involving ancient DNA sequenced from **1,664 people** from various sites across **Western Europe and Asia**.

### What are the Key Observations?

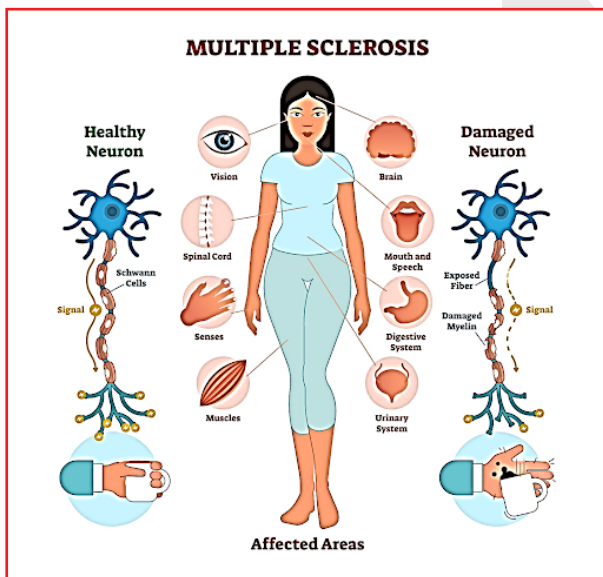
- These ancient genomes were then compared with modern DNA from the UK Biobank, comprising about 410,000 self-identified "white-British" people, and more than 24,000 others born outside the United Kingdom.
- One striking discovery related to **Multiple Sclerosis**, a chronic disease of the brain and spinal cord that is considered an autoimmune disorder.
- The researchers identified a pivotal migration event about 5,000 years ago at the start of the Bronze Age when livestock herders called the Yamnaya people moved into Western Europe from an area that includes modern Ukraine and southern Russia.
- They carried genetic traits that at the time were beneficial, and protective against infections that could arise from their sheep and cattle.
- As sanitary conditions improved over the millennia, these same variants increased Multiple Sclerosis risk.

### What is Multiple Sclerosis?

- **About:**
  - **Multiple Sclerosis (MS)** is a chronic autoimmune disease, a condition in which the body attacks itself by mistake. It affects the **central nervous system (CNS)**.

Note:

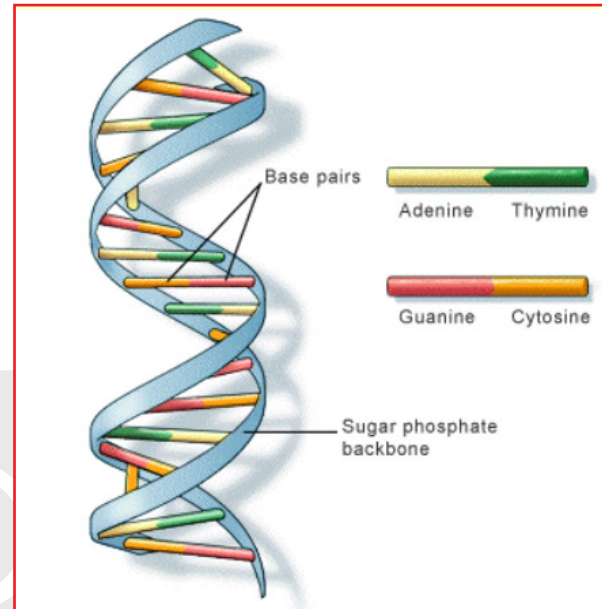
- In **MS**, the immune system attacks and damages the **myelin sheath**, a protective covering that surrounds the **nerve fibres** in the **brain** and **spinal cord**, causing a range of symptoms.
- **Symptoms:**
  - Muscle weakness and Numbness
  - A person may have difficulty emptying their bladder or need to urinate frequently or suddenly
  - Bowel problems, Fatigue, Dizziness, and damaged nerve fibers in the spinal cord.
  - Since symptoms are common, people don't often recognise the disease early and often it takes many years for someone to be diagnosed, as it is impossible to determine a specific cause or trigger.
- **Causes:**
  - The exact cause of the disease is unknown, but it could be a combination of:
    - Genetic factors may pass down in the genes
    - Smoking and Stress
    - Vitamin D and B12 deficiency



### What is Deoxyribonucleic Acid (DNA)?

- **Deoxyribonucleic acid (DNA)** is an organic molecule with a complex molecular structure.
  - DNA molecule's strands are made up of a **long chain of monomer nucleotides**. It is arranged in a double helix structure.

- **James Watson and Francis Crick** discovered that DNA is a **double-helix polymer** in **1953**.
- It is essential for the transfer of the genetic characteristic of the living being from one generation to the other generation.
- The majority of DNA is found in the **cell nucleus** so it is called nuclear DNA.



## Global Surgery

### Why in News?

**Global surgery** is the **neglected stepchild in global health**. The neglect is **more shocking in South Asia** which has the largest population globally lacking access to essential surgery.

### What is Global Surgery?

- **About:**
  - Global surgery **focuses on Equitable Access to Emergency** and essential surgery. While it predominantly focuses on **Low- and Middle-Income Countries (LMICs)**, it also prioritises **access disparities and under-served populations in high-income countries (HICs)**.
  - These "surgeries" include **essential and emergency surgeries** such as surgery, obstetrics, trauma, and anaesthesia (SOTA).
- **History:**
  - In 2015, often referred to as the "**Annus Mirabilis**" or miracle year for global surgery, key developments

Note:

transformed the field. The **Disease Control Priorities Network (DCPN)** report sponsored by the **World Bank (WB)** highlighted the **cost-effectiveness of essential surgery** and the significant disease burden that **could be addressed surgically**.

- The **Lancet Commission on Global Surgery (LCoGS)** played a crucial role by assessing global surgical care access, defining indicators for readiness, and proposing strategies like the **National Surgical, Obstetrics, and Anaesthesia Plan (NSOAP)**.
- This laid the groundwork for the **World Health Organization (WHO)** Declaration on **Safe Surgery (WHO Resolution 68.15)**, emphasizing the **essential role of surgical systems** in achieving **Universal Health Coverage**.

### What are the Challenges and Disparity in Global Surgery?

#### ➤ Inaccessibility:

- As per the LCoGS, over 70% of the global population, or five billion people, lack timely access to **safe and affordable surgical care** when needed.
- In Low- and lower-middle-income countries (LLMICs), 99% and 96% of the population, respectively, **face access gaps**, compared to **24% in high-income countries (HICs)**.
- Particularly in South Asia, over 98% of the population lacks access to safe and affordable surgical care.

#### ➤ Disease Burden:

- Surgically treatable conditions led to around 17 million deaths in 2010, surpassing the **combined mortality burden of HIV (Human Immunodeficiency Virus)/AIDS (Acquired ImmunoDeficiency Syndrome), Tuberculosis, and Malaria**.
- Low- and middle-income countries (LMICs) have over 77 million surgically avertable Disability-Adjusted Life-Years (DALY), constituting 3.5% of the total disease burden in these countries.
  - South Asia has a higher DALY rate than the LMIC average, contributing significantly to **surgically avertable burdens in neonatal and maternal diseases**, congenital anomalies, digestive conditions, and injuries.

#### ➤ Economic Burden:

- The absence of scaling up surgical care is projected to result in a cumulative loss of USD 20.7 trillion (in purchasing power parity terms) to global GDP across 128 countries by 2030.

- The annual loss in **societal welfare is estimated to be about USD 14.5 trillion** for 175 countries.
- South Asia **contributes about 7% to the global lost welfare**.

#### ➤ Limited Representation in International Health Reports:

- Surgery contributes to less than 1% of indicators mentioned in major international health reports by organizations such as the World Bank, WHO, and UNICEF.
- This lack of representation **may result in reduced prioritization in global health** initiatives and resource allocation.

#### ➤ Neglect in National Policy Making:

- National Health Strategic Plans from various countries, such as those in Africa and India, **often exhibit limited attention to surgery**. Some plans do not mention surgery or surgical conditions at all, while others mention them only sparingly.
- This lack of emphasis in **national policies may hinder the development of comprehensive healthcare** systems.

#### ➤ Research Disparities:

- A significant disparity exists in research attention and funding between global surgery and broader global health topics.
- The limited number of 'global surgery' titles in databases like PubMed compared to 'global health' titles highlights the gap in research focus.
- This disparity may hinder the generation of evidence-based practices in surgical care

#### ➤ Interconnected Challenges:

- Neglect in one aspect, such as policy or research, can perpetuate neglect in other areas, creating a cycle of under prioritization.
- The lack of representation in international reports may influence national policies, which, in turn, affects research funding and attention.

### What are the Government Initiatives Related to Healthcare and Surgery?

- **National Health Mission**
- **Ayushman Bharat**
- **Pradhan Mantri Jan Arogya Yojana (AB-PMJAY)**
- **National Medical Commission**
- **PM National Dialysis Programme**
- **Janani Shishu Suraksha Karyakram (JSSK)**
- **Rashtriya Bal Swasthya Karyakram (RBSK)**

Note:

## Cabo Verde Declared A Malaria-Free Country

### Why in News?

Recently, the **World Health Organization (WHO)** has declared Cabo Verde as a **Malaria**-free country.

- Cabo Verde now joins **Mauritius and Algeria** as the third country in the WHO African region to be **certified as malaria-free**.

### What is the Malaria Elimination Certification Process?

- **About:**
  - WHO certifies a country as **malaria-free when it demonstrates the interruption** of nationwide malaria transmission for **at least 3 consecutive years** and has a fully functional surveillance and response system preventing re-establishment of indigenous transmission.
- **Global Status:**
  - Till now, WHO has awarded the 'malaria-free' certification to **43 countries and 1 territory**.

- **South East Asian Region:** Maldives (2015) and Sri Lanka (2016) are certified malaria-free by WHO.
  - India is **not certified** as Malaria free.

### What is Malaria?

- Malaria is a **life-threatening mosquito borne blood disease** caused by plasmodium parasites.
  - There are **5 Plasmodium parasite species** that cause malaria in humans and 2 of these species – *P. falciparum* and *P. vivax* – pose the greatest threat.
- Malaria is predominantly **found in the tropical and subtropical areas of Africa, South America** as well as Asia.
- Malaria is spread by the bite of an **infected female Anopheles mosquito**.
  - The mosquito becomes infected after biting an infected person. The malaria parasites then enter the bloodstream of the next person the mosquito bites. The parasites travel to the liver, mature, and then **infect red blood cells**.
- Symptoms of malaria include fever and flu-like illness, including shaking chills, **headache, muscle aches, and tiredness**. Notably, malaria is both preventable and curable.

### What are the Initiatives Related to Malaria?

- **Global:**
  - **WHO's Global Malaria Program(GMP)**
  - **E-2025 Initiative**
- **India:**
  - **National Framework for Malaria Elimination 2016-2030**
  - National Vector-Borne Disease Control Programme
  - National Malaria Control Programme (NMCP)
  - High Burden to High Impact (HBHI) Initiative
  - **Malaria Elimination Research Alliance-India (MERA-India)**

### What are the Key Facts About Cabo Verde?

- **Geographical Location:**
  - Cabo Verde, also known as Cape Verde, is a **group of islands situated off the west coast of Africa**.
  - It is located near **Senegal** and is the **closest point to the African continent**.
- **Archipelago Structure:**
  - The country is composed of ten islands and five islets.
  - These are **divided into two main groups:** the windward islands (Barlavento) and the leeward islands (Sotavento).
- **Population:**
  - The majority of the population in **Cabo Verde is of mixed European and African descent**.



Note:

- People of this mixed heritage are often referred to as “mestiço” or “Crioulo.”
- **Capital:**
  - The capital city of Cabo Verde is Praia.
- **Languages:**
  - Portuguese is the official language.
  - Cape Verdean Creole, or simply Creole, is also widely spoken and is considered a significant part of the cultural identity.

## Concerns Related to Anganwadi Workers

### Why in News?

**Anganwadi workers** in Andhra Pradesh are on strike demanding better wages and benefits. The State government has invoked the **Essential Services and Maintenance Act (ESMA), 1971**, against protesting Anganwadi workers and helpers.

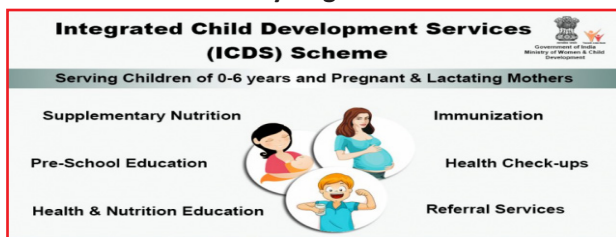
- The order prohibits strikes by them for **six months in the State**, citing the impact of their ongoing indefinite strike on the **Integrated Child Development Services (ICDS)** at Anganwadi Centres.

### What are the Anganwadi Services and Role of Anganwadi Workers?

#### ➤ ICDS Scheme and Anganwadi:

- The **ICDS scheme** was launched in India on 2<sup>nd</sup> October 1975. It was renamed as **Anganwadi Services** and the services are now offered as part of the **Saksham Anganwadi and Poshan 2.0**.
  - It is a **Centrally Sponsored Scheme** implemented by the States/UTs providing early childhood care and development of the beneficiaries i.e **children in the age group of 0-6 years, pregnant women and lactating mothers** through a large network of **Anganwadi workers (AWW) and Helpers (AWH)**.

#### ➤ Services Provided by Anganwadi:



- It has been provided to all eligible beneficiaries, namely, children in the age group of 0-6 years,

pregnant women and lactating mothers through the platform of Anganwadi Centres across the country.

- Three of the services viz. **Immunization, Health Check-up and Referral Services** are related to health and are provided through **National Rural Health Mission & Public Health Infrastructure**.
- **Tracking of Anganwadi Services:** ICT platform **Poshan tracker** has been designed to capture real-time data on implementation and monitoring of Anganwadi Services across the country.
  - It provides a 360 - degree view of the activities of the **Anganwadi Centre (AWC), service deliveries of Anganwadi Workers (AWWs)** and complete beneficiary management.
- **Major Roles and Responsibilities of AWWs:**
  - **Community Outreach and Mobilization:**
    - **Registering Beneficiaries:** Identifying and registering pregnant women, lactating mothers, and children under six years old who are eligible for ICDS services.
    - **Mobilizing Communities:** Encouraging community participation in Anganwadi activities, raising awareness about ICDS programs, and promoting healthy behaviors.
  - **Childcare and Early Childhood Education:**
    - **Managing Anganwadi Centers:** Ensuring the cleanliness and hygiene of the center, maintaining records, and preparing teaching materials.
    - **Providing Pre-school Education:** Conducting **age-appropriate play activities, storytelling sessions, and basic learning activities** to prepare children for formal schooling.
    - **Monitoring Growth and Development:** Regularly measuring **children’s height and weight, identifying any developmental delays**, and referring them for further interventions if needed.

Note:



- **Counseling Parents:** Providing guidance on childcare practices, child nutrition, and healthy habits.
- **Health and Nutrition:**
  - **Distributing Supplementary Nutrition:** Providing **hot cooked meals, take-home rations, and nutritional supplements** to address malnutrition, especially among pregnant and lactating mothers and children under six years old.
  - **Conducting Health Check-ups:** Monitoring children's health for common illnesses, conducting basic health checkups, and referring them to health facilities if needed.
    - Also, to guide **Accredited Social Health Activists (ASHA)** engaged under **National Rural Health Mission** in the delivery of health care services.
  - **Immunization:** Assisting healthcare personnel in organizing and facilitating immunization drives for children, ensuring timely vaccinations.
  - **Raising Awareness:** Educating mothers and communities about health, hygiene, **sanitation**, and healthy child development practices.

### **What are the Major Challenges Encountered by AWWs?**

- **Meagre Remuneration:** They are **not recognised government employees** and the monthly honorarium for Anganwadi workers is significantly lower than the minimum wage in many states, often falling between **Rs. 5,000 and Rs. 10,000**.
  - This makes it **difficult for them to meet their basic needs** and discourages them from dedicating their full attention to their work.
  - Delays in receiving their honorarium are also common, adding to their financial insecurity and hardship.
- **Overburdened with work and responsibilities:** Anganwadi workers are entrusted with a multitude of tasks. Also, State governments often assign them additional work like **Covid-19 related duties, Census duties or implementation of govt schemes like Ayushman Bharat** without any additional monetary benefits.
  - This extensive workload often **leads to burnout and hinders the quality of services they can provide**.

- **Lack of Proper Training and Resources:** While Anganwadi workers undergo initial training, it often **falls short of adequately equipping them to handle the complex tasks they face daily**.
  - Additionally, Anganwadi centres frequently lack essential resources like **proper infrastructure, teaching materials, and medicines**, further hindering their ability to function effectively.
- **Lack of Social Recognition and Respect:** Anganwadi workers often face societal stigma and a **lack of recognition for their valuable contribution to the community**. This lack of respect can negatively impact their morale and motivation.

## **Status of Adivasi Livelihoods (SAL) Report, 2022**

### **Why in News?**

- Recently, a report **Status of Adivasi Livelihoods (SAL) Report, 2022**, released by the non-profit organization **PRADAN** highlights that **Food subsidy through Public Distribution System (PDS)** has reduced the stress that Adivasi households would have faced due to lower income.
- The aim of this report is to understand the status of livelihoods of **Scheduled Tribes** from India's central belt.

### **What are the Key Highlights of the Report?**

- The **SAL Report, 2022** is based on a household survey covering a sample of 6,019 households.
  - The report revealed that the average annual income for Adivasi households in Madhya Pradesh and in Chhattisgarh is much less than the national average annual income per agricultural household during the agricultural year **2018-19**.
- In Chhattisgarh, the food and other items consumed by an Adivasi household in a year have a market price of almost **Rs 18,000**.
  - Only around **13%** of this amount is spent by households to procure those goods. The remaining **87%** of the amount is the subsidy given by the government.
- An Adivasi household in Madhya Pradesh procures goods from PDS worth **Rs 10,000** market price annually, spending only **22%** of the amount to procure them.
- In Madhya Pradesh, 32% of Adivasi households, 27% of non-Adivasi households, and 61% of **Particularly Vulnerable Tribal Groups (PVTGs)** households reported being severely food insecure.

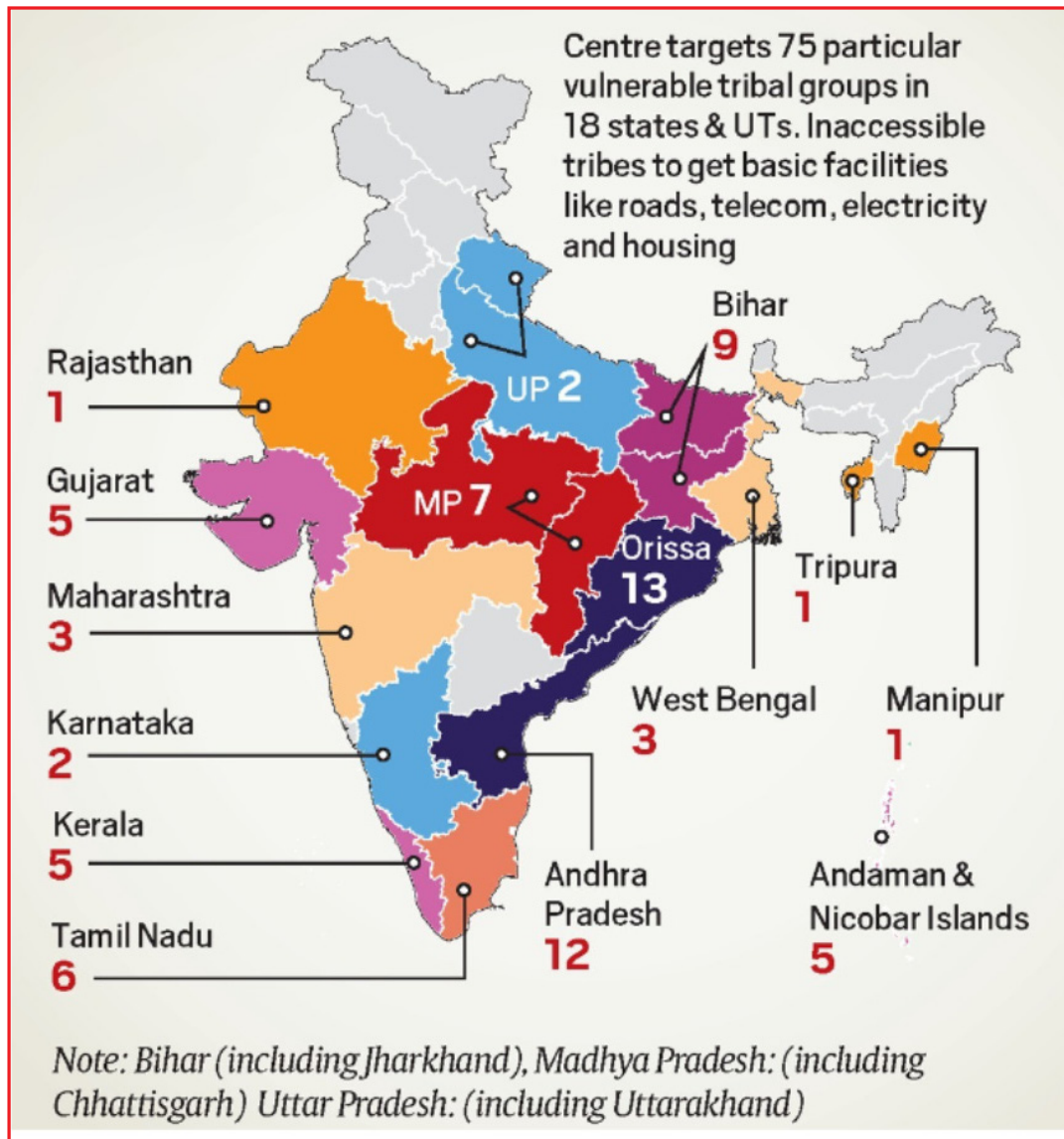
Note:

- In Chhattisgarh, 27% of Adivasi households, 42% of non-Adivasi households, and 29% of PVTG households reported being severely food insecure.
- The areas of Madhya Pradesh's west, dominated by the **Bhil community** (which overlaps into neighbouring Rajasthan, Gujarat and Maharashtra), had the **highest average household income** among both Adivasi and non-Adivasi households.
  - It was **1.5 times higher** than other regions of the state.
- Adivasi women enjoy more autonomy than their non-Adivasi counterparts. But the workload of doing household chores and livelihood activities is mostly borne by Adivasi women.

- Gender discrimination remains alive in decision-making practices and also customary practices.

### Who are the Bhil Tribes?

- The Bhil are one of the **largest tribal groups**, living in **Chhattisgarh, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Andhra Pradesh and Rajasthan**.
- The name is derived from the word '**billu**', which means **bow**.
- The Bhil are known to be **excellent archers coupled** with deep knowledge about their local geography.
- Traditionally, experts in **guerrilla warfare**, most of them today are **farmers and agricultural labourers**. They are also skilled **sculptors**.



Note:

### Who are Particularly Vulnerable Tribal Groups (PVTGs)?

- PVTGs are more vulnerable among the **tribal groups**. Due to this factor, more developed and assertive tribal groups take a major chunk of the tribal development funds because of which PVTGs need more funds directed for their development.
- In **1973**, the **Dhebar Commission** created **Primitive Tribal Groups (PTGs)** as a separate category, which are less developed among the tribal groups. In **2006**, the Government of India renamed the **PTGs** as **PVTGs**.
- In this context, in **1975**, the Government of India initiated to identify the most vulnerable tribal groups as a separate category called PVTGs and declared **52** such groups, while in **1993** an additional **23** groups were added to the category, making it a total of **75 PVTGs** out of **705 Scheduled Tribes**.
  - Among the **75 listed PVTG's** the highest number are found in **Odisha**.

## Multidimensional Poverty Index: NITI Ayog

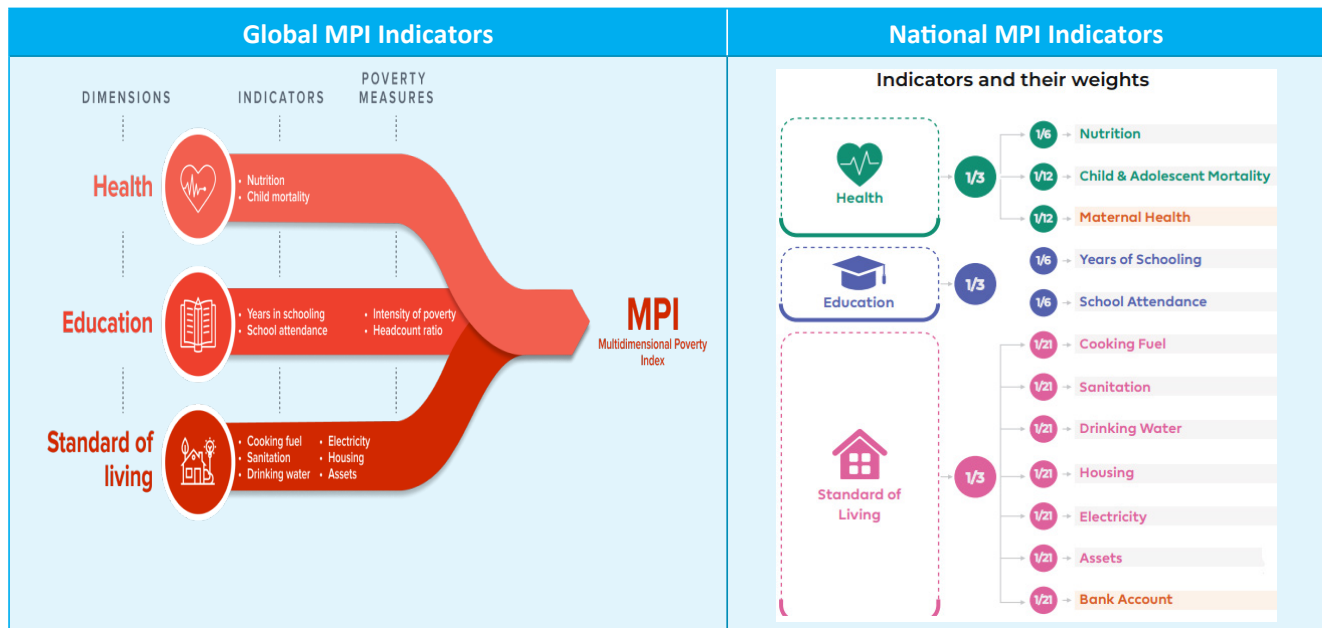
### Why in News?

Recently, the **NITI Aayog** has released a Discussion Paper titled- '**Multidimensional Poverty in India since 2005-06**', stating that 24.82 crore people escaped **Multidimensional Poverty** in the last nine years.

- The discussion paper utilizes data from **National Family Health Surveys (NFHS)** conducted in 2005-06, 2015-16, and 2019-21 to understand long-term poverty trends.

### What is the National Multidimensional Poverty Index?

- The **National Multidimensional Poverty** measures simultaneous deprivations across three equally weighted dimensions of Health, Education, and Standard of Living that are represented by **12 Sustainable Development Goals-aligned indicators**.
- These include Nutrition, Child and Adolescent mortality, Maternal Health, Years of schooling, School Attendance, Cooking fuel, Sanitation, Drinking water, Electricity, Housing, Assets, and Bank Accounts.
- MPI's global methodology is based on the robust **Alkire and Foster (AF) method** that identifies people as poor based on **universally acknowledged metrics** designed to assess acute poverty, providing a complementary perspective to conventional monetary poverty measures.
  - However, the National MPI covers **12 indicators** while global MPI covers **10 indicators**.

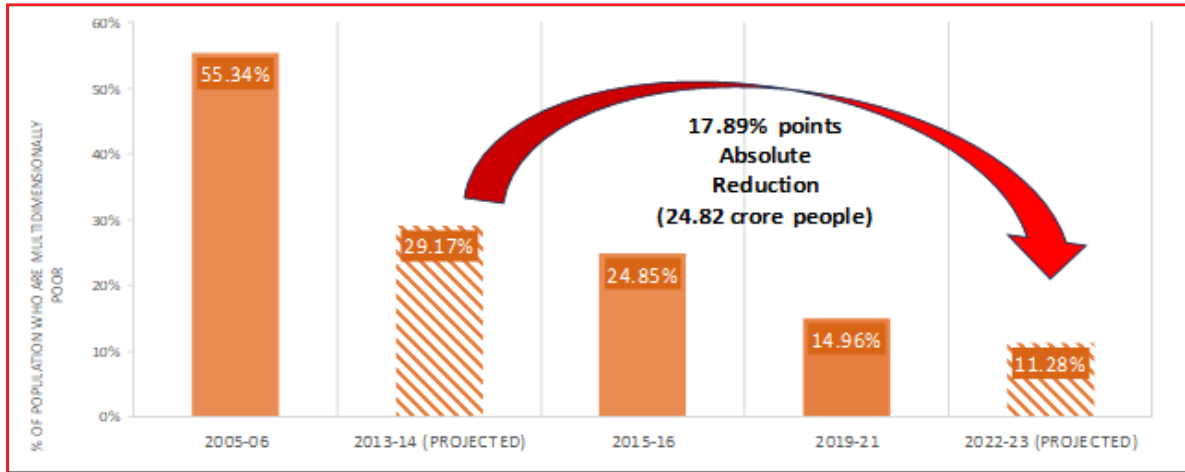


Note:

## What are the Key Highlights of the Multidimensional Poverty Index in India Since 2005-2006?

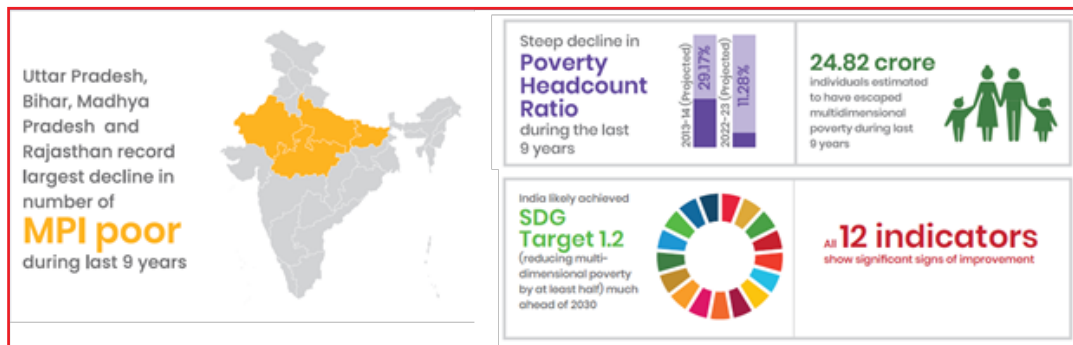
### ➤ Overall Decline in Multidimensional Poverty:

- India has experienced a significant reduction in multidimensional poverty from 29.17% in 2013-14 to 11.28% in 2022-23, marking a decrease of **17.89% points**.
- Approximately **24.82 crore people** have escaped multidimensional poverty in the last nine years (2013-14 to 2022-23). This positive change is attributed to various initiatives by the government.



### ➤ State-wise Decline:

- Uttar Pradesh, Bihar, Madhya Pradesh, and Rajasthan have recorded the **sharpest decline** in the number of people classified as poor based on the MPI.
  - Uttar Pradesh saw the largest decline with **5.94 crore people** escaping multidimensional poverty, followed by Bihar at 3.77 crore, Madhya Pradesh and Rajasthan.



### ➤ Improvement in All Indicators:

- All 12 indicators of the MPI have shown significant improvement, reflecting progress in **Health, Education, and Standard of Living dimensions**.

### ➤ Severity of Deprivation:

- The **Severity of Deprivation (SoD)** declined at a slightly lower rate between 2015-16 and 2019-21 compared to 2005-06 and 2013-14.
  - SoD measures deprivations the average multidimensionally poor person suffers from.
- At the same time, **reduction of deprivation was faster after 2015-16** in terms of reduction in share of MPI poor out of total population compared to the decade before, owing to a **lesser number of years**.
  - In 2005-06, the share of MPI poor in India's total population was 55.34%.

Note:

➤ **SDG Target Achievement:**

- India is likely to achieve **Sustainable Development Goals (SDG) Target 1.2**, which aims to **reduce “at least by half the proportion of men, women, and children of all ages living in poverty in all its dimensions according to national definitions”** well before 2030.
- Indicators related to the standard of **living dimension showed significant improvements**, such as reduced deprivation in cooking fuel, sanitation facilities, and access to bank accounts.

➤ **Drivers Helped in Declining MPI:**

- Initiatives like **Poshan Abhiyan and Anemia Mukht Bharat** have significantly enhanced access to healthcare facilities, leading to a substantial decrease in deprivation.
- Operating one of the world’s largest **Food Security** programs, the **Targeted Public Distribution System** under the **National Food Security Act** covers 81.35 crore beneficiaries, providing food grains to rural and urban populations.
- Recent decisions, such as extending free food grain distribution under **Pradhan Mantri Garib Kalyan Anna Yojana** for another five years, exemplify Government’s commitment.
- Various programs addressing maternal health, clean cooking fuel distribution through **Ujjwala Yojana**, improved electricity coverage via Saubhagya, and transformative campaigns like **Swachh Bharat Mission and Jal Jeevan Mission** have collectively elevated living conditions and overall well-being of people.
- Additionally, flagship programs like **Pradhan Mantri Jan Dhan Yojana** and **PM Awas Yojana** have played

pivotal roles in financial inclusion and providing safe housing for the underprivileged.

### What is NITI Aayog?

➤ **About:**

- The **Planning Commission** was replaced by a new institution – NITI Aayog on **1st January, 2015 with emphasis on ‘Bottom –Up’ approach** to envisage the vision of Maximum Governance, Minimum Government, echoing the spirit of **‘Cooperative Federalism’**.
- It has two Hubs,
  - Team India Hub acts as an interface between States and Centre.
  - Knowledge and Innovation Hub builds the think-tank acumen of NITI Aayog.

➤ **Initiatives:**

- **SDG India Index**
- **Composite Water Management Index**
- **Atal Innovation Mission**
- **SATH Project.**
- **Aspirational District Programme**
- **School Education Quality Index**
- **District Hospital Index**
- **Health Index**
- **Agriculture Marketing And Farmer Friendly reform Index**
- **India Innovation Index**
- **Women Transforming India Awards**
- **Good Governance Index**



Note:

# Science & Technology

## Highlights

- Mosquitofish
- Weather Monitoring by IMD
- Pulsar Glitches
- Demand for Advanced Driver Assistance Systems
- Growing Concern of Childhood Cancers in India
- Distress Alert Transmitter For Fishermen
- Finalising Implementation Strategy of NQM
- Post-traumatic Stress Disorder (PTSD) and Cerebellum

## Mosquitofish

### Why in News?

Recently, various regions in **Andhra Pradesh, Odisha, and Punjab** have witnessed the release of **mosquitofish into local water bodies** as a measure to combat the increasing mosquito menace.

- However, a recent study highlights unexpected issues with this approach, bringing attention to potential drawbacks in the biological control method.

### What is the Mosquitofish Approach and its Related Consequences?

- **Background- Rise of Mosquito-borne Diseases:**
  - Global climate and habitat changes in the last century have heightened the prevalence of **mosquito-borne diseases**, impacting over **500 million people in 150+ countries**.
  - In India, approximately **40 million individuals** annually suffer from these diseases, posing a persistent public health challenge for decades.
- **The Mosquitofish Approach:**
  - **Mosquitofish**, native to fresh waters of the southeastern **United States**, are known for their **appetite for mosquito larvae**.
    - They can consume up to **250 larvae per day**, making them a potential weapon against mosquito populations.
  - Two species of mosquitofish, **Gambusia affinis** and **Gambusia holbrooki**, were considered environmentally friendly and sustainable.
    - Yet, the unintended result was the worldwide dissemination of these fish from the U.S., causing ecological disturbances.

### ➤ Introduction of Mosquitofish in India:

- **Gambusia** was first introduced in India in **1928 during British rule**, as a way to combat rapid mosquito spread.
- Subsequently, government bodies and private organizations in India collectively joined efforts to combat malaria through this method.
  - The initial idea was for the fish to control mosquito larvae, but the strategy backfired, resulting in their transformation into **invasive alien species**.

### ➤ Negative Impacts of Mosquitofish:

- **Invasive Nature:** Their adaptability and high tolerance to fluctuating environmental conditions contribute to their extensive dispersion, making them highly **invasive**.
  - Mosquitofish are now considered among the hundred **most detrimental invasive alien species**.
- **Disruption of Native Fish Communities:** They are aggressive feeders, **consuming not only mosquito larvae but also eggs of native fish species**.
  - This can lead to the extinction of local species, particularly smaller, less competitive fishes.
- **Loss of Unique Species:** Their introduction can threaten the existence of endemic and ecologically important fish species, potentially leading to a **loss of biodiversity and ecosystem resilience**.
  - Reports indicate a decline in **Microhyla tadpoles (rice frogs or narrow-mouthed frogs)** following the introduction of Gambusia in India.

### ➤ Related Significant Steps:

- The **World Health Organization** stopped recommending Gambusia as a mosquito control agent in **1982**.

Note:

- In 2018, the **National Biodiversity Authority** of the Government of India designated *G. affinis* and *G. holbrooki* as invasive alien species.

#### Genetic Engineering Methods for Mosquito Control

- **Gene Drive Technology**, pioneered by **Austin Burt in 2003**, aims to control mosquito populations by altering their inheritance of specific genes.
  - This technique employs **proteins to modify mosquito DNA**, disrupting their ability to spread diseases like malaria.
- The **genetically modified OX5034 mosquito**, authorized by the **US Environmental Protection Agency**, was released in 2020. It is developed with a gene sensitive to an antibiotic, **tetracycline**.
  - It carries a **self-limiting gene that prevents female offspring from surviving**, leading to a reduction in mosquito populations.

#### What are the Major Challenges Related to Mosquito and Related Disease Control?

- **Challenges in Mosquito Control:**
  - **Complex Environment:** Diverse climates, geography, and socio-economic conditions across India lead to varied breeding patterns of mosquitos.
  - **Insecticide Resistance:** Mosquitoes have developed resistance to commonly used insecticides and repellents, necessitating frequent rotation and development of new alternatives.
  - **Poor Sanitation:** Open drains, uncollected garbage, and stagnant water sources in urban and rural areas in India provide abundant breeding grounds.
- **Challenges in Disease Control:**
  - **Underreporting:** Many cases of mosquito-borne diseases, especially in rural areas, go unreported or misdiagnosed, hindering accurate data and targeted interventions.
    - Also, limited access to proper healthcare in remote areas delays treatment and increases complications.
  - **Vaccine Limitations:** Currently, no effective vaccines exist for all mosquito-borne diseases, making prevention mainly reliant on vector control and personal protection measures.

#### Way Forward

- **Improved Sanitation and Infrastructure:** Efficient waste collection and disposal can eliminate breeding grounds in urban areas.

- Proper drainage systems can **prevent stagnant water accumulation**, a major breeding source for mosquitoes.
- Providing communities with **clean water storage** solutions can reduce dependence on open containers, which attract mosquitoes.
- **Integrated Vector Management (IVM):** Implement a comprehensive approach that combines various strategies such as **biological control, insecticide use, and environmental management** to address mosquito-related challenges by accelerating the implementation of the **National Vector Borne Disease Control Programme**.
- **Community Engagement and Education:** Foster public awareness and involvement in mosquito control through **educational campaigns**, emphasizing preventive measures, and encouraging community participation.

## Weather Monitoring by IMD

### Why in News?

- Recently, The **India Meteorological Department (IMD)** issued a warning about a strong probability of “**very dense fog**” in Haryana, Chandigarh, and Delhi.
- IMD has also accompanied alerts with maps from the **INSAT 3D satellite**, and sometimes from the **INSAT 3DR satellite**.

### What is INSAT-3DR?

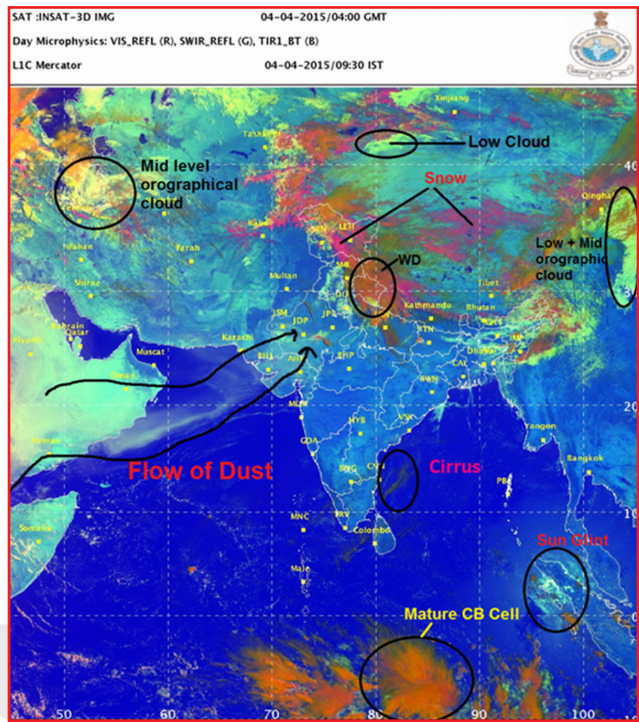
- **About:**
  - The **IMD** uses **INSAT -3D** and **INSAT-3DR** satellite data for weather forecasting/monitoring purposes.
    - **INSAT-3DR, similar to INSAT-3D**, is an advanced **meteorological satellite of India** configured with an **imaging System** and an **Atmospheric Sounder**.
      - An atmospheric sounder **measures how the physical properties of a column of air vary with altitude**.
      - It has several **infrared channels** from **longwave** to **shortwave bands** and one **visible band**.
  - The significant improvements incorporated in **INSAT-3DR** are:
    - Imaging in the **Middle Infrared band** to provide **nighttime pictures of low clouds and fog**.

Note:

- Imaging in two **Thermal Infrared bands** for estimation of **Sea Surface Temperature (SST)** with better accuracy.

#### ➤ Mechanism of Imaging System of INSAT-3DR:

- **RGB (Red, Green, Blue) Imager:** The colouration of images from the RGB imager on the INSAT 3D satellite relies on two factors:
  - **Solar Reflectance:** It is a ratio of the **amount of solar energy reflected by a surface** and the amount of solar energy incident on it.
  - **Brightness Temperature:** It is the relationship **between the temperature of an object and the corresponding brightness** of its surface.
- **Prediction and Monitoring of Snow and Clouds:**
  - While **snow** and **clouds** exhibit similar **solar reflectance** in the **visible spectrum**.
    - Snow strongly absorbs radiation of the **shortwave infrared**.
  - The **INSAT 3D** and **INSAT 3DR** satellites utilise **day and night microphysics** modes through their **RGB imager**.
  - **Day Microphysics:** Data from **INSAT 3D** examines **solar reflectance** at three wavelengths: **0.5 μm (visible)**, **1.6 μm (shortwave infrared)**, and **10.8 μm (thermal infrared)**.
    - The strength of the **visible signal** determines the amount of **green colour**.
    - The strength of the **shortwave infrared** signal, the amount of **red colour**
    - The strength of the **thermal infrared** signal, the amount of **blue colour**.
  - **Night Microphysics:** This component of the satellite's operation is determined **not by a single but by evaluating the strength of the difference between two signals**.
    - The computer calculates the amount of red colour based on the difference between two thermal infrared signals.
    - The quantity of **green colour** varies according to the difference between a **thermal infrared** and a **middle infrared** signal.
    - The amount of **blue colour** is not derived from a difference but is determined by the **strength of a thermal infrared** signal at a wavelength.



#### ➤ Measurement of Temperature, Humidity and Water Vapour:

- By combining day and night microphysics data, the **presence of moisture droplets** of different shapes and temperature differences over time, can be identified.
- It is helpful in tracking the **formation, evolution and depletion of cyclones** and other **weather events**.
- **INSAT 3D** and **INSAT 3DR** both use **radiometers** to make their **spectral measurements**.
- A radiometer is a device that measures the **temperature** or **electrical activity**. Both satellites also carry **atmospheric sounders**.
- These are devices that measure **temperature** and **humidity**, and study **water vapor** as a function of their heights from the ground.

#### **What are the Other Weather Forecasting Methods?**

- Apart from tracking satellite data, IMD collaborates with **ISRO** for ground-based observations from the **Automatic Weather Stations (AWS)**, the **Global Telecommunication System (GTS)** that measures temperature, sunshine, wind direction, speed and humidity.
  - Meanwhile, the Agro-meteorological Tower (AGROMET) and **Doppler Weather Radar (DWR) systems** augment the observations.

Note:



- In 2021, IMD adopted a new strategy for issuing monthly and seasonal operational forecasts for the southwest monsoon rainfall by modifying the existing two-stage forecasting strategy.
  - The new strategy is **based on the existing statistical forecasting system and the newly developed Multi-Model Ensemble (MME)-based forecasting system.**
  - The MME approach uses the coupled global climate models (CGCMs) from different global climate prediction and research centres, including IMD's Monsoon Mission Climate Forecasting System (MMCFS) model.
- All these technological strides have been possible since the **National Monsoon Mission (NMM)** was initiated in 2012.

#### India Meteorological Department:

- **About:**
  - IMD was established in 1875. It is the **National Meteorological Service** of the country and the principal government agency in all matters relating to meteorology and allied subjects.
    - It works as an agency of the **Ministry of Earth Sciences** of the Government of India.
  - It is headquartered in **New Delhi.**
  - IMD is also one of the **six Regional Specialized Meteorological Centres** of the **World Meteorological Organization.**
- **Roles and Responsibilities:**
  - To take meteorological observations and to provide current and forecast meteorological information for optimum operation of weather-sensitive activities like agriculture, irrigation, shipping, aviation, offshore oil explorations, etc.
  - To warn against severe weather phenomena like **tropical cyclones**, norwesters, **dust storms**, heavy rains and snow, cold and **heat waves**, etc., which cause destruction of life and property.
  - To provide meteorological statistics required for agriculture, water resource management, industries, oil exploration and other nation-building activities.
  - To conduct and promote research in meteorology and allied disciplines.

## Pulsar Glitches

### Why in News?

In 1967, two astronomers at the University of Cambridge discovered the First Pulsar, later named **PSR B1919+21**, setting the **stage for a journey into the depths of neutron stars and their enigmatic pulsar counterparts.**

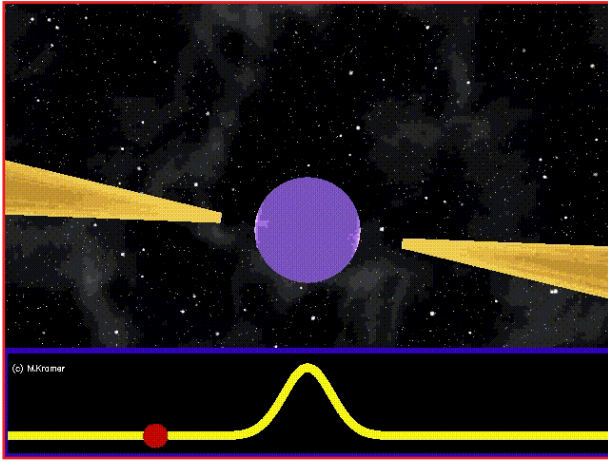
### What are Pulsars?

- **About:**
  - Pulsars are **rapidly rotating Neutron Stars** that blast out pulses of radiation at **regular intervals** ranging from seconds to milliseconds.
  - Pulsars have **strong magnetic fields** that funnel particles along their magnetic poles accelerating them to relativistic speeds, which produces two powerful beams of light, one from each pole.
  - The periodicity of pulsars is caused by these beams of light crossing the line of sight on Earth, with the pulsar appearing to 'switch off' at points when the light is facing away from Earth.
    - The time between these pulses is the '**period of the pulsar.**

### What are the Theories Related to the Discovery of the Pulsars and their Behaviour?

- **Link with the Discovery of Neutrons:**
  - The discovery of pulsars is **closely linked to James Chadwick's 1932 discovery of neutrons.**
    - Neutrons in a group resist having the same energy, **seeking the lowest available energy level.** When heavy stars die, their cores implode. If they aren't heavy enough to become black holes, **they collapse into a ball of neutrons, creating a neutron star.**
- **Pulsars as Rotating Neutron Stars:**
  - The signals, coming from a very small patch of the sky and that they repeated frequently, led **scientists to identify Pulsars as Rotating Neutron Stars.**
    - Radio signals emitted from near the poles of such a **star would form a narrow cone** that sweeps past the earth with every rotation – like the light from a **lighthouse shining over a ship on the sea.**

Note:



### ➤ Unexpected Glitches:

- Over time, the neutron stars experienced a **slowing of their rotation**. The energy preserved through this reduction in rotation rate was **utilised to propel electric charges outside the star**, resulting in the generation of radio signals.
- In 1969 when researchers observed a **glitch in the pulsar PSR 0833-45**.
  - Glitches, characterised by abrupt **changes in rotation rate of pulsar followed by gradual relaxation**, introduced a new layer of complexity to pulsar dynamics.
- The subsequent decades witnessed the observation of over 3,000 pulsars, with around 700 glitches recorded.
  - These glitches became intriguing phenomena, prompting scientists to delve deeper into the underlying mechanisms governing these celestial events.

### How are the Pulsars Formed?

#### ➤ Supernova Explosion:

- Pulsars are formed from the **remnants of massive stars with masses between 1.4 and 3.2 times** that of our Sun. When such a star exhausts its nuclear fuel, it undergoes a supernova explosion.

#### ➤ Formation of Neutron Star:

- The outer layers of the **star are blasted off into space** during the supernova, and the inner core contracts due to gravity. The gravitational pressure becomes so intense that **it overcomes the electron degeneracy pressure**, causing electrons and protons to be crushed together to form neutrons.

### ➤ Neutron Star Characteristics:

- The resulting object is a neutron star, which is extremely dense and **has a strong gravitational field (about  $2 \times 10^{11}$  times that of Earth's gravity)**.

### ➤ Angular Momentum Conservation:

- As the star collapses, it **conserves its angular momentum**. The collapse leads to a much smaller size, **causing a dramatic increase in rotational speed**.

### ➤ Pulsar Emission:

- The rapidly rotating **neutron star emits beams of electromagnetic radiation along its magnetic field lines**. If Earth intersects these beams as the neutron star rotates, astronomers **observe periodic pulses of radiation**, and the object is identified as a pulsar.

### How are Pulsars Linked with the Chandrasekhar Limit?

- The Chandrasekhar limit is the **maximum mass a stable white dwarf star can have**. It's about **1.4 times the mass of the sun**.
  - The **limit was named after Subrahmanyan Chandrasekhar**, an Indian-born astrophysicist who calculated it in 1930.
- If a star is more massive than the Chandrasekhar limit, it will continue to **collapse and become a neutron star**. This collapse is caused by the force of gravity.
- The pulses from a pulsar appear periodic because they come at the same rate as the rotation of the neutron star. From a distance, the **pulses look similar to a lighthouse beam rotating**.

### What led to the Occurrence of Glitches in Pulsars?

#### ➤ Neutron Star Structure:

- A neutron star, **characterised by a solid crust and a superfluid core**, provides a unique backdrop for the interplay of forces governing celestial dynamics.
- The contrast between the crust's deceleration and the sustained vortex speed within the superfluid core becomes pivotal in comprehending the origins of glitches.

#### ➤ Superfluid State Inside Neutron Stars:

- Post-glitch behaviour strongly suggests the **presence of a superfluid state inside these cosmic entities**.
  - The neutron star is a 20-km-wide sphere with a solid crust and a core. The **core predominantly contains the superfluid, and no solid parts**.

Note:

### ➤ Peculiar Properties of Superfluids:

- Superfluids, when set in motion inside a container, exhibit an extraordinary characteristic — they continue moving indefinitely. This property of perpetual motion without friction becomes crucial in understanding the behavior of the **superfluid core** within neutron stars.

**Note:** Despite advancements, the **glitch mechanism remains a subject of ongoing scientific inquiry**. Contested details, triggers in space, and the evolution of glitches over time provide fertile ground for further exploration.

## Demand for Advanced Driver Assistance Systems

### Why in News?

As **autonomous driving** gains momentum globally, India emerges as a surprising yet significant market, with a surge in demand for **Advanced Driver Assistance Systems (ADAS)**.

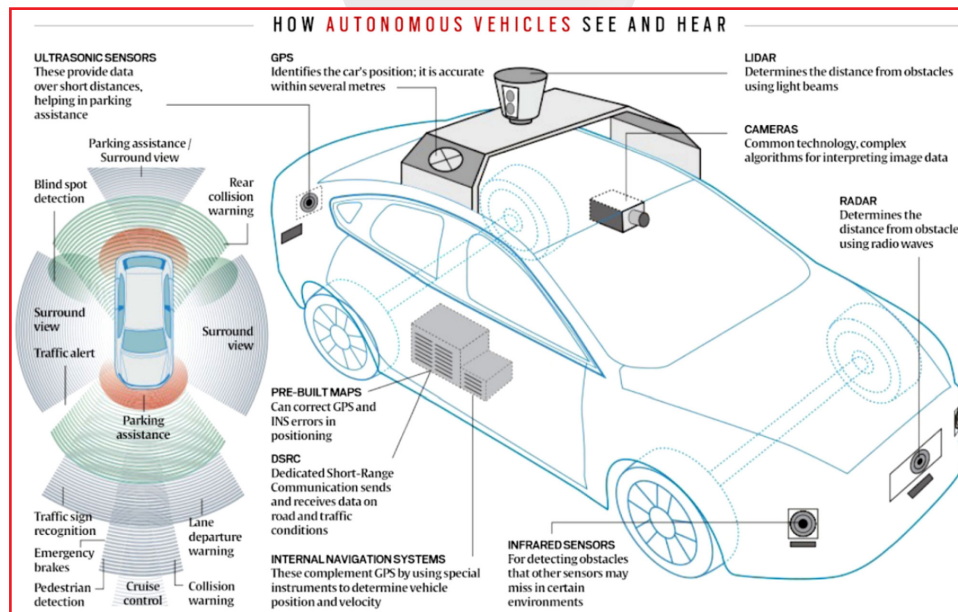
### What is Advanced Driver Assistance Systems (ADAS)?

#### ➤ About:

- Advanced driver assistance systems (ADAS) can be defined as **in vehicle digital technologies** that help drivers in routine navigation and parking without fully automating the entire process but instead **leveraging computer networks** to enable more data-driven and safer driving experiences.
  - ADAS systems use sensors, cameras, and radar to monitor the environment around a vehicle.
  - They can provide active safety information, driving interventions, and assistance with parking.
- The goal of ADAS is to **reduce the incidence and severity of automotive accidents** that cannot be avoided so that deaths and injuries can be prevented.
  - These devices can give important data about traffic, road closures and blockages, congestion levels, advised routes to avoid traffic, etc.

#### ➤ Popular ADAS Features:

- The ADAS suite includes features such as **automatic emergency braking**, **forward collision warning**, **blind spot collision warning**, **lane-keeping assist**, **adaptive cruise control**, and more.



### ➤ Reasons for Surge in Demand in India:

- **Progressive Democratization:**
  - India is witnessing a progressive democratization of autonomous driving tools. Car manufacturers are increasingly offering **ADAS as standard features on mid-segment vehicles**, contributing to the heightened demand for advanced driver assistance technology.

Note:

- **Road Safety Concerns:**
  - Despite India's infamous road conditions and traffic patterns, there is a growing emphasis on road safety. Car manufacturers are integrating ADAS features to **enhance safety and provide consumers with advanced driver assistance tools.**
- **Challenges in India for ADAS Systems:**
  - **Road Infrastructure Challenges:**
    - India is considered **one of the most challenging driving environments globally.**
      - The country has the **world's deadliest roads**, with crashes killing and maiming over **800,000 people annually, according to the World Bank.**
    - India's diverse road conditions, from **well-maintained highways to poorly constructed rural roads**, pose challenges for ADAS systems for consistent road markings and infrastructure.
  - **Diverse Road Users:**
    - Indian roads host a mix of pedestrians, cyclists, and non-motorized vehicles alongside motor vehicles, creating complexity for ADAS adaptation.
      - A study by the **World Resources Institute (WRI) India** revealed that **nearly 50% of urban trips in India are made on foot, bicycle, or cycle-rickshaw**, emphasizing the **importance of considering non-motorized road users in ADAS design.**
  - **Connectivity and Data:**
    - ADAS systems require **real-time data updates and reliable connectivity**, which might be an issue in remote or poorly networked areas of India.

- **Vulnerable to Hacking:**
  - One major concern consumers and experts have about ADAS Systems is their **vulnerability to cyberattacks.**
    - Hacked vehicles are extremely dangerous and might lead to accidents.
- **Driver Behaviour:**
  - ADAS systems' success relies on responsible driving behaviour. A survey by the **Institute of Road Traffic Education (IRTE) in India** found that **only 44% of drivers were aware of ADAS technology**, highlighting the need for widespread education on its benefits and usage.

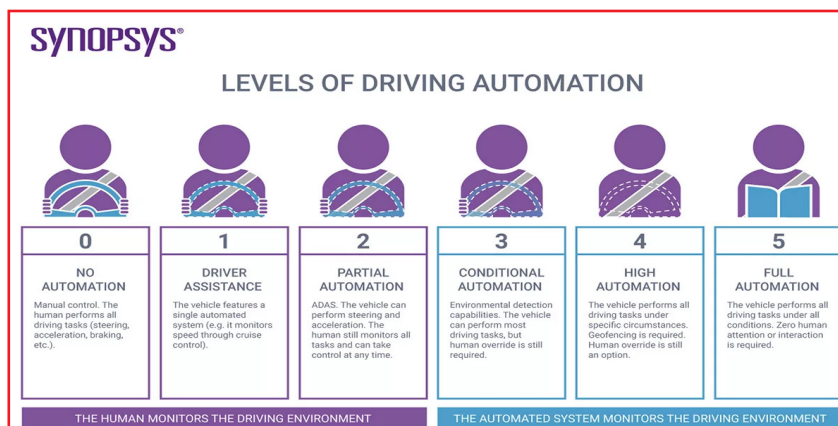
### What is Autonomous Driving?

#### ➤ About:

- Autonomous driving is the **ability of a car to drive itself with limited or no human intervention.** Autonomous vehicles are equipped with technologies like ADAS that can sense their surroundings and adjust their speed and course without human input.
  - Autonomous driving can also refer to self-driving vehicles.

#### ➤ Levels of Autonomous Driving:

- The **Society of Automotive Engineers (SAE)** defines 6 levels of driving automation ranging from 0 (fully manual) to 5 (fully autonomous).
- Car manufacturers in India are currently focusing on offering **Level 2 functionality.**
  - Despite the increasing adoption of ADAS, Level 2 seems to be the current limit for most carmakers. **Full autonomous driving (Level 5) remains a distant goal**, with challenges ranging from technical limitations to regulatory concerns.



Note:

# Growing Concern of Childhood Cancers in India

## Why in News?

Childhood **cancers** are emerging as a significant **public health concern in India**, with a notable percentage of cancer patients falling under the age of 15.

- A recently published study in the *India Pediatric Journal* sheds light on the prevalence, types, and challenges associated with pediatric cancers in the country.

## What are the Key Highlights of the Study?

- **Study Details and Dataset:**
  - The study is based on the largest dataset on childhood cancers in India; from **National Cancer Registry Programme (NCRP)**.
    - The NCRP was established by the **Indian Council of Medical Research in 1981**.
- **Cancer Cases in India (2012-2019):**
  - India reported 1,332,207 cancer cases between 2012 and 2019.
    - Approximately 3.2% and 4.6% of these cases were in the age groups 0-14 years and 0-19 years, respectively.
    - Over 3% of all cancer patients in India are under 15; 4.6% under 20.
  - Leukaemias constitute a substantial burden, comprising nearly half of all cancers in the 0-4 and 5-9 age groups (42.1% and 42.5%, respectively).
- **Distribution of Cancers in Different Age Groups:**
  - Childhood cancers are divided into two age groups of 0-14 and 0-19 years based on the International Classification of Childhood Cancer's third edition.
    - For the 0-19 year age group, the leading cancers are leukaemia (36%), lymphoma (12%), bone (11%), and central nervous system tumour (10%).
    - The four leading groups of cancers among the 0-14 year age group were leukaemia (40%), lymphoma (12%), central nervous system (CNS) tumours (11%) and bone cancer (8%).
- **Non-Hodgkin Lymphomas and Gender Differences:**
  - Non-Hodgkin lymphomas show an increase with age, particularly in males, associated with hormonal and biological changes.

- Malignant bone tumours affect more girls due to earlier skeletal maturity, as highlighted by the study.
- **Gender Disparities and Social Determinants:**
  - A higher proportion of male children are diagnosed with cancer, attributed to male birth preferences and gender discrimination.
    - The sex disparity in the cancer registry mirrors data reported in low- and middle-income countries (LMIC) and was attributed to low female literacy rates.
      - LMICs report 90% of the global cancer cases burden, but are awarded less than 0.1% funding for paediatric cancer research.
- **Challenges in CNS Tumor Registration in India:**
  - CNS tumors in India may be treated in neurosurgical centers in multispecialty (general) hospitals rather than dedicated cancer centers.
  - The NCRP currently only registers 'malignant' (defined as **World Health Organization** Grade 3 and 4) CNS tumors.
- **Global Disparities in Cancer Types:**
  - The proportion of leukaemias and bone cancers appears higher globally compared to India, as revealed by a study in *The Lancet Oncology (2017)*.
  - The international distribution of CNS tumors (17-26%) is also greater than what's observed in India.

### Key Terms

- **Cancer:**
  - It is a complex and broad term used to describe a group of diseases characterised by the **uncontrolled growth and spread of abnormal cells** in the body.
    - These **abnormal cells, known as cancer cells**, have the ability to invade and destroy healthy tissues and organs.
  - In a healthy body, **cells grow, divide, and die in a regulated manner**, allowing for the normal functioning of tissues and organs.
    - However, in the case of cancer, certain genetic mutations or abnormalities disrupt this normal cell cycle, causing cells to divide and grow uncontrollably.
- **Leukaemia:**
  - Leukaemias are cancers of the white blood cells, which begin in the bone marrow.

Note:

- Leukaemia is cancer of the body's blood-forming tissues, including the bone marrow and the lymphatic system.
  - The lymphatic system is a network of vessels, tissues, and organs that helps maintain fluid balance in the body.
- **Lymphomas:**
  - Lymphoma is a broad term for **cancer that begins in cells of the lymph system**.
    - **There are two main types of lymphoma:** Hodgkin lymphoma (Hodgkin disease) and non-Hodgkin lymphoma (NHL).
    - Hodgkin lymphoma can often be cured. The prognosis of NHL depends on the specific type.
  - Both leukaemia and lymphomas originate in lymphocytes. However, leukaemia typically originates in bone marrow and spreads through the bloodstream, while lymphoma usually originates in lymph nodes or the spleen and spreads through the lymphatic system.
- **Bone Cancer:**
  - It is caused when **unusual cells grow out of control in bone**. It destroys normal bone tissue.
  - This variety of bone cancer occurs most often in children and young adults, in the bones of the leg or arm.
- **Central Nervous system (CNS) Tumours:**
  - This tumour occurs when abnormal cells form in the brain or spinal cord.
  - A CNS tumour can be either cancerous or benign. Both types need medical care.
    - A cancerous tumour is **malignant, meaning it can grow fast and spread to other parts of the body**.
    - A benign tumour means the tumour will often grow more slowly and will not spread to other parts of the body.

### What are India's Initiatives Related to Cancer Treatment?

- [National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke](#)
- [National Cancer Grid](#)
- [National Cancer Awareness Day](#)
- [HPV Vaccine](#)

### ➤ Indian Pediatric Oncology Group (InPOG):

- InPOG was established in 2015 to develop multicentre childhood cancer clinical trials. InPOG is pursuing 31 clinical studies on paediatric cancer.
  - Paediatric cancer patients can access the latest therapies and protocols by participating in clinical trials.
- In 2021, InPOG evolved into Indian Pediatric Hematology Oncology Group (INPHOG) Research Foundation.

## Distress Alert Transmitter For Fishermen

### Why in News?

Recently, the [Indian Space Research Organisation \(ISRO\)](#) has developed the **second-generation Distress Alert Transmitter (DAT-SG)**, an indigenous technological solution for [Fishermen](#) at sea to send emergency messages from fishing boats.

- Fishermen, when faced with distress situations, can use the DAT to send emergency messages. These messages typically contain information about their identity, location, and the nature of the emergency.

### What is a Distress Alert Transmitter (DAT)?

#### ➤ About:

- The first version of DAT has been operational since 2010, using which messages were sent through a communication satellite and received at a **central control station (INMCC: Indian Mission Control Centre)**, where the alert signals are decoded for the identity and location of the fishing boat.
- The extracted information is then forwarded to [Maritime Rescue Coordination Centres \(MRCCs\)](#) under the [Indian Coast Guard \(ICG\)](#).
- Using this information, the **MRCC coordinates to undertake search and rescue operations** to save the fishermen in distress.
  - Till now, **more than 20,000 DATs** are being used.

### What is the Second Generation Distress Alert Transmitter (DAT-SG)?

#### ➤ DAT-SG:

- The DAT-SG builds upon the original **Distress Alert Transmitter (DAT)** and incorporates advanced capabilities and features to enhance maritime safety and communication.

Note:

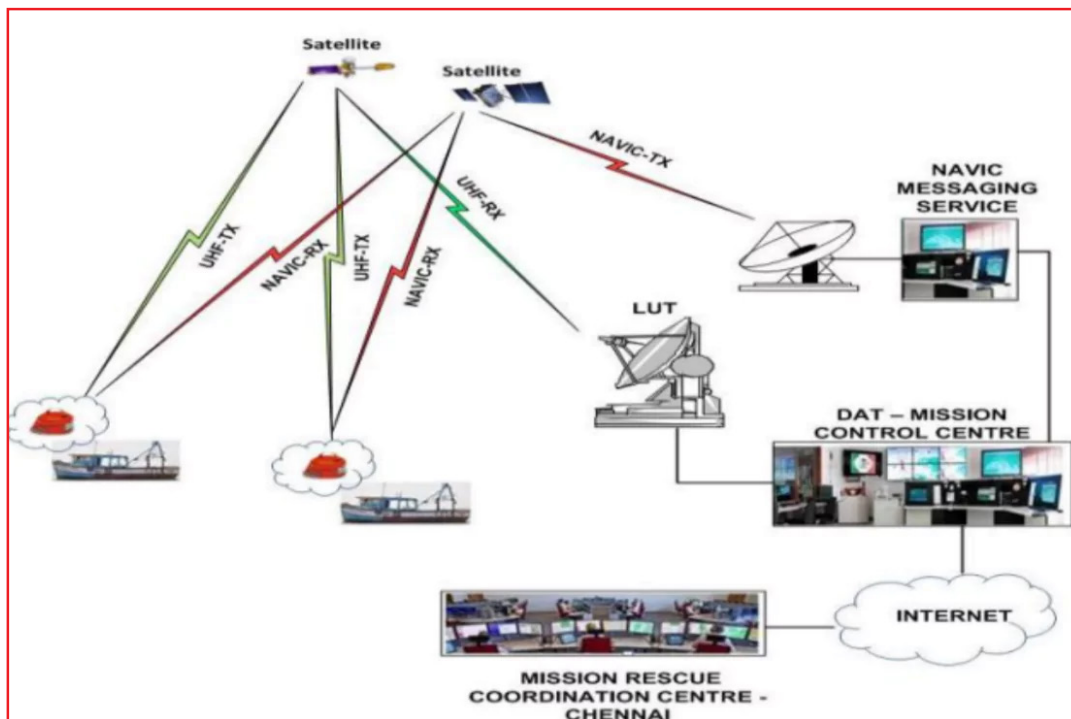


- The **DAT-SG** has the facility to send back an acknowledgement to the fishermen who activate the distress alert from sea.
- ISRO has developed the DAT-SG which is a **UHF (Ultra High Frequency)** transmitter based on the **NavIC (Navigation in Indian Constellation) receiver module**.
  - This NavIC receiver module supports position determination as well as broadcast messages reception called NavIC messaging service.

➤ **Features:**

- **Bluetooth Interface:** The DAT-SG can be connected to mobile phones using a Bluetooth interface. This allows fishermen to **receive messages on their mobile devices**. Additionally, an app on the mobile phone can be used to read messages in the native language, enhancing accessibility.
- **Integration with Mobile Phones:** DAT-SG can be integrated with mobile phones, providing a convenient and widely-used platform for communication.
- **Web-Based Network Management System (SAGARMITRA):** The central control center (INMCC) utilises a web-based network management system called “SAGARMITRA.”

- This system **maintains a database of registered DAT-SGs and assists Maritime Rescue Coordination Centres (MRCCs)** in accessing real-time information about boats in distress. This feature helps the Indian Coast Guard in undertaking Search & Rescue operations promptly.
- **Two-way Communication:** DAT-SG is equipped with the **capability to receive messages from the control centre**. This enables the central control station to **send advance alert messages to fishermen in the case of events** such as bad weather, cyclones, tsunamis, or other emergencies.
- **Information about Potential Fishing Zones (PFZs):** DAT-SG can transmit information about **Potential Fishing Zones to fishermen at sea at regular intervals**. This feature assists fishermen in locating areas with a higher probability of a good catch, leading to increased efficiency in fishing operations and savings in terms of time and fuel.
- **Operational 24/7:** The services of DAT-SG are declared **operational on a 24x7 basis, ensuring continuous support for fishermen in distress**



Note:

### What is NavIC?

#### ➤ About:

- NavIC or the **Indian Regional Navigation Satellite System (IRNSS)** is designed with a constellation of 7 satellites and a network of ground stations.
  - There are a **total of eight satellites however only seven remain active.**
  - **Three satellites in geostationary orbit and four satellites in geosynchronous orbit.**
- The **constellations' first satellite (IRNSS-1A)** was launched on 1st July 2013 and the eighth satellite IRNSS-1I was launched in April 2018.
  - With the seventh launch of the constellation's satellite (IRNSS-1G), IRNSS was renamed NavIC by India's Prime Minister in 2016.
- It was recognised by the **International Maritime Organization (IMO)** as a part of the **World-Wide Radio Navigation System (WWRNS) for operation in the Indian Ocean Region in 2020.**

#### ➤ Potential Uses:

- Terrestrial, aerial and marine navigation;
- Disaster management;
- Vehicle tracking and fleet management (especially for mining and transportation sector);
- Integration with mobile phones;
- Precise timing (as for ATMs and power grids);
- Mapping and geodetic data capture.

## Finalising Implementation Strategy of NQM

### Why in News?

Recently, the first meeting of the **Mission Governing Board (MGB)** of **the National Quantum Mission (NQM)** discussed implementation strategy and timelines of NQM as well as the formation of **the Mission Coordination Cell (MCC)**.

- The MCC will be set up in an institution identified by the Department of Science and Technology (DST), based on merit and existing infrastructure and will function under the overall supervision and guidance of the **Mission Technology Research Council (MTRC)**.

### What is the National Quantum Mission (NQM)?

#### ➤ About:

- 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).**
- It'll be implemented by the DST under the Ministry of Science & Technology.
- With the launch of this mission, **India will be the seventh country to have a dedicated quantum mission** after the US, Austria, Finland, France, Canada and China.

#### ➤ Salient features of NQM:

- It will target **developing intermediate-scale quantum computers with 50-100 physical qubits in 5 years and 50-1000 physical qubits in 8 years.**
- Just like bits (1 and 0) are the basic units by which traditional computers process information, **'qubits' or 'quantum bits' are the units of process by quantum computers.**
- The mission will **help develop magnetometers with high sensitivity for precision timing (atomic clocks), communications, and navigation.**
- It will also support the design and synthesis of quantum materials such as superconductors, novel semiconductor structures and topological materials for fabrication of quantum devices.

#### ➤ Development of Quantum Communications:

- Satellite based secure quantum communications between ground stations over a range of 2000 km within India.
- Long distance secure quantum communications with other countries.
- **Inter-city quantum key distribution over 2000 km.**
- Multi-node Quantum network with quantum memories.
- 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

Note:



### Quantum Technology

#### ➤ About:

- Quantum technology is a **field of science and engineering that deals with the principles of quantum mechanics**, which is the study of the behaviour of matter and energy at the smallest scale.
- Quantum mechanics is the branch of physics that describes the behaviour of matter and energy at the atomic and subatomic level.

#### ➤ A Comparison between India and China:

- **R&D in China:** China started its research and development (R&D) in the field of quantum technology in 2008.
  - **In 2022, China boasts of developing the world's first quantum satellite**, creating a quantum communication line between Beijing and Shanghai, and **owning two of the world's fastest quantum computers**.
  - This was a **result of decade-long research** carried out in the hope of achieving critical breakthroughs.
- **India:** Quantum Technology remains a **field highly concentrated in long-term R&D in India**.
  - **Just a few hundred researchers, industry professionals, academicians, and entrepreneurs** are in the field right now without a constant focus on R&D.

#### What are the Advantages of Quantum Technology?

- **Increased Computing Power:** Quantum computers are much faster than the computers we today have. They also have the capability to solve complex problems that are currently beyond our reach.
- **Improved Security:** Because they rely on principles of quantum mechanics, quantum encryption techniques are much more secure than traditional encryption methods.
- **Faster Communication:** Quantum communication networks can transmit information faster and more securely than traditional networks, with the potential for completely unhackable communication.
- **Enhanced AI:** Quantum machine learning algorithms can potentially enable more efficient and accurate training of **Artificial Intelligence** models.

- **Better Sensing and Measurement:** Quantum sensors can detect extremely small changes in the environment, making them useful in areas such as medical diagnostics, environmental monitoring, and geological exploration.

#### What are the Disadvantages of Quantum Technology?

- **Expensive:** The technology requires specialized equipment and materials which make it more expensive than the traditional technologies.
- **Limited Applications:** Currently, quantum technology is only useful for specific applications such as cryptography, quantum computing, and quantum communication.
- **Sensitivity to Environment:** Quantum technology is highly sensitive to environmental interference, such as temperature changes, magnetic fields, and vibrations.
  - **Qubits are easily disrupted by their surroundings which can cause them to lose their quantum properties and make mistakes in calculations.**
- **Limited Control:** It is difficult to control and manipulate quantum systems. Quantum-powered AI could create unintended consequences.
  - **Quantum-powered AI systems could potentially arrive at conclusions that are unexpected or difficult to explain** as they operate on principles that are fundamentally different from classical computing.

### Post-traumatic Stress Disorder (PTSD) and Cerebellum

#### Why in News?

A recent study found that individuals with **Post-traumatic Stress Disorder (PTSD)** may experience significant decreases in both **gray** and **white matter** volume in their **cerebellum**.

- This could affect their **cognitive functions** and **emotional responses**, among other aspects.

#### What are the Findings of the Study?

- The study showed that **PTSD** is linked with considerable reductions in both **gray** and **white matter volumes** in the cerebellum.
- This reduction was particularly notable in specific subregions, including the **posterior lobe, vermis, flocculonodular lobe** and **corpus medullare**.

Note:

- The study also showed that **cerebellar volume** changes correlate with the intensity of the PTSD experience, offering a **potential biomarker** for assessing the condition's severity.
- It **challenges** the traditional understanding of **PTSD as solely a disorder of the brain's emotion-processing centers**.
  - The **cerebellum's involvement suggests a more complex brain network disruption in PTSD**, one that includes regions responsible for integrating cognitive and emotional responses.
- Study helps in understanding the **pathophysiology of PTSD** by pinpointing **specific cerebellar regions** affected by the disorder.

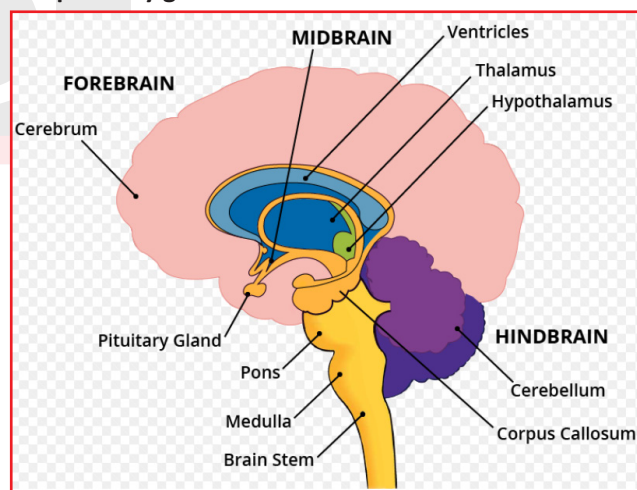
### **What is Post-Traumatic Stress Disorder (PTSD)?**

- **Post-traumatic Stress Disorder (PTSD)**, is a mental health condition that occurs after a person experiences or witnesses a traumatic event, such as **war, violence, abuse, or natural disaster**.
  - People with **PTSD** may have **intrusive memories, nightmares, flashbacks, avoidance and negative mood** etc.
  - These symptoms can interfere with their **daily functioning and quality of life**.
  - PTSD can be treated with **psychotherapy, medication, or both**.
- PTSD is incredibly burdensome at both the individual and societal level, causing **profound distress, functional impairment, and staggering treatment costs**.

### **What is Cerebellum and Other Parts of the Brain?**

- **The brain comprises three primary components: the cerebrum, cerebellum, and brainstem.**

- **Cerebellum:** The **brain region** traditionally associated with **motor control**, but now increasingly recognised for its role in **higher cognitive and emotional functions**.
  - It is located at the back of the head, just below the **cerebrum** and behind the **brain stem**. Also called a "**little brain**" due to its similar but smaller structure than the **cerebrum**.
- **Cerebrum:** The **largest part**, consists of **right and left hemispheres**, playing a key role in higher functions like **interpreting sensory information, speech, reasoning, emotions, learning, and precise movement control**.
- **Brainstem:** Functioning as a relay centre connecting the **cerebrum, cerebellum, and spinal cord**. It oversees automatic processes such as **breathing, heart rate, sleep-wake cycles, digestion**, and various reflex actions like **sneezing, coughing, vomiting, and swallowing**.
- **Hypothalamus:** Situated below the thalamus and regulates functions including **body temperature, hunger, thirst, fatigue, sleep, and circadian rhythms**. It is also involved in the **release of hormones by the pituitary gland**.



Note:

# Environment and Ecology

## Highlights

- Genetically Modified Mustard
- Amrit Dharohar Capacity Building Scheme
- Kairali AI Chip
- Golden Tiger in Kaziranga National Park
- Forest Fires in the Himalayas
- Marginal Rise in Saltwater Crocodile Population in Bhitarkanika
- IUCN Assessment of the Himalayan Wolf
- Green Hydrogen: Enabling Measures Roadmap for Adoption in India

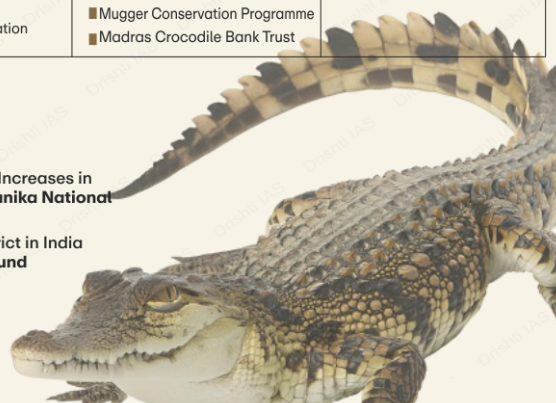
## CROCODILE SPECIES IN INDIA

India harbours three diverse crocodile species—Mugger, Saltwater, and Gharial—found in distinct habitats nationwide.

Aspects	Gharial	Mugger/Indian Crocodile	Saltwater Crocodile
<b>Scientific Name</b>	<i>Gavialis Gangeticus</i> 	<i>Crocodylus Palustris</i> 	<i>Crocodylus Porosus</i> 
<b>Distribution: India</b>	<b>Viable Population:</b> National Chambal Sanctuary (U.P, Raj, M.P) <b>Small Non-Breeding Population:</b> Son, Gandak, Hooghly, Ghagra & Satkosia WLS (Odisha)	Throughout India	East Coast (Odisha's Bhitarkanika WLS, Andaman & Nicobar Islands coast & Sundarbans)
<b>Distribution: Neighbourhood</b>	Brahmaputra of Bhutan & Bangladesh & Irrawaddy River	Extinct in Bhutan and Myanmar	Across Southeast Asia
<b>Special Feature</b>	Longest of all Crocodile, Long and thin Snout	Egg-laying, Hole-nesting, Wide & U-shaped Snout	Largest living reptile, Pointed & V-shaped Snout
<b>Habitat</b>	Freshwater	Freshwater	Saltwater, Brackish & Wetlands
<b>IUCN Status</b>	CR	VU	LC
<b>CITES Status</b>	Appendix I	Appendix I	Appendix I
<b>CMS Status</b>	Appendix I	-	Appendix II
<b>WPA,1972 Status</b>	Schedule I	Schedule I	Schedule I
<b>Threats</b>	Dams, Pollution, Sand mining	Habitat Destruction	Hunted for its skin and Habitat loss
<b>Government Initiatives</b>	<ul style="list-style-type: none"> <li>■ Odisha: Rs. 1000 award to conserve Gharial in Mahanadi River Basin</li> <li>■ Indian Crocodile Conservation Project,1975</li> </ul>	<ul style="list-style-type: none"> <li>■ Indian Crocodile Conservation Project,1975</li> <li>■ Mugger Conservation Programme</li> <li>■ Madras Crocodile Bank Trust</li> </ul>	Indian Crocodile Conservation Project,1975

### MISCELLANEOUS FACTS

- ⌚ 17th June: World Crocodile Day
- ⌚ Annual Reptile Census, 2023: Marginal Increases in number of saltwater crocodiles (Bhitarkanika National Park and its nearby areas)
- ⌚ Odisha's Kendrapara District: Only district in India where all three species of crocodiles found



Note:

## Genetically Modified Mustard

### Why in News?

Recently, the Government of India told the Supreme Court that **Genetically Modified (GM) crops** such as **mustard** will make quality edible oil cheaper for the common man and benefit national interest by reducing foreign dependency.

- The Genetic Engineering Appraisal Committee (GEAC) has approved the environmental release of Dhara Mustard Hybrid-11 (DMH-11), a genetically-engineered variant of mustard.
- If approved for commercial cultivation it would be the first genetically modified food crop available to Indian farmers.

### India's Demand for Edible oil

- The total edible oil demand of India was **24.6 million tonnes (2020-21)** with domestic availability of **11.1 million tonnes (2020-21)**.
- In **2020-21**, **13.45 million tonnes (54%)** of the total edible oil demand was met through import worth about **₹1,15,000 crore**, which included **palm oil (57%)**, **soybean oil (22%)**, **sunflower oil (15%)** and small quantity of canola quality mustard oil.
- In **2022-23**, **155.33 lakh tonnes (55.76%)** of the total edible oil demand was met through import.
- India is the **biggest importer** of palm oil, which makes up **40%** of its vegetable oil consumption.
  - India meets half of its annual need for **8.3 MT of palm oil** from **Indonesia**.
- In 2021, India unveiled the **National Mission on Edible Oil-Oil Palm** to boost India's domestic palm oil production.

### What are Genetically Modified (GM) Crops?

- **GM crops** are derived from plants whose genes are artificially modified, usually by inserting genetic material from another organism, in order to give it new properties, such as increased yield, tolerance to a **herbicide, resistance** to disease or **drought**, or improved nutritional value.
  - Earlier, India approved the commercial cultivation of only one GM crop, **Bt cotton**, but **Genetic Engineering Appraisal Committee (GEAC)** has recommended GM Mustard for commercial use.

## Genetically Modified Crops

### About

- Genetic modification of plants involves **adding a specific stretch of DNA into the plant's genome**, giving it new or different characteristics
- Also called **Transgenic crops**

### Objective

- Increase yield
- Increase tolerance to herbicides
- Improve nutritional value
- Provide resistance to disease/drought

### Global Cultivation

- Top 5 GM growing countries - **USA, Brazil, Argentina, India and Canada**
- Major GM Crops - **Soybean, maize, cotton and canola**

### GM Crops in India

- **Bt cotton** - **only one GM crop approved**, (90% of India's total cotton acreage) (resistance against pink bollworm)
- **Ht Bt cotton** - resistance against **glyphosate** (herbicide)
- **DMH-11 mustard** - **recommended for commercial use** (high yield)
- **Golden rice** - probably the best variety of GM rice (**Vitamin A**)

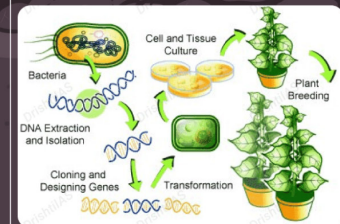
### Concerns

- Manipulation of GM Seed Cost
- Seeds don't create viable offsprings
- Insect-resistant plants harm non-targeted species too
- Intermixing violates natural plants' intrinsic values



### GM Crop Regulation

- **Statutory Provision:**
  - Rules for Manufacture, Use, Import, Export and Storage of Hazardous Microorganisms (HM) Genetically Engineered Organisms or Cells, 1989 under the Environment Protection Act (1986).
- **Statutory Bodies:**
  - Genetic Engineering Appraisal Committee (GEAC) (under MoEF&CC) - administers commercial release of GMC
  - Recombinant DNA Advisory Committee (RDAC)
  - Institutional Biosafety Committee (IBSC)
  - Review Committee on Genetic Manipulation (RCGM)
  - State Biotechnology Coordination Committee (SBCC)



### Cartagena Protocol on Biosafety (2000)

- It seeks to protect biological diversity from the potential risks posed by **Living Modified Organisms** resulting from modern biotechnology.
- India is a signatory to this protocol.



### What is GM Mustard?

- **Dhara Mustard Hybrid-11 (DMH-11)** is an indigenously developed transgenic mustard. It is a genetically modified variant of **Herbicide Tolerant (HT) mustard**.
- **DMH-11** is a result of a cross between **Indian mustard** variety '**Varuna**' and **East European** '**Early Heera-2**' **mustard**.
- It contains two **alien genes** ('**barnase**' and '**barstar**') isolated from a **soil bacterium** called **Bacillus amyloliquefaciens** that enable breeding of high-yielding commercial mustard hybrids.
- **DMH-11** has shown approximately **28%** more yield than the national check and **37%** more than the zonal checks and its use has been claimed and approved by the **GEAC**.

Note:

- “Bar gene” maintains the genetic purity of hybrid seed.

### **What is the Genetic Engineering Appraisal Committee (GEAC)?**

- The **Genetic Engineering Appraisal Committee (GEAC)** functions in the **Ministry of Environment, Forest and Climate Change (MoEF&CC)**.
- It is responsible for **appraisal of activities involving large scale use of hazardous microorganisms** and recombinants in research and industrial production from the environmental angle.
- The committee is also **responsible for appraisal of proposals relating to release of genetically engineered (GE) organisms** and products into the environment including experimental field trials.
- **GEAC is chaired by the Special Secretary/Additional Secretary of MoEF&CC** and co-chaired by a representative from the Department of Biotechnology (DBT).
  - Presently, it has 24 members and meets every month to review the applications in the areas indicated above.

## **Amrit Dharohar Capacity Building Scheme**

### **Why in News?**

The Central government is spearheading a significant transformation in the realm of **wetland tourism** with the ‘**Amrit Dharohar Capacity Building Scheme**’.

- This initiative, launched in June 2023, aims to revolutionize tourism practices at **ecologically-sensitive wetlands**, particularly **Ramsar sites** like **Odisha’s Chilika Lake** and **Haryana’s Sultanpur Bird Sanctuary**.

### **What is Amrit Dharohar Capacity Building Scheme?**

- **About:**
  - The ‘Amrit Dharohar Capacity Building Scheme’ is a collaborative effort between the **Ministry of Tourism** and the **Ministry of Environment, Forest, and Climate Change**.
  - The scheme will be implemented over the next three years (2023 onwards) to encourage optimal use of wetlands, and **enhance biodiversity, carbon stock, eco-tourism opportunities** and **income generation** for local communities.

- The primary focus of the Scheme is to strategically transition from **high-volume tourism to high-value nature tourism** at ecologically-sensitive wetlands.

#### ➤ **Aim:**

- The aim is to **enhance livelihood opportunities for local communities** through harnessing the **nature-tourism potential** of the **Ramsar Sites across the country**.

#### ➤ **Implementation:**

- The scheme is being implemented in **convergence with various Central Government ministries and agencies**, State wetland authorities, and a network of formal and informal institutions and individuals, working together for a common cause.

#### ➤ **Pilot Projects and Skill Development:**

- Out of 16 identified Ramsar sites, five have been selected for pilot projects under the scheme.
  - These pilot sites include **Sultanpur National Park (Haryana)**, **Bhitarkanika Mangroves (Odisha)**, **Chilika Lake (Odisha)**, **Sirpur (Madhya Pradesh)**, and **Yashwant Sagar (Madhya Pradesh)**.
- Training programs for participants are carried under the **Alternative Livelihood Programme (ALP)** (a 30 hours/15 days training programme) and **Paryatan Navik Certificate (boatman certification for tourism)**.

#### **Note:**

- **High-value travellers** as those who are **likely to spend more, stay longer**, and disperse beyond tourist hotspots.
- Nature tourism is based on the **natural attractions of an area** like birdwatching, photography, stargazing, camping, hiking, hunting, fishing, and visiting parks.
- Nature tourists are experiential tourists who are interested in a diversity of natural and cultural resources.

### **What is a Ramsar Site?**

- A Ramsar site is a wetland designated to be of **international importance under an environmental treaty** signed in February 1971 at Ramsar, Iran under the auspices of **UNESCO**.
- Ramsar provides for national action and international cooperation regarding the conservation of wetlands, and wise sustainable use of their resources.
- **India has 80 Ramsar sites.**

Note:

## Kairali AI Chip

### Why in News?

Recently, the Digital University Kerala has introduced the State's maiden silicon-proven **Artificial Intelligence (AI) chip—Kairali AI Chip**, that offers **Speed, Power Efficiency and Scalability** for various applications.

### What is a Kairali AI Chip?

#### ➤ About:

- This chip leverages edge intelligence (or edge AI) to deliver **high performance and low power consumption** for a wide range of applications.
  - Edge artificial intelligence (AI), or AI at the edge, is the implementation of AI in an edge computing environment, which allows computations to be done close to where data is actually collected, **rather than at a centralized cloud computing facility** or an offsite data center.
  - It entails deploying **Machine Learning algorithms** on the edge device where the data is generated, rather than relying on cloud computing.
  - Edge intelligence can provide **faster and more efficient data processing** while also protecting the privacy and security of both data and users.

#### ➤ Potential Applications:

- **Agriculture:** The chip can **enable precision farming techniques** by providing real-time monitoring of crop health, soil conditions and environmental factors. This can help in **optimizing the use of resources and enhancing** the crop yields.
- **Mobile Phone:** The chip can **improve the efficiency and performance** of smartphones by enabling advanced features such as real-time language translation, enhanced image processing and AI-powered personal assistants.
- **Aerospace:** The chip can augment the capabilities of **Unmanned Aerial Vehicles (UAVs)** and satellites by providing advanced processing power for navigation, data collection and real-time decision-making, all with minimal power consumption. The chip can also enhance the navigation and autonomous decision-making capabilities of drones, which are useful for applications such as delivery services and environmental monitoring.
- **Automobile:** The chip can be a game-changer for autonomous vehicles by providing the necessary computing power for real-time processing of

sensory information, which is essential for safe and efficient autonomous driving.

- **Security and surveillance:** The chip can enable faster and efficient facial recognition algorithms, threat detection and real-time analytics by using its edge computing capability.

### What are AI chips?

#### ➤ About:

- AI chips are built with specific architecture and have integrated AI acceleration to support deep learning-based applications.
  - Deep learning, more commonly known as **Active Neural Network (ANN)** or Deep Neural Network (DNN), is a subset of **Machine Learning** and comes under the broader umbrella of AI.

#### ➤ Functions:

- It combines a series of computer commands or algorithms that stimulate activity and brain structure.
- DNNs go through a training phase, learning new capabilities from existing data.
  - **DNNs can then inference**, by applying these capabilities learned during deep learning training to make predictions against previously unseen data.
  - Deep learning can make the process of collecting, analysing, and interpreting enormous amounts of data faster and easier.
- Chips like these, **with their hardware architectures, complementary packaging**, memory, storage, and interconnect solutions, make it possible for AI to be integrated into applications across a wide spectrum to turn data into information and then into knowledge.

#### ➤ Types of AI Chips Designed for Diverse AI Applications:

- Application-Specific Integrated Circuits (ASICs), Field-Programmable Gate Arrays (FPGAs), Central Processing Units (CPUs) and GPUs.

#### ➤ Applications:

- AI applications include Natural Language Processing (NLP), computer vision, robotics, and network security across a wide variety of sectors, including automotive, IT, healthcare, and retail.

### What are the Benefits of AI Chips?

#### ➤ Faster Computation:

- Artificial intelligence applications typically require parallel computational capabilities in order to run sophisticated training models and algorithms.

Note:



- AI hardware provides more parallel processing capability that is estimated to have up to 10 times more competing power in ANN applications compared to traditional semiconductor devices at similar price points.
- **High Bandwidth Memory:**
  - Specialized AI hardware is estimated to allocate 4-5 times more bandwidth than traditional chips.
    - This is necessary because due to the need for parallel processing, AI applications require significantly more bandwidth between processors for efficient performance.

### **What are the Differences between Cloud AI and Edge AI, and Traditional Chips and AI Chips?**

Cloud AI vs Edge AI		
Aspect	Cloud AI	Edge AI
<b>Location of Processing</b>	Remote servers in data centers	Locally on devices
<b>Latency</b>	May have higher latency	Typically lower latency
<b>Bandwidth</b>	Requires substantial bandwidth	Can operate with lower bandwidth
<b>Privacy and Security</b>	Raises concerns about data privacy and security	Enhanced privacy and security as data remains on the device
<b>Use Cases</b>	Suited for high computational requirements, large datasets, and less stringent real-time processing needs	Ideal for real-time or near-real-time processing, such as in IoT devices and wearables

Traditional Chips vs AI Chips		
Aspect	Traditional Chips	AI Chips
<b>Design and Architecture</b>	General-purpose processors	Specialized processors optimized for AI workloads
<b>Energy Efficiency</b>	May not be as energy-efficient for AI tasks	Engineered to be more power-efficient for AI computations
<b>Flexibility</b>	Versatile for a broad range of applications	Specialized for AI tasks, potentially less versatile for general-purpose computing
<b>Performance</b>	Can handle a variety of tasks but may not achieve the same level of performance as AI chips for specific AI workloads	Specialized for higher performance in AI-specific tasks
<b>Examples</b>	The CPU in laptops or smartphones	GPUs powering AI-powered self-driving cars

## **Golden Tiger in Kaziranga National Park**

### **Why in News?**

Recently, a wildlife photographer captured a rare golden tiger in [Kaziranga National Park \(KNP\)](#).

### **What are the Key Facts About the Golden Tiger?**

- **Golden tigers** (also known as golden tabby tigers) are a colour form, not a separate subspecies, like white and [black tigers](#).



Note:

- They are exceptionally rare in the wild and even rarer in captivity.
- Golden tiger spotted in KNP are a **colour variation of Bengal tigers** caused by a presence of recessive gene called “wideband”.
  - The wideband gene reduces melanin production during the cycle of hair growth. Thus, the **agouti mutation (production of a protein that is usually expressed in the skin) is responsible for the blond or golden skin**, while the orange stripes appear due to the ‘tabby’ mutation’.
    - The Tabby gene responsible for most tabby patterns (coat pattern) in domestic cats.

# TIGER


Royal Bengal Tiger (*Panthera tigris*) is the National animal of India.

### Subspecies of Tiger

- \* The continental (*Panthera tigris tigris*)
- \* The Sunda (*Panthera tigris sondaica*)

### Habitat

Tropical rainforests, evergreen forests, temperate forests, mangrove swamps, grasslands, and savannas



### Countries Where Tiger Population Is Found

- ▣ Found only in 13 Tiger Range countries- India, Nepal, Bhutan, Bangladesh, Myanmar, Russia, China, Thailand, Malaysia, Indonesia, Cambodia, Laos, and Vietnam
- ◆ As per the latest report by IUCN, tiger has gone extinct in Cambodia, Laos, and Vietnam

### Protection Status

- ▣ IUCN Red List: Endangered
- ▣ CITES: Appendix I
- ▣ WPA 1972: Schedule I

### Threats


- ▣ Habitat loss
- ▣ Poaching and illegal trade
- ▣ Human-Wildlife conflict

### Conservation Efforts

- ▣ International Big Cats Alliance (IBCA): For conservation of seven big cats namely Tiger, Lion, Leopard, Snow Leopard, Cheetah, Jaguar and Puma (launched by India)
- ▣ Tx2 campaign: Launched by WWF; stands for 'Tiger times 2' signaling the goal to double the tiger population by 2022
- ▣ National Tiger Conservation authority (NTCA): Constituted under the WPA, 1972
- ▣ Project Tiger: Launched in 1973
- ▣ Tiger Census: Every 4 years

### Tigers In India

- ▣ India has the largest population
  - ◆ As of 2022, India has 3167 tigers
  - ◆ Largest population has been found in Central Indian Highlands & Eastern Ghats Landscape
- ▣ Tiger Reserves: India now has 53 tiger reserves
  - ◆ Ranipur in UP is the latest
  - ◆ Nagarjun Sagar (Andhra Pradesh) is the largest while Orang (Assam) is the smallest (Core area)



- Black and golden tigers basically exist as they **both possess a recessive gene** which is expressed due to the **absence of a dominant gene to suppress it**. When two individuals with dominant traits breed, recessive genes are masked, but **when two individuals with recessive genes breed, the recessive gene is expressed** and such is the case for these two tiger (Black and golden) mutants.

Note:



### Kaziranga National Park

- Formed in 1908 KNP is located in the edge of the **north eastern part of the country in the district of Golaghat and Nagoan in the state of Assam**. It was declared as a National Park in 1974.
  - In the year 1985, the park was declared as a **World Heritage Site by UNESCO** and was declared as **Tiger Reserve in 2006**.
- It is the single **largest undisturbed and representative** area in the **Brahmaputra** Valley floodplain.
- KNP has mainly four types of vegetation' like **alluvial inundated grasslands**, alluvial **savanna woodlands**, **tropical moist mixed deciduous forests**, and **tropical semi-evergreen forests**.
- It is the home to more than 2200 **Indian one-horned rhinoceros**, approximately **2/3rd** of their total world population.
- KNP harbours significant populations of other threatened species **including tigers, elephants, wild water buffalo and bears** as well as aquatic species including the **Ganges River dolphin**. It is an important area for migratory birds.



## Forest Fires in the Himalayas

### Why in News?

There have been several instances of **Forest Fires** in the **Himalayan Region** especially in **Himachal and Uttarakhand** this winter because of a lack of precipitation.

Note:

- As per the **Forest Survey of India (FSI)**, there have been **2,050 incidents of forest fires** between 16<sup>th</sup> October 2023 and 16<sup>th</sup> January 2024, but there were **just 296 incidents of forest fires during the same period last year.**

### What is Forest Fire?

- **About:**
  - Also called **bush or vegetation fire or wildfire**, it can be described as any **uncontrolled and non-prescribed combustion** or burning of plants in a natural setting such as a forest, grassland, brush land or tundra, which consumes the natural fuels and spreads based on environmental conditions (e.g., wind, topography).
  - There are three conditions that need to be present in order for a **wildfire to burn: Fuel, Oxygen, and a Heat source.**
- **Classification:**
  - **Surface Fire:** A forest fire may burn **primarily as a surface fire, spreading along the ground** as the surface litter (senescent leaves and twigs and dry grasses etc) on the forest floor and is engulfed by the spreading flames.
  - **Underground Fire:** The fires of low intensity, **consuming the organic matter** beneath and the surface litter of forest floor are sub-grouped as underground fire. In most of the **dense forests a thick mantle of organic matter is found** on top of the mineral soil.
    - These fires **usually spread entirely underground** and burn for some meters below the surface.
    - This fire spreads very slowly and in most of the cases it becomes very hard to detect and control such types of fires.
    - They may continue to burn for months and destroy vegetative cover of the soil.
  - **Ground Fire:** These fires are fires in the subsurface organic fuels, such as duff layers under **forest stands, Arctic tundra or taiga**, and organic soils of swamps or bogs.
    - There is **no clear distinction between underground and ground fires.**
    - The smoldering underground fires sometimes change into Ground fire.

- This fire burns root and other material on or beneath the surface i.e., burns the herbaceous growth on forest floor together with the layer of organic matter in various stages of decay.
- They are **more damaging than surface fires**, as they can destroy vegetation completely. Ground fires burn underneath the surface by smoldering combustion and are more often ignited by surface fires.

### What Factors Contributed to Forest Fires in Himalayan Region?

- **Lack of Snowfall and Precipitation:**
  - The absence of snowfall and rainfall in the winter months **has left the region dry.** Snowfall and **Precipitation** are crucial for **maintaining soil moisture** and preventing the forest floor from becoming excessively dry.
- **Dry Conditions:**
  - The lack of moisture in the soil and vegetation **creates favorable conditions for forest fires.** Dry leaves, combined with dry soil, act as potential fuel for fires.
  - Rising temperatures, possibly linked to climate change, contribute to the drying of forests. Higher temperatures **increase evaporation rates, further depleting soil moisture.**
- **Human Activities:**
  - Human activities, **such as carelessly discarding cigarettes** or engaging in uncontrolled burning, can trigger forest fires.
  - Controlled burning by the forest department may also contribute to the issue if not properly managed.
- **Vulnerable Tree Species:**
  - Presence of fire-prone and flammable tree species like **Chir pine increases the risk of forest fires.**
    - About 15% of Himachal's forest area is covered with chir pine.
- **Long Dry Spell:**
  - Extended periods without rainfall or snowfall over several months create a long dry spell, making the region more susceptible to fires.

Note:

### What are the Government Initiatives to Cope With Forest Fires?

- **National Action Plan for Forest Fires (NAPFF)**, was started in 2018 with the goal of reducing forest fires by informing, enabling, and empowering forest fringe communities and incentivizing them to collaborate with state forest departments.
- **The Forest Fire Prevention and Management Scheme (FPM)** is the only government-sponsored programme dedicated to assisting states in dealing with forest fires.

## Marginal Rise in Saltwater Crocodile Population in Bhitarkanika

### Why in News?

**Bhitarkanika National Park** in Odisha, renowned for its diverse ecosystem, has observed a slight increase in the population of **saltwater crocodiles** (*Crocodylus porosus*) during the annual census in 2024.

### What are the Key Points Related to Salt-water Crocodiles?

- **About:** The saltwater crocodile is the **largest of all crocodylians**, and the **largest reptile in the world**.
  - Female saltwater crocodiles are smaller in size than their male counterparts, normally reaching a maximum length of 2.5 to 3 m.
  - They **tolerate salinity** and are found mostly in coastal waters or near rivers. They are also found in freshwater near rivers and swamps.
- **Communication:** Saltwater crocodiles communicate using several sounds, including **barking, hissing, growling and chirps**.
- **Distribution:** Tropical to warm temperate latitudes in the **eastern Indian and western Pacific oceans**.
- **Habitat:** **Mangrove forests** and other coastal habitats
- **Prey:** Saltwater crocodiles have a variety of prey. Juveniles are restricted to **small insects, amphibians, reptiles, crustaceans, and small fish**.
  - Adults feed on **crabs, turtles, snakes, birds, buffalo, wild boar, and monkeys**.

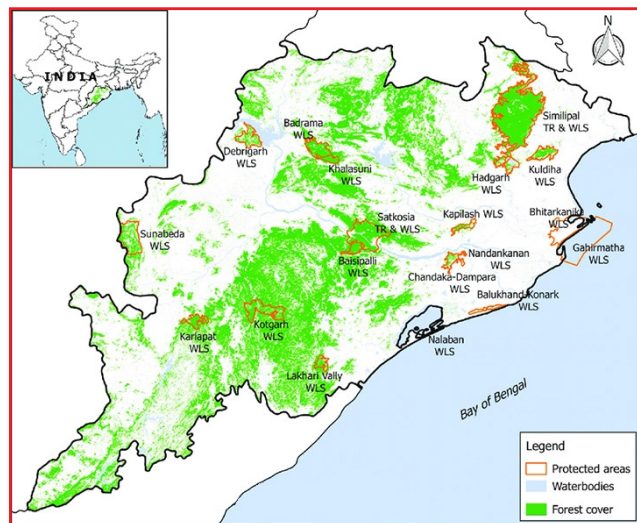
- Saltwater crocodiles hide in the water exposing only their eyes and nose. They **lunge at prey, often killing it with a single snap of the jaws**, then drag the prey under water where it is more easily consumed.

### Conservation Status:

- **IUCN Red list** : Least Concern
- **WPA, 1972**: Schedule I
- **CITES** : Appendix I/II



**Note:** Bhitarkanika is the **second-largest mangrove forest in India after the Sundarbans** in West Bengal. Both areas are among the three strongholds of saltwater crocodiles, the third being the **Andaman and Nicobar Islands**.



### What are the Key Facts about Bhitarkanika National Park (NP)?

- The Bhitarkanika NP is essentially a network of creeks

Note:

and canals which are inundated with waters from rivers **Brahmani, Baitarani, Dhamra and Patasala** forming a unique ecosystem.

- The Gahirmatha Beach which forms the **boundary of the sanctuary in the east** is the largest colony of the **Olive Ridley Sea Turtles**.
- A unique phenomenon observed in this NP is the **Bagakahana or the heronry near Surajpore creek**.
  - Thousands of birds colonise the creek for nesting and the aerial acrobatics performed prior to the mating makes for an impressive sight.
- Bhitarkanika is also home to **eight varieties of Kingfisher birds** which is also a rarity.

## IUCN Assessment of the Himalayan Wolf

### Why in News?

The Himalayan Wolf (*Canis lupus chanco*), a prominent lupine predator found across the Himalayas has been assessed for the first time in the **International Union for Conservation of Nature (IUCN)**'s Red List.



### What Are the Key Facts About Himalayan Wolf?

- **About:**
  - The Himalayan Wolf is a mysterious lupine predator that **inhabits the high elevations of the Himalayas**.
  - Characterized by distinctive genetic markers, its mitochondrial DNA suggests a genetic foundation predating the Holarctic grey wolf.
- **Habitat:**
  - It is found in parts of **China, Nepal, India, and Bhutan** and typically lives in alpine meadows and grasslands at elevations of 10,000 to 18,000 feet.
    - They usually travel in small packs and hunt wild sheep and goats, sometimes even preying on marmots, hares, and birds.

Note:

- **Population Status:**
  - Population estimate of **2,275-3,792 mature individuals**, all within a subpopulation across the Himalayan range of Nepal, India, and the Tibetan Plateau.
  - Indian section has 227-378 mature individuals, **primarily in Ladakh and Spiti Valley.**
- **Conservation Status:**
  - **IUCN Status:** Vulnerable
  - **Wildlife Protection Act, 1972:** Schedule I

#### What is the IUCN Red List?

- The IUCN Red List is the foremost global resource for assessing the risk of extinction among animals, fungi, and plant species.
- Accessible to all, it serves as a crucial indicator of global biodiversity health, it offers comprehensive insights into species' characteristics, threats, and conservation measures, playing a pivotal role in shaping informed conservation decisions and policies.
- The IUCN Red List Categories define the extinction risk of species assessed. **Nine categories** extend from NE (Not Evaluated) to EX (Extinct). Critically Endangered (CR), Endangered (EN) and Vulnerable (VU) species are considered to be threatened with extinction.
  - It is also a key indicator for the **Sustainable Development Goals** and **Aichi Targets.**
- The IUCN Red List includes the **IUCN Green Status of Species**, which assesses the recovery of species' populations and measures their conservation success.
  - There are **eight Green Status Categories:** Extinct in the Wild, Critically Depleted, Largely Depleted, Moderately Depleted, Slightly Depleted, Fully Recovered, Non-Depleted and Indeterminate.
  - A Green Status assessment examines how conservation actions have affected the current Red List status.

#### Why is the Population of Himalayan Wolf Continuously Declining?

- **Habitat Destruction:** The IUCN Red List Assessment has highlighted an ongoing reduction in the area, extent, and quality of habitat for Himalayan wolves.
- **Depredation Conflict:** Depredation conflict is a major conservation concern, given a seasonal or permanent high livestock abundance in wolf habitats that often form summer pastureland for livestock grazing.
  - These conflicts result in a negative attitude towards wolf conservation and often trigger retaliatory killing
- **Hybridization with Dogs:** The report pointed out that a growing problem for Himalayan wolves in Ladakh and Spiti is **interbreeding with domestic dogs**. This is becoming more challenging because there are more feral dogs in these areas.
  - Hybridization can contribute to increased competition for resources, such as territory and prey, between wolves and wolf-dog hybrids.
- **Illegal Hunting:** The wolf is also illegally hunted for **trade in its fur and body parts including paws, tongues,**

heads, and other parts. However, hunting of these wolves is not legal in all range states.

#### What Measures Should be Taken to Protect the Himalayan Wolves?

- **Secure and Restore:** Securing and restoring healthy wild prey populations and landscapes and setting aside wildlife habitat refuges.
- **Improve Guarding Methods:** Improving livestock guarding methods, such as predator-proof corral pens and **using sustainable livestock herding practices**, including reduced livestock loads, adapted herding, and developing novel but tradition-based holistic management practices will enhance the conservation of wolves.
- **Management of Feral Dog Populations:** By managing the populations of feral dogs, the ecological balance in wolf habitats can be preserved.
- **Transboundary Efforts :** This transboundary interconnectedness is vital for the unimpeded movement of wolf populations and the safeguarding of their natural behaviors, achieved through coordinated research and monitoring initiatives

Note:

## Green Hydrogen: Enabling Measures Roadmap for Adoption in India

### Why in News?

Recently, the World Economic Forum along with Bain & Company has released a report titled- **Green Hydrogen: Enabling Measures Roadmap for Adoption in India**, highlighting that **Green Hydrogen** production cost needs to be reduced to **less than or equal to USD 2 per kg**.

### What are the Key Highlights of the Report?

- India's Demand for Energy is Set to Surge:
  - India is currently the **third-largest economy in the world in terms of energy needs**, and the country's demand for energy is set to surge – demand is estimated to **grow 35% by 2030**.
    - In 2022, India's energy import bill reached USD 185 billion, which is likely to increase if the country continues to meet its growing energy demand through traditional methods.
    - At the same time, India has set a commitment to achieve **Net Zero by 2070** at the **United Nations Climate Change Conference in Glasgow (COP26)**, held in 2021.
- **Criticality of Green Hydrogen:**
  - **Green Hydrogen** is critical to help meet India's energy security needs while reducing emissions in hard-to-abate sectors on the path to net zero.
  - Recognizing this, the Indian government launched the **National Green Hydrogen Mission** in 2022.
    - The aim is to spur green hydrogen production and consumption through roughly USD 2.3 billion in incentive funding, to be distributed between 2022 and 2030.
- **Current status of Hydrogen Production in India:**
  - Currently, India produces **6.5 million Metric Tonnes Per Annum (MMTPA)** of hydrogen, predominantly for use in **crude-oil refineries** and fertilizer production.
  - Most of India's current hydrogen supply is **Gray Hydrogen**, which is produced using **Fossil Fuels** in a process that creates **CO<sub>2</sub> Gas Emissions**.

- Green Hydrogen production requires an ample supply of **Renewable Energy** for the electrolysis process.
  - India's renewable energy potential can support its goals for green hydrogen growth but needs rapid capacity addition – additional capacity is required to generate green hydrogen as well as to meet the country's electricity needs.
- There is **limited on-the-ground traction** for green hydrogen in the country; most are in a "wait-and-watch" phase. Many expect sizable production of green hydrogen to take effect beginning in 2027 and after.

### ➤ Constraints in Green Hydrogen:

- Important constraints for the expansion of green hydrogen in India include, on the supply side, the cost of production and delivery, and, on the demand side, Indian players' readiness to consume green hydrogen in traditional industrial processes.

### What is the Blueprint proposed by the Report for the evolution of Green Hydrogen in India?

#### ➤ Reduce the Cost of Producing Green Hydrogen:

- Green hydrogen today costs roughly USD 4–5/kg to produce in India, approximately double the production costs for grey hydrogen.
  - The majority of production costs for green hydrogen (50–70%) are driven by the need for round-the-clock (RTC) renewable electricity.
- Green hydrogen needs to come down to a benchmark goal of USD 2/kg for a green energy ecosystem to develop in India. This can be done through:
  - **Increasing direct subsidies for early adopters** – for example, the USA has announced, under the Inflation Reduction Act (IRA), a tax credit of up to USD 3/kg of hydrogen.
  - **Supporting long capital investment cycles** for technologies with long-term clarity on policies and incentives
  - Encouraging the development and testing of indigenous electrolyzer technology

Note:

➤ **Reduce Costs related to Green Hydrogen Conversion, Storage, and Transport:**

- Despite low production costs, infrastructure expenses (conversion facilities, storage, and transport) can significantly affect the overall cost of green hydrogen and its derivatives.
- Minimizing the costs of establishing this infrastructure, will reduce delivery costs and increase offtake.
  - **Essential interventions to achieve this are**
    - In the short to medium term, developing green hydrogen production clusters where

a collaborative environment for production and offtake **occur in close proximity.**

- Investing in long-term infrastructure construction, including pipelines for transporting green hydrogen throughout the country.
  - ◆ For example, the European Union's European Hydrogen Backbone programme aims to develop a pipeline network in the EU.

### Supply

Landed cost of green hydrogen needs to be less than or equal to \$2/kg (parity with grey hydrogen)

1

Landed cost of **round-the-clock (RTC) renewable energy (RE)** to be lower than INR 2 (~\$0.02)/kWh; support rapid decrease in **electrolyser costs**

Minimize **cost of landed RTC RE**

**Cost of storage:** Reduce through monetary incentives

**Banking accessibility:** Make available across the country and clarify norms/processes

**Transmission and distribution charges:** Reduce intrastate/wheeling charges across all states (only for select few currently)

Rapidly bring down **electrolyser cost**

**Subsidies:** Increase quantum for early adopters (\$50/KW insufficient)

**Capex IRR:** Increase duration of incentives, beyond five years for the much longer capex cycle of electrolysers

**Tech discovery:** Encourage R&D for electrolyser tech suitable for India (e.g. AEM, SOEC)

2

Eliminate or reduce the cost of **conversion/reconversion, transportation and storage**

Optimize **conversion costs**

**R&D:** Create incentives to develop R&D/pilots for local tech

Reduce **transportation costs**

**Pipelines:** Finance creation of hydrogen pipelines in the long term

Reduce **storage costs**

**R&D:** Create incentives to develop R&D/pilots for local tech (e.g. type 3 and 4 cylinders)

**Clusters:** Encourage collaboration between peers so that production and offtake takes place in clusters; this minimizes the need for enabling infrastructure

Allow/encourage companies to form clusters and bid for PLIs/other incentive schemes

Benefits such as quick clearances for clusters

Share success stories through a national platform

➤ **Support Industries that are most likely to Adopt Green Hydrogen:**

- Certain industries are better positioned than others to embrace green hydrogen consumption.
  - Incentives, subsidies, and other support mechanisms should target likely **adopters to increase India's domestic demand** for green hydrogen.
- Chief among these are existing grey hydrogen users. Stakeholders can support domestic green energy demand among users of grey hydrogen by increasing direct subsidies.
  - This will **reduce green hydrogen costs in the short term** and **encourage long-term demand** for the new energy source.

➤ **Capitalize on India's Export Potential:**

- India has the **potential to become a hub for green hydrogen** derivative exports given its relatively low-cost renewable energy, skilled workforce, and abundance of land for renewable energy expansion.
- Stakeholders can capitalize on India's export potential by **improving export infrastructure at ports.**
- Green hydrogen derivatives **need to be converted at the production site or ports** before they can be exported.
  - Export also requires storage and shipping facilities at port terminals.

➤ **Disincentivize Carbon-Intensive Energy Sources:**

- In addition to incentivizing green hydrogen adoption, India must also **disincentivize carbon-intensive energy sources.**

Note:

- India can **divert subsidies away from high-emission sources** and redirect funds toward the green energy transition.
  - A **comprehensive carbon-tax regime** could help India meet rising energy demand, without compromising energy affordability for the population.

## Demand

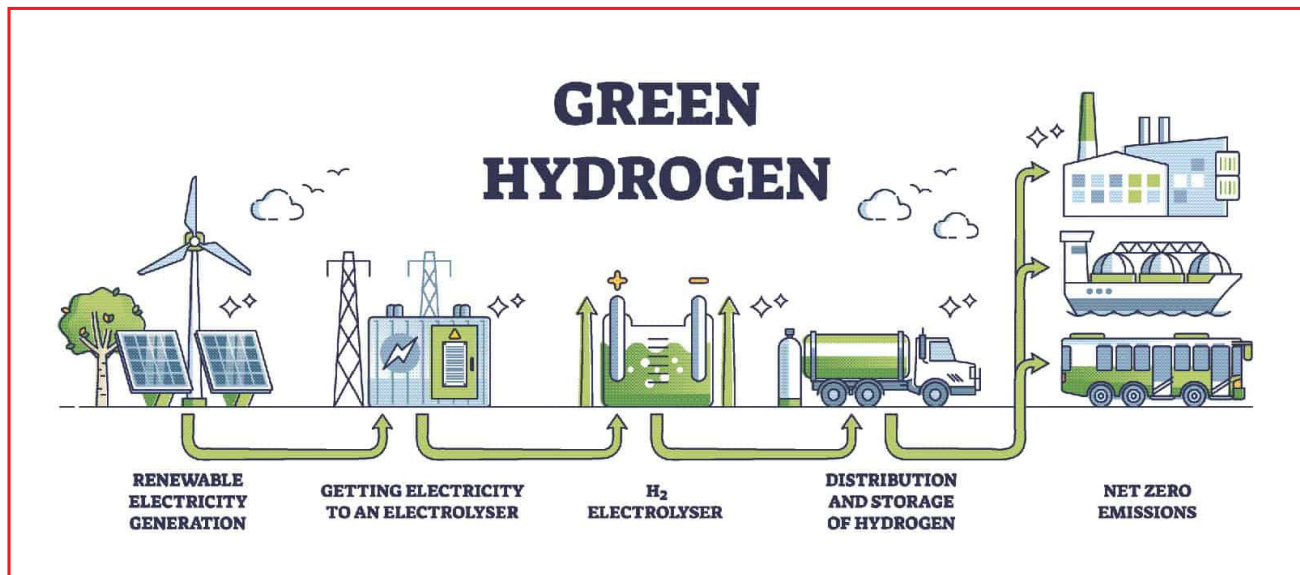
Demand to be enabled by supporting industries in the short term and disincentivizing carbon-intensive alternatives in the long term

3 Enable domestic demand through a staggered approach of supporting end-user industries	4 Capitalize on India's export potential	5 Disincentivize carbon-intensive alternatives such as natural gas
<p><b>1 Greening existing hydrogen users</b> (refining, fertilizer)</p> <p>Increase <b>direct subsidy</b> (\$0.50/kg is insufficient for early adopters) Institute strategic <b>demand-side mandates</b> (balance the volume of green hydrogen while factoring in economic considerations)</p>	<p><b>Standards:</b> Work with other countries/global organizations to develop harmonized global standards (and/or the ability to certify green hydrogen made in India according to importers' norms)</p> <p><b>Export infrastructure:</b> Develop conversion and storage facilities at ports</p> <p><b>Export economy:</b> Convene MoUs/bilateral agreements with potential importers to enable export from India</p>	<p><b>Divert subsidies for carbon-intensive fuels</b> to support green hydrogen</p> <p>Enable <b>carbon tax/ carbon credits</b> mechanism and use the collections to fund energy transition pathways</p>
<p><b>2 Adoption across industrials</b> (steel, cement)</p> <p>Provide <b>CapEx support</b> (e.g. faster depreciation, discounted land) <b>Launch standards</b> for green hydrogen by-products (e.g. green steel) Support in <b>energy tech migration</b></p>		
<p><b>3 Greening transportation</b> (HDVs, maritime, aviation)</p> <p>Launch <b>standards</b> (e.g. for fuel cell) Support <b>R&amp;D</b> and pilots</p>		
<p><b>4 Energy</b> (power, cement)</p> <p>Support <b>R&amp;D and pilots</b> for blending with existing energy</p>		

## What is Green Hydrogen?

➤ About:

- Hydrogen is a **key industrial fuel that has a variety of applications** including the production of ammonia (a key fertilizer), steel, refineries and electricity.

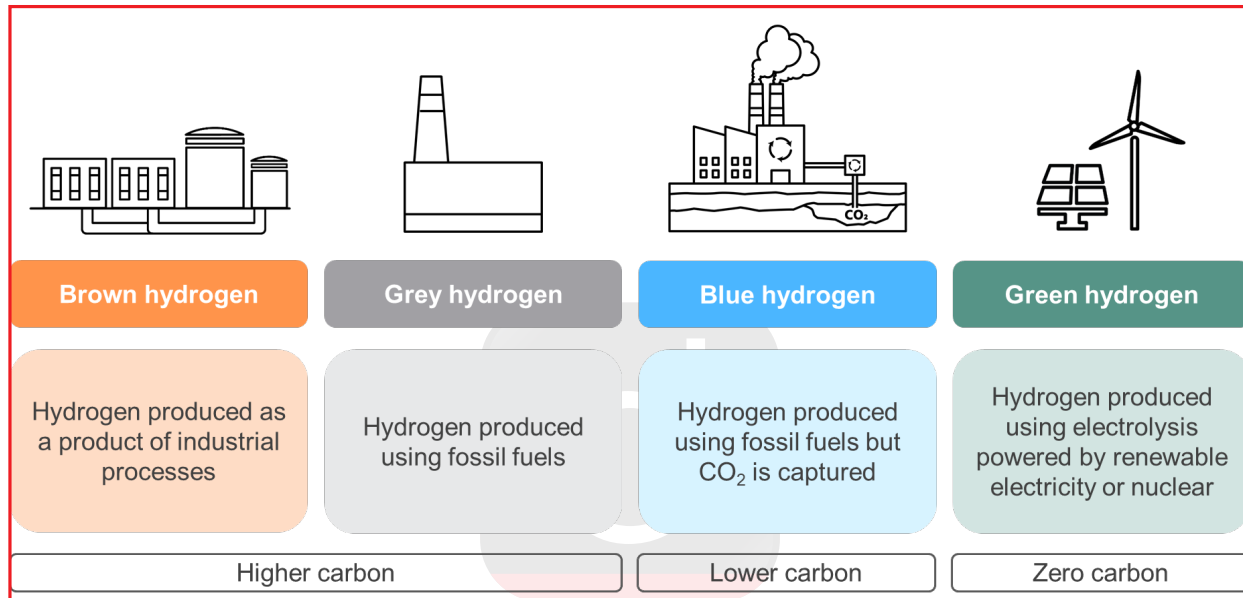


- However, all of the hydrogen manufactured now is the so-called '**black or brown**' hydrogen because they are produced from coal.

Note:



- Hydrogen is the **most abundant element in the universe**. But pure, or the elemental hydrogen, is very scarce.
  - It almost always exists in compounds like with oxygen to form water.
- But when electric current is passed through water, **it splits it into elemental oxygen and hydrogen through electrolysis**.
  - And if the electricity used for this process comes from a renewable source like wind or solar then the hydrogen thus produced is referred to as green hydrogen.
- Colors attached to hydrogen indicate the source of electricity used to derive the hydrogen molecule.
  - For instance, if coal is used, it is referred to as brown hydrogen.



#### ➤ **Need for Producing Green Hydrogen:**

- Hydrogen is a great source of energy because of its **high energy content per unit of weight**, which is why it is used as rocket fuel.
- Green hydrogen in particular is one of the cleanest sources of energy with close **to zero emission**.
  - It can be used in fuel cells for cars or in energy-guzzling industries like fertilizers and steel manufacturing.
- Countries across the world are working on building green hydrogen capacity as it can ensure energy security and also help in cutting carbon emissions.
- Green hydrogen has become a global buzzword, especially as the world is facing its biggest-ever energy crisis and the threat of **climate change is turning into a reality**.

#### **What are the other Initiatives Related to Renewable energy?**

- [Jawaharlal Nehru National Solar Mission \(JNNSM\)](#)
- [International Solar Alliance](#)
- [PM- KUSUM](#)
- [National Wind-Solar Hybrid Policy](#)
- [Rooftop Solar Scheme](#)



Note:

# Security

## Highlights

- Extension of BSF Jurisdiction
- Challenges to India's Cyber Security

## CENTRAL ARMED POLICE FORCES (CAPF)

The CAPF includes the seven security forces in India functioning under the Ministry of Home Affairs.

### Assam Rifles (AR)

- ↳ **Origin:** 1835, as militia called 'Cachar Levy'
  - ↳ **Erstwhile objective:** To protect British Tea estates
- ↳ **Current Objectives:**
  - ↳ Conducting anti-terrorist operations in NER
  - ↳ Ensuring security at India-China and India-Myanmar borders
- ↳ **Imp Role in:**
  - ↳ Sino-India War 1962
  - ↳ Indian Peace Keeping Force (IPKF) to Sri Lanka (1987)

Due to long association with tribal belts, Assam Rifles are also called 'Friends of the North East'

### Border Security Force (BSF)

- ↳ **Origin:** 1965
- ↳ **Objectives:**
  - ↳ Securing land borders with Pakistan and Bangladesh
  - ↳ Also performing Anti-Infiltration in Kashmir Valley
  - ↳ Counter Insurgency in NER
  - ↳ Anti-Naxal Operations in Odisha and Chhattisgarh
- ↳ **Wings:** Air wing, marine wing, an artillery regiment, and commando units

BSF is India's First Line of Defence and the world's largest border guarding force

### Central Reserve Police Force (CRPF)

- ↳ **Pre-Independence Origin:** 1939 (Crown Representative's Police)
- ↳ **Post Independence:** 1949 - under CRPF Act, became Central Reserve Police Force
- ↳ **Objective:** Crowd control, riot control, counter militancy/insurgency operations, etc.

CRPF is the principle central police force for internal security

### Indo-Tibetan Border Police (ITBP)

- ↳ **Origin:** 1962
- ↳ **Objectives:**
  - ↳ Deployed on border from Karakoram Pass (Ladakh) to Jachep La (Arunachal Pradesh) (~3488 km of Indo-China Border)
  - ↳ Manning Border Outposts on altitudes 9000 ft - 18700 ft in Western, Middle and Eastern sectors of Indo-China Border

ITBP is India's specialised mountain force & the first responder to natural disasters

### National Security Guard (NSG)

- ↳ **Origin:** 1984 (came into being in 1986), following **Operation Blue Star**
- ↳ **Objectives:** Counter-terrorism unit/Federal Contingency Force
- ↳ **Task-oriented Force - Two complementary elements:**
  - ↳ Special Action Group (SAG)
  - ↳ Special Ranger Groups (SRG)

### Sashastra Seema Bal (SSB)

- ↳ **Origin:** 1963
- ↳ **Objectives:**
  - ↳ Guarding Indo-Nepal and Indo-Bhutan borders
  - ↳ Enhance border security, curb trans-border crimes, prevent unauthorised entry/exit, halt smuggling, etc.

### Central Industrial Security Force (CISF)

- ↳ **Origin:** Central Industrial Security Force Act, 1968
- ↳ **Objectives:** Ensuring security of major critical infrastructure installations

CISF is the sole CAPF unit with a specialised fire wing

## Extension of BSF Jurisdiction

### Why in News?

The Supreme Court (SC) is set to hear the dispute over the expansion of the **Border Security Force (BSF) jurisdiction** in Punjab.

- In 2021, the Ministry of Home Affairs issued a notification expanding the jurisdiction of the BSF in Punjab, West Bengal and Assam. This was challenged by the Punjab government.

### What is BSF?

- The BSF was raised in 1965, after the **India-Pakistan war**.
- It is one of the **seven Central Armed Police Forces** of the Union of India under the administrative control of the Ministry of Home Affairs (MHA).
  - Other **Central Armed Police Forces** are: **Assam Rifles (AR)**, **Indo-Tibetan Border Police (ITBP)**, **Central Industrial Security Force (CISF)**, **Central Reserve Police Force (CRPF)**, **National Security Guards (NSG)** and **Sashastra Seema Bal (SSB)**.
- The 2.65-lakh force is deployed along the Pakistan and Bangladesh borders.
  - It is deployed on the Indo-Pakistan International Border, Indo-Bangladesh International Border, and **Line of Control (LoC) along with the Indian Army and in Anti-Naxal Operations**.
- BSF has been defending **Sir Creek in the Arabian Sea** and **the Sundarbans delta in the Bay of Bengal** with its state of the art fleet of Water Crafts.
- It contributes dedicated services to the **UN peacekeeping Mission** by sending a large contingent of its trained manpower every year.

### Why was the BSF Jurisdiction Extended?

- **Jurisdiction of BSF:**
  - The BSF is meant to secure India's borders with its neighbouring nations and is empowered to arrest, search and seize under a number of laws, such as the **Code of Criminal Procedure (CrPC) of 1973**, the **Passports Act 1967**, the **Passport (Entry into India) Act 1920**, and the **Narcotic Drugs and Psychotropic Substances Act (NDPS), 1985** etc.
    - **Section 139(1) of the BSF Act** allows the central government, through an order, to designate an area "within the local limits of such area

adjoining the borders of India" where members of the BSF can exercise powers to prevent offences under any Acts that the central government may specify.

### ➤ Extension of BSF Jurisdiction:

- Prior to the notification issued in October 2021, the BSF could exercise its powers within 15 kilometres of the border in Punjab, West Bengal and Assam. The Centre expanded this to within **50 kilometres of the border**.
  - The notification states that, within this larger 50-kilometre jurisdiction, the BSF can only exercise powers under the **CrPC, the Passport (Entry into India) Act and the Passports Act**.
  - For other central legislations, the 15-km limit remains.
- In the **states of Manipur, Meghalaya, Mizoram, Nagaland, Tripura, Jammu & Kashmir and Ladakh**, it extends to the entire area of the state.

### ➤ Reasons for Extension of Jurisdiction:

- **Increased Use of Drones and UAVs:** The expansion of the Jurisdiction of BSF was in response to the increased use of drones and **Unmanned Aerial Vehicles (UAV)**, which have long-range capabilities and enable spying and smuggling of arms and fake currency.
- **Cattle Smuggling:** Cattle Smuggling is another issue that the BSF aims to combat. The extension of jurisdiction allows the BSF to address the challenges posed by smugglers who may attempt to take advantage of areas beyond the original jurisdiction of the force.
  - Smugglers often seek refuge outside BSF jurisdiction.
- **Uniform Jurisdiction:** Extension of BSF Jurisdiction in Punjab, West Bengal and Assam establishes uniformity in the jurisdiction of the BSF across states in India by standardising the 50-kilometer limit, which was already applicable in Rajasthan.
  - Additionally, the notification reduced the jurisdiction in Gujarat from 80 kilometres to 50 kilometres.

### What are the Issues Raised by the States Related to the Extension of BSF Jurisdiction?

#### ➤ Concerns about State Powers:

- The expansion of BSF's jurisdiction would encroach upon the state's exclusive powers to legislate on matters related to the police and public order.

Note:

- These powers are **granted to the states under Entries 1 and 2 of the State List as per Article 246** of the Constitution.
  - Although, the Union government also has the **legislative capacity** to issue the direction under **Entries 1 (defence of India), 2 (armed forces) and 2A (deployment of armed forces)** of the Union Lists.
- By extending the BSF's jurisdiction, the central government has overstepped into areas where **states traditionally have authority.**
- **Non-Cooperative Federalism:**
  - Some states view the extension of BSF's jurisdiction as a challenge to the **principles of Federalism**, which emphasize a distribution of **powers between the central government and the states.**
- **Geographical Differences:**
  - In Punjab, a significant number of cities and towns would fall within the 50-kilometer jurisdiction, while in Gujarat and Rajasthan, the areas along the international border **are sparsely populated**, primarily consisting of marshlands or deserts.

- This geographical difference is one of the Prime factors influencing the **impact of the jurisdiction extension.**

### ***What Needs to be Done for Borders Management Without Compromising Jurisdiction of States?***

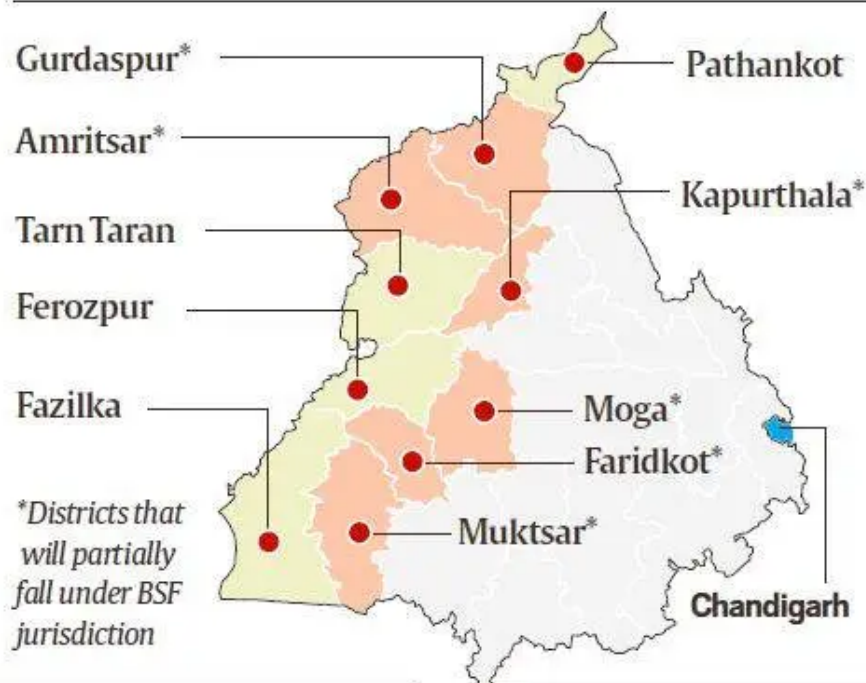
#### ➤ **Collaborative Approach:**

- There is a need to foster **collaboration between central and state law enforcement agencies** to jointly manage border security.
- Establishing a framework for **information sharing and coordination** among different security forces.
  - **Create joint task forces** comprising both central and state police personnel for specific border regions.

#### ➤ **Involvement of State Police:**

- There is a need to **involve units of state police** in border surveillance to complement the efforts of central forces like the BSF.
  - Adopt a model similar to the arrangements made by the **Coast Guard and Indian Navy at sea**, where each force has **exclusive jurisdiction** but engages in **mutual vigilance.**

## **PUNJAB DISTRICTS UNDER BSF JURISDICTION ACCORDING TO CENTRE'S ORDERS**



Note:



- **Technology Integration:**
  - Invest in **advanced surveillance technologies**, including drones, sensors, and communication systems, to enhance border monitoring.
  - Establish a centralised information-sharing platform that integrates data from **different sources for real-time analysis**.
- **Clear Legal Framework:**
  - Develop a **clear legal framework that outlines the roles, responsibilities**, and jurisdiction of both central and state forces in border areas.
  - Establish protocols for addressing cross-border incidents and conducting joint investigations when required.
- **Regular Consultations:**
  - There is a need to **conduct regular consultations and meetings** between central and state authorities to address concerns and challenges related to border management.
  - Establish a platform for continuous dialogue to adapt strategies based on evolving security dynamics.
- **International Cooperation:**
  - Engage in **diplomatic initiatives to enhance cooperation with neighbouring countries on border security matters**.
  - Explore joint initiatives, information sharing, and coordinated patrols with neighbouring countries to address transnational security challenges.

### ***What is the Constitutional Viewpoint on Deployment of Armed Forces in States?***

- Under **Article 355**, the central government has the **authority to deploy its forces to safeguard a state from “external aggression and internal disturbance,”** even in cases where the state has not requested assistance from the Centre and is hesitant to accept central forces.
- In the case of a state’s opposition to the deployment of armed forces of the Union, the right course for the Centre is to first issue **directives under Article 355** to the state concerned.
- In the event of the state not complying with the directive of the Central government, the Centre can take further action under **Article 356 (President’s Rule)**.

### **What are the Constitutional Provisions Related to Centre-State Relations in India?**

- **Legislative Relations:**
  - **Articles 245 to 255** in Part XI of the Constitution deal with the legislative relations between the Centre and the states.
    - Given the federal nature of the Indian Constitution, it divides the legislative powers between the Centre and the states with respect to both the territory and the subjects of legislation.
  - **Distribution of Legislative Subjects (Article 246):** The Indian Constitution provides for a **division of the subjects between the Centre and the states through three lists – List-I (Union), List-II (State) and List-III (Concurrent)** in the Seventh Schedule.
  - **Parliament Legislation in State Field (Article 249):** In abnormal times, the scheme of distribution is either modified or suspended.
- **Administrative Relations (Article 256-263):**
  - Articles spanning from 256 to 263 in Part XI of the Constitution deal with the administrative relations between the Centre and the states.
- **Financial Relations (Article 256-291):**
  - Articles spanning from 268 to 293 in Part XII of the Constitution deal with Centre – state financial relations.
    - Because India is a federal country, it adheres to the division of powers when it comes to taxation, and it is the responsibility of the Centre to allocate funds to the states.
- **Article-131: Original Jurisdiction:**
  - The **SC (as a federal court of India)** possesses original jurisdiction **to decide the disputes arising between different units of the Indian Federation** like:
    - Centre and one or more states; or
    - Centre & any state(s) on one side and one or more states on the other; or
    - Two or more states.
      - In the above-mentioned cases, the **SC has exclusive original jurisdiction**, which means that **no other court in the country** can decide such disputes and SC has the power to hear such disputes in the first instance & not by way of appeal.

Note:

## Challenges to India's Cyber Security

### Why in News?

A critical vulnerability that exposed the personal details of VVIPs, including top industrialists, celebrities and sports personalities in the country, has been fixed by the Ministry of Corporate Affairs 10 months after a cybersecurity expert flagged the issue.

- The cybersecurity flaw was initially identified by a Cybersecurity Expert who reported the issue to the **Computer Emergency Response Team, India (CERT-IN)**.
- Despite the alert, the vulnerability persisted for several months, raising concerns about potential data theft or misuse.

### What is CERT-In?

#### ➤ About:

- CERT-In is the national nodal agency responsible for **handling cyber security threats**, such as **Hacking** and **Phishing**. It operates under the **Ministry of Electronics and Information Technology**.
- CERT-In has been operational since January 2004.

#### ➤ Functions of CERT-In:

- According to the **Information Technology (IT) Amendment Act 2008**, CERT-In has been designated to serve as the national agency to **perform the following functions in the area of cyber security**:
  - Collection, analysis and dissemination of information on cyber incidents.
  - Forecast and alerts of cyber security incidents.
  - Emergency measures for handling cyber security incidents.
  - Coordination of cyber incident response activities.
  - Issue guidelines, advisories, vulnerability notes and whitepapers relating to information security practices, procedures, prevention, response and reporting of cyber incidents.
  - Such other functions relating to cyber security as may be prescribed.

#### ➤ Importance for India:

- CERT-In is important for India because it helps to protect **the country's critical information infrastructure** and digital assets from cyber-attacks.

- It also helps to enhance the cyber resilience and readiness of the country's various sectors, such as government, defence, banking, telecom, etc.
- It also contributes to the national security and economic development of the country by promoting a safe and secure cyber environment.

### What is Critical Information Infrastructure?

#### ➤ About:

- The **Information Technology Act of 2000** defines **Critical Information Infrastructure as a computer resource, the incapacitation or destruction of which shall have debilitating impact on national security**, economy, public health or safety.
- The **government, under the IT Act of 2000, has the power to declare any data**, database, IT network or communications **infrastructure as CII** to protect that digital asset.
- Any person who secures access or attempts to secure access to a protected system in violation of the law can be punished with a jail term of up to 10 years.

#### ➤ Protection of CIIs in India:

##### ○ NCIIPC as Nodal Agency:

- Created in January 2014, the **National Critical Information Infrastructure Protection Centre (NCIIPC)** is the nodal agency for taking all measures to protect the nation's critical information infrastructure.

##### ○ Mandate of NCIIPC:

- It is mandated to **guard CIIs from unauthorised access, modification**, use, disclosure, disruption, incapacitation or distraction.
- It will **monitor and forecast national-level threats to CII for policy guidance**, expertise sharing and situational awareness for early warning or alerts.
- In the event of any threat to **critical information infrastructure the NCIIPC may call for information** and give directions to the critical sectors or persons serving or having a critical impact on Critical Information Infrastructure.

### What are Challenges to India's Cybersecurity?

#### ➤ Critical Infrastructure Vulnerability:

- Power grids, transportation systems, and communication networks are **susceptible to cyber-attacks**, posing a threat to essential services and national security.

Note:



- The attempted cyber attack on the **Kudankulam Nuclear power plant** in October 2019 highlights the potential risks to critical infrastructure.
- **Financial Sector Threats:**
  - The financial sector is at a high risk of cyberattacks, with cybercriminals targeting banks, financial institutions, and online payment systems.
  - Malware attacks, such as the one on City Union Bank's **SWIFT system** in March 2020, can result in financial losses, identity theft, and damage trust in the financial system.
- **Data Breaches and Privacy Concerns:**
  - As India transitions to a digital economy, the increased storage of personal and government data online raises the risk of data breaches.
  - The compromise of sensitive information, as seen in the **leak of Common Admission Test (CAT) data** in May 2021, can have severe consequences for privacy and security.
- **Cyber Espionage:**
  - India is a target for cyber espionage activities that aim to steal confidential information and gain a strategic advantage.
  - **Examples** include **Operation SideCopy in 2020**, where a Pakistani threat actor targeted Indian

military and diplomatic personnel with malware and phishing emails.

- **Advanced Persistent Threats (APTs):**
  - APTs, characterised by **sophisticated and prolonged cyber attacks**, pose a challenge as they are difficult to detect and counter.
  - The targeting of **India's power sector by a China-linked APT group in February 2021**, with potential implications for power outages, underscores the severity of this threat.
- **Supply Chain Vulnerabilities:**
  - Weaknesses in software or hardware components used by government and businesses create supply chain vulnerabilities.
  - The **global cyberattack on SolarWinds in December 2020 affected Indian organizations, including** the National Informatics Centre (**NIC**) and the Ministry of Electronics and Information Technology (**MeitY**).

#### What are the Initiatives Taken for Cyber Security?

- **National Cyber Security Policy**
- **Cyber Surakshit Bharat Initiative**
- **Indian Cyber Crime Coordination Centre (I4C)**
- **Cyber Swachhta Kendra (Botnet Cleaning and Malware Analysis Centre)**
- **Defence Cyber Agency (DCyA).**



Note:



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# Art and Culture

## Highlights

- Sri Sri Auniati Satra Vaishnavite Monastery
- Asian Buddhist Conference for Peace
- Madhika Language on Brink of Extinction
- Ram Temple
- Bangla for Classical Language, Gangasagar Mela for National Status
- Shankaracharyas
- Harvest Festivals
- Vadnagar: India's Oldest Living City

## Sri Sri Auniati Satra Vaishnavite Monastery

### Why in News?

Sri Sri Auniati Satra is a more than 350-year-old Vaishnavite monastery in Assam's Majuli district.

### What are the Key Facts about Sri Sri Auniati Satra Vaishnavite Monastery?

#### ➤ Establishment:

- The Sri Sri Auniati Satra was established in the year 1653 in Majuli, Assam. It has a history of over 350 years, making it **one of the oldest Satras** in the region.
  - A Satra is an **institutional centre for Assamese Vaishnavism**, a bhakti movement that emerged in the **15<sup>th</sup> century**.
- The Satra is located in Majuli, which is the **largest inhabited river island in the world**. Majuli is situated in the Brahmaputra River in the northeastern state of Assam, India.

#### ➤ Religious Significance:

- The Satra is a **center of Assamese Vaishnavism**, a bhakti movement that revolves around the worship of Lord Krishna.
- The original idol of **Lord Krishna in the form of Govinda** is said to have been brought from the Lord Jagannath Temple at Puri.

#### ➤ Cultural Heritage:

- **Vaishnavite monasteries like Auniati Satra** are not only places of worship but **also centers for the preservation of traditional art forms, literature, and cultural practices**. These Satras **play a crucial role in promoting and sustaining the cultural heritage** of the region.

- Vaishnavite Satras traditionally serve as centres for learning and spiritual activities. Monks and disciples engage in **religious studies, meditation, and community service**.

#### ➤ Bhaona and Traditional Art Forms:

- **Bhaona, a traditional art form, is practiced at the Satra**. It is a combination of acting, music, and musical instruments.
- Bhaona is a significant performing art form that aims to **convey religious messages to villagers through entertainment**.
- The main drama is usually preceded by a **musical performance called the Gayan-Bayan**.

### What are the Key Facts Related to Majuli Island?

- Majuli is a river island located in the Brahmaputra River in the northeastern state of Assam, India. It is recognized as the largest river island in the world.
- The island is a result of the dynamics of the Brahmaputra River system, characterized by the shifting courses and channels of the river.
- The island is surrounded by the Brahmaputra River and its tributaries, creating a unique fluvial landform. **Wetlands known as Beels and Chaporis (islets)** contribute to the ecological diversity of the region.

### What is Vaishnavism?

#### ➤ About:

- Vaishnavism is a **prominent bhakti (devotional) movement within Hinduism**, and it emphasises deep devotion and love towards the god Vishnu and his various incarnations.

#### ➤ Key Features:

- **Devotion to Vishnu:** The central focus of Vaishnavism is devotion (bhakti) to Vishnu, who is considered the Supreme Being and the sustainer of the universe.

Note:





Vaishnavas believe in a personal relationship with Vishnu, expressing love, reverence, and devotion toward the deity.

- Vishnu is believed to have incarnated on Earth in various forms known as avatars to restore cosmic order and righteousness. The ten primary avatars are collectively known as the Dashavatara, with popular incarnations including Rama and Krishna.
- **Dashavatara:** The ten avatars of Vishnu are Matsya (fish), Kurma (turtle), Varaha (boar), Narasimha (half-man, half-lion), Vamana (dwarf), Parashurama (the warrior with an axe), Rama (the prince of Ayodhya), Krishna (the divine cowherd), Buddha (the enlightened one), and Kalki (the future warrior on a white horse).
- **Bhakti and Liberation:** Vaishnavism places a strong emphasis on the path of bhakti, which involves intense devotion and love toward Vishnu. The ultimate goal for many Vaishnavas is liberation (moksha) from the cycle of birth and death (samsara) and union with Vishnu.
- **Variety of Sects:** Vaishnavism encompasses a variety of sects and groups with different interpretations of the relationship between the individual soul (jiva) and God. Some sects emphasise qualified nondualism (vishishtadvaita), while others subscribe to dualism (dvaita) or pure nondualism (shuddhadvaita).
  - **Srivaishnava Sect:** Emphasises qualified nondualism based on the teachings of Ramanuja.
  - **Madhva Sect:** Professes dualism, asserting the separate existence of God and the soul, following the philosophy of Madhva.
  - **Pushtimarg Sect:** Maintains pure nondualism according to Vallabhacharya's teachings.
  - **Gaudiya Sect:** Founded by Chaitanya, teaches inconceivable duality and nonduality.

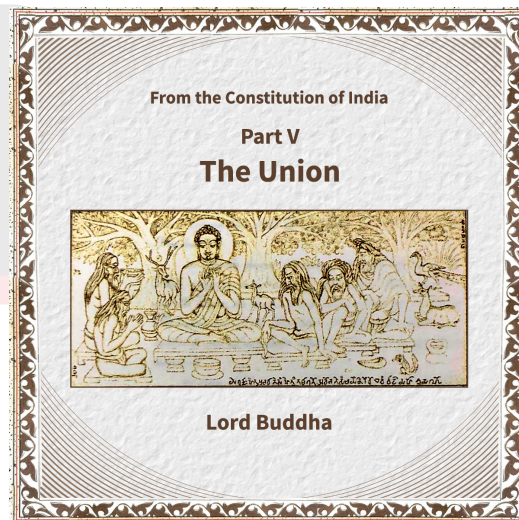
## Asian Buddhist Conference for Peace

### Why in News?

Recently, the Asian Buddhist Conference for Peace (ABCP), a voluntary mass movement of **Buddhists** in Asia convened its **12th General Assembly** in New Delhi.

### What are the Major Highlights of the 12th General Assembly of ABCP?

- **Theme: ABCP - The Buddhist Voice of Global South,** reflects India's commitment, as demonstrated through its **G20 presidency** and the **Voice of Global South Summit**.
- **India's Commitment to Buddha's Legacy:** India was featured as a nation guided by the principles of Buddha.
  - Proactive role of India was highlighted in developing the Buddhist circuit and establishing the **India International Centre for Buddhist Culture**.
- **Constitutional Recognition of Buddha's Influence:** Emphasis was placed on the depiction of Lord Buddha in the artwork of the Indian Constitution, specifically in **Part V**, where he is featured in the section on **Union governance**.



### What is the Asian Buddhist Conference for Peace?

- **About:** ABCP was founded in **1970 at Ulaanbaatar, Mongolia** as a voluntary movement of followers of Buddhism with both monastic (monks) and lay members.
  - ABCP then emerged as a collaborative effort of Buddhist dignitaries from **India, Mongolia, Japan, Malaysia, Nepal, the then USSR, Vietnam, Sri Lanka, South and North Korea**.
- **Headquarters: Gandanthegechenling Monastery** in Ulaanbaatar, Mongolia.
  - The Supreme Head of Mongolian Buddhists is the current ABCP President.

Note:

- **Aims of ABCP:**
  - Bring together efforts of Buddhists in support of consolidating universal peace, harmony and cooperation among peoples of Asia.
  - Furthering their economic and social advancement and promoting respect for justice and human dignity.
  - Disseminating the **Buddhist culture**, tradition and heritage.

### ***How Buddhist Teachings Convergence with Principles of Good-Governance?***

- **Right View in Policymaking:** The Buddha's emphasis on **Right View**, avoiding distortion and delusion, aligns with good governance principles of **transparency, objectivity, and evidence-based decision-making**.
  - For example, **Bhutan's Gross National Happiness index**, inspired by Buddhist values, aims to measure public well-being beyond just economic indicators.
- **Right Conduct in Leadership:** The Buddha's Five Precepts - **non-violence, non-stealing, non-lying, non-sexual misconduct, and non-intoxication** - can be interpreted as ethical guidelines for public officials.
- **Compassionate Governance:** The Buddha's core teaching of compassion encourages leaders to consider the needs and **suffering of all citizens, not just certain groups**.
  - For example, initiatives like **universal healthcare or fair taxation policies** reflect an attempt to govern with compassion in mind.
- **Dialogue and Nonviolent Conflict Resolution:** The Buddha's emphasis on **Right Speech and Right Action** promotes respectful communication and nonviolent solutions to conflict.
  - This can be applied in **international diplomacy, interfaith dialogue**, and even within internal political debates.

### ***How Teachings of Buddha Can Help in Navigating Present-Day Challenges?***

- **Compass for Ethical Uncertainty:** In an age marked by ethical uncertainty, Buddha's teachings provide a path of **sustainability, simplicity, moderation, and reverence for all life**.
  - The **Four Noble Truths** and **Eightfold Path** serve as a transformative roadmap, guiding individuals and nations towards **inner peace, compassion, and non-violence**.

- **Mindfulness in a Distracted World:** In an age of constant **digital bombardment**, the Buddha's emphasis on mindfulness is more poignant than ever.
  - Practices like **meditation help us navigate information overload, reduce stress**, and cultivate focused attention in a scattered world.
- **Compassion in a Polarised Society:** With rising social and political tensions, the Buddha's teachings on **compassion and understanding offer a critical antidote**.
  - His emphasis on recognizing the interconnectedness of all beings encourages empathetic communication and constructive conflict resolution.
- **The Middle Way in an All-or-Nothing Culture:** The Buddha's concept of the Middle Way, **avoiding extremes of indulgence and denial**, resonates in our consumerist society.
  - It encourages **mindful consumption, finding balance between personal desires and responsible living**.

## **Madhika Language on Brink of Extinction**

### ***Why in News?***

In the remote colony of Kookanam, near Karivellur grama panchayat, Kerala the **Chakaliya community** is grappling with the imminent loss of its unique language **Madhika**.

- There are only two people left, who **are the last fluent speakers** of Madhika. They fear that with their passing, the language will be lost to the world.

### ***What are the Key Facts about Madhika Language and Chakaliya Community?***

- **About Madhika Language:**
  - Madhika is a language with **no script** and is a **blend of Telugu, Tulu, Kannada, and Malayalam**. Despite sounding similar to Kannada, it can bewilder listeners due to its **diverse linguistic influences**.
  - Madhika is largely influenced by **Havyaka Kannada**, an old form of Kannada.
    - The neglect of Madhika is attributed to the social stigma associated with the Chakaliya community. They were considered **untouchables**.
  - Due to the lack of documentation (**no script**) and the passing of older speakers, there is a significant risk **that Madhika may not survive beyond individuals**.

Note:



- **About the Chakaliya Community:**

- The Chakaliya community was **originally nomadic and worshippers of Thiruvengkatramana** and Mariamma. They migrated from the hilly regions of Karnataka to **northern Malabar centuries ago**.
- Originally categorised as a **Scheduled Tribe (ST)**, the community was subsequently reclassified into the **Scheduled Caste (SC)** group in Kerala.

### **How is the Linguistic Diversity of India?**

- **Indian Linguistic Space:**

- India has a rich linguistic heritage, with diverse languages and writing systems.
- Writing in India dates back to the days of the **Indus Valley Civilization**, around four thousand years ago.
- **Linguistic Survey:**
  - During colonial rule the **first linguistic survey was conducted during 1894 to 1928** and identified **179 languages and 544 dialects**.
  - In 1991, the Census of India listed **1576 mother tongues' with separate grammatical structures and 1796 speech varieties** that are classified as other mother tongues'.
    - As per **UNESCO**, any language spoken by **less than 10,000 persons** is considered "potentially endangered".

- **Language Families of India:**

- There are major language families in India, including **Indo-Aryan, Dravidian, Austric, Tibeto-Burman, and others**.

- **Threat of Extinction:**

- **As per People's Linguistic Survey of India (PLSI)**, a linguistic survey by an NGO (Bhasha Research and Publication Centre), **there are around 400 languages that are at the risk of extinction** in the next 50 years.
  - Most of the languages at risk are spoken by marginal tribes, whose children receive little to no education. If they go to school instructions are often provided in one of India's 22 languages recognized in the Constitution.

- Languages without scripts have greater risk of extinction like the Bhili language.

- **Initiatives Taken to Conserve Threatened Languages:**

- **Scheme for Protection and Preservation of Endangered Languages (India)**
- **International Mother Language Day (UNESCO)**

### **What are the Constitutional Provisions Related to Languages in India?**

- **Article 29:**

- Protects the **interests of minorities**, ensuring that all citizens have the right to preserve their distinct language, script, or culture.

- **Eighth Schedule:**

- Part XVII of the Indian Constitution deals with the official languages. The Eighth Schedule recognizes 22 official languages.
  - Six languages in India **currently have 'Classical' status**.

- **Article 350A:**

- Provides that **every state must provide primary education in the mother tongue**.

- **Article 350B:**

- Provides for the **appointment of a "Special Officer"** for linguistic minorities.

- **Article 351:**

- Gives power to the **Union government to issue a directive for the development of the Hindi language**.

## **Ram Temple**

### **Why in News?**

On 22<sup>nd</sup> January 2024, the Ram temple in Ayodhya was inaugurated, marking the completion of a **200-year-old saga that profoundly impacted India's socio-political landscape**.

- The Ram temple has been designed in the **Nagara Style of Temple Architecture**.
- The story of **Ram is popular from Laos, Cambodia and Thailand in Asia to Guyana in South America to Mauritius in Africa, making Ramayana Popular outside India**.

### **What is the Timeline of Ram Janmabhoomi Movement?**

- **Origin:**

- Originating in **1751 when the Marathas appealed to the Nawab of Awadh (Nawab Shuja-ud-Daula) for control of Ayodhya, Kashi, and Mathura**.
- The **Marathas had helped the Nawab of Awadh** in defeating the Pathan (local chieftain) forces in the

Note:

**Doab Region** and as a result, they sought control over these important religious and cultural centres like **Ayodhya, Kashi (Varanasi), and Mathura.**

- The **Doab Region** refers to the **area between the Ganges and Yamuna rivers** in northern India.
- The movement gained momentum in the **19<sup>th</sup> century with judicial records dating back to 1822** mentioning a mosque on the birthplace of Lord Ram.
- **Clash Near Babri Masjid:**
  - Tensions escalated in 1855 with a violent **clash near the Babri Masjid between Hindus and Muslims**, leading to the **capture of Janmasthan by Hindus.**
- **Placement of the idol of Ram Lalla:**
  - The year 1949 saw the **placement of the idol of Ram Lalla** in the mosque, sparking demands for a grand temple.
- **Legal Battles:**
  - In the **1980s, the Vishwa Hindu Parishad (VHP)** initiated a movement for the 'liberation' of Ram Janmabhoomi, Krishna Janmabhoomi, and Vishwanath shrine.
  - Legal battles ensued, and in **1986, the locks of the Babri Masjid were opened**, allowing Hindus to offer prayers.
  - The following years witnessed significant events, including the foundation-laying ceremony in 1989 and the **Rath Yatra led by LK Advani in 1990**, leading to widespread riots.
- **Demolition of Babri Masjid:**
  - On **6<sup>th</sup> December 1992**, a mob demolished the Babri Masjid, leading to political repercussions and legal proceedings.
  - In 1993, Parliament passed the Acquisition of Certain Area at Ayodhya Act, allowing the government to acquire the disputed Ram Janmabhoomi-Babri Masjid land.
  - The **Liberhan Commission**, in 2009, highlighted the **premeditated nature of the events in 1992.**
- **Allahabad High Court Verdict:**
  - In 2010, a special bench of the Allahabad High Court in its **Ayodhya title suit judgment divided the land in a 2:1 ratio**, with two-thirds of the 2.77-acre, including the garbha griha, **going to litigants for a Ram temple – Shri Ram Lala Virajman and Nirmohi Akhara.**
  - One-third of the land was given to the **Sunni Central Waqf Board.**

#### ➤ **Supreme Court Verdict:**

- Legal proceedings continued, and in 2019, the **Supreme Court** awarded the entire disputed land to the **Hindu petitioners for a Ram temple** and allocated land for a mosque elsewhere.

#### ➤ **Culmination:**

- The culmination of this historic journey occurred on 5<sup>th</sup> August, 2020, when the Indian Prime Minister performed the **Shilanyas of the Ram temple**, establishing the **Shri Ram Janmabhoomi Teerth Kshetra Trust.**
- On 22<sup>nd</sup> January 2024, the **Ram temple in Ayodhya, built in Nagara Style**, was set to be inaugurated, marking the completion of a 200-year-old saga that profoundly impacted India's socio-political landscape.

### *What is the Uniqueness of Ram Temple?*

#### ➤ **Traditional Architecture and Construction:**

- This is a **3-storey temple**, built in the **traditional Nagara style**, standing tall with **pink sandstone from Mirzapur and the hills of Bansi-Paharpur (Rajasthan).**
- Temple covers an **expansive 71 acres, showcasing the architectural marvel.**

#### ➤ **Temple Dimensions:**

- Spanning 250 feet in width and 161 feet in height, the main temple area covers 2.67 acres, **boasting 390 pillars, 46 doorways, and 5 mandaps.**

#### ➤ **Unique Features Inside:**

- The main **Garbh Griha holds the idols of Ram Lalla**, accompanied by multiple mandaps, including **Rang Mandap & Nritya Mandap.**

#### ➤ **Innovative Anointment Tradition:**

- On every Ram Navami at noon, a system of mirrors and lenses will focus the **sun's rays on Ram Lalla's idol.** This unique anointment **requires no electricity, utilizing brass** instead of iron or steel.

#### ➤ **Sculptor's Contribution:**

- The idol of five-year-old Ram Lalla, **crafted by Mysuru sculptor Arun Yogiraj**, stands at 51 inches and was consecrated in a special ceremony.

#### ➤ **Durability and Symbolism:**

- **No iron has been used in the temple's construction**, designed to endure for at least a millennium.

Note:



### What is the Nagara Style of Temple Architecture?

#### ➤ About:

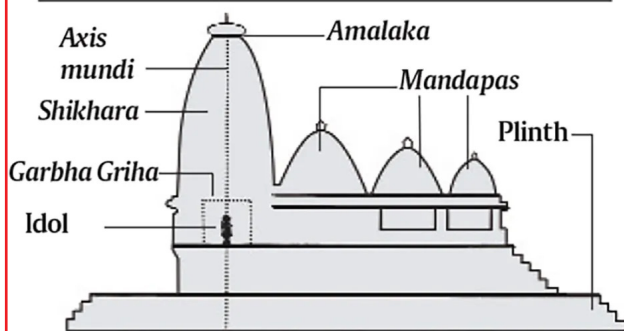
- The Nagara style of temple architecture **emerged sometime in the 5<sup>th</sup> century CE**, during the late **Gupta period**, in northern India.
- It is seen in **juxtaposition with the Dravida style** of southern India, which too emerged in the same period.

#### ➤ Distinguished by a Towering Shikhara:

- Nagara temples are **built on a raised plinth**, with the **Garbha Griha (sanctum sanctorum)** — where the idol of the deity rests — the most sacred part of the temple.
- Towering over the Garbha Griha is the **shikhara (literally 'mountain peak')**, the most **distinguishable aspect of Nagara-style temples**.
  - As the name suggests, **shikharas are human-made representations** of the natural and cosmological order, as imagined in Hindu tradition.
- A typical Nagara-style temple **also comprises a circumambulatory passage around the garbha griha**, and one or more mandapas (halls) on the same axis as it. Elaborate murals and reliefs often adorn its walls.

**Note:** Meru, Mandara and Kailasa are the **first three names amongst the twenty types** of temples described in the early texts, all three are the **names of the Mountain**, which is the axis of the world.

### BASICS OF THE NAGARA STYLE



Based on sketches from E B Havell's *The Ancient and Medieval Architecture of India*, 1915. Not a visual representation of Ayodhya's Ram temple.

#### ➤ Five Modes of Nagara Architecture:

##### ○ Valabhi:

- This mode begins as a **masonry rendering of the barrel-roofed wooden structure**, either simple or with aisles, **familiar through chaitya halls** (prayer halls, most associated with Buddhist shrines). It is a formalization of multi-eave towers, often with a piling up of slabs.



##### ○ Phamsana:

- The Phamsana mode is **characterized by a shikhara that is a formalization of multi-eave towers** and involves a piling up of slabs. It is associated with the Early Nagara Style and **represents a progression from the Valabhi mode**.



##### ○ Latina:

- The Latina is a **shikhara that is a single, slightly curved tower** with four sides of equal length. It emerged in the **Gupta heartland**, was **complete with curvature** by the early seventh century, and spread across the entire breadth of northern India. For three centuries, it was considered the peak of Nagara temple architecture.

Note:



- **Shekhari:**
  - The Shekhari mode features a **shikhara with attached sub-spikes** or spirelets echoing the main shape. These sub-spikes may run up most of the face of the shikhara and can be of more than one size.



- **Bhumija:**
  - The Bhumija mode involves miniature spires arranged in horizontal and vertical rows, creating a **grid-like effect on each face of the shikhara**. The **actual shikhara often approaches a pyramidal shape**, with the curve of the Latina less visible. **This style emerged from composite Latinas in the tenth century onwards.**



### **How has Shri Ram and Ramayana Become Popular Outside India?**

- **Trade Routes and Cultural Exchange:**
  - The Ramayana spread through **trade routes, both by land and sea**. Indian traders, travelling for commerce, **carried with them not only goods but also cultural elements**, including religious stories.
  - Land routes, such as the northern route through Punjab and Kashmir, and the eastern route through **Bengal, facilitated the transmission of the Ramayana to regions like China, Tibet, Burma, Thailand, and Laos.**
  - Sea routes, particularly the southern route from Gujarat and South India, led to the dissemination of the epic in places like Java, Sumatra, and Malaya.
- **Cultural Transmission by Indian Communities:**
  - Indian traders, accompanied by Brahmin priests, Buddhist monks, scholars, and adventurers, **played a crucial role in transmitting Indian culture**, traditions, and philosophy to the people of Southeast Asia.
  - Over time, the Ramayana became an **integral part of the culture of many Southeast Asian countries**, influencing art, architecture, and religious practices.
- **Integration into Local Culture:**
  - The Ramayana integrated with local cultures in various ways. For example, in **Thailand, the Ayutthaya kingdom** is believed to have been based on the Ayodhya of the Ramayana.
  - In Cambodia, the **Angkor Wat temple complex**, originally dedicated to Vishnu, features murals depicting scenes from the Ramayana.
- **Evolution of the Epic:**
  - The Ramayana **took on local flavors and variations in different regions**. For instance, the **Ramakien in Thailand, influenced by the Tamil epic Kamban Ramayana, became Thailand's national epic.**
  - Various adaptations in different countries **incorporated unique elements**, such as the depiction of characters with Tamil names in the Thai Ramakien.
- **Spread Through Indentured Labor Migration:**
  - In the 19<sup>th</sup> century, the **Girmitiya Migration** resulted in the spread of the Ramayana to regions like **Fiji, Mauritius, Trinidad and Tobago, Guyana, and Suriname.**

Note:

- Indentured laborers carried their cultural and religious practices, including the Ramcharitmanas, with them to new lands.
- **Enduring Themes and Universality:**
  - The Ramayana served as a **source of cultural identity and nostalgia** for Indian communities living far away from their homeland. It provided a connection to their **roots and a sense of familiarity** in alien lands.
  - The themes of the Ramayana, such as the triumph of good over evil, the concept of dharma, and the **narrative of exile and return, resonate universally**, making the epic relatable to diverse cultures.
- **Continued Cultural Practices:**
  - Even today, the Ramayana remains a significant part of the cultural fabric in many Southeast Asian countries. It is kept alive through various art forms, including plays, dance dramas, puppet shows, and religious ceremonies.

## Bangla for Classical Language, Gangasagar Mela for National Status

### Why in News?

Recently, West Bengal's Chief Minister made headlines with two distinct pursuits: **advocating for classical language status for Bangla**, which is the **world's 7<sup>th</sup> most spoken language** and **seeking national fair status for the Gangasagar Mela**.

### What is Gangasagar Mela?

- **About:**
  - **Gangasagar Mela**, which takes place during **Makar Sankranti (mid-January)**, is said to be India's **second largest pilgrimage gathering after the Kumbh Mela**.
  - This annual pilgrimage draws millions to **Sagar Island at the confluence of the Ganges and Bay of Bengal** and commemorates the legendary **King Bhagirath's descent of the Ganges to Earth**.
- **Benefits of National Status:**
  - Elevating the Mela to national status would **bring increased central funding and infrastructure development**, potentially boosting tourism and economic activity in West Bengal.

- **Other Major Melas in India:**
  - **Kumbh Mela:** It is celebrated four times every **12 years**, the site of the observation rotating **between four pilgrimages on the four sacred rivers at Allahabad, Haridwar, Ujjain and Nashik**.
    - **Ardha (half) Kumbh Mela** is held at only two places, Haridwar and Allahabad, **every sixth year**.
    - And a **Maha Kumbh** is held after every **144 years**.
  - **Pushkar Mela:** Pushkar Mela is an **annual five day camel and livestock fair** held in the town of **Pushkar, Rajasthan**.
    - It is one of the world's largest cattle fairs.
  - **Hemis Gompa Fair :** In the northernmost corner of India, the chilly deserts of **Ladakh celebrate a 300-year-old annual fair** known as the Hemis Gompa Fair.
    - The Hemis Monastery commemorates the fair on the birth anniversary of **Guru Padmasambhava**.

**Note:** Ganga Sagar Mela has recently faced challenges due to **rising sea levels and beach erosion** near the **Kapil Muni temple on Sagar Island**. Despite dredging and **tetrapods to counter erosion**, the situation remains uncertain.

### What are Classical Languages?

- **About:**
  - In **2004**, the Government of India decided to create a new category of languages called "**classical languages**".
  - In 2006, it laid down the criteria for conferring classical language status. So far, the **6 languages are granted classical language status**.

Sl. No.	Languages	Year of Declaration
1.	Tamil	2004
2.	Sanskrit	2005
3.	Telugu	2008
4.	Kannada	2008
5.	Malayalam	2013
6.	Odia	2014

- **Criteria:**
  - High antiquity of **early texts/recorded history** spanning 1,500–2,000 years.
  - Possession of a body of ancient literature/texts considered **valuable heritage by generations**.
  - Presence of an original literary tradition **not borrowed from another speech community**.

Note:

- The classical language and literature being distinct from modern, there may also be a **discontinuity between the classical language and its later forms** or its offshoots.

➤ **Benefits:**

- Once a language is declared classical, it gets **financial assistance for setting up a center of excellence** for the study of that language and also opens up an **avenue for two major awards for scholars of eminence**.
- Besides, the **University Grants Commission** can be requested to create - to **begin with at least in Central Universities**, a certain number of professional chairs for classical languages for scholars of eminence in the language.

**Note:** **8<sup>th</sup> Schedule of Indian Constitution** lists the official languages of the **Republic of India** that currently includes **22 languages** namely: Assamese, Bengali, Gujarati, Hindi, Kannada, Kashmiri, Konkani, Malayalam, Manipuri, Marathi, Nepali, Oriya, Punjabi, Sanskrit, Sindhi, Tamil, Telugu, Urdu, Bodo, Santhali, Maithili and Dogri.

## Shankaracharyas

### **Why in News?**

The decision of the **four Shankaracharyas** to abstain from attending the inauguration of the **Ram Temple in Ayodhya** has stirred considerable interest.

### **Who are the Shankaracharyas?**

- **About: Shankaracharya** (teacher of the way of Shankara), is a **religious title** used by the heads of the **four cardinal mathas or peeths** believed to have been established by **Adi Shankara (c 788 CE-820 CE)**.
  - According to tradition, they are religious teachers who belong to a **line of teachers** going back all the way to Adi Shankara himself, however, **historical evidence regarding the same is scarce** before the 14<sup>th</sup> century CE.
- **Mathas:** The four mathas are in **Dwarka (Gujarat), Joshimath (Uttarakhand), Puri (Odisha), and Sringeri (Karnataka)**.
  - They serve as **religious shrines, temples, libraries, and residences**. They play a crucial role in preserving and propagating Shankara's tradition.

- There is little historical evidence for the existence of these mathas prior to the **14<sup>th</sup> century CE**, when the **Vijayanagara kingdom** began to patronise the **Sringeri matha**.

### **Who was Adi Shankara?**

- **About: Adi Shankara or Adi Shankaracharya** was an **8<sup>th</sup>-century Indian philosopher and theologian**, considered one of the most influential figures in the history of Hinduism
  - He is believed to be born in **Kalady village in Kerala**.
  - Initiated into studies by **Govindacharya**, Shankara travelled extensively, challenging philosophical traditions, and **establishing mathas**.
- **Key Contributions:**
  - **Systematized Advaita Vedanta:** Provided a framework for understanding the **non-dualistic nature of reality**.
  - **Illuminating Hindu Scripture:** Authored 116 works, including commentaries on **Upanishads, Brahmasutra, and the Bhagavad Gita**.
  - **Promoted Bhakti movement:** Emphasised the importance of **devotion and surrender to God**, paving the way for later devotional movements.
- **Major Works/Commentaries:**
  - **Bhashya Granthas:**
    - Brahma Sutras
    - Isavasya Upanishad
    - Kena Upanishad
    - Katha Upanishad
    - Prasna Upanishad
    - Mundaka Upanishad
    - Mandukya Upanishad
    - Mandukya Karika
    - Bhagavad Gita
  - **Prakarana Granthas:**
    - Vivekachudamani
    - Aparokshanubhuti
    - Upadesasahasri
    - Swatma Nirupanam
    - Atma bodha
    - Sarva Vedanta Sara Samgraha
    - Advaita Anubhuti
    - Brahma anuchintanam
    - Sadachara anusandhanam

Note:



○ **Hymns and Meditation Verses:**

- Sri Ganesa Pancharatnam
- Ganesa Bhujangam
- Subrahmanya Bhujangam

**Note:** However, the authorship of many works attributed to Shankara remains disputed. But Shankara's legacy extends beyond metaphysics and theology, incorporating a near-nationalistic interpretation of **faith, philosophy, and geography.**

➤ **Core Tenets of Advaita Vedanta:**

- **Advaita Vedanta** posits an **ontological position of radical nondualism.**
- It asserts that **perceived reality is ultimately illusory (maya)**, and brahman is the only true reality, transcending empirical plurality.
- Focuses on the **unity of atman (individual consciousness) and brahman (ultimate reality).**

**Note:** A **'Statue of Oneness'** dedicated to **Adi Shankaracharya**, standing at a height of 108 feet, has been unveiled on **Mandhata mountain in the Khandwa district of Madhya Pradesh.**



## Harvest Festivals

### Why in News?

Recently, the Prime Minister of India has greeted people across the nation on the occasion of **Harvest Festivals Makar Sankranti, Uttarayan, Bhogi, Magh Bihu and Pongal.**

- Along with these festivals Rooster Fights are organized in some parts of Andhra Pradesh.

### What are the Harvest Festivals in India?

➤ **Makar Sankranti:**

- Makar Sankranti denotes the **entry of the sun into the zodiac sign of Makara** (Capricorn) as it travels on its celestial path.
- The day marks the **onset of summer** and the six months auspicious period for Hindus known as Uttarayan – **the northward movement of the sun.**
  - As a part of the official celebration of 'Uttarayan', the Gujarat government has been hosting the **International Kite Festival since 1989.**
- The festivities associated with the day is known by different names in different parts of the country:
  - Lohri by north Indian Hindus and Sikhs,
  - Sukarat in central India,
  - Bhogali Bihu by Assamese Hindus, and
  - Pongal by Tamil and other South Indian Hindus.



➤ **Bihu:**

- It is celebrated when the annual harvest takes place in Assam. People celebrate Magh Bihu/Bhogali Bihu to mark the beginning of the Assamese new year.
- It is believed that the festival started from the time when people of the valley started tilling the land.

➤ **Pongal:**

- The word Pongal means **'overflow' or 'boiling over'.**

Note:

- Also known as Thai Pongal, the four-day occasion is observed in the month of Thai, when crops such as rice are harvested and people show their gratitude to the almighty and the generosity of the land.
- Tamilians celebrate the occasion by making traditional designs known as kolams in their homes with rice powder.

### What is a Rooster Fight?

- **About:**
  - A rooster fight, also known as “Kodi Pandalu” in local parlance, involves specially bred and trained birds with sharp leg blades in a small arena, where they fight until one is killed or critically injured. Betting on these fights is common, resulting in significant sums changing hands.
- **Laws Related to Rooster Fights:**
  - Rooster Fights are banned under **Prevention of Cruelty to Animals (PCA) Act, 1960**. It includes **provisions that prohibit the organization and participation** in animal fights.
  - Additionally, the Supreme Court of India has issued rulings banning the use of animals for entertainment purposes, **including in events like rooster fights**.

## Vadnagar: India's Oldest Living City

### Why in News?

A joint study by the Indian Institute of Technology (Kharagpur) and **Archaeological Survey of India (ASI)** has found evidence of cultural continuity in Vadnagar, Gujarat, even after the Harappan collapse.

- The study challenges **the notion of a “Dark Age”** by providing evidence of cultural continuity in Vadnagar even after the collapse of the **Harappan civilization**.

### What are the Key Highlights of the Excavation at Vadnagar?

- **Age of Settlement:**
  - The study reveals **evidence of a human settlement** in Vadnagar dating back to as **old as 800 BCE**.
  - This places the settlement in the **late-Vedic/pre-Buddhist Mahajanapadas** or oligarchic republics period.
- **Climate Influence:**
  - The rise and fall of different kingdoms over a 3,000-year period, as well as recurrent invasions by

Central Asian warriors, are suggested to be driven by **severe changes in climate**, such as variations in rainfall or droughts.

### ➤ Multicultural and Multireligious Settlement:

- Vadnagar is described as a **multicultural and multireligious settlement** that included **Buddhist, Hindu, Jain, and Islamic** influences.
- The excavation uncovered **seven cultural stages (periods)**, including Mauryan, Indo-Greek, Indo-Scythian, Hindu-Solankis, Sultanate-Mughal, and Gaekwad-British colonial rule, up to the present day.

### ➤ Archaeological Artifacts:

- Various archaeological artifacts were discovered during the excavation, including pottery, copper, gold, silver, and iron objects.
- The findings also include **intricately designed bangles** and coin molds from the **Indo-Greek rule**.

### ➤ Buddhist Monastery:

- One of the significant discoveries is the presence of one of the oldest Buddhist monasteries in Vadnagar, **adding to the historical and cultural richness** of the settlement.

### ➤ Radiocarbon Dates:

- Unpublished radiocarbon dates suggest that the settlement could be as old as 1400 BCE, which challenges the **notion of a Dark Age**.
  - The **“Dark Age”** refers to the period between the collapse of the **Indus Valley Civilization** and the emergence of the **Iron Age** and cities like Gandhar, Koshal, and Avanti in Indian history.
- If true, it implies cultural continuity **in India for the last 5500 years**.

### Archaeological Survey of India (ASI)

- ASI, under the Ministry of Culture, is the **premier organization for the archaeological research** and protection of the cultural heritage of the nation.
- Maintenance of ancient monuments and archaeological sites and remains of national importance is the prime concern of the ASI.
- Besides it regulate all archaeological activities in the country **as per the provisions of the Ancient Monuments and Archaeological Sites and Remains Act, 1958**. It also regulates **Antiquities and Art Treasure Act, 1972**.
- It was founded in **1861 by Alexander Cunningham**- the first Director-General of ASI. Alexander Cunningham is also known as the **“Father of Indian Archaeology”**.

Note:

# History

## Highlights

- Republic Day 2024

- Parakram Diwas 2024

## Republic Day 2024

### Why in News?

India celebrated its **75<sup>th</sup> Republic Day** on 26<sup>th</sup> January 2024. The day is a celebration of the **Constitution**, and building India as a republic instead of a colony or dominion of any nation.

### What are the Key Highlights of the Republic Day 2024?

#### ➤ French Contingent:

- The French military contingent participated in the Republic Day parade. The contingent belonged to the **Corps of French Foreign Legion**.
  - The French Foreign Legion is an **elite military corps that is open to foreigners** who want to serve in the French Army.
- It was the second time the French armed forces participated in India's Republic Day celebrations.
  - In 2016, French troops became the first foreign military contingent to participate in the Republic Day parade.
- The 75<sup>th</sup> Republic Day Parade at **Kartavya Path** showcased the themes of '**Viksit Bharat**' and '**Bharat- Loktantra ki Matraka**', emphasising a women-centric focus.
- The Republic Day parade showcased India's military prowess and cultural diversity, with a special emphasis on **Nari Shakti or women's empowerment**.
  - For the first time, an **all-women tri-services contingent participated** in the parade.

#### ➤ NCC Contingents:

- The **National Cadet Corps (NCC)** Directorate Maharashtra contingent secures the **Prime Minister's Banner at the Republic Day Camp 2024** for the **third consecutive year**.
  - The **Prime Minister's Banner** is a prestigious award given to the **best performing NCC state**

**contingent at the Republic Day Camp**, which is an annual event where NCC cadets from all over India showcase their skills and talents.

#### ➤ Pradhan Mantri Rashtriya Bal Puraskar:

- **Pradhan Mantri Rashtriya Bal Puraskar** are conferred on children with exceptional abilities and outstanding achievement in the fields of bravery, art & culture, sports, science & technology, innovation and social service.

#### ➤ Veer Gatha 3.0:

- The third edition of Project Veer Gatha was organised as a part of Republic Day Celebrations 2024 to inspire and spread awareness among children about the gallant deeds and **sacrifices of the Armed Forces**.

#### ➤ Anant Sutra:

- The 75<sup>th</sup> Republic Day parade featured a unique installation called "**Anant Sutra**," which **showcased sarees and drapes from all over India**. As a tribute to the country's weaving and embroidery arts, as well as the women of India.

#### ➤ Beating Retreat Ceremony 2024:

- The **Beating Retreat ceremony** took place on 29<sup>th</sup> January 2024 at Vijay Chowk in Delhi. The ceremony is a military tradition that marks the end of Republic Day celebrations.
- The ceremony features music bands from the **Indian Army, Navy, Air Force, and Central Armed Police Forces (CAPF)** playing 31 Indian tunes.

### What are Key Highlights of the Tableaus on Republic Day 2024?

#### ➤ Ministry of Culture's Tableau:

- The tableau-themed '**Bharat: Mother of Democracy**' has **bagged the first prize** among tableaus that were part of the 75<sup>th</sup> Republic Day parade.
  - It showcased the **evolution of democracy from ancient India to modern times**, using anamorphic technique.

Note:

- **Defence Research and Development Organisation:**
  - The **DRDO** tableau was themed “**Self-reliance in Defence Technology**”.
  - The DRDO-developed systems and subsystems that were displayed on the tableau: are Missiles like **Man Portable Anti-tank Guided Missile (MPATGM)**, **Anti-Satellite (ASAT) Missile**, and **Agni-5 Surface-to-Surface Ballistic Missile**, **Very Short Range Air Defence System (VSHORADS)**, Naval Anti-Ship Missile—Short Range (NASM-SR), **Anti-Tank Guided Missile ‘HELINA’**, **Quick Reaction Surface-to-Air Missile (QRSAM)**, **Astra**, **Light Combat Aircraft ‘Tejas’**, ‘Uttam’ Active Electronically Scanned Array Radar (AESAR), **Advanced Electronic Warfare System ‘Shakti’**, Cyber Security systems, Command Control Systems and the Semiconductor Fabrication Facility.
- **Army Tableau:**
  - The Indian Navy tableau depicted the imposing **indigenously built aircraft carrier INS Vikrant** and INS Delhi, INS Kolkata and INS Shivalik, the **LCA**, the **ALH** and the **Kalvari-class submarine**.
- **Ministry of Ports, Shipping and Waterways:**
  - **Sagarmala programme** and **Nari Shakti** in the maritime sector were showcased in the tableau.
- **Council of Scientific and Industrial Research**
  - The **purple revolution** unfolding in the **lavender fields** of Baderwah in Jammu and Kashmir found a proud place on the tableau of the **CSIR**.
- **Indian Space Research Organisation:**
  - The tableau featured the landing of the **Chandrayaan-3** spacecraft near the south pole of the Moon and the **Aditya L-1 mission**.
    - The lunar landing site of the spacecraft which was named **Shiv Shakti Point** was also featured.
  - The tableau illustrated future missions such as **Gaganyaan** and **Bhartiya Antariksh Station** among others.
- **Arunachal Pradesh:**
  - The state’s tableau showcased its **Singchung Bugun Village Community Reserve**, a 17 square kilometre biodiversity hotspot created in 2017 to protect the **Bugun Liocichla**, a critically endangered bird.
    - The Bugun Liocichla is named after the Buguns community.
  - Tableau was led by the **Bugun folk dance**.
- **Manipur:**
  - Manipur’s tableau showcased **the women-run Ima Keithel, also known as the Mother’s Market**.
    - The 500-year-old Ima Keithel is the **only market in the world run entirely by women**.
  - The Manipur tableau at the parade featured a woman weaving clothes using an “**Eyong**” loom—a traditional loom from Manipur.
- **Madhya Pradesh:**
  - The tableau showed the **first woman fighter pilot of the Indian Air Force, Avani Chaturvedi** of Madhya Pradesh’s Rewa district.
  - It also featured the **Badal Mahal gate** and weavers of the globally renowned Chanderi, Maheshwari and Bagh print sarees.
    - The gate is said to have been built during the rule of **Sultan Mahmud Shah Khilji, the King of Malwa**,
    - The tableau featured **India’s Millet Mission ambassador** and ‘**Millet Woman of India Lahari Bai**’.
- **Chhattisgarh:**
  - The tableau depicted the ancient tribal form of **Parliament in Bastar known as “Muria Darbar”**. It also depicted a place called “**Limau Raja**”, situated in Bade Dongar, the ancient capital of Bastar.
- **Ladakh:**
  - The tableau depicted a **high hill in Ladakh, with the world’s highest motorable road at Umling-La pass**.
- **Tamil Nadu:**
  - The tableau highlighted the historical significance of the **Kudavolai electoral system**, which emerged during the **10th-century Chola era** and marked an early stride towards democracy.
  - It also featured a scale model of the **Vaikunda Perumal Temple** in Uthiramerur where the **Kudavolai system** is practised, showcasing its integration into the local culture.
- **Odisha:**
  - The state’s tableau featured a heritage hut of **Raghurajpur village**, where women play a pivotal role in crafting **Pattachitra and masks**.
    - ‘**Odisha Pattachitra**’ masks are handcrafted from **leftover paper’s Papier Mache paste**.
    - The “**War Horse of Konark Temple**” symbolised Odisha’s rapid progress in shaping a developed India.

Note:

- **Meghalaya:**
  - The state's tableau featured a **unique freshwater scuba diving site** along the **Umngot River in Dawki**.
  - The tableau celebrated community-led cleanliness initiatives in **Mawlynnong, Asia's cleanest village**.
  - It also highlighted the state's rich reserve, displaying its flora, and endemic **species like the clouded leopard**.
- **Rajasthan:**
  - The tableau promoted the state's tourism potential, with the **"ghoomar" dance** and decorated camel icon.
    - Ghoomar, a traditional **Bhil tribe folk dance**, is a symbol of **womanhood**.
  - A statue of **Meera Bai** was displayed in the tableau, She was a great devotee of Lord Krishna and a Hindu poetess of the 16th century.
- **Telangana:**
  - The tableau honoured the legacy of tribal freedom fighters like **Komaram Bheem, Ramji Gond and Chityalamma (Chakalillamma)**.
    - **Bheem and Ramji advocated for the freedom**, dignity, and rights of indigenous tribal communities. They employed **guerrilla warfare tactics** to spread a powerful message of empowerment and justice.
- **Uttar Pradesh:**
  - Tableau symbolically represented the consecration ceremony that took place in **Ayodhya**, with an artistic model depicting Lord Ram in a young avatar (Ram Lalla).
    - It also depicted the first-ever operational high-speed **regional rapid transit system (RRTS)** of the country.
    - The tableau displayed the **world's fourth-largest international airport, Jewar Airport**.
    - A group of women artists accompanying the tableau perform traditional dances **'Charkula'** and **'Wadhwa**, popular in the Braj region.
- **Gujarat:**
  - The tableau was based on the theme **Dhordo: Global Identity of Gujarat's Border Tourism**.
    - Dhordo, located on India's western tip, is the gateway to the **Rann of Kutch**.
    - Women dressed in traditional attire played **garba** along the tableau.

- **Maharashtra:**
  - **Shivaji Maharaj's** establishment of 'self-rule' and respect for women in his 'kingdom of the people' formed the highlight of Maharashtra's tableau.
- **Haryana:**
  - The tableau highlighted the state's ambitious **"Mera Parivar-Meri Pehchan"** scheme.
  - It also highlighted the benefits of the **'Parivar Pehchan Patra'** through a phone call such as the seamless procurement of ration, agricultural subsidies for farmer families, scholarships for young students, and pensions for the elderly.
- **Jharkhand:**
  - The tableau showcased the skill of tribal women in the production of **Tasar silk with depictions of Tasar moth rearing, cocoon production**, weaving and the modern journey of Tasar garments from design to global distribution.
    - Jharkhand "jhumar" folk dance was performed.

### *What is the History of Republic Day?*

- **About:**
  - Republic Day commemorates the adoption of the Constitution of India on 26<sup>th</sup> January 1950, and the country's transition to a republic which came into effect on 26<sup>th</sup> January 1950.
    - The constitution was adopted by the **Constituent Assembly of India on 26<sup>th</sup> November 1949** and came into effect on 26<sup>th</sup> January 1950.
  - The Constitution of India repealed the **Indian Independence Act 1947 and Government of India Act 1935** when it became effective on 26<sup>th</sup> January 1950. India ceased to be a **dominion of the British Crown** and became a **sovereign, democratic republic with a constitution**.
- **History:**
  - **Declaration of Poorna Swaraj:**
    - The **Lahore Session of the Indian National Congress (INC) in December 1929** passed the historic **"Poorna Swaraj" resolution**, calling for total **self-rule/sovereignty and complete independence from British rule**.
      - The Declaration of Independence was officially promulgated on **26<sup>th</sup> January 1930**, and the Congress urged Indians to celebrate **"independence" on that day**.

Note:

- **Republic Day in Post-Independence India:**
  - From 1930 to 1947, **26<sup>th</sup> January** was celebrated as “**Independence Day**” or “**Poorna Swaraj Day.**”
  - India gained independence on **15<sup>th</sup> August 1947**, leading to a **reevaluation of the significance of Republic Day.**
  - The selection of **26<sup>th</sup> January** for the **promulgation of India’s new constitution** was ideal due to its existing nationalist significance and alignment with the “**Poorna Swaraj**” declaration.

**Note: On Republic Day every year**, the President of India, who is the **head of state**, ‘unfurls’ the tricolour, while **on Independence Day** (August 15), the prime minister, who **heads the Union government**, ‘hoists’ the national flag.

- While the two terms are often used interchangeably, these represent different techniques of presenting the tricolour.
- **On 26<sup>th</sup> January**, the flag is **folded or rolled, and attached to the top of a pole.** It is then unveiled (‘unfurled’) by the President, who does so without pulling it up.
  - ‘Unfurling’ is a symbolic gesture to **renew the commitment to principles laid down in the Constitution**, highlighting India’s shift from being a British colony to becoming a sovereign, democratic Republic.
- **On 15<sup>th</sup> August**, on the other hand, the **flag, positioned at the bottom of the pole, is raised (‘hoisted’)** by the prime minister, from the bottom to the top.
  - Hoisting symbolises the rise of a new nation; patriotism, and freedom, from colonial rule.

## Parakram Diwas 2024

### Why in News?

Recently, the Prime Minister (PM) of India has participated in **Parakram Diwas (23<sup>rd</sup>-January 2024) Celebrations** at Red Fort to mark the birth anniversary of **Netaji Subhas Chandra Bose.**

- The PM has also launched **Bharat Parv (organised by the Ministry of Tourism)**, a nine-day event to showcase India’s rich diversity and **exhibit different cultures.**
- On the Occasion of Parakram Diwas, the Centre has announced **Subhash Chandra Bose Aapda Prabandhan**

**Puraskar-2024**, to honor the invaluable contribution rendered by individuals and organisations in the field of Disaster Management.

### What is Parakram Diwas?

- Initiated in 2021, Parakram Diwas is an annual celebration in India commemorating the **birth anniversary of Netaji Subhas Chandra Bose.**
- The term “**Parakram**” translates to courage or valour in Hindi, reflecting the strong and courageous spirit of Netaji and those who fought for India’s freedom.
- The celebrations **typically include various events and activities that highlight the historical significance** of Netaji’s role in the freedom struggle.
- The comprehensive **celebration is being organised by the Ministry of Culture** in collaboration with its allied institutions such as the **Archaeological Survey of India**, National School of Drama, Sahitya Akademi, and the National Archives of India.
  - As part of the program, the event will host a rich array of activities that delve into the profound legacy of **Netaji Subhash Chandra Bose and the Azad Hind Fauj.**
    - **Marking Netaji’s 125th birth anniversary, in 2022, the hologram was installed**, near India Gate, where a statue of King George V had stood till its removal in 1968.
      - **Later the hologram of Netaji replaced by a grand statue** on 8<sup>th</sup> September 2022 near India Gate in New Delhi.

### What is Subhash Chandra Bose Aapda Prabandhan Puraskar?

- **Field Recognised:**
  - The Government of India instituted Subhash Chandra Bose Aapda Prabandhan Puraskaar (SCBAPP) to **recognise the excellent work done by the individuals and institutions in the field of disaster management.**
- **Administered By:**
  - **National Disaster Management Authority** (NDMA was established under the Ministry of Home Affairs under the Disaster Management Act, 2005).
- **Award:**
  - The awards are **announced on the birth anniversary of Netaji Subhash Chandra Bose on 23<sup>rd</sup> January every year.**

Note:

# NETAJI SUBHASH CHANDRA BOSE

## BIRTH

- 23rd January 1897 (celebrated as 'Parakram Diwas')

*Subhas Chandra Bose Aapda Prabandhan Puraskar is announced every year on 23 January to honour the selfless service rendered by individuals/organisations in India in disaster management.*



## EARLY LIFE

- Cleared the **Indian Civil Services (ICS) examination** (1919) but resigned later
- Considered **Swami Vivekananda** as his spiritual Guru
- Newspaper - **Swaraj**

## POLITICAL LIFE IN CONGRESS (INC)

- Stood for **unqualified Swaraj** (self-governance)
- Actively participated in **Salt Satyagraha** (1930)
- Opposed Gandhi-Irwin Pact** (1931) & suspension of **Civil Disobedience Movement**
- Won INC Presidential Elections at Haripura (1938) and Tripuri (1939)
- Resigned from INC** (1939) due to ideological differences with Gandhiji
- Founded '**the Forward Bloc**' party to consolidate the **Political Left**

## INDIAN NATIONAL ARMY (INA)

- Reached Japan-controlled Singapore in July 1943, issued from there his famous slogan - '**Delhi Chalo**'

**He also gave the slogan - 'Jai Hind'**

- Announced the formation of **Azad Hind Government** and INA in Oct 1943
- INA fought allied forces** (1944) in **Imphal** (India) and in **Burma**

*INA was first formed under Mohan Singh and Japanese Major Iwaichi Fujiwara. It comprised Indian prisoners of war of the British-Indian Army captured by Japan in Malay and Singapore.*

## DEATH

- Believably in 1945** when his plane crashed in Taiwan.



- In addition to a certificate, these awards **carry a cash award of Rs. 51 lakhs** for an Institution and **Rs. 5 lakhs for an Individual**.
- The Institution has to utilize the cash prize for Disaster Management related activities only.
- **Eligibility:**
  - Only Indian nationals and Indian institutions can apply for the award.**
  - The nominated individual or institution should have worked in any area of disaster management like Prevention, Mitigation, Preparedness, Rescue, Response, Relief, Rehabilitation, Research, Innovation or early warning in India.
- **SCBAPP- 2024:** The **60 Parachute Field Hospital, Uttar Pradesh**, has been selected for the **Subhash Chandra Bose Aapda Prabandhan Puraskar-2024** for its excellent **work in disaster management**, particularly in providing medical assistance during various natural calamities and crises, both nationally and internationally.
  - The **hospital's work during** events like the **Uttarakhand floods (2013)**, **Nepal Earthquake (2015)**, and the **Turkey and Syria earthquake (2023)** is highlighted as examples of its exceptional service.



Note:

# Geography

## Highlights

- *Implications of No Snowfall In Kashmir*

## Implications of No Snowfall In Kashmir

### Why in News?

The absence of Snowfall in Kashmir during the winter season is not **only affecting the region's tourism industry**, particularly in popular destinations like Gulmarg, but it also has significant implications for various aspects of the local environment and economy.

### What Causes No Snowfall In Kashmir?

- **Climate and Weather Patterns:**
  - The entire Jammu and Kashmir and Ladakh regions have seen a **lack of rains or snow this winter**, with a notable **80% rainfall deficit in December 2023** and 100% (no rain) deficit in January 2024 so far.
  - Winter precipitation in these regions, crucial for the local climate, is mainly in the form of snowfall.
- **Decline in Western Disturbance:**
  - The overall trend of decreasing snowfall has been attributed to a decline in **Western Disturbance** events and a **gradual rise in temperatures**, likely influenced by **Climate Change**.
  - Western Disturbances are the **primary source of winter precipitation** in the **Himalayan region**.
    - The number of Western Disturbance events has been showing a declining trend, contributing to less overall precipitation during the winter months.
    - Western Disturbance are large **eastward-moving rain-bearing wind systems** that originate beyond Afghanistan and Iran, picking up moisture from as far as **the Mediterranean Sea and even the Atlantic Ocean**.
- **Role of Climate Change and El Nino:**
  - Climate change is considered a contributing factor to the declining snowfall in Kashmir, as indicated by various studies.

- The rate of temperature increase is higher in upper elevation areas than in the **plains, further impacting snowfall**.
- The current **El Nino** event in the eastern Pacific Ocean is suggested as an **additional factor affecting global atmospheric circulation** and contributing to the deficit precipitation in the region.
  - There have been several years in the last one decade — 2022, 2018, 2015 — when winters have been relatively dry in Jammu and Kashmir, and snowfall has been very low.

### What are the Implications of No Snowfall in Kashmir?

- **Short and Long Term Impact:**
  - Short-term effects include an increase in forest fires, agricultural drought, and a drop in crop production.
  - Long-term consequences **include a reduction in hydroelectricity generation**, an increase in glacier melting, and adverse effects on drinking water supply due to less recharge of groundwater.
- **Vital for Winter Crops:**
  - The winter snow, crucial for **moisture in the soil**, is vital for winter crops, particularly horticulture. The yields of apples and **Saffron**, significant contributors to the local economy, are adversely affected in the absence of sufficient snowfall.
- **Impact on Tourism:**
  - Gulmarg, a key winter tourism spot in Kashmir, is witnessing a sharp decline in tourist visits this season due to insufficient snow. Despite substantial tourist numbers in 2023, officials project at least **a 60% reduction in footfall**.
  - The scarcity of snow is adversely affecting **ski resorts and related businesses, impacting the local economy**.



Note:



drishti



# Ethics

## Highlights

- Ethical Use of Generative AI in Healthcare

## Ethical Use of Generative AI in Healthcare

### Why in News?

Recently, the **World Health Organization (WHO)** has released guidance on the ethical use and governance of **Large Multi-Modal Models (LMM)** in healthcare, acknowledging the transformative impact of **Generative Artificial Intelligence (AI)** technologies like ChatGPT, Bard, and Bert.

### What are Large Multi-Modal Models (LMM)?

- LMMs are models that use **multiple senses to mimic human-like perception**. This allows **AI (Artificial Intelligence)** to respond to a **wider range of Human communication**, making interactions more natural and intuitive.
- LMMs integrate multiple data types, such as images, text, language, audio, and other heterogeneity. This allows the **models to understand images, videos, and audio, and converse with users**.
- **Some examples of multimodal LLMs include GPT-4V, MedPalm M, Dall-E, Stable Diffusion, and Midjourney.**

### What are the WHO's Guidelines Regarding the Use of LMMs in Healthcare?

- The new WHO guidance outlines **five broad applications of LMMs in healthcare**:
  - **Diagnosis and clinical care**, such as responding to patients' written queries;
  - **Patient-guided use**, such as for **investigating symptoms and treatment**;
  - **Clerical and administrative tasks**, such as documenting and summarizing patient visits within electronic health records;
  - **Medical and nursing education**, including providing trainees with simulated patient encounters, and;

- **Scientific research and drug development**, including to identify new compounds.

**Note:** **Indian Council of Medical Research** issued **ethical guidelines for AI** in biomedical research and healthcare in June 2023.

### What Concerns has WHO Raised about LMMs in Healthcare?

- **Rapid Adoption and Need for Caution:**
  - LMMs have experienced **unprecedented adoption, surpassing the pace** of any previous consumer technology.
    - LMM is known for their ability to mimic human communication and **perform tasks without explicit programming**.
  - However, this rapid uptake underscores the critical importance of carefully weighing **their benefits against potential risks**.
- **Risks and Challenges:**
  - Despite their promising applications, LMMs pose risks, including the **generation of false, inaccurate, or biased statements** that could misguide health decisions.
  - The data used to train these models can **suffer from quality or bias issues**, potentially perpetuating disparities based on **race, ethnicity, sex, gender identity or age**.
- **Accessibility and Affordability of LMMs:**
  - There are broader concerns as well, **such as the accessibility and affordability of LMMs, and the risk of Automation Bias** (tendency to rely too much on automated systems) in healthcare, leading **professionals and patients to overlook errors**.
- **Cybersecurity:**
  - **Cybersecurity** is another critical issue, given the sensitivity of patient information and the **reliance on the trustworthiness** of these algorithms.

Note:

### What are the Key Recommendations of WHO Regarding LMMs?

- **Called for a collaborative approach** involving governments, technology companies, healthcare providers, patients and civil society, in all **stages of LMM development and deployment**.
- Stressed on the need for **global cooperative leadership to regulate AI technologies** effectively. **Governments from all countries must cooperatively lead efforts to effectively regulate** the development and use of AI technologies, such as LMMs.
- The new guidance offers a **roadmap for harnessing the power of LMMs in healthcare** while navigating their complexities and ethical considerations.
  - In May 2023, the WHO had highlighted the **importance of applying ethical principles and appropriate governance**, as enumerated in the **WHO guidance on the ethics and governance of AI for health**, when designing, developing and deploying AI for health.
- The **six core principles identified by WHO** are:
  - Protect autonomy
  - Promote human well-being, human safety, and the public interest
  - Ensure transparency, explainability, and intelligibility
  - Foster responsibility and accountability
  - Ensure inclusiveness and equity
  - Promote AI that is responsive and sustainable.

### How is Global AI currently Governed?

- **India:**
  - **NITI Aayog**, has issued some guiding documents on AI Issues such as the National Strategy for Artificial Intelligence and the **Responsible AI for All report**.
  - Emphasises social and economic inclusion, innovation, and trustworthiness.
- **United Kingdom:**
  - Outlined a light-touch approach, asking regulators in different sectors to apply existing regulations to AI.
  - Published a white paper **outlining five principles** companies should follow: **safety, security and robustness; transparency and explainability; fairness; accountability and governance; and contestability and redress**.
- **US:**
  - The US **released a Blueprint for an AI Bill of Rights (AIBoR)**, outlining the harms of AI to economic and civil rights and **lays down five principles for mitigating these harms**.
  - The Blueprint, instead of a horizontal approach like the EU, **endorses a sectorally specific approach to AI governance**, with policy interventions for individual sectors **such as health, labour, and education**, leaving it to sectoral federal agencies to come out with their plans.
- **China:**
  - In 2022, China came out with some of the **world's first nationally binding regulations targeting specific types of algorithms and AI**.
  - It enacted a law **to regulate recommendation algorithms with a focus on how they disseminate information**.



Note:

# Miscellaneous

## Highlights

- 6th Edition of Khelo India Youth Games
- Investment Forum for Advancing Climate Resilient Agrifood Systems in India
- Bharat Ratna to Karpoori Thakur

## 6th Edition of Khelo India Youth Games

### Why in News?

The 6<sup>th</sup> edition of **Khelo India Youth Games (KIYG)** is currently underway, happening from 19<sup>th</sup> January to 31<sup>st</sup> January 2024, across four cities in Tamil Nadu: **Chennai, Trichy, Madurai, and Coimbatore**.

# KHELO INDIA PROGRAMME



### AIM

- Mass participation and promotion of excellence in sports
- Revive the sports culture in India at the grass-root level

### 12 VERTICALS OF KHELO INDIA



1. Play Field Development
2. Community Coaching Development
3. State Level Khelo India Centres
4. Annual Sports Cooperation
5. Talent Search and Development
6. Utilization and Upgradation of Sports Infrastructure
7. Support of National/Regional/State Sports Academies
8. Physical Fitness of School children
9. Sports in Schools
10. Promotion of Sports amongst people with disabilities
11. Sports for Peace and Development
12. Promotion of Local, National and International sports

### GAMES UNDER KHELO INDIA

- **Khelo India Youth Games** (aka Khelo India School Games till 2019)
  - 1st edition - New Delhi (2018)
  - Age limit - 18
  - KIYG 2023 host - MP (Bhopal)
- **Khelo India University Games**
  - 1st edition - Kalinga Institute of Industrial Technology (KIIT), Odisha (2020)
  - KIUG 2023 host - UP (Lucknow, Varanasi, G.Noida and Gorakhpur)
- **Khelo India Winter Games (KIWG)**
  - 3 editions held since 2020 (in Leh, Ladakh and Gulmarg (Kashmir))

### SELECTION AND ASSISTANCE

- 1000 kids elected yearly for a scholarship program, trained to become medal winners
- Talented players identified in priority sports disciplines are provided Rs. 5 lakh p.a. for 8 years.

### NODAL MINISTRY

- Ministry of Youth & Sports Affairs

### HQ

- Jawaharlal Nehru Stadium (New Delhi)



### What is the Khelo India Youth Games?

- **About:** KIYG is a national-level, multi-disciplinary sports competition for school and college students in India.
  - The games are held annually in January or February and are part of the government's **Khelo India initiative**.
  - It aims to promote sports culture and identify sporting talent at the grassroots level.
  - The previous 5 editions of the Youth Games have been held in **Delhi, Pune, Guwahati, Panchkula and Bhopal**.

Note:

- **Format:** It is held in two categories, namely **under-17-year-old school students** and **under-21 college students**.
  - It operates in a **team championship format**, wherein the medals earned by individual athletes or teams contribute to the overall medal tally of their respective state or Union Territory (UT).
  - Upon the event's conclusion, the **state or UT securing the highest count of gold medals** is declared the winner.
  - No other team barring **Maharashtra and Haryana** have won the KIYG title to date.
- **6<sup>th</sup> edition of KIYG:** A total of 933 medals (278 gold, 278 silver and 377 bronze) are up for grabs across **26 sports at KIYG, Tamil Nadu**.
  - **Squash** is making its KIYG debut this year, while **Silambam**, a form of indigenous martial arts, is featured as a demonstration sport.
  - **Mascot: Veera Mangai.**
    - **Rani Velu Nachiyar, fondly called Veera Mangai**, was an Indian queen who waged a war against British colonial rule.
    - Also, the logo for the games incorporates the figure of poet **Thiruvalluvar**.

**Note:** The Khelo India Winter Games 2024 will take place in **Ladakh and Jammu & Kashmir**. The recently unveiled mascot, a Snow Leopard named '**Sheen-e She' or Shan**, adds a unique touch to the event.

## Investment Forum for Advancing Climate Resilient Agrifood Systems in India

### Why in News?

Recently, the **National Institution for Transforming India (NITI Aayog)**, the Ministry of Agriculture and Farmers' Welfare (MoA&FW) of the Government of India, and the **Food and Agriculture Organization (FAO)** of the **United Nations** jointly launched the '**Investment Forum for Advancing Climate Resilient Agrifood Systems in India**' in New Delhi.

### What is the Investment Forum for Advancing Climate Resilient Agrifood Systems in India?

- **About:**
  - The initiative aims to create an investment and partnership strategy fostering **climate resilient agrifood systems** among various stakeholders in India.
  - The Forum **facilitated discussions and deliberations on six key areas** namely,
    - Climate resilient agriculture (experiences and pathways).
    - Digital infrastructure and solutions.
    - Financing climate resilient agrifood systems (domestic and global).
    - Climate resilient value chains.
    - Production practices and inputs for climate resilience.
    - Gender mainstreaming and social inclusion for climate resilience.
- **Importance of Investing in Climate-Resilient Agrifood Systems:**
  - **Climate change** has profound implications for India, particularly **affecting its economically vulnerable rural population**, largely dependent on climate-sensitive agricultural livelihoods.
    - Agriculture contributes to about **13% of total greenhouse gas emissions in India** and is vulnerable to the impacts of climate change.
    - Indian agriculture is **susceptible to extreme temperatures, droughts, floods, cyclones**, and soil salinity.
    - Climate change can affect crop yields, water availability, **soil health**, pest and **disease outbreaks**, and **food security**.
  - Climate resilient agrifood systems can **help mitigate and adapt to climate change**, enhance food production, reduce poverty, and improve livelihoods.
    - Climate mainstreaming into agrifood systems necessitates **larger investments from global climate finance**, domestic budgets, and the private sector.

### Food and Agriculture Organization (FAO)

- The FAO is a specialised agency of the **United Nations** that leads international efforts to defeat hunger.
- FAO's goal is to **achieve food security for all** and make sure that people have regular access to enough high-quality food to lead active, healthy lives.

Note:

- With 194 member countries and the European Union including India, FAO works in over 130 countries worldwide.
- The **World Food Programme (WFP)** and the **International Fund for Agricultural Development (IFAD)** are sister organisations of the FAO.
- FAO is headquartered in **Rome, Italy**.
- **Flagship Publications:**
  - The State of World Fisheries and Aquaculture (SOFIA).
  - The State of the World's Forests (SOFO).
  - **The State of Food Security and Nutrition in the World (SOFI).**
  - **The State of Food and Agriculture (SOFA).**
  - The State of Agricultural Commodity Markets (SOCO).

## Bharat Ratna to Karpoori Thakur

### Why in News?

Recently, the **President of India** announced that the **Bharat Ratna** would be awarded to **socialist leader and former Chief Minister of Bihar Karpoori Thakur**, posthumously.

- This comes at a time when three-day celebrations are being held in Bihar to mark his birth centenary.

### Who was Karpoori Thakur?

- **About:** Karpoori Thakur, called as “**Jan Nayak**”, was a prominent Indian politician who served as the **11th Chief Minister of Bihar** twice, from 1970-71 and 1977-79.
- **Early Life and Political Foundation (1942-1967):** He was a **freedom fighter and a staunch socialist** who worked under the guidance of stalwarts such as **Jayaprakash Narain, Dr Rammanohar Lohia and Ramnandan Mishra**.
  - Represented the **Nai community, listed as an Extremely Backward Class (EBC) among OBCs**.
    - Entered politics in **1952**, serving as a legislator until **1985**.
- **Chief Ministerial Term and Policies:** In 1977, during his Chief Ministership, **Mungeri Lal Commission** recommended reclassifying backward classes into extremely backward classes (including weaker sections of Muslims) and backward classes.
  - In 1978, he introduced a groundbreaking reservation model, allocating **26% of reservations with specific quotas for OBCs, EBCs, women**, and economically backward classes among upper castes.

- This reclassification was also seen as a precursor of the **Mandal Commission** report, advocating for **27% reservations for Other Backward Classes**.
- Implemented wide-ranging policies, including the **promotion of Hindi, and Urdu as the second official language, waiving school fees, and strengthening Panchayati Raj**.

### What is Bharat Ratna Award?

- **About:** Bharat Ratna is the highest civilian award of the **Republic of India**.
- **History and Evolution:** Instituted in 1954, the award is conferred in recognition of exceptional service/performance of the highest order, **without distinction of race, occupation, position, or sex**.
  - The award was originally limited to achievements in the **arts, literature, science, and public services**.
  - But in December 2011, the government expanded the criteria to include **any field of human endeavour**.
- **First Recipients:** The first recipients of the Bharat Ratna were **C. Rajagopalachari, Sarvepalli Radhakrishnan, and C. V. Raman**, honoured in **1954**.
  - **Most recently, in 2019**, it was awarded to **Nanaji Deshmukh, Bhupen Hajarika and Pranab Mukherjee**.
- **Key Aspects:**
  - It is **not mandatory** that Bharat Ratna be awarded every year.
  - There is **no written provision** that Bharat Ratna should be awarded to Indian citizens only.
    - The award has been awarded to a naturalized Indian citizen, **Agnes Gonxha Bojaxhiu, better known as Mother Teresa (1980)** and to two non-Indians - **Khan Abdul Ghaffar Khan and Nelson Mandela (1990)**.

Note:

- Recommendations for Bharat Ratna are made by the Prime Minister of India to the President.
- The number of Bharat Ratna Awards is **restricted to a maximum of three** in a particular year.
- On conferment of the award, the **recipient receives a Sanad (certificate) signed by the President and a medallion.**
  - The Award does not carry any monetary grant.

- In terms of **Article 18 (1) of the Constitution**, the award cannot be used as a prefix or suffix to the recipient's name.
  - However, an award holder consider it necessary, using the following expression in their biodata/letterhead/visiting card etc. **to indicate that he/she is a recipient of the award: Awarded Bharat Ratna by the President or Recipient of Bharat Ratna Award.**



## Jan Nayak Karpoori Thakur



■ Shri Karpoori Thakur was born in 1924 in one of the most backward sections of society - the Nai Samaj. He was a remarkable leader whose political journey was marked by his unwavering commitment to the marginalised sections of society.

■ He served as the Chief Minister of Bihar and was a key figure in the struggle against social discrimination and inequality.

■ Karpoori Thakur's commitment to affirmative action gave representation and opportunities to the poor, oppressed, exploited and deprived sections of the country.

■ Karpoori Thakur's policies and reforms were pioneering in bringing about significant changes in the lives of many, especially in the fields of education, employment and farmer welfare.

By honouring Shri Thakur with Bharat Ratna, the government recognizes his role as a symbol of democracy and social justice.

The government also acknowledges his deep impact as a motivating figure for the marginalised sections of society.

# Rapid Fire Current Affairs

## Highlights

- Philippines and Vietnam Cooperation in South China Sea
- UNRWA Funding Freeze Amid Gaza Conflict
- Ancient Lake on Mars
- Voluntary Carbon Market Framework for Agriculture Sector
- Martyrs' Day
- SADA TANSEEQ
- National Conference on Technical Textiles
- 100 years of S N Bose's Colossal Work
- Maratha Reservation Progress
- Aditya-L1: Deployment of Magnetometer Boom in Sun's Orbit
- US Supreme Court Case Roe v Wade
- Gallantry Awards
- Wandering Albatross
- 14th National Voters' Day
- Arambai Tenggol
- Exercise Desert Knight
- Rabbit r1
- Indian Stock Market is Fourth-largest Globally
- India-Egypt Joint Special Forces Exercise CYCLONE
- India-Kyrgyzstan Joint Special Forces Exercise KHANJAR
- BHISHM Cube
- Mpemba Effect
- Mesolithic Gum Unveils Ancient Scandinavian Diet
- Vemana Jayanti
- Study Material in Indian Languages
- SCOPE's Commendation Certificate to NHPC
- Operation Sarvashakti: Intensive Anti-Terror Drive in J&K
- India's Signs MoU/Mol with Dominican Republic, Ecuador and Netherlands
- India-Argentina Agreement for Lithium Blocks
- Operation AMRITH
- Sumit Nagal Defeated Seeded Player at Australian Open
- Stamp Book on Ramayana
- PFRDA notifies Point of Presence (PoP) Regulations
- Jallikattu
- Navy to Have Mixed Marching Contingent at Republic Day Parade
- ANUBHAV Awards Scheme 2024
- Tubeless Conundrum
- Invasive Species and Food Crisis in Karnataka's Western Ghats
- Thiruvalluvar Day
- Rhododendron
- DRDO Launches Indigenous Assault Rifle 'Ugram'
- Ex-Ayutthaya and The 36th edition of Indo-Thai CORPAT
- National Startup Day 2024
- Foraging Traditions of Soliga and Yerava Tribes

## Philippines and Vietnam Cooperation in South China Sea

Recently, the Philippines and Vietnam have made significant strides in strengthening their **cooperation in the South China Sea**, despite opposition from **China, which also claims the region**.

- The agreements between the two countries cover various aspects of their relationship, including **maritime security, trade, and investment**.
- The South China Sea is a marginal sea of the **Western Pacific Ocean**. It is bordered by Brunei Darussalam, Malaysia, Indonesia, the Philippines, Singapore, Thailand, Vietnam and China.
  - It is connected by the **Taiwan Strait with the East China Sea** and by the **Luzon Strait with the Philippine Sea** (both marginal seas of the Pacific Ocean).
  - The South China Sea is a contested maritime area that is the subject of territorial disputes between six countries: **China, Brunei, Taiwan, Vietnam, Malaysia, and the Philippines**.

Note:



Read more: [South China Sea](#)

## UNRWA Funding Freeze Amid Gaza Conflict

The US and eight other Western countries, which are major contributors to the [United Nations Relief and Works Agency for Palestine Refugees in the Near East \(UNRWA's\)](#) 2022 budget, have decided to pause funding for the agency.

- UNRWA was established in **1949** to provide aid to [Palestinians](#) who were displaced during the **1948 Arab-Israeli war**.
- It operates in [Gaza](#), **Israeli-occupied West Bank**, **Lebanon**, **Syria**, and **Jordan**, offering education, health, relief, social services, microfinance, and emergency assistance programs.
  - The agency currently serves around **5.9 million Palestinian refugees** and plays a vital role in providing essential services to Palestinians in Gaza.
- The halt of funding is the result of Israel accusing UNRWA staff of involvement in an [attack on Israel](#)

on **7<sup>th</sup> October 2023** and has alleged that [Hamas](#) uses UNRWA facilities for military purposes and teaches anti-Israel sentiment in its schools.

Read more: [United Nations Relief and Works Agency for Palestine Refugees in the Near East](#)

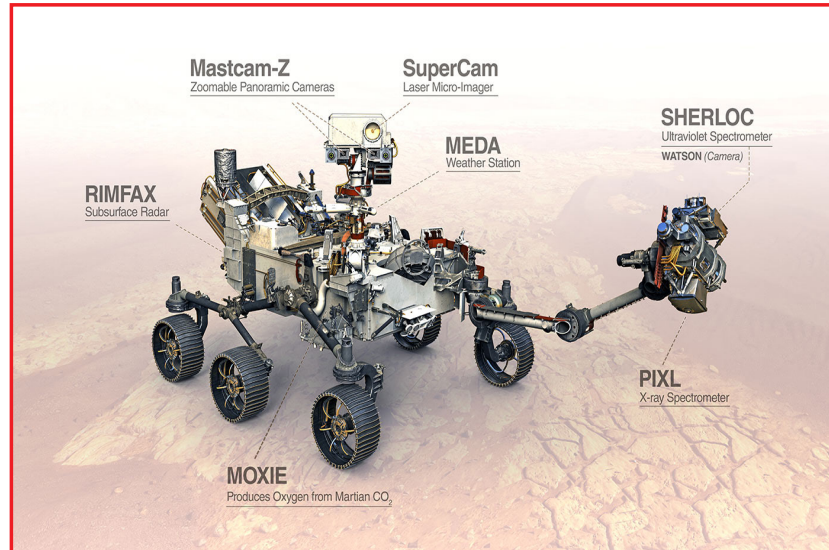
## Ancient Lake on Mars

[NASA's Perseverance rover](#) has substantiated the existence of **ancient lake sediments** in [Mars' Jezero Crater](#) through ground-penetrating radar observations.

- The findings support the theory that **Mars underwent a transition from being cold and arid to becoming warm, wet**, and possibly suitable for habitation.
- Perseverance is a car-sized Mars rover designed to explore the Jezero crater on Mars as part of **NASA's Mars 2020 mission**.
  - It was manufactured by the Jet Propulsion Laboratory and launched on **30<sup>th</sup> July 2020**.

Note:



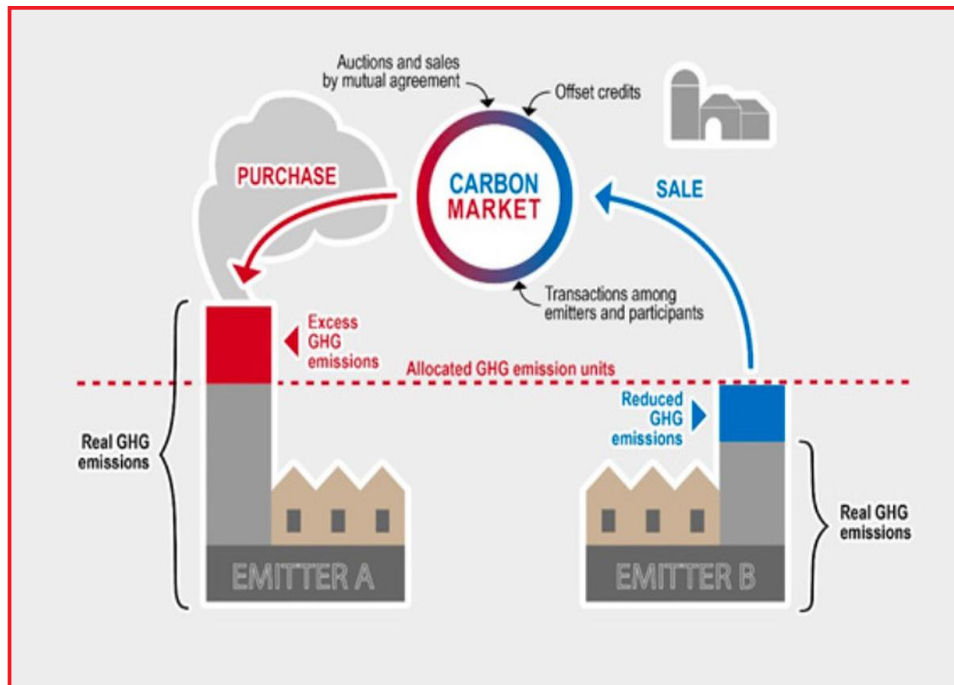


Read more: [NASA's Perseverance Rover](#)

## Voluntary Carbon Market Framework for Agriculture Sector

Recently, the central government initiated a framework for **voluntary carbon markets** in the **agriculture sector**, aiming to encourage small and medium farmers to benefit from carbon credits and promote eco-friendly farming practices.

- **Voluntary Carbon Market** is a trading system where individuals and organizations can voluntarily buy and sell carbon credits to offset **greenhouse gas (GHG) emissions**.
  - Each credit symbolises one metric ton of **avoided, reduced or removed CO<sub>2</sub>** or equivalent GHG.
  - These credits originate from projects that cut emissions, like tree planting, renewable energy investment etc.



Read more: [Carbon markets](#)

Note:

## Martyrs' Day

**Martyrs' Day**, also known as **Shaheed Diwas**, is observed on 30<sup>th</sup> January each year to pay **homage to the brave souls who sacrificed their lives for the freedom** and welfare of the nation.

- One of the most significant events associated with this day is the **Punyatithi (death anniversary) of Mahatma Gandhi**, the Father of the Nation.
  - "Death is at any time blessed, but it is twice blessed for a warrior who dies for his cause, that is, truth" - Mahatma Gandhi
- Also, Martyrs' Day is also commemorated on **23<sup>rd</sup> March** to remember the sacrifice of three extraordinary revolutionaries of India – **Bhagat Singh, Shivaram Rajguru, Sukhdev Thapar**.



### Mohandas Karamchand Gandhi

"The weak can never forgive. Forgiveness is the attribute of the strong."

**Brief Description**

**Birth:** 2<sup>nd</sup> October 1869, Porbandar (Gujarat).  
2<sup>nd</sup> October is observed as **International Day of Non-Violence**.

**Profile:** Lawyer, Politician, Social activist, Writer and led Nationalist Movement.  
**Father of the Nation** (first called by Netaji Subhash Chandra Bose).  
**Ideology:** Believed in the ideas of non-violence, Truth, Honesty, Care for Mother Nature, Compassion, Welfare of Downtrodden etc.  
**Political Mentor:** Gopal Krishna Gokhale  
**Death:** Shot dead by Nathuram Godse (30<sup>th</sup> January, 1948).  
30<sup>th</sup> January is observed as **Martyrs' Day**  
Nominated for the Nobel Peace Prize five times.





**Gandhi in South Africa (1893-1915)**  
Used satyagraha against racist regime (Native Africans and Indians were discriminated).  
**Pravasi Bharatiya Divas (PBD)** is celebrated every year on 9<sup>th</sup> January, to commemorate his return from South Africa.

**Contribution in India's Freedom Struggle**

**Small-scale movements** like Champaran Satyagraha (1917)–First Civil Disobedience, Ahmedabad Mill Strike (1918)– First Hunger Strike, and Kheda Satyagraha (1918)–First Non-Cooperation.

**Nationwide Mass Movements:** Against Rowlatt Act (1919), Non-Cooperation Movement (1920-22), Civil Disobedience Movement (1930-34), Quit India Movement (1942).

**Gandhi-Irwin Pact (1931):** Between Gandhi and Lord Irwin that marked the end of a period of civil disobedience.

**Poona Pact (1932):** Between Gandhi and **B.R. Ambedkar**; this abandoned the idea of separate electorates for the depressed classes (Communal Award).



**Books Written**  
Hind Swaraj, My Experiments with Truth (Autobiography)

**Weeklies**  
Harijan, Navjivan, Young India, Indian Opinion.

**Gandhi Peace Prize**

is given by India for social, economic, and political transformation through Gandhian methods.

"Happiness is when what you think, what you say, and what you do are in harmony."

"You must not lose faith in humanity. Humanity is an ocean; if a few drops of the ocean are dirty, the ocean does not become dirty"

Read more: [Martyrs' Day](#)

Note:

## SADA TANSEEQ

The inaugural edition of the **India-Saudi Arabia Joint Military Exercise 'SADA TANSEEQ'** kicked off in Mahajan, Rajasthan. The Royal Saudi Land Forces and the Indian Army, each with 45 personnel, are actively participating.

- The primary objective is to train troops for **Joint Operations in Semi-Desert terrain** as outlined in Chapter VII of the **United Nations Charter**.
- Major activities include **Mobile Vehicle Check Posts, Cordon & Search Operations, House Intervention Drills, Reflex Shooting, Slithering, and Sniper Firing**, offering an opportunity to strengthen bilateral relations and achieve shared security objectives.

Read more: [India-Saudi Arabia](#)

## National Conference on Technical Textiles

The Ministry of Textiles, in collaboration with the Government of Andhra Pradesh, recently hosted a

**National Conference on Technical Textiles** in Vijayawada, emphasizing policy pathways and innovation in this critical sector.

- The event featured panel discussions on **Circular Economy Strategies**, Sustainability in Technical Textiles, Agrotextiles, Geotextiles for Infrastructure, and Future Trends.
- Textile industry in Andhra Pradesh was urged to actively participate in **BHARAT TEX 2024** to showcase their ideas and innovativeness in **Technical Textiles with increased participation**.
  - **Bharat Tex 2024** is the **largest textile event in 2024**, organized by the **Ministry of Textiles** and 11 Textile Export Promotion Councils of India. It will take place in New Delhi from **February 26 to 29, 2024**.
    - The event will showcase the **entire textile value chain of India**, from farm to fashion, and highlight its heritage, craftsmanship, and innovations.
    - Bharat Tex 2024 aims to position India as a global powerhouse in textiles and attract investments, trade, and partnerships from around the world.

Read more: [PM MITRA Scheme and Textile Sector](#)

## 100 years of S N Bose's Colossal Work

# NATIONAL QUANTUM MISSION

Aims to put India among the top six leading nations involved in the R&D in quantum technologies

■ Presently, R&D works in quantum technologies are underway in the US, Canada, France, Finland, China and Austria ■

- **Duration:** 2023-24 to 2030-31
- **Nodal Ministry:** Ministry of Science & Technology
- **Highlights of the Mission:**
  - Four Thematic Hubs (T-Hubs) in different domains across the country
  - Wide-scale applications ranging from healthcare and diagnostics, defence, energy and data security

- Strengthening of indigenously building quantum-based computer
- Help develop magnetometers with high sensitivity in atomic systems and atomic clocks
- Support design and synthesis of quantum materials

A huge boost to National priorities like digital India, Make in India, Skill India, Stand-up India, Start-up India, Self-reliant India and SDGs

### Quantum Technology

■ Works by using the principles of quantum mechanics (the physics of sub-atomic particles), including quantum entanglement and quantum superposition ■

**Quantum Superposition**

The ability of a quantum system to be in multiple states simultaneously

While digital computers store data as bits (the ones and zeros of binary), quantum computers use qubits that exist as one, zero or both at the same time

This superposition state creates a practically infinite range of possibilities, allowing for fast simultaneous and parallel calculations

**Quantum Entanglement**

It means the two members of a pair (Qubits) exist in a single quantum state

If you change the properties of one of them, the other changes instantly

This can be used to create a secure encryption key in quantum cryptography

If an eavesdropper tries to intercept the transmission, the entangled state of the particles will be disturbed, making the attempt detectable

**Drishti IAS**

Note:

Distinguished scientists and scientific administrators recently gathered at the **S.N. Bose National Centre for Basic Sciences (SNBNCBS)** in Kolkata to celebrate the 100<sup>th</sup> anniversary of **Satyendra Nath Bose's** last of the **four revolutionary publications** that led to new **quantum mechanics** (the others being those of **Planck in 1900**, **Einstein in 1905**, and **Niels Bohr in 1913**), traced the evolution of quantum mechanics through the years.

- SNBNCBS, an Autonomous Research Institute established under the **Department of Science and Technology (DST)**, in 1986 to honour the life and work of **S. N. Bose**.
  - S N Bose's pioneering work on **quantum statistics** has paved the way for the development of **modern quantum technologies** including **Bose-Einstein condensation**, **quantum superconductivity**, and **quantum information theory**.
  - Half the fundamental particles in the **Universe are named after him – BOSON**.
- The conference highlighted that **23 countries have set up National Quantum Missions** and India has a substantial contribution to make at an international level, especially in the field of quantum algorithms.

Read more: [National Quantum Mission](#)

## Maratha Reservation Progress

Recently, the Maharashtra state government, responding to the **Maratha community's** demand for reservations, has issued a gazette notification proposing **amendments to the caste certificate rules**.

- It aims to ease and **expand the scope of offering Kunbi OBC certification to Marathas**, allowing them access to government jobs and educational institutions.
- The state has proposed to amend the **Maharashtra Scheduled Castes, Denotified Tribes (Vimukta Jatis), Nomadic Tribes, Other Backward Classes and Special Backward Category (Regulation of Issuance and Verification of) Caste Certificate Rules, 2012**, by adding the term **'sage-soyare'** (i.e., relatives from the family tree).
  - It means that the entire family tree of everyone who has a Kunbi certificate will get the Kunbi certificate.

Read more: [Maratha Quota](#)

## Aditya-L1: Deployment of Magnetometer Boom in Sun's Orbit

Recently, the **Aditya-L1 mission**, India's venture to study the Sun, marked a crucial milestone with the successful deployment of its **six-magnetometer boom**.

- Designed to **study the low-intensity interplanetary magnetic field in space**, the boom features two high-precision magnetometer sensors strategically placed at distances of 3 and 6 meters.
  - It is constructed with carbon fibre reinforced polymer segments
- **Aditya L1, positioned at Lagrange Point 1**, aims to observe the Sun's radiation, particles, and magnetic field in multiple wavelengths, marking a significant step in solar research.

Read more: [Aditya-L1 mission](#)

## US Supreme Court Case Roe v Wade

- On 22<sup>nd</sup> January 1973, the **Supreme Court of the United States** ruled in **Roe v. Wade** that the **right to an abortion is a fundamental right**.
- The court ruled that the **constitutional right to privacy** includes a woman's right to choose whether to have an abortion or not. The court applied the constitutional **principles of privacy and liberty to a woman's ability to terminate a pregnancy**.
- However, the government can still regulate or restrict abortion access depending on the **stage of pregnancy**.
  - The ruling also stated that a person can choose to have an abortion until a **fetus becomes viable**, which is usually between 24 and 28 weeks after conception.
- Prior to Roe v. Wade, abortion **had been illegal throughout much of the country**. Since the 1973 ruling, many states have **imposed restrictions on abortion rights**.
- The **Supreme Court overturned Roe v. Wade, in 2022**, ruling that there was **no longer a federal constitutional right to an abortion**. Court upheld a **Mississippi law that bans abortion after 15 weeks of pregnancy**.

Note:



- The decision overturned 50 years of legal protection and paved the way for **individual states to curtail or ban abortion rights**.

Read more: [US' Roe v. Wade Case 1973](#)

## Gallantry Awards

On the **75<sup>th</sup> Republic Day**, the **President of India** approved **Gallantry awards** to 80 Armed Forces and security forces personnel, 12 of which were awarded posthumously.

- Gallantry Awards have been instituted by the Government of India to honour the acts of **bravery and sacrifice of the officers/personnel** of the Armed Forces, other lawfully constituted Forces and civilians.
- Post-independence, the first three gallantry awards namely **Param Vir Chakra**, **Maha Vir Chakra** and **Vir Chakra** were instituted by the Government of India on 26<sup>th</sup> January 1950 and were deemed to have effect from the 15th August 1947.
- After that, other three gallantry awards i.e. Ashoka Chakra Class-I, Ashoka Chakra Class-II and Ashoka Chakra Class-III were instituted by the Government of India on 4th January, 1952, which were deemed to have effect from the 15th August, 1947.
  - These awards were renamed as **Ashoka Chakra, Kirti Chakra and Shaurya Chakra** respectively in January, 1967.
- These gallantry awards are **announced twice in a year**, first on the occasion of the **Republic Day** and then on the occasion of the **Independence Day**.
- Gallantry awards are categorized into **two types**:
  - **Wartime Gallantry Awards**
    - These awards are given for bravery in the face of the enemy.
  - **Peacetime Gallantry Awards**
    - These awards are given for bravery other than in the face of the enemy.



- Order of precedence of these awards is the **Param Vir Chakra**, the **Ashoka Chakra**, the **Mahavir Chakra**, the **Kirti Chakra**, the **Vir Chakra** and the **Shaurya Chakra**.

Read more: [Gallantry Awards](#)

## Wandering Albatross

The **Wandering Albatross (Diomedea exulans)** is in the spotlight due to a recent study highlighting its vulnerability.

- Wandering Albatross is the largest flying bird with a wingspan of **3.5 metres**. It spends most of its 60-year lifespan at sea.
  - Primarily found in the **Southern Ocean** and surrounding islands, with **Marion and Prince Edward Islands** supporting half of the world's breeding population.
  - It breeds approximately every two years **on land** after reaching sexual maturity.

Note:



- It is **vulnerable** as per **IUCN Red list**, facing threats like bycatch from longline fishing trawlers, pollution and **climate change**.
  - Albatrosses prefer low, coastal sites for warmth and suitable habitats. Climate change may disrupt these preferences by altering **temperature, rainfall, and wind patterns**.
  - **Wind speed**, an understudied factor, is critical for nest site selection and alteration in speed could impact **nest construction and chick rearing**.

## 14th National Voters' Day

The President of India recently addressed the **14<sup>th</sup> National Voters' Day Celebrations** in New Delhi and presented the **Best Electoral Practices Awards for the year 2023** to the State and District level officers for their outstanding performance in the conduct of elections during 2023.

- Since 2011, National Voters' Day has been celebrated on 25<sup>th</sup> January every year to mark the foundation day of the **Election Commission of India**.
  - **'Nothing Like Voting, I Vote For Sure'** is the theme of National Voters' Day 2024.
    - **ECI initiatives for General Elections 2024** was also unveiled as a part of the event.
  - Till now, **17 general elections** and more than 400 assembly elections have been conducted by the Election Commission.

## Election Commission of India (ECI)

### About

- **Autonomous Constitutional Authority** - Administers Union/state election
  - LS, RS, State LA, the offices of the President and VP
- Estd - **25<sup>th</sup> Jan1950** (National Voters' Day)

### Constitutional Provisions

Part XV - Article 324 to 329

### Structure

- 1 Chief Election Commissioner and 2 Election Commissioners **appointed by President**
- **Tenure- 6 years, or up to the age of 65 years**, whichever is earlier
- Retiring ECs – **eligible for further appointment by the govt.**
- **Removal of CEC-** Resolution on the ground of **proven misbehaviour or incapacity**, with majority of 2/3rd members present and voting, supported by more than 50% of the total strength of the house

### Major Roles and Responsibilities



- Determining Electoral Constituencies
- Preparing/Revising electoral rolls
- Notifying the schedules and dates of elections
- **Registering political parties and granting them the status of national or state parties**
- Issuing the Model Code of Conduct (MCC) for political parties
- Advising the President on matters concerning the **disqualification of MPs**

### Challenges

- Truncated Tenure of CEC
- Executive Influence in Appointments
- Dependence on Centre for Finance
- Lack of Independent Staff



Read more: [Increasing Voter Turnouts](#)

## Arambai Tenggol

The **Arambai Tenggol (AT)**, a **Meitei radical group**, has garnered support from **Members of the Legislative Assembly (MLAs)** in Manipur's Imphal Valley, extracting a commitment to convey the concerns of the people to the Centre.

- Arambai Tenggol started in 2020 as a cultural outfit but soon transformed into a radical organisation.
  - It is one of the two hardline Meitei organisations suspected to be involved in many **Meitei-Kuki clashes**, which broke out in May 2023.

Note:

- It is also a revivalist organisation that aims to reestablish the pre-Hindu, **native Sanamahi religion** among Meiteis.

Read more: [Violence in Manipur](#)

## Exercise Desert Knight

Recently, the **Indian Air Force (IAF)** joined forces with the **French Air and Space Force (FAF)** and **United Arab Emirates (UAE) Air Force** in **Exercise Desert Knight**, showcasing collaborative air operations and strengthening diplomatic ties.

- Exercise Desert Knight is a joint military exercise between India, France, and the United Arab Emirates (UAE).
- The exercise took place over the **Arabian Sea**, with the IAF operating from bases in India.
- The exercise's main goal was to improve cooperation and interoperability between the three air forces.

Read more: [Indo-French Joint Exercise Desert Knight-21](#)

## Rabbit r1

**Rabbit Inc.** has developed a platform supported by an **artificial intelligence model**, capable of replicating **human smartphone** actions and executing them upon request. This device essentially enhances the functionalities of existing **voice assistants**.

- The **r1**, the company's **first device**, is a palm-sized standalone gadget driven primarily by natural language for completing tasks.
  - It **utilizes a biased-for-action AI model called a large action model (LAM)** within the Rabbit OS, **leveraging neuro-symbolic programming** to enable **direct learning from user interactions and task execution**, bypassing the translation of text-based requests into **Application Programming Interface (APIs)**, resulting in a more nuanced human-to-machine interaction focused on routine and minimalistic tasks.
  - It aims to surpass the constraints of traditional chatbots by mitigating reliance on **text-based AI models (large language models)** that heavily rely on annotated data, allowing it to perform **actionable tasks** beyond generating plans.

- The r1 can **manage various tasks**, such as arranging an Uber ride or organizing an entire vacation, including booking flights and hotels.

Read more: [Artificial Intelligence](#)

## Indian Stock Market is Fourth-largest Globally

Recently, the **Indian stock market** has surpassed Hong Kong to claim the position of the **fourth-largest stock market globally**.

- Despite a 1.5% dip in domestic indices, the combined value of listed shares on Indian exchanges reached USD 4.33 trillion, exceeding **Hong Kong's USD 4.29 trillion**, as reported by **Bloomberg**.
  - Factors contributing to India's stock market growth include a **strong GDP growth forecast**, **manageable inflation**, **political stability**, and **foreign portfolio investors' inflow**.
- The **US, China and Japan** are the top stock markets in the world.

Read more: [Stock Market Regulation](#)

## India-Egypt Joint Special Forces Exercise CYCLONE

The **Indian Army** contingent is taking part in the **2<sup>nd</sup> edition of India-Egypt Joint Special Forces Exercise CYCLONE**.

- The Exercise is being conducted at **Anshas, Egypt**. The first edition of the exercise was conducted in 2023 in India.
- Indian Army contingent, consisting of 25 personnel from **The Parachute Regiment (Special Forces)** with the Egyptian contingent represented by the **Egyptian Commando Squadron and Egyptian Airborne Platoon**.
- Aligned with **Chapter VII of the United Nations Charter**, Exercise CYCLONE aims to familiarise both forces with operating procedures in **desert and semi-desert terrains**, emphasising special operations.

Read more: [India-UAE Joint Exercise Desert Cyclone 2024](#)

Note:

## India-Kyrgyzstan Joint Special Forces Exercise KHANJAR

The 11<sup>th</sup> edition of India-Kyrgyzstan Joint Special Forces Exercise KHANJAR has commenced at the Special Forces Training School in Bakloh, Himachal Pradesh.

- The exercise is scheduled to be conducted from **22<sup>nd</sup> January to 3<sup>rd</sup> February 2024**.
- The Indian Army contingent comprising 20 personnel is being represented by troops from **The Parachute Regiment (Special Forces)** and the Kyrgyzstan contingent comprising 20 personnel is represented by **Scorpion Brigade**.
- Aim of the exercise is to exchange experiences and best practices in **Counter Terrorism and Special Forces Operations in Built-up Area and Mountainous Terrain**.
- The exercise will provide an opportunity for both sides to fortify defence ties while addressing common concerns of **international terrorism and extremism**.

Read more: [India-Kyrgyzstan](#)

## BHISHM Cube

BHISHM (Bharat Health Initiative for Sahyog, Hita and Maitri) Cube of Project Arogya Maitri, a state-of-the-art **indigenous mobile hospital** deployed in Ayodhya, emerged as a crucial lifesaver during a **medical emergency** at the Ram Mandir inauguration in Ayodhya, Uttar Pradesh.

- The **Aarogy Maitri project** involves India supplying vital medical resources to any **developing nation facing the impact of natural disasters or humanitarian crises**.
- BHISHM cube is tailored to treat up to 200 casualties, emphasizing rapid response and comprehensive care. The Aid Cube is equipped with several innovative tools designed to enhance disaster response and medical support during emergencies.
- It integrates **Artificial Intelligence (AI)** and data analytics to facilitate effective coordination, real-time monitoring, and efficient management of medical services in the field.
- The success of BHISHM Cube underscores the importance of **mobile hospital units in delivering immediate and effective medical assistance during emergencies**.

## Mpemba Effect

The Mpemba effect has intrigued scientists with its counterintuitive observation that **hot water can freeze faster than cold water in similar conditions**.

- Researchers have conducted numerous experiments to determine the causes of the phenomenon, but a consensus conclusion remains wanting.
- Possible causes include **microbubbles, evaporation, the presence of frost in cold water**, and the effect of compounds precipitated by boiling.
  - **Microbubbles left suspended in water** that has been heated by boiling. These **promote convection and transfer heat faster** as the water cools.
  - Evaporation, an **endothermic (heat absorb) process**, contributes to faster heat loss in warmer water.
    - **Warmer water's lower density enhances convection and accelerates heat transfer, influencing the freezing process.**
  - The presence of **frost in cold water may act as an insulator**, this raises the freezing point of cold water and **slows heat loss** and affects freezing times.
  - **Compounds in water like calcium carbonate** could be precipitated by boiling, and then dissolve, **thus increasing the water's freezing point**.

## Mesolithic Gum Unveils Ancient Scandinavian Diet

A recent study delves into the analysis of **DNA extracted from a 10,000-year-old chewing gum discovered on the west coast of Scandinavia**.

- The examination of chewed resin, accompanied by stone tools, suggests activities such as **fishing, hunting, and resource gathering**. The stone material also indicated a **Mesolithic chronology**.
  - The findings reveal that the **inhabitants of this region**, approximately 9,700 years ago, subsisted on a diet comprising **deer, trout, and hazelnuts**.
- The Mesolithic Age is the period of time between the Palaeolithic Age and the Neolithic Age. The exact beginning of this part of the Stone Age varies from region to region.
  - People transitioned from using large chipped stone stools to using smaller chipped stone tools (microliths).
    - It was during the **Mesolithic Age that the dog was domesticated**.

Note:

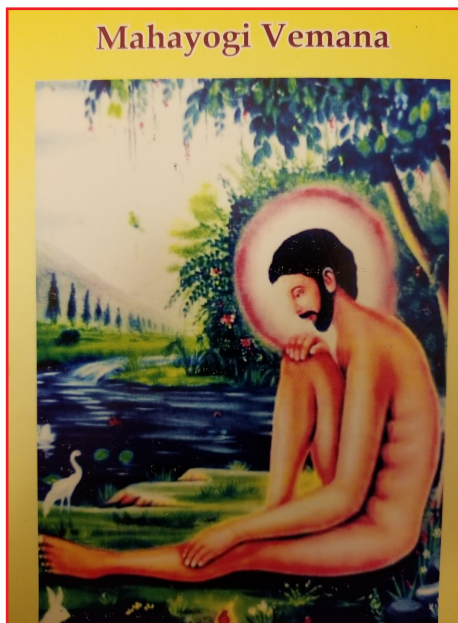




## Vemana Jayanti

The Indian Prime Minister paid tribute to Mahayogi Vemana on the occasion of Vemana Jayanti on 19<sup>th</sup> January 2024.

- **Mahayogi Vemana**, popularly known as Yogi Vemana, was an **Indian philosopher and poet in the Telugu language**.
- His poems are known for their use of simple language and native idioms.
  - They discuss the subjects of **yoga, wisdom and morality**.
- Many of his poems end up with the signature line **Viswadaabhi Raama Vinura Vema**.



Mahayogi Vemana

## Study Material in Indian Languages

The Government of India has directed **school and higher education regulators** and heads of educational institutions to **make study material in Indian languages** available for all courses in the next three years.

- Study material for all courses under school and higher education will be made available digitally in Indian languages included in the **8<sup>th</sup> Schedule of the Constitution**.
- This decision is in line with the recommendations of the **National Education Policy (NEP-2020)** to promote multilingualism in education at every level.

- Content creation in local languages will boost this multilingual asset and pave way for its better contribution to **'Viksit Bharat'** to make our country as **developed nation by 2047**.
- The government has been working in this direction for the past two years, with translation of various educational materials being done through the **Anuvadini AI-based App**.
  - In the school education ecosystem also study material is available in multiple Indian languages including **over 30 languages on DIKSHA**.
  - **Competitive exams** like JEE, NEET, and CUET are being held in **13 Indian languages**.

Read more: [Transforming Indian Education](#)

## SCOPE's Commendation Certificate to NHPC

**National Hydroelectric Power Corporation (NHPC) Limited**, a **Mini Ratna Category-I** Public Sector Undertakings (PSU) and **India's premier hydropower company** achieved a significant milestone by being honoured with **Standing Conference of Public Enterprises (SCOPE's) 'Commendation Certificate'** for its effective implementation of the **Right to Information (RTI) Act, 2005**.

- The award highlights NHPC's commitment to **transparency**.
- Established in 1973, the SCOPE is the **apex body for Public Sector Enterprises (PSEs)** strives to foster competitiveness and excellence in its member PSEs by implementing policies and strategies to enhance their operational capacities and efficiencies.
- SCOPE, closely affiliated with national bodies like the **Department of Public Enterprises, Ministry of Finance**, and others, interfaces with statutory bodies such as the **Central Information Commission (CIC)**, and **Central Vigilance Commission (CVC)** to address Public Sector issues.
  - Internationally, SCOPE serves as the representative for employers on forums like **International Labour Organization (ILO)**; the **United Nations (UN)**; and **Organization for Economic Co-operation and Development (OECD)**.

Read more: [Right to Information \(RTI\) Act, 2005](#).

Note:

## Operation Sarvashakti: Intensive Anti-Terror Drive in J&K

The **Indian Army** launched **Operation Sarvashakti**, a strategic initiative aimed at eliminating terrorists responsible for a series of ambushes on Indian troops in the **Rajouri and Poonch regions of Jammu and Kashmir**.

- The **Chinar Corps in Srinagar and the White Knight Corps in Nagrota** will conduct simultaneous operations as part of this initiative.
- The operation is on the lines of **Operation Sarpvishakh of 2003**, which was launched against terrorists south of the **Pir Panjal range**, which lasted three months and resulted in the elimination of nearly 100 terrorists.

Read more: [Re-energizing Counter Terrorism Agenda](#)

## India's Signs MoU/MoI with Dominican Republic, Ecuador and Netherlands



The **Union Cabinet** recently approved separate memorandum with the **Netherlands, Dominican Republic and Ecuador** on cooperation in the field of **medical products regulation**.

- The **Memorandum of Intent (MoI) or Letter of Intent (LOI)** with the Netherlands was signed on 7th November, 2023.

- The **Memorandum of Understanding (MoU)** with the Dominican Republic was signed on 4th October, 2023.
  - Also, a separate MoU with Ecuador was signed on 7th November, 2023.
- The primary difference between the Letter of Intent and Memorandum of Understanding two is that a **LOI is generally less specific, focusing on the main principles and preliminary intent to collaborate and MOU is usually more detailed, outlining the scope of the collaboration, responsibilities of each party, timelines, and potential outcomes.**



Read more: [India's Pharmaceutical Industry, India and Netherlands Relations](#)

Note:

## India-Argentina Agreement for Lithium Blocks

Recently, India through **Khanij Bidesh India Limited (KABIL)** has signed an agreement with **Argentina's State-owned CAMYEN** for exploration and development of five **lithium brine blocks in Argentina**.


- The agreement will allow **KABIL** to **evaluate, prospect, explore**. Upon subsequent discovery of **lithium minerals**, exploitation rights for commercial production have also been granted.
  - This is the **first-ever lithium exploration and mining project** undertaken by a government company in India.
- **Lithium**, often called '**white gold**', forms the cornerstone of the country's transition to **green energy options**.

- It is used across various categories, including **energy storage solutions, batteries for mobile phones, and in Electric Vehicles (EVs)**.
- Argentina is part of the world's "**Lithium Triangle**", along with **Chile and Bolivia**.
  - The three nations together have **more than half of the world's total lithium resources**.
  - Argentina also has the distinction of having the **2<sup>nd</sup>-largest lithium resources, 3<sup>rd</sup>-largest lithium reserves and 4<sup>th</sup>-largest lithium production** in the world.

Read More: [GSI Discovers Lithium Resources in J&K](#)

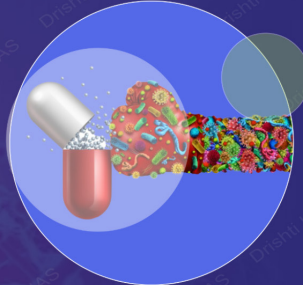
## Operation AMRITH

**Kerala's Drug Control Department** has initiated **Operation AMRITH** to curb antibiotic overuse.



# ANTIMICROBIAL RESISTANCE

*The ability of microorganisms to resist the effects of antimicrobial drugs*



### CAUSES OF ↑ AMR

- Poor infection control/sanitation
- Antibiotic overuse
- Genetic mutations of microbe
- Lack of investment in R&D of new antimicrobial drugs

Microbes that develop AMR are called 'Superbugs'

### IMPACTS OF AMR

- ↑ Risk of spreading infections
- Makes infections harder to treat; prolonged illness
- ↑ Healthcare costs

### EXAMPLE

- Carbapenem antibiotics stop responding due to AMR in *K. pneumoniae*
- AMR *Mycobacterium tuberculosis* causing Rifampicin-Resistant TB (RR-TB)
- Drug-resistant HIV (HIVDR) making antiretroviral (ARV) drugs ineffective

### RECOGNITION BY WHO

- Identified AMR as **one of the top 10 threats** to global health
- Launched **GLASS** (Global Antimicrobial Resistance and Use Surveillance System) in 2015

### INDIA'S INITIATIVES AGAINST AMR

- Surveillance of AMR in microbes causing **TB, Vector Borne diseases, AIDS etc.**
- **National Action Plan on AMR (2017)** with One Health approach
- **Antibiotic Stewardship Program** by ICMR

*New Delhi metallo-β-lactamase-1 (NDM-1) is a bacterial enzyme, emerged from India, that renders all current β-lactam antibiotics inactive*

Note:

- Under this initiative, pharmacies must keep accurate antibiotic sales records and must display a poster mentioning 'antibiotics not sold without doctor's prescription'.
  - The public can also report non-compliance of this measure to the Drug Control Department.
- In 2018, Kerala became the inaugural Indian state to introduce the KARSAP state action plan on AMR, aligning with India's National Action Plan. The Kerala government has implemented various similar initiatives:
  - Antibiotic Literate Kerala Campaign
  - Establishment of block-level AMR Committees in all 191 blocks
  - Kerala Antimicrobial Resistance Surveillance Network (KARS-NET)
  - Inauguration of an AMR laboratory by Kerala State Pollution Control Board
  - Programme on Removal of Unused Drugs (PROUD) for proper disposal of unused antibiotics

Read more: [Antimicrobial Resistance](#)

## Sumit Nagal Defeated Seeded Player at Australian Open

Sumit Nagal, by defeating Kazakhstan's Alexander Bublik in the opening round of the Australian Open became the first Indian since 1989 to defeat a seeded player at a Grand Slam, following Ramesh Krishnan's victory over Mats Wilander at the Australian Open.

- Though he ended an 11-major drought by securing Indian representation in the Australian Open singles main draw after three years with a victory over Alex Molcan.
- Grand Slam tournaments, also called majors, are the four most important annual tennis events.
  - The Grand Slam itinerary consists of the Australian Open in mid-January, the French Open from around late May to early June, Wimbledon in June–July, and the US Open in August–September.
  - The Australian and United States tournaments are played on hard courts, the French on clay, and Wimbledon on grass.

Read more: [Australian Open](#)

## Stamp Book on Ramayana

Recently, the Prime Minister of India released commemorative postage stamps on the Ram temple along with a book of stamps on the Ramayana from around the world.

- The components of its design include the under-construction Ram temple, the Saryu River flowing in Ayodhya, and sculptures in and around the temple.
  - The book covers stamps issued by more than 20 countries, including the US, New Zealand, Singapore, Canada, Cambodia, and organisations like the UN.
- The Ramayana was written by the Maharishi Valmiki. It gives the message of the victory of love and teaches people sacrifice, unity, and bravery in the most difficult of times while connecting humanity.

## PFRDA notifies Point of Presence (PoP) Regulations

Recently, the Pension Fund Regulatory and Development Authority (PFRDA) notified the Point of Presence (PoP) Regulations 2023,

- This regulation makes it easier for people to join the National Pension System (NPS) by simplifying the registration process.
  - Banks and non-banks can serve as Points of Presence (PoPs) to help people join the NPS.
  - Now, people require only single Registration for NPS, instead of multiple registrations as earlier required and can operate with just one branch with wider digital presence.
- The Central Government has introduced the National Pension System (NPS) with effect from January 2004.
- National Pension System Trust (NPST) established by PFRDA is the registered owner of all assets under NPS.

## Jallikattu

Recently, Alanganallur Jallikattu was inaugurated in Madurai district of Tamil Nadu.

- Jallikattu is a bull taming sport in which contestants attempt to tame a bull for a prize, if they fail, the bull owner wins the prize.

Note:

- It is celebrated as a part of **Pongal (harvest) festival** and is revered majorly across **Madurai, Tiruchirappalli, Theni, Pudukkottai and Dindigul districts of Tamil Nadu**, known as the Jallikattu belt.
- In May 2023, the **Supreme Court of India** upheld the validity of Jallikattu.

Read more: [Jallikattu](#)

## Navy to Have Mixed Marching Contingent at Republic Day Parade

The **Indian Navy** is set to make history at the Republic Day Parade, showcasing a groundbreaking **mixed-gender marching contingent of 144 men and women Agniveers**.

- This year's parade marks the debut of a triservice women marching contingent and **features the first-ever appointment of a woman officer as a Commanding Officer of a warship**.
- The Navy's tableau highlights two key themes - **'Nari Shakti' and indigenisation**, spotlighting the achievements of Bharat in naval capabilities.

Read more: [Equal Benefits for Women in Armed Forces](#)

## ANUBHAV Awards Scheme 2024

Government of India has notified the **ANUBHAV Awards Scheme 2024**. To participate in the scheme, **retiring Central Government employees/pensioners** are required to submit their Anubhav write ups, 8 months prior to retirement and up to 1 year after their retirement.

- The published write-ups will be shortlisted for **Anubhav Awards and Jury Certificates**.
- The Department of Pension & Pensioners' Welfare **launched Anubhav Portal** in 2015, allowing **retired Central Government employees to share their experiences online**.

Read more: [Awards for Excellence in Public Administration 2023](#)

## Tubeless Conundrum

- **Tubeless tyres** are tyres that do not have an **inner tube** and hold the **air inside** the tyre itself. A tubeless tyre resembles a tubed tyre.

- Tubeless tyres have advantages over conventional tubed tyres, such as **cooler running, reduced downtime, and safer handling**.
- These are not popular in India because of two main reasons: **rusting of rims** and the need for **special tools for repairs**.
  - Rusting of rims causes **air leaks** and reduces the **sealing of tubeless tyres**. Special tools and presses are required to fit and remove tubeless tyres, which are not available in roadside shops.

## Invasive Species and Food Crisis in Karnataka's Western Ghats

- Invasive plants such as **Lantana, Prosopis** and **Chromolaena** have reduced the availability of **food and shelter** for herbivores, which in turn affects the carnivores that depend on them **in Karnataka's Western Ghats**.

- An **invasive species** refers to a **non-native species** that, when introduced to a new environment, exhibits **aggressive growth** and spreads rapidly, often causing harm to the **native ecosystem**.

- Invasive plants can outcompete and displace native vegetation, disrupt ecological balance and the **movement and migration of animals**.
- Several rainforest complexes, including **Nagarahole, Anshi National Park, Kudremukh National Park** and **Bhimgad Wildlife Sanctuary**, are suffering from invasive species.

Read More: [Invasive Alien Species](#)

## Thiruvalluvar Day

**Thiruvalluvar Day** was celebrated on **16<sup>th</sup> January** as part of **Pongal** to commemorate the Tamil sage for his contributions to literature.

- **Saint Thiruvalluvar**, also known as **Valluvar** is believed to have lived in **Mylapore** (now part of **Chennai, Tamil Nadu**). He is said to have been a weaver by profession and a **Jain by religion**.
- He is best known as the author of the **Tirukkural**, a collection of couplets on ethics. He is said to have been a weaver by profession and a Jain by religion.

Read more: [Thiruvalluvar](#).

Note:

## Rhododendron

**Rhododendron** is a large genus of woody plants comprising approximately **1,000 species**. These plants are characterised by their showy flowers that come in various colours such as **white, pink, red, orange, and purple**.

- A total of 87 species, 12 subspecies and 8 varieties of Rhododendrons recorded in the **Indian Himalayan Region**.
- **Rhododendron arboreum** is the **state flower of Nagaland**. The traditional belief in the state is that consuming rhododendron petals can help **remove fish bones stuck in one's throat**.
  - However, **rampant deforestation, habitat destruction, and threats** from pests have rendered many species vulnerable.



Read more: [Rhododendron](#)

## DRDO Launches Indigenous Assault Rifle 'Ugram'

The [Defence Research and Development Organisation \(DRDO\)](#) has launched an indigenous assault rifle named '**Ugram**', intended to meet the operational requirements of armed forces, paramilitary, and state police entities.

- It has been developed by the Armament Research and Development Establishment (ARDE), a unit of DRDO and Hyderabad-based private firm Dvipa Armour India Private Limited.
  - The Ugram is intended to replace the aging INSAS rifle currently used by the Indian Armed Forces.
- It has been developed as per the General Staff Qualitative Requirements (GSQR) of the army into consideration.

- GQSR is one of the initial processes in capital procurement. It outlines why the equipment is required, its physical and operational details, as well as the maintainability and quality requirements.

### Features:

- The rifle, with a calibre of 7.62 x 51 mm, has been designed, developed, and manufactured in collaboration with a private industry partner.
  - It has an effective range of 500 metres and weighs less than four kilograms.



Read More: [DRDO, Innovations for Defence Excellence](#)

## Ex-Ayutthaya and The 36th edition of Indo-Thai CORPAT

The Indian Navy and Royal Thai Navy (RTN) conducted a maiden bilateral exercise, named '**Ex-Ayutthaya**' and the **36<sup>th</sup> edition of India-Thailand Coordinated Patrol (Indo-Thai CORPAT)** was also conducted along with the maiden bilateral exercise.

- The '**Ex-Ayutthaya**' translates to '**The Invincible One**' or 'Undefeatable', and "symbolizes the significance of two of the oldest cities, **Ayodhya** in India and **Ayutthaya** in Thailand, the historic legacies, rich cultural ties and shared historical narratives dating back to several centuries.
- Indigenously built Indian Naval ships **Kulish** and **IN LCU 56** participated in the inaugural edition of the exercise. The RTN side was represented by His Thai Majesty's Ship (HTMS) **Prachuap Khiri Khan**.
- Maritime Patrol Aircraft from both navies participated in the Sea Phase of the exercise.

Note:



drishti



Read More: [SAGAR Vision](#)

## National Startup Day 2024

**National Startup Day** is observed annually on 16<sup>th</sup> January to appreciate and promote the Indian Startup Ecosystem.

- **Startup India initiative** was launched on 16<sup>th</sup> January, 2016, with a vision to **cultivate innovation, support startups, and stimulate investments**.
  - The **eighth anniversary in 2024** marks significant growth, with the program expanding from **400 startups in 2016 to over 1.18 lakh startups**.
- Recognized entities enjoy various government benefits, such as compliance self-certification, patent application assistance, and tax exemptions.
  - Notably, the **SIDBI Fund of Funds scheme** has **granted 2,977 income tax exemptions and funded 3,658 startups**, emphasizing financial support.
  - The Startup India program encompasses initiatives like the **Seed Fund scheme and Credit Guarantee Scheme**, further aiding startups.

Read more: [Startups in Emerging Technology](#)

## Foraging Traditions of Soliga and Yerava Tribes

The **Soliga tribe in Karnataka**, part of the Cauvery Basin, practices **ancient honey collection using traditional techniques** with vines and bamboo ropes.

- They, along with the **Yeravas in the Western Ghats**, have lived in the region for thousands of years, relying significantly on honey from the Western Ghats in their diet.
- The book "**Forgotten Trails: Foraging Wild Edibles**" explores how foraged foods make up a substantial part of both tribes' diets, emphasizing the importance of preserving traditional foraging knowledge.
  - **Foraging not only ensures survival but also strengthens community bonds**, passing on essential skills to the younger generation and fostering unity and coexistence.

Read more: [Honey Mission and Sweet Revolution](#)



Note: