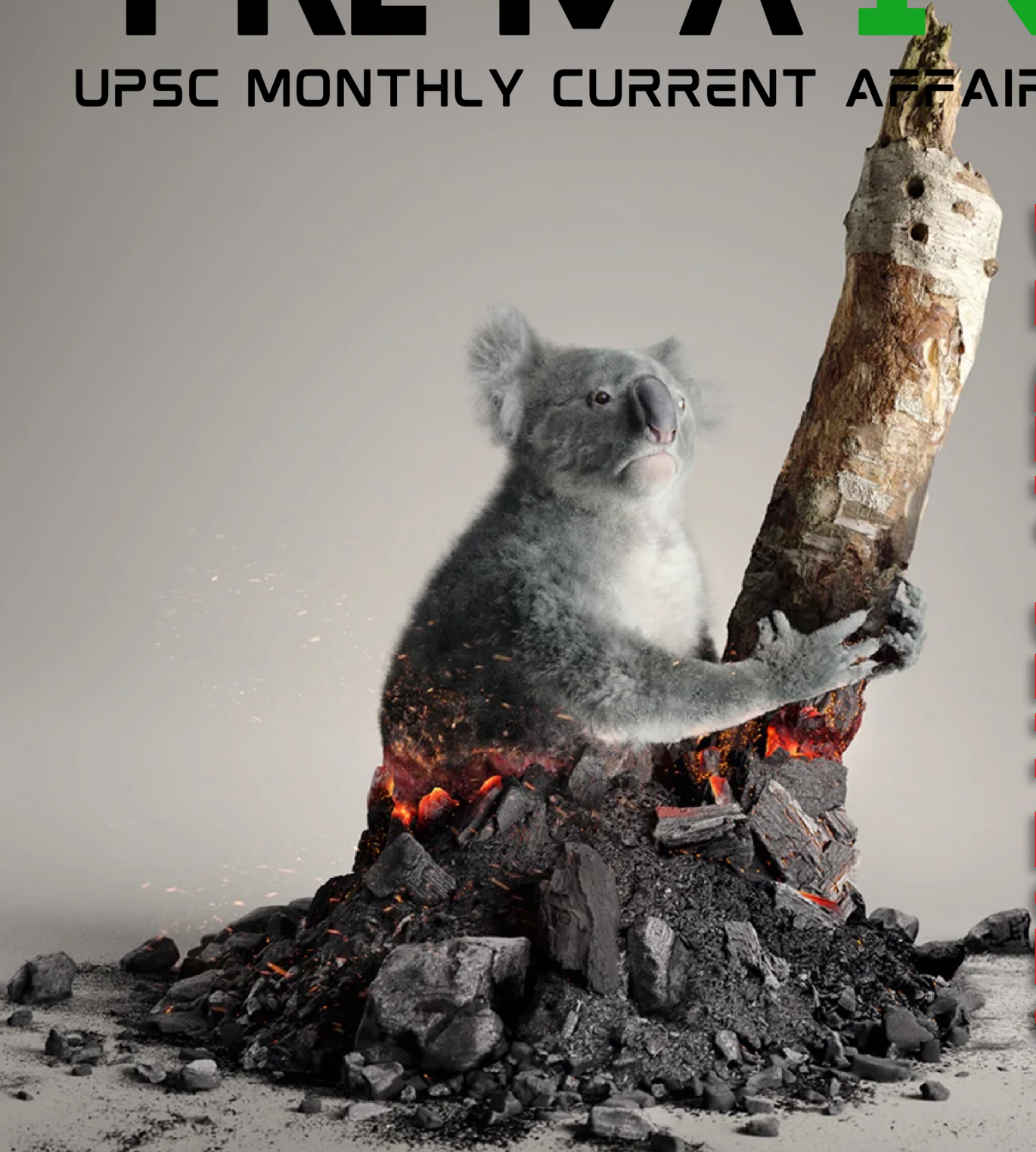


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UPSC MONTHLY CURRENT AFFAIRS

DECEMBER 2023



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# PRELIMS BYTES

## 1. ART AND CULTURE

### 1.1 Garba Dance

#### Why in the news?

Recently, Gujarat's traditional dance form 'Garba' was included in the list of Intangible Cultural Heritage by the United Nations Educational, Scientific and Cultural Organization (UNESCO).

- The popular dance form is the 15<sup>th</sup> cultural item from India to make it to the UNESCO list.

#### About Garba Dance:

- It is a ritualistic and devotional dance performed in Gujarat.
- Traditionally, it is performed during the Navratri festival.
- The dance is performed around a clay lantern with a light inside, called a Garbha Deep ("womb lamp").
- This lantern represents life, and the fetus in the womb in particular. The dancers thus honor Durga, the feminine form of divinity.
- Both men and women perform the dance.

#### About Intangible Cultural Heritage by the United Nations Educational, Scientific and Cultural Organization (UNESCO):

- Intangible cultural heritage is the practices, expressions, knowledge and skills that communities, groups and sometimes individuals recognise as part of their cultural heritage.
- It can be anything such as Performing arts, oral traditions, social and cultural practices, festivals etc.

#### List of India:

- So far, 15 heritages have been included into the Intangible Heritage Sites.

Practice	Year
Tradition of vedic chanting	2008
Ramlila, traditional performance of the Ramayana	2008
kutiyattam	2008
Ramman	2009
Mudiyettu (Kerala)	2010
Kalbelia (Rajasthan)	2010
Chhau dance	2010
Buddhist chanting (Ladakh)	2012
Sankirtana (Manipur)	2013
Traditional brass and copper craft making	2014
Yoga	2016
Nowruz	2016
Kumbha mela	2017
Durga Puja	2023
Garba dance	2023

## 1.2 Chavittunatakam performance

### Why in the news?

Recently, more than 500 women from the Kudumbashree network performed Chavittunatakam, an indigenous art form.

### About Chavittunatakam performance:



- It is a highly decorated festival of Latin christians in Ernakulam, Kerala.
- It originated also in **Ernakulam, Kerala**.
- Medieval era dress is worn by the performers with heavy makeup and costumes.
- Dance intune with music and well-defined body movements are its characteristics.
- It resembles **European opera**.

## 1.3 Dodda Basavanagudi Temple

### Why in the news?

Recently, people started to visit the annual Kadalekayi parishe near the Dodda Basavanagudi Temple.

### About Dodda Basavanagudi Temple:

- It is located in Bengaluru city.
- Large nandi rock is located inside the temple.
- The temple was built in 1537 by Kempe Gowda under the Vijayanagara empire in the Vijayanagara architectural style.

### Kadalekayi Parishe:

- It is popularly known as the groundnut festival, the Kadalekayi Parishe welcomes the first yield of the groundnut crop.
- Karnataka's farmers congregate at the Bull Temple each year to seek blessings for a good harvest.

## 1.4 Sahitya Academy Awards

### Why in the news?

Recently, Tamil writer Devibharathi's 'Neer Vazhi padoom' has won Sahitya Academy Award.

### About Sahitya Academy Award:



- It was started in **1954** for the **promotion of literature** across the country.
- First award was given in **1955**.
- It is the **second highest literary award** given by the Government of India after the Jnanpith award.
- This award is given to **24 languages (22 Eighth Schedule Languages, English and Rajasthani)**.
- Sahitya Akademi Award is given to the most outstanding books of literary merit published in any of the major Indian languages recognised by the Akademi
- **Sahitya Akademi 'Yuva Puraskar'** was instituted in 2011, it recognises young writers under the age of 35.

## 2. POLITY AND GOVERNANCE

### 2.1 Sixth Schedule of the Constitution

#### Why in the news?

Recently, the Union Home Ministry has agreed to examine the demand of civil society groups in Ladakh to provide "constitutional safeguards" for the Union Territory.

- Civil society organizations have been demanding Ladakh's inclusion in the Sixth Schedule of the Constitution and granting tribal status to the Union Territory.

#### About Sixth schedule of the constitution:

- **States covered:** Assam, Meghalaya, Tripura, and Mizoram.

#### Objectives:

- Better administration of the above four states.
- Protect tribal land and resources
- Prohibit the transfer of tribal lands to non-tribals.
- Preservation of Culture, language and social customs of the tribal society.

#### Important features:

- Constitution of **autonomous districts** in the four states.
  - Governor can increase or decrease the area of autonomous districts.
- Constitution of **autonomous regions**, if the autonomous district has more tribal groups.
- The acts of Parliament and State legislatures do not apply or apply with some modifications.
- Governors can appoint a commission to review the progress of the autonomous regions.

- Governor can also dissolve the district and regional councils based on the recommendation of the commission.

### 2.2 Ethics Committee

#### Why in the news?

Recently, the ethics committee of the Lok Sabha was believed to have recommended the expulsion of Trinamool Congress Member of Parliament (MP) Mahua Moitra from the Lok Sabha for her "unethical conduct" and "breach of privileges".

#### What is the Ethics committee?

- The ethics committee was constituted as an ad hoc committee in 2000, to oversee the moral and ethical conduct of members and examine cases of 'unethical conduct' referred to it.
  - In 2015 only, the committee was made permanent.
  - The Ethics committee of Rajya Sabha was constituted in 1997.
- The Committee examines complaints filed against members of the House by other members; outsiders through a member; or referred by the Speaker.
- The Committee makes a prima facie inquiry before deciding to examine a complaint and presents its report to the Speaker, who places it before the House for consideration.
- The term 'Unethical' is not defined. It is left to the Ethics committee to decide whether any act is unethical or not.

#### Privileges committee:

- The privileges committee or special inquiry committee examines the more serious accusations against a member.



- This Committee consists of 15 members nominated by the Speaker.
- Its function is to examine every question involving breach of privilege of the House or of the members of any Committee thereof referred to it by the House or by the Speaker.
- The difference between Privilege and Ethics committees is that an MP can be examined for breach of privilege; a non-MP too can be accused of breach of privilege for actions that attack the authority and dignity of the House.
- The Ethics Committee can take up only cases of misconduct that involve MPs.

### Is an expulsion constitutional?

#### Two different Supreme Court judgments:

- **Raja Ram Pal versus Hon'ble Speaker (2007):** The Supreme Court upheld the power of Parliament to expel its members for breach of privilege by interpreting Article 101 to include expulsion as a ground.
- **Amarinder Singh versus Special committee, Punjab Vidhan Sabha (2010):** The Supreme Court held expulsion by the State Assembly as unconstitutional. It held that such scenarios would frustrate the objectives of Parliamentary democracy.

#### About Article 101:

- The Constitution under Article 101 lists down the grounds for vacation of a seat by an MP.
- It includes voluntary resignation, disqualification and continuous absence from the House for 60 sittings.
- Expulsion is not mentioned explicitly in the Constitution.

## 2.3 Supplementary Demand for Grants

### Why in the news?

Recently, the Union government sought parliament's approval for spending an additional ₹1.29 lakh crore in the current fiscal year, mainly towards higher subsidies for farmers and a rural employment guarantee programme.

#### About Supplementary Demand for Grants:

- An additional grant required to meet the required expenditure of the government is called Supplementary Grants.
- When grants, authorized by the Parliament, fall short of the required expenditure, an estimate is presented before the Parliament for Supplementary or Additional grants.
- **Article 115** of the Constitution deals with the supplementary grants.

## 2.4 MP suspension

### Why in the news?

Recently, 141 MPs were suspended from the Parliament for the remaining Winter session.

#### What will happen after the MPs suspension?

- The suspended members are now **barred from entering the Parliament** chamber, its lobby and galleries.
- This **restriction** extends to their participation in **sittings of Parliamentary Committees**, where they hold membership.
- Any business listed under their names or notices tabled by them will not be considered during the suspension period either.
- They **cannot vote at elections to committees** held during the period of their suspension.

- The MPs will **not receive their daily allowance** for the duration of the suspension. This decision is in accordance with the Salary, Allowances and Pensions of Members of Parliament Act, 1954.

### How MPs are suspended?

- First, the presiding officers can direct an MP to withdraw from the House for any disorderly conduct.
  - If that does not work and the said MP continues to disrupt the House proceedings, the presiding officer can “name” the legislator. After that, the House can move a motion to suspend the MP until the end of the session.
- In 2001, the Lok Sabha further empowered the Speaker to deal with “grave and disorderly conduct.”
  - As per the new rule, an MP “named” by the Speaker shall automatically stand suspended for a period of five days or the remaining part of the session.
- This rule removes the need for the House to pass a motion for suspension.
- Notably, the Rajya Sabha has not incorporated this provision in its procedures.
  - Recently, after being named by the Rajya Sabha Chair, Parliamentary Affairs Minister Pralhad Joshi moved a motion to suspend the MPs. This was adopted by a voice vote.
- A member can be suspended, at the maximum, for the remainder of the session only. Moreover, the House, at any point of time, can reinstate a suspended member by passing a motion.

## 2.5 MLA disqualification

### Why in the news?

Recently, a Tamil Nadu minister was convicted in an asset case by the Madras High Court. He now faces disqualification as an MLA due to the conviction.

**Constitutional Provisions of disqualification:** A Person shall be disqualified for being chosen as and for being a member of the legislative assembly or legislative council of a state:

- If he/she holds any office of profit under the Union or state government (except that of a minister or any other office exempted by state legislature),
- If he/she is of unsound mind and stands so declared by a court,
- If he/she is an undischarged insolvent,
- If he/she is not a citizen of India or has voluntarily acquired the citizenship of a foreign state or is under any acknowledgement of allegiance to a foreign state, and
- If he/she is so disqualified under any law made by Parliament.

### Provisions in the Representation of People Act 1951:

- He/she must not have been found guilty of certain election offences or corrupt practices in the elections.
- He/she must not have been convicted for any offence resulting in imprisonment for two or more years. But, the detention of a person under a preventive detention law is not a disqualification.
- He/she must not have failed to lodge an account of his election expenses within the time.
- He/she must not have any interest in government contracts, works, or services.

- He/she must not have been dismissed from government service for corruption or disloyalty to the state.
- According to Section 8(1) of the Representation of the People Act, 1951, a legislator convicted of an offence under the Prevention of Corruption Act should be disqualified for a period of six years, from the date of conviction, if the punishment is limited to a fine.
- However, if a legislator is sentenced to any term of imprisonment under the PCA, then he or she should be disqualified from the date of conviction till the entire period of imprisonment and also for a further period of six years from the date of release, the Act says.
- The disqualification can be avoided only if the conviction, and not just the sentence, gets stayed or set aside.

In such a case of disqualification, the President/Governor will decide the matter and his decision is final. Both the President and the Governor should act based on the suggestion of the Election Commission.

## 2.6 Punishment for Death caused by negligence

### Why in the news?

Recently, the amended Bharatiya Nyaya (Second) Sanhita Bill, 2023 (BNSS) does not provide a blanket exemption to doctors in cases of death due to negligence.

- Instead, it prescribes a maximum two-year imprisonment in such cases, slightly lower than the punishment for other cases.

### Punishment for Death caused by negligence:

- **Section 106** of the act has a provision that whoever causes death to anyone due to rash

or negligent act, shall be punished with an imprisonment which may extend upto five years.

- If a registered medical practitioner causes death to anyone due to negligence, they will get imprisonment with a maximum two years.

## 2.7 Rights of Persons with Disabilities Act, 2016

### Why in the news?

Recently, the Election Commission asked political parties to promote inclusivity for persons with disabilities and not use "ableist" terms like dumb (gunga), deaf (behra), and lame (langda) in political discourse.

### Key points from news:

- Any usage of such language, terminology, context, mockery, derogatory references or insult to persons with disabilities may attract provisions of Section 92 of the Rights of Persons with Disabilities Act, 2016.

### Key Provisions of the Rights of Persons with Disabilities Act, 2016:

#### About:

- The act was passed to give effect to the **United Nations Convention on the Rights of Persons with Disabilities, which India ratified in 2007.**
- This act replaced the Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995.

#### Important provisions:

- **This act recognises 21 types of disabilities.**
- It **empowers the central government** to notify any other illness as disability under this act.

- **Definition of disability:** A person with a disability as a person with a long-term physical, mental, intellectual or sensory impairment which, in interaction with barriers, hinders his full and effective participation in society equally with others.
- It defines a person with benchmark disability as a person with not less than 40% of a specified disability.
- The act prohibits discrimination based on disability.
- The Act provides for free and compulsory education for children with benchmark disabilities (those with at least 40% of a specified disability) up to the age of 18 years.
- It also provides for the reservation of seats in higher educational institutions and scholarships for students with disabilities.

#### Disabilities included:

- Blindness, Low-vision, Leprosy cured persons,
- Hearing impairment (deaf and hard of hearing), Locomotor disability, Dwarfism,
- Intellectual disability, Mental illness, autism spectrum disorder
- Cerebral palsy, Muscular dystrophy, Chronic neurological conditions,
- Specific learning disabilities, Multiple sclerosis, Speech and language disability,
- Thalassemia, Hemophilia, Sickle cell disease,
- Multiple disabilities including deafblindness, Acid attack victim, and Parkinson's disease.

## 2.8 Reservation in promotion for disabilities

### Why in the news?

Recently, the Union government issued an order paving the way for persons with disabilities to

be considered for reservation in promotions up to the lowest rung of Group A posts in the Central government, with effect from June 30, 2016.

### Key points:

- June 30, 2016 is the day on which the Supreme Court had initially ruled that candidates with disabilities must be entitled to reservation in promotions irrespective of whether the positions were filled through reservation or not.

### About Reservation in promotion:

- **Article 16(4):** It says that the state can make any provisions for the reservation in posts in favor of any backward class of citizens, who in the opinion of the state are not represented adequately.
- **Article 16 (4A):** Provides that the State can make any provision for reservation in matters of promotion in favor of the Scheduled Castes and the Scheduled Tribes if they are not adequately represented in the services under the State.
- **Article 16(4B):** Added by the 81st Constitutional Amendment Act, 2000 which enabled the unfilled SC/ST quota of a particular year to be carried forward to the next year.

## 2.9 SC verdict on Article 370 removal

### Why in the news?

Recently, the Constitution Bench of the Supreme Court unanimously upheld the power of the President to abrogate the special status of Jammu and Kashmir under Article 370 of the Constitution.

### Key details from the verdict:

- The President has the power to remove the special status of Jammu and Kashmir.
- The President's decision was the culmination of a "gradual and collaborative exercise"



spread over the past 70 years between the Centre and the State to integrate Jammu and Kashmir with the Union.

- Justice Sanjay Kisan Kaul proposed to set up a Truth and Reconciliation Commission to reach out to the people.
- The court declared the Jammu and Kashmir Constitution "redundant" and "inoperative".
- It accepted the assurance of the Centre to restore Statehood to Jammu and Kashmir "at the earliest" and directed the Election Commission of India to hold Assembly poll by September 30, 2024.

## 2.10 Police Custody vs Judicial Custody

### Why in the news?

Recently, the four accused in the Lok Sabha security breach case went to seven days judicial custody.

#### Difference between Police Custody and Judicial Custody:

Police Custody	Judicial Custody
<ul style="list-style-type: none"> <li>• The accused is in the lockup under the custody of the police.</li> <li>• A person lodged in police custody has to appear within 24 hours before the concerned Magistrate.</li> <li>• In police custody, the time period is 24 hours which can be extended to a period of 15 days as a whole by the appropriate Magistrate.</li> </ul>	<ul style="list-style-type: none"> <li>• The accused is in the lockup under the custody of the Judicial Magistrate.</li> <li>• In judicial custody the person is kept in jail until there is an order from the Court for bail.</li> <li>• In Judicial Custody the maximum time period for detention is 90 days.</li> </ul>

## 2.11 Article 22

### Why in the news?

- Recently, the Supreme Court said that the Enforcement Directorate need not furnish a person accused under the Prevention of

### What is Police Custody?

- It means the physical custody of the accused is with the Police, and the accused is lodged in a lock-up of a police station.
- After an FIR is lodged for a cognizable offense (which provides a punishment of more than three years), the accused is arrested by the police to prevent the tampering of evidence or influencing the witnesses.

### What is Judicial Custody?

- Judicial custody or remand is there in case of serious offenses, where the Court may accede to the request of the police to remand the accused in judicial custody after the police custody period expires, that is to prevent the tampering of evidence or witnesses.

Money Laundering Act (PMLA) with a copy of the grounds of detention at the time of his arrest.

### Key details from the judgment:

- The judgment also held that the written communication of the grounds of arrest

need to be provided only within a "reasonable period" of the arrest, that is, within 24 hours of the arrest.

- The judgment comes amid debate that non commissioning of the grounds of arrest was a violation of Article 22(1) of the Constitution.

#### About Article 22(1):

- Any person who is in custody has to be informed as to why he has been arrested.
- Further, he cannot be denied the right to consult an advocate.

## 2.12 Interim leader

#### Why in the news?

Recently, Rajya Sabha Chairman Jagdeep Thakur has turned down the Aam Aadmi Party's request to appoint Raghav Chadha as the party's interim leader in the Upper House.

- There is no provision to appoint an interim leader to the house under the act.

#### Floor leader or whip:

- In the parliamentary system, a whip is a post that has the power to control the activities of a political party member inside the house.
- This system was derived from British practice.
- In India, all parties can issue whips to their members. Parties appoint a senior member from among their House contingents to issue whips, this member is called a chief whip, and he/ she is assisted by additional whips.
- Floor leaders are appointed under the Leaders and Chief Whips of Recognised Parties and Groups in Parliament (Facilities) Act, 1998' and the Rules made thereunder.
- Right to nominate floor leaders in the house vests entirely with the parties.

- **The importance of a whip can be inferred from the number of times an order is underlined.**

- A **one-line whip**, underlined once, is usually issued to inform party members of a vote, and allows them to abstain in case they decide not to follow the party line.
- A **two-line whip** directs them to be present during the vote.
- A **three-line whip** is the strongest, employed on important occasions such as the second reading of a Bill or a no-confidence motion, and places an obligation on members to toe the party line.

## 2.13 Sammakka Sarakka Central Tribal University

#### Why in the news?

Recently, the Rajya Sabha passed the Central Universities (amendment) bill to establish a Central Tribal University in Telangana.

#### About Sammakka Sarakka Central Tribal University:

- This university is a commitment made by the Central government as a part of the **Andhra Pradesh Reorganisation Act, 2014**, wherein both Andhra Pradesh and Telangana would get support to establish a tribal university each.
- It is built in Mulugu district with a total financial outlay of ₹800 cr.

#### About Sammakka Saraka:

- Sammakka is said to have been married to Pagididda Raju, a **feudal chief of the Kakatiyas (a Deccan dynasty)** who ruled the Warangal area.
- She had two daughters and one son, Sarakka or **Saralamma, Nagulamma and Jampanna**, respectively.

- In the battle against the local rulers in protest against the taxes, Saralamma died, while Sammakka disappeared into the hills and the local tribes believed that she metamorphosed into a vermillion casket.
- Mulugu holds a **biennial festival** – the **Sammakka Saralamma Jatara** – which is considered among the largest gatherings of tribal people in the world.
- The event commemorates the battle of the 13th-century mother-daughter duo against the local rulers in protest against the imposition of taxes on the Koya people.

## 2.14 Uniform Civil Code for Pharmaceutical Marketing Practices (UCPMP)

### Why in the news?

Recently, a five-member committee headed by NITI Aayog member Vinod K. Paul has suggested the Union government bring in restrictions on freebies offered to doctors by pharma companies.

- The UCPMP should remain voluntary in nature, it must be modified. A voluntarily-followed UCPMP will not be enforceable under law, and pharmaceutical companies may not be penalized for violations.

### Some important recommendations:

- It recommends the Uniform Civil Code for Pharmaceutical Marketing Practices.
- The value of "brand reminders", including books, calendars, diaries, journals (including e-journals, dummy device models of body organs, medical books, and clinical treatment guidelines) should not exceed ₹1,000 per item.
- Disclosing the price of branded gifts doled out to doctors with the gift's value not exceeding ₹1,000;

- Prohibiting Continuous Medical Education (CME) workshops for doctors in foreign locations;
- Making taxable the money received by medical practitioners from pharmaceutical companies to conduct research.
- In the case of free drug samples, tax should be deducted at source for the company under the Income Tax (I-T) Act if their value exceeds ₹20,000 per year. "The Central Board of Direct Taxes may examine threshold as percentage of sales instead of ₹20,000 in case of free samples.

## 2.15 Reservation to people with blood disorders

### Why in the news?

Recently, the Ministry of Social Justice said that people with blood disorders such as Thalassemia, Sickle Cell disease and Haemophilia are not eligible for reservation in government jobs under the Persons with Disabilities category.

- But these three blood disorders are included in the list of disabilities under the Right to Persons with Disabilities Act 2016.

### About the reservation to Persons with Disabilities category:

- 4% reservation is provided to the persons with disabilities in the Union government jobs.
- **Who gets benefits?**
  - No vision and low vision
  - No hearing and low hearing
  - Locomotor disability
  - Cerebral palsy
  - Leprosy cured
  - Dwarfism

- Muscular dystrophy
- Autism and intellectual disability
- Acid attack victims

## 2.16 Supreme Court Bar Association

### Why in the news?

Recently, Supreme Court Bar Association (SCBA) president and senior advocate Adish C. Aggarwala wrote to Chief Justice of India (CJI) D.Y. Chandrachud, expressed "shock" about an open letter addressed to the top judge by a senior member of the Bar.

### About Supreme Court Bar Association:

- It is an Indian bar council comprising practicing lawyers in the Supreme Court.
- It is not a statutory body.

### About Bar Council of India:

- Bar council of India was established to regulate legal practice and legal education in India.
- **Year:** 1961
- **Headquarters:** New Delhi
- It is a **statutory body established under the Advocates Act 1961.**
- Its members are elected from amongst the lawyers in India and represent the Indian bar.
- It sets standards and exercises disciplinary jurisdiction over the bar.
- It also sets standards for legal education and grants recognition to universities whose law degrees will qualify students to enroll themselves as advocates upon graduation.
- As per the Advocates Act, the Bar Council of India consists of members elected from each state bar council, and the Attorney General of India and the Solicitor General of India who are ex officio members.

- The council elects its chairman and vice-chairman for two years from amongst its members.
- The Advocates Act, 1961 empowers state bar councils to frame their own rules regarding the enrolment of advocates.

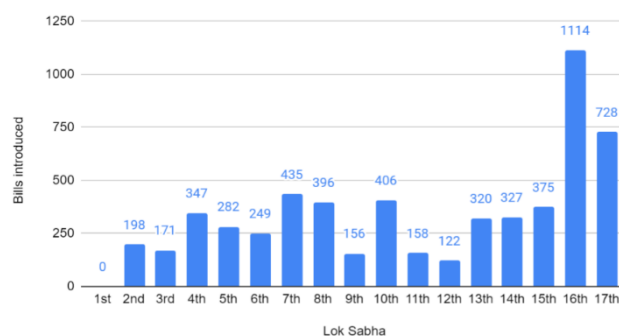
## 2.17 Private Member Bills

### Why in the news?

Recently, a Rajya Sabha member introduced a bill to provide powers to the State assemblies to remove governors.

### About Private Member Bills:

Private member bills



- Private Members' Bills are legislative proposals introduced by a member of the House who is not a minister.
- The Bills introduced by the ministers are Government Bills.
- In the Lok Sabha, the House allots the last two-and-a-half hours of business every Friday for transaction of private members' business, which includes Private Members' Bills and Private Members' Resolutions.
- In the Rajya Sabha, two-and-a-half hours every alternate Friday during a Session are generally allotted for the same.
- To date, only 14 of such Bills have become Acts.
- Six of the 14 Bills became law in 1956 and the last one to receive parliamentary approval was the Supreme Court



(Enlargement of Criminal Appellate Jurisdiction) Bill, 1968, on August 9, 1970.

## 2.18 Integrated Case Management Information System

### Why in the news?

Recently, a detailed statement released by the Supreme Court on Thursday said its rate of disposal of cases has been “unprecedented” in 2023.

### Key points:

- The court said it decided 52,191 cases between January and December in 2023, compared to 49,191 cases registered.
- The disposal is the highest in terms of numbers since ICMIS [Integrated Case Management Information System] was implemented in the year 2017.

### About Integrated Case Management Information System:

- It is a database developed to provide all kinds of information related to cases registered in the Supreme Court.
- It was launched in 2017.

### Details of information available in the ICMIS:

- Next tentative date of listing
- Categories, Acts and Sections
- Objections in defective matters
- Interlocutory Application
- Office reports
- Listing dates
- Judgements
- Appearance information of accused
- Tracking of file movement
- Status of the notice issued

## 2.19 Kudumbashree

### Why in the news?

Recently, more than 500 women from Kudumbashree units across Kerala staged a Chavittunatakam performance, a folk theater art form at Durbar Hall Grounds in Kochi to set a world record.

### About Kudumbashree program:

- Kudumbashree program was started in **1997** as a poverty eradication program and women empowerment program in **Kerala**.
- Kudumbashree has a three-tier structure for its women community network, with Neighbourhood Groups (NHGs) at the lowest level, Area Development Societies (ADS) at the middle level, and Community Development Societies (CDS) at the local government level.
- In 2011, the Ministry of Rural Development (MoRD), Government of India recognised Kudumbashree as the State Rural Livelihoods Mission (SRLM) under the National Rural Livelihoods Mission (NRLM).

### Significance:

- Poverty eradication
- Women empowerment
- Rural development

## 2.20 NCERT

### Why in the news?

Recently, the NCERT was told to use Indian languages.

### About National Council of Educational, Research and Training:

- It was established to design and support common form education across the country.

- It was established as an **autonomous institution** under Societies Registration Act, 1860.
- **Year:** 1961
- **Nodal Ministry:** Ministry of Education
- **Headquarters:** New Delhi

#### Objectives:

- Promote common form of education
- Promote and enhance cultural diversity across the country

## 2.21 Digital India Corporation

#### Why in the news?

Recently, the Center has set up a secure email network for the critical Ministries.

#### Key details:

- This new email system works on the **Zero Trust Authentication system**.
- This new system was created by the National Informatics Center.
- In this new system, two factor authentication is required with biometrics or facial recognition is necessary.

#### Digital India Corporation:

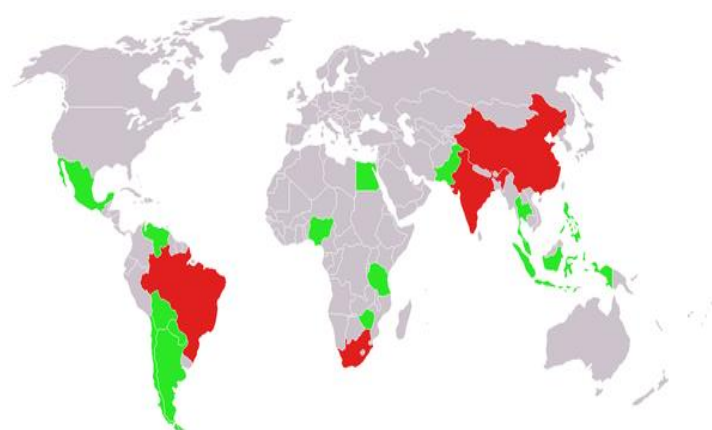
- It is a not-for-profit company of the central government.
- The Ministry of Electronics and Information Technology is the nodal ministry.
- It handles various digital initiatives of the government such as Digi locker, Umang, Kidan Sarati and Academic Bank of Credits etc.

# 3. INTERNATIONAL RELATIONS

## 3.1 BASIC GROUP

#### Why in the news?

Recently, the BASIC grouping of Brazil, India, South Africa and China has said during the COP-28 that the Global Stocktake should also account for the failures of the developed nations.



#### Key points from news:

- The Global Stocktake (GST) is a fundamental component of the Paris Agreement, which is used to monitor its implementation and evaluate the collective progress made in achieving the agreed goals.

#### About BASIC grouping:

- It is a bloc of four large newly industrialized countries formed by an agreement in 2009.
- **Members: Brazil, India, China, and South Africa.**
- **These countries together have one-third of the world's geographical area and nearly 40% of the world's population.**
- Headquarters: **No permanent secretariat**

### Purpose:

- Technical and political cooperation in environmental matters.
- The signatory nations, all recently industrialised, committed to acting together at the upcoming United Nations Climate Change Conference, commonly known as the Copenhagen Summit, scheduled in Copenhagen, Denmark from December 2009.
- These nations have a broadly common position on reducing greenhouse gas emissions and raising the massive funds that are needed to fight climate change.
- The BASIC countries constituted one of the parties in the Copenhagen Accord reached with the US-led grouping; the Accord, was, however, not legally binding.

## 3.2 AUKUS

### Why in the news?

Recently, the defense chiefs of the U.S, Australia and Britain met in California, touting high-tech cooperation on deep space radar, AI and quantum computing systems aimed at bolstering their forces in the face of global threats, including from China.



### Key points:

- The three countries also discussed the setting up of the **Deep Space Advanced Radar Capability program**, which will see radar detection sites in all three countries by the end of the decade, with the capacity to peer 35,000-km into space.

### About AUKUS:

- It is a group of three countries to promote **security cooperation in the Indo Pacific region**.
- **Countries:** Australia, USA, and UK.
- Year of formation: **2021**

### Purpose:

- Cooperation in emerging technologies, Space, Defense.

## 3.3 1M1B Activate Impact Summit

### Why in the news?

Recently, at the '1M1B Activate Impact Summit', India's Permanent Representative to the UN Ambassador Ruchira Kamboj said India truly believes in the "transformative power" of youth.

### About 1M1B Activate Impact Summit:

- It is organized to encourage people to contribute to achieve the Sustainable Development Goals.
- Organized by: Department of Global Communications, NGO 1M1B and Civil Society Unit.
- The 2023 summit, which was held at CoP 28, Dubai. It is the 7th edition.

## 3.4 Rohingya refugees

### Why in the news?

Recently, more than 100 rohingya refugees landed in Indonesia's westernmost province.

- But the local people pushed the rohingyas back to sea.



#### About Rohingya refugees:

- The Rohingya people are a stateless Indo-Aryan ethnic group who predominantly follow Islam and reside in Rakhine State, Myanmar.
- Rohingyas are not recognized as an official ethnic group, so they are denied citizenship rights 1982.
- In 2017, Myanmar Military launched the 'Clearance Operations' against the Rohingya people.
- Around 7.4 lakh people fled from Myanmar to neighboring countries.

#### India's stand:

- India did not provide asylum to Rohingyas and they are being labeled as 'illegal immigrants'.

### 3.5 Visa free entry to India

#### Why in the news?

Recently, Malaysia has announced to provide Visa free entry to Indian Citizens.

- The facility will be extended to Indian travelers till December 31, 2024 and will be valid for 30 days from the date of entry.

#### Countries offered visa free entry to India:

- Around 26 countries extended visa free travel facilities to Indian Citizens.
- Sri Lanka, Thailand, Malaysia, Nepal, Bhutan, Fiji, etc.

#### Purpose:

- To recover from Covid-19 impact.
  - Tourism contributes \$28 bn to Malaysia's economy.

### 3.6 Global Partnership for Artificial Intelligence

#### Why in the news?

Recently, representatives from 28 countries and the European Union adopted the "New Delhi Declaration" of the Global Partnership on Artificial Intelligence.

#### Key details:

- The declaration affirms the countries' commitment to "principles for responsible stewardship of trustworthy AI rooted in democratic values and human rights and promoting trustworthy, responsible, sustainable and human-centered use of AI".
- The Delhi Declaration commits countries to work on mitigating "concerns around misinformation and disinformation, unemployment, lack of transparency and fairness, protection of intellectual property and personal data, and threats to human rights and democratic values".

#### About Global Partnership for Artificial Intelligence (GPAI) Summit:

- The Global Partnership on Artificial Intelligence is an international initiative established to guide the responsible development and use of artificial intelligence (AI) in a manner that respects



human rights and the shared democratic values of its members.

- Year: 2020
- Headquarters: Paris, France and Montreal, Canada.
- Members: 29; India is a member

### 3.7 ASEAN India Trade in Goods Agreement

#### Why in the news?

Recently, India and the ten-member Association of SouthEast Asian Nations (ASEAN) have planned to begin negotiations in February to “modernize” their decade-and-a-half-old free trade agreement (FTA) to bring more balance in the pact currently weighed against New Delhi.

#### Key points:

- India’s trade deficit with the ASEAN region is \$43 billion.
- In 2022-23, India’s exports to the region were valued at \$44 billion, while its imports were at \$87.57 billion.
- Accounted for 11.3% of India’s global trade in 2022-23.

#### About ASEAN India Trade in Goods Agreement (AIGA):

- It is a Free Trade Agreement between India and ASEAN.
- It was signed in 2009.

#### What are Rules of Origin (ROO)?

- Rules of Origin are the criteria to determine the origin of a product and establish if it qualifies for duty cuts under an FTA.

### 3.8 Bandits

#### Why in the news?

Recently, around 113 people were killed in a series of attacks on villages in Nigeria.

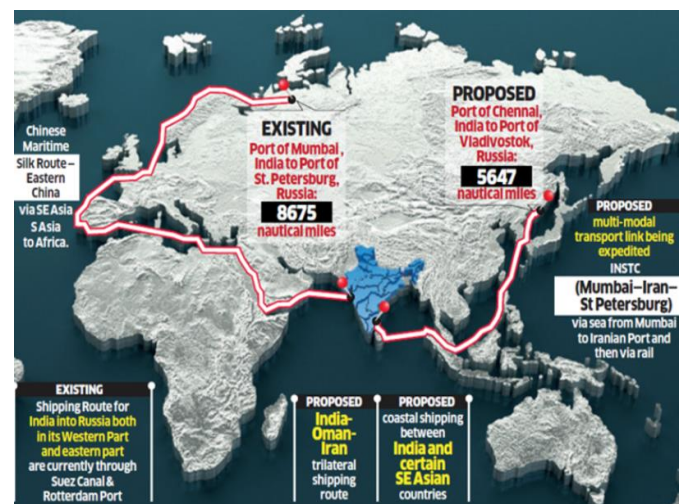
#### Bandits:

- Bandit conflict was started in **2011** in **Nigeria** by some of the ethnic communities of Nigeria such as **Fulani and Hausa**.
- **Unemployment, Poverty, and the poor local government system** changed the most desperate people into criminals to commit criminal activities for their earnings.
- **Unequipped military and police personnels** could not contain the activities of these bandits.

### 3.9 India - Russia meet

#### Why in the news?

Recently, the External Affairs Minister S. Jaishankar said that he was “confident” that the annual India-Russia leadership summit.



#### Significance of the meeting:

- It became a precursor to the annual meeting between India and Russia, which was skipped in the last two years.
- It gives a signal that India is always a nonaligned country.

- Discussed about India - Russia trade.

#### About Chennai-Vladivostok shipping route:



- It is a maritime route between India and Russia that passes through the Sea of Japan, the South China Sea, and Malacca Strait.
- It can reduce transport time from 32 days to 12 days and reduce cost by 30%.

#### About Polar Northern Sea route (use maps):

- It is an alternative marine route, which runs through the Bering strait, Pacific Ocean and Indian ocean.

### 3.10 International Organisation for Migration

#### Why in the news?

Recently, the International Organization for Migration is launching its first "global appeal," seeking to help people on the move and ensure smoother pathways to migration.

#### About International Organization for Migration:

- It was started in 1951 to manage the displaced people during the second world war.
- It has 175 countries as members.
  - India is a member of this organization.
- **Headquarters:** Geneva, Switzerland.

- The highest decision-making body of the IOM is the council, in which all member states are represented.
- The Director General of the organization is elected by the delegates of the IOM member states for a five-year term.
- **Objectives:** The organization implements operational assistance programmes for migrants, including internally displaced persons, refugees, and migrant workers.

### 3.11 Commission on Social Connections

#### Why in the news?

Recently, the World Health Organisation has established a Commission on Social Connections.

#### About the Commission on social connections:

- It was established with an intent to see the social isolation issue recognised and resourced as a global public health priority.
- This commission has been established for the period between **2024 - 2026**.
- The Commission will propose a global agenda on social connection, working with high level Commissioners to make the case for action, marshal support to scale up proven solutions and measure progress.

### 3.12 Ukraine and European Union

#### Why in the news?

Recently, the European Union decided to open accession negotiations with Ukraine and Moldova.

#### European Union:

- It is a supranational political and economic union.

- Members: 27 members.
  - Ukraine is not a member of the European Union.

#### Other Organizations of Europe where Ukraine is part of it:

- Council of Europe
- It has applied to join NATO
- Organization of Security and Cooperation in Europe

#### Organizations in which Ukraine is not part:

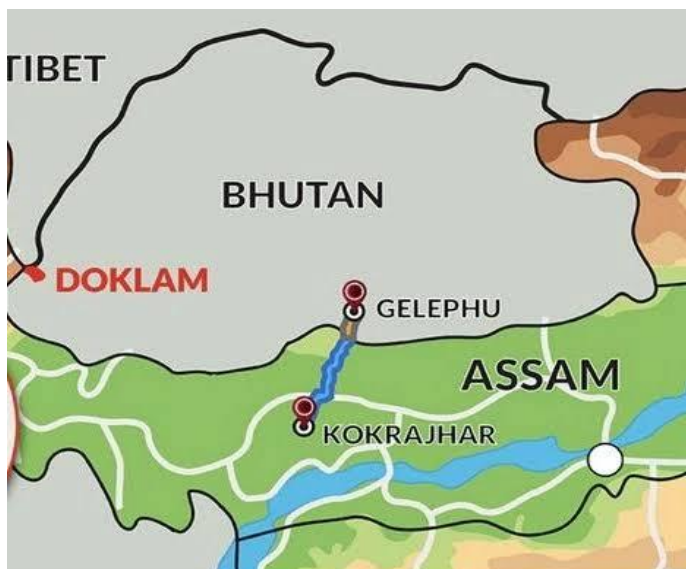
- Commonwealth of Independent States
- European Union

### 3.13 Gelephu Megacity Project

#### What is in the news?

Recently, the Bhutan King announced the Gelephu smart city project, which connects South Asia with South East Asia.

#### About Gelephu Smart city project:



- **Aim:** Main aim of this project is to attract investments, boost trade and create jobs thereby facilitating the demand for goods and services.

- **Dynamic Economic Corridor:** The proposed land connection from Gelephu, traversing Assam and Northeast Indian states, extends to Myanmar, Thailand, Cambodia, Laos, Vietnam, Malaysia, and Singapore, forming a dynamic economic corridor that bridges South Asia to Southeast Asia.
- **Three immediate priority areas to support the Gelephu project:** Energy, Connectivity, and Skills.
- This project is rooted in the vision and values of Gross National Happiness (GNH), as it aspires to be a Mindfulness City and envisions setting up of "zero emission" industries.

### 3.14 India Maldives Core Group

#### Why in the news?

Recently, the Maldivian President has asked India to withdraw their troops from the country by March 2024.

#### Key points:

- High-Level Core Group was set up with top officials from both sides to negotiate the matter, among other key bilateral concerns.

#### Purpose of stationing Indian troops in Maldives:

- Currently, there are around 70 Indian military personnel in the Maldives.
- As many as 24 military personnel manage the first helicopter, 25 personnel manage the Dornier aircraft, 26 manage the second helicopter and two look after maintenance and engineering.
- Known activities of the Indian military include operating two aircraft donated by India and assisting in the rescue of people stranded or faced with calamities at sea.

### 3.15 India - Maldives Joint Hydrographic survey

#### Why in the news?

Recently, Maldives has decided against renewing a 2019 MoU with India for hydrographic surveying.

#### About Joint hydrographic survey:

- India and Maldives signed the **Joint Hydrographic Survey in 2019**.
- Hydrographic surveys are carried out by ships, which use methods such as SONAR to understand the various features of a water body.
- These surveys help map out water depth, the shape of the seafloor and coastline, the location of possible obstructions, and physical features of water bodies, to ensure the efficiency and safety of maritime transportation.
- So far, three joint hydrographic surveys have been conducted.

### 3.16 UNICEF

#### Why in the news?

Recently, the head of the United Nations children's agency condemned acts of sexual violence committed against women during Hamas's October 7 attack on Israel.

#### About UNICEF:

- UNICEF, originally called the United Nations International Children's Emergency Fund in full, now officially United Nations Children's Fund, is an agency of the United Nations responsible for providing humanitarian and developmental aid to children worldwide.
- Year: 1946
- Headquarters: New York, USA

#### • Works:

- Providing immunizations and disease prevention,
  - Administering treatment for children and mothers with HIV,
  - Enhancing childhood and maternal nutrition,
  - Improving sanitation,
  - Promoting education,
  - Providing emergency relief in response to disasters
- In 1965, it received the Nobel Peace Prize for its work.
  - UNICEF does not come under the one of 17 of the United Nations Specialized agencies.

**UN Specialized Agencies:** are international organizations that coordinate their work with the United Nations through negotiated agreements.

#### There are **17 Specialized Agencies**:

- FAO: Food and Agriculture Organization of the United Nations
- ICAO: International Civil Aviation Organization
- IFAD: International Fund for Agricultural Development
- ILO: International Labour Organization
- IMF: International Monetary Fund
- IMO: International Maritime Organization
- ITU: International Telecommunication Union
- UNESCO: United Nations Educational, Scientific and Cultural Organization
- UNIDO: United Nations Industrial Development Organization
- UNWTO: World Tourism Organization
- UPU: Universal Postal Union
- WHO: World Health Organization
- WIPO: World Intellectual Property Organization
- WMO: World Meteorological Organization
- World Bank Group



- IBRD: International Bank for Reconstruction and Development
- IDA: International Development Association
- IFC: International Finance Corporation

**\*Note:** Reference is sometimes made to 15 Specialized Agencies because the World Bank Group, which is now treated as one organization, is composed, in part, of three Specialized Agencies.

### 3.17 Powers of UNGA

#### Why in the news?

Recently, India voted in favor of a United Nations General Assembly (UNGA) resolution that called on Israel for an immediate ceasefire, the protection of civilians in accordance with international law and the release of all hostages.

#### Key points:

- India was among 153 countries that made up a massive 4/5th majority in the Assembly who voted in favor of the resolution, where only 10 countries, including the U.S. and Israel, voted against the resolution, and 23 abstained.

#### Powers of UNGA and UNSC regarding resolutions:

- Resolutions are formal expressions of will of UN organs.
- Security Council, General Assembly, Economic and Social Council and Human Rights Council Resolutions are issued as individual documents.

- The **Security council is the only UN authority, which has power to issue binding resolutions.**

### 3.18 Kurdish workers party

#### Why in the news?

Recently, 12 Turkish soldiers were killed in a war against the Kurdish worker's party.

#### About Kurdish worker's party:

- The Kurdistan Workers' Party or PKK is a Kurdish militant political organization and armed guerrilla movement which historically operated throughout Kurdistan.
- **Country:** Southeast Turkey and Northern Iraq.
- Since 1984, the PKK has utilized asymmetric warfare in the Kurdish–Turkish conflict (with several ceasefires between 1993 and 2013–2015).
- Although the PKK initially sought an independent Kurdish state, in the 1990s its goals changed to seeking autonomy and increased political and cultural rights for Kurds within Turkey.

### 3.19 Geneva convention

#### Why in the news?

Recently, Ukraine has accused Russia for its alleged war crime.

#### Key details:

- Ukrainian officials condemned the reported incident as a "war crime".
- The killing of prisoners of war is a gross violation of the Geneva Conventions and is classified as a serious international crime.

### About Geneva Convention:

- The Geneva Conventions (1949) and their Additional Protocols are international treaties that contain the most important rules limiting the barbarity of war.
- It protects those who do not take part in war and those who are no longer in a war (Surrendered troops, Disabled troops).
- **There are four Geneva conventions:**
  - **First Geneva convention:** Protects wounded and sick soldiers on land during war.
  - **Second Geneva convention:** Protects wounded and sick soldiers on water during war.
  - **Third Geneva Convention:** Covers war crime.
  - **Fourth Geneva convention:** It affords protection to civilians, including in occupied territory.
- **India is a member of the Geneva convention.**

### Key details:

- The new constitution was written to replace the current constitution, which was written in the General Augusto Pinochet dictatorship era.
- Nearly 56% of the people voted against the new constitution.

### Chile:

- It is located in South America.
- Capital: Santiago
- Border countries: Bolivia, Peru, Argentina, Pacific Ocean.



## 3.20 Chile constitution

### Why in the news?

Recently, Chilean people have voted against the new constitution.

## 4. ECONOMY

### 4.1 Index of Industrial Production

### Why in the news?

Recently, the October month Index of Industrial Production was released.

### Key points:

- Factory output has grown 11.7% in October, that is a high growth rate in the last 16 months.

- On an end-use basis, all six segments grew in October, with double-digit growth in four sectors, capital goods (22.6%), consumer durables (15.9%), primary goods (11.4%) and construction goods (11.3%).
- Capital goods and consumer durables had contracted 2.9% and 18.9% a year earlier.

#### About Index of Industrial Production:

- It is one of the prime indicators of economic development for the measurement of trends in the behavior of Industrial Production over a period of time with reference to a chosen base year.
- It is released by the National Statistical Organization month wise.
- **Base year:** 2011-12

#### About Base effect with example:

- The base effect is the impact that selecting a different reference point for a comparison between two data points can have on the comparison's outcome.

#### Example of Base effect in inflation:

Imagine two consecutive years, Year 1 and Year 2, and we are calculating the inflation rate between these two years.

The formula for calculating the inflation rate is:

**Inflation Rate= ((Price Index in Year 2– Price Index in Year 1)/Price Index in Year 1)×100**

Now, let's look at two scenarios with different base years:

#### Scenario 1: Low Base Year (2010)

- Year 1(2015) Price Index: 100
- Year 2(2016) Price Index: 110

Inflation Rate= ((110–100)/100)) ×100=10%

#### Scenario 2: High Base Year (2015)

- Year 1(2020) Price Index: 120

- Year 2(2021) Price Index: 130

Inflation Rate= ((130–120)/120) ×100=8.33%

In these scenarios, we have the same increase of 10 points in the price index between Year 1 and Year 2, but the choice of the base year influences the calculated inflation rate. In Scenario 1 with a lower base, the inflation rate appears higher (10%), while in Scenario 2 with a higher base, the inflation rate appears lower (8.33%).

This illustrates how the base effect can impact the interpretation of the inflation rate, and it emphasizes the importance of considering the choice of the base year when analyzing economic data over time.

#### • Example: Sales in a department store

- Dec 2021 - 5000
- Dec 2022- 1000
- Dec 2023 - 2000
- Base year 2022: If we compare the sales of 2023 with 2022, then the year 2023 may look like a great sale.
- Base year 2021: If we compare the sales of 2023 with 2021, then the year 2023 the sales will be poor.
- This base year influences the output.

## 4.2 Countervailing duty

#### Why in the news?

Recently, the U.S. and the European Union have now imposed countervailing duties (CVD) on four Indian products, as a retaliation against the Remission of Duties and Taxes on Export Products (RoDTEP) scheme introduced for outbound shipments in January 2021.

- **Products on which Countervailing duty is imposed:**
  - Paper file folders,

- Common alloy aluminum sheet
- Forged steel fluid end blocks
- Graphite electrode system.

#### About Countervailing duty:

- Countervailing duties or CVDs are tariffs on imported goods that are imposed to offset subsidies given by the exporting country's government.
- It is imposed by the **Director General of Anti-dumping and allied activities**.

#### Remission of Duties and Taxes on Exported Products Scheme:

- It is introduced by making amendments in the **Foreign Trade Policy 2015-20 in 2021**.
- **Nodal ministry: Ministry of Commerce and Industries**
- This scheme has been introduced with an objective to neutralize the taxes and duties suffered on exported goods which are otherwise not credited or remitted or refunded in any manner. The goal is to address the embedded cost in the export goods.
- This scheme provides for rebates of all hidden Central, State, and Local duties/taxes/levies on the goods exported which have not been refunded under any other existing scheme.
- This does not only include the direct cost incurred by the exporter but also the prior stage cumulative indirect taxes on goods.
- The scheme intends to compensate the duties/taxes/levies at the Central, State and Local level borne on the exported product including prior stage cumulative indirect taxes on goods and services used in the production and distribution of the exported product.

## 4.3 Alternative Investment Funds

### Why in the news?

Recently, the Reserve Bank of India has tightened norms for regulated entities like banks and NBFCs to prevent evergreening of loans via investments in Alternative Investment Funds.

### Key details from news:

- REs shall not make investments in any scheme of AIFs which has downstream investments either directly or indirectly in a debtor company of the regulated entities.
- **Evergreening:** In the context of banking and finance, "evergreening" refers to a practice where a lender provides additional funds or grants a new loan to a borrower to help them meet their debt obligations, particularly the interest payments on existing loans.
  - This practice can create an illusion of financial health for the borrower because it delays the recognition of non-performing assets.
  - Essentially, instead of addressing the underlying financial difficulties of the borrower, evergreening allows the borrower to continue servicing their debt by obtaining new credit.
  - It can temporarily mask the borrower's financial distress without addressing the root causes.

### About Alternative Investment Funds:

- These are privately pooled funds excluded from conventional regulatory oversight applied to mutual funds.
- **Types:**
  - **Category 1:** The funds that are invested in start-ups, small and medium enterprises and other business entities that are new and are

considered to have high growth potential with social and economic feasibility.

- **Eg: venture Capital funds, Angel funds, Infrastructure funds.**

- **Category 2:** The funds under this category are invested in equities and debt securities. Funds that aren't categorized under category 1 or 3 also fall under this category.

- **Eg: Fund of funds, debt funds**

- **Category 3:** The funds in category 3 offer investment returns in a short span of time. To achieve the objective of getting returns in a short span, these funds utilize various complex trading approaches.

- **Eg: Hedge funds**

## 4.4 Dollar bond

### Why in the news?

Recently, Indian companies' fundraising via dollar bonds hit a 14year low in 2023, as elevated global yields discouraged borrowers who moved to securing foreign currency loans instead.

### Reasons:

- Multiple rates increase by the U.S. Federal Reserve and anticipation of prolonged higher rates drove a rise in bond yields worldwide.
- Instead, Indian companies leaned on foreign currency loans, which are benchmarked to floating interest rates.
- The total borrowings reached \$22.13 billion, the highest since 2014, according to data.
- Bankers expect an increase in dollar bond issuance in 2024 as global bond yields ease.

### What is a Dollar bond?

- A dollar bond is a bond issued outside of the U.S., by a foreign company or government, that is denominated in U.S. dollars instead of their local currency.

## 4.5 Open Network of Digital Commerce

### Why in the news?

Recently, the Union government has extended the Open Network of Digital Commerce initiative to 500 cities across the country.

### About Open Network of Digital Commerce:

- It is an **open-source network that enables sellers and buyers to transact with each other irrespective of digital platforms** on which either of them is registered.
- **Year:** 2021
- **Nodal Institution:** Department for Promotion of Industry and Internal Trade
- **Working mechanism:**
  - The Open Network for Digital Commerce (ONDC) acts as a middleman in the world of online shopping, connecting buyers and sellers.
  - It functions similarly to the Unified Payment Interface (UPI), a popular mobile payment system that allows people to make mobile payments regardless of the specific payment app they use.

## 4.5 Stagflation

### Why in the news?

Recently, the Reserve Bank of India (RBI) officials said that the risk of stagflation has lowered



further to 1% compared with 3% in August based on data.

#### Key points:

- Elevated risks of stagflation were experienced during specific episodes like the Asian Crisis, the Global Financial Crisis, the taper tantrum, and the COVID-19 pandemic.

#### About Stagflation:

- It is an economic situation, where economic growth is stunted with high and persistent inflation along with high levels of unemployment.
  - i.e) Economic stagnation with high inflation along with unemployment

### 4.6 P notes

#### Why in the news?

Recently, Investments through participatory notes in the Indian capital markets jumped to ₹1.31 lakh crore by November end, bouncing back from a decline in the previous month, owing to the robust performance of the domestic market.

#### About Participatory notes (P-notes):

- P-notes are Offshore Derivative Instruments (ODIs) issued by registered Foreign Portfolio Investors (FPIs) to overseas investors who wish to be a part of the Indian Stock markets without registering themselves directly.
  - P-notes have Indian stocks as their underlying assets.
  - FPIs are non-residents who invest in Indian securities like shares, government bonds, corporate bonds, etc.

#### Purposes:

- To avoid tax issues

- Anonymity of an investor
- Easy trade in foreign countries

#### Issues:

- Anonymity can be misused for illegal purposes
- Large scale tax evasion

### 4.7 Trend and Progress of Banking in India

#### Why in the news?

Recently, the Reserve Bank of India released a report called 'Trend and Progress of Banking in India'.

#### Key points:

- The **GNPA ratio of Scheduled Commercial Banks (SCB)** fell to a decadal low of 3.9% at end-March 2023 and further to **3.2% at end-September 2023**.
- About **45% of the reduction in SCBs' GNPA's during 2022-23 came from recoveries and upgrades**.
- The consolidated balance sheet of SCBs (excluding Regional Rural Banks) grew by 12.2% in 2022-23, the highest in nine years.
- **Reasons:**
  - Higher lending rates
  - Lowering provisioning requirements
- The capital to risk weighted assets ratio (CRAR) of SCBs was 16.8% at end-September 2023.
- The combined balance sheet of urban co-operative banks (UCBs) expanded by 2.3% in 2022-23, driven by loans and advances.
- The consolidated balance sheet of non-banking financial companies (NBFCs)

expanded by 14.8% in 2022-23, led by double-digit credit growth.

- **Reasons for the financial stability:**

- Enhanced disclosures
- Strong code of conduct
- Clear governance structure

### **What is Gross Non-Performing Assets (GNPA) Ratio?**

#### **Non-Performing Assets:**

- A loan or advance is considered a non performing asset, when it is arrear or default.
- A loan is considered as arrear, when it is late.
- A loan is considered as default, when the borrower could not pay back the loan.

#### **Gross Non-Performing Assets:**

- These assets are the sum of all the loans that have been defaulted by the individuals who have acquired loans from the financial institution.

#### **Scheduled Commercial Banks (SCBs):**

- Scheduled banks are those banks that are listed under Schedule II of the Reserve Bank of India Act, 1934.
- The bank's paid-up capital and raised funds must be at least Rs. 5 lakh to qualify as a scheduled bank. These banks are liable for low interest loans from the RBI.
- They also have membership in clearing houses.

#### **Regional Rural Banks (RRBs):**

- These banks were established in 1975
- Its functions are regulated under the Regional Rural Banks Act 1976.
- Main functions:
  - Supplementary credit system for rural development

- Institutional credit facilities

- The RRBs were owned by the central government, state government, and the sponsoring bank with 50%, 15%, and 35% shareholding respectively.
- Nodal Ministry: Ministry of Finance

#### **Capital to Risk Weighted Assets Ratio (CRAR):**

- CRAR also known as Capital Adequacy Ratio (CAR) is the ratio of a bank's capital to its risk.
- CRAR is decided by central banks and bank regulators to prevent commercial banks from taking excess leverage and becoming insolvent in the process.
- Basel 3 norms stipulated 8% CRAR rate, but Indian scheduled commercial banks are asked to maintain 9% CRAR and the Indian Public Sector Banks are asked to maintain 12% CRAR rate.

#### **Common Equity Tier 1 (CET1) Ratio:**

- Tier 1 common capital ratio is a measurement of a bank's core equity capital, compared with its total risk-weighted assets, and signifies a bank's financial strength.
- The Tier 1 common capital ratio is utilized by regulators and investors because it shows how well a bank can withstand financial stress and remain solvent.

## **4.8 Same day settlement system**

### **Why in the news?**

Recently, the Securities and Exchange Board of India chairman said that India is moving to set up same day market settlement before the end of the fiscal year in March 2024 and subsequently to instantaneous settlement a year later.

### **What is the same day settlement system?**

- Currently trades in India are settled in “**T+1**” or **one day after the trades are initiated**.
- **T+0 would mean settlements in the same day and instant settlement would ensure trades are settled immediately.**
- India is the second country after China to operate on a short settlement cycle of one day.

## 4.9 Group of Companies Doctrine

### Why in the news?

Recently, the Supreme Court held that an arbitration agreement can be binding on non-signatory firms under the ‘group of companies’ doctrine.

### About Group of Companies Doctrine:

- The doctrine states that an arbitration agreement entered into by one company in a group of companies can, under certain circumstances, also bind other non-signatory companies within the same group.

## 4.10 Dovish pivot monetary policy

### Why in the news?

Recently, India’s benchmark stock indices have soared to record highs due to dovish pivot policy of the US Federal Reserve.

### What is Dovish Pivot?

- Dovish monetary policy means that the interest rates should be very low.
- Low interest rate will enhance the money supply in the economy.
- Higher money supply leads to higher economic growth rate and thus creation of large-scale employment opportunities.
- Hawkish monetary policy is the opposite of the dovish policy.

- Hawkish monetary policy advocates higher interest rates to tame the inflation level, even though it hurts economic growth.

## 4.11 Current Account Deficit

### Why in the news?

Recently, the RBI data said that India’s current account deficit (CAD) declined to \$8.3 billion, which is 1% of the country’s GDP in the second quarter of FY24 (July 2023 -September 2023).

### What is Current account deficit (CAD)?

- A current account deficit occurs when the total value of goods and services a country imports exceeds the total value of goods and services it exports.
- **It comprises of following components**
  - Trade in goods
  - Services
  - Net transfer of payments and net overseas investments

### CAD of India:

- **Trade deficit** is the largest contributor to India's current account deficit.
- Trade deficit widened to \$265.3 billion in the financial year ended March 2023 from \$189.5 billion in the previous year.
- **Foreign Direct Investment (FDI)** inflows in 2022-23 declined to \$28 billion from \$38.6 billion in 2021-22.
- **Foreign portfolio investment (FPI)** recorded an outflow of \$5.2 billion in 2022-23 as compared with an outflow of \$16.8 billion in the previous year.
- **Net external commercial borrowing (ECBs)** to India recorded an outflow of \$4.1

billion in 2022-23 as against an inflow of \$7.4 billion in 2021-22.

#### Results of increasing and decreasing CAD:

- **Effects of higher CAD:**
  - When a country's imports exceed its exports, the **demand for its currency will be low** and will **lower the value of the local currency**.
  - A weaker currency can make **imports more expensive**, leading to **higher inflation** and a **reduction in the purchasing power** of the country's citizens.
  - **Increase the debt level** of the country.
- **Effects of Lower CAD:**
  - A lower CAD can improve investor confidence and make the country's currency more appealing to investors.
  - A surplus in the current account can increase foreign exchange reserves and the value of the local currency.

## 4.12 Health Tax

### Why in the news?

Recently, public health researchers have recommended a health tax of between 20% to 30% in addition to GST can be considered to be imposed on sugar, sugar sweetened beverages (SSBs) like colas and juices as well as foods high in sugar, salt and fat (HFSS).

### Key points:

- This recommendation was made to influence policies aimed to reduce consumption of sugar and related products.

- Currently, sugar is taxed at 18% GST, if an additional 20-30% tax is imposed, this will take the tax to 38-48%.
- If the price of sugar is increased by 10%, demand for sugar will be reduced by 2% with all other factors driving the demand remaining constant.

### About Health tax:

- Health taxes are levied on products that have a **negative public health impact**, for example tobacco, alcohol and sugar-sweetened beverages (SSBs).
- These taxes are considered **win-win-win policies** because they **save lives** and **prevent disease** while advancing **health equity** and **mobilizing revenue** for the general budget.

### International scenario:

- Up to **70 countries have imposed a health tax** on sugar, SSBs and HFSS including Mexico, Chile, Saudi Arabia, Argentina and South Africa.
- In Mexico, taxation on sugar sweetened beverages decreased consumption of taxed beverages (and increased purchase of bottled water) in the first year of implementation and reduced mean BMI in younger age groups.

## 4.13 National Trade Retail Policy

### Why in the news?

According to the recent report, the National Trade Retail Policy, which has been in the works for some time, is learnt to be in advanced stages of finalization.

### About National Trade Retail Policy:

- The National Trade Retail Policy is being enacted by the **Ministry of Commerce and Industry** to serve as a model policy

providing a framework of guidelines for States.

- The policy will focus on ease-of-doing business, simplifying licensing processes, reducing compliance burden as well as enabling women workforce to work for longer hours among others.
- A national portal is also being envisaged that will allow all licensing-related processes to be accessible from one platform to make it less cumbersome and allow retailers to be able to track the licensing process.
- The guidelines will streamline the licensing process. Currently, retail stores are required to obtain 25-50 different licenses, many of which must be renewed annually.
  - These licenses are acquired from the Union and State governments and the local authorities.

#### 4.14 India - UK FTA

##### Why in the news?

Recently, the Commerce Secretary said that negotiations for the India-U.K. Free Trade Agreement (FTA) are on the last leg and being fast-tracked to resolve the few sticky issues that remain.

##### What is a Free Trade Agreement?

A free trade agreement reduces barriers to imports and exports between countries by eliminating all or most tariffs, quotas, subsidies, and prohibitions.

##### Significance of India - UK FTA:

- It will increase the bilateral trade value
  - Currently, the value is \$20 billion.
- Exports, particularly from the labour intensive sector will increase

- It will encourage other countries to make an FTA with India.

#### 4.14 Solar Energy Corporation of India

##### Why in the news?

Recently, the Adani Green Energy Ltd. (AGEL), a renewable energy company, has executed a power purchase agreement (PPA) with the Solar Energy Corporation of India (SECI) to supply 1,799 MW of solar power.

##### About Solar Energy Corporation of India (SECI):

- It was established as a Public Sector Undertaking to facilitate the implementation of the National Solar Mission.
- **Year:** 2011
- **Nodal Ministry:** Ministry of New and Renewable Energy
- **Headquarters:** New Delhi
- **Mission:** To become the leader in development of large-scale solar installations, solar plants and solar parks and to promote and commercialize the use of solar energy to reach remotest corner of India.
  - To become leader in exploring new technologies and their deployment to harness solar energy.

#### 4.15 Kudankulam Nuclear Power Plant

##### Why in the news?

Recently, India and Russia signed some "very important" agreements related to the construction of the future power-generating units of the Kudankulam nuclear power plant.



### About Kudankulam nuclear power plant:

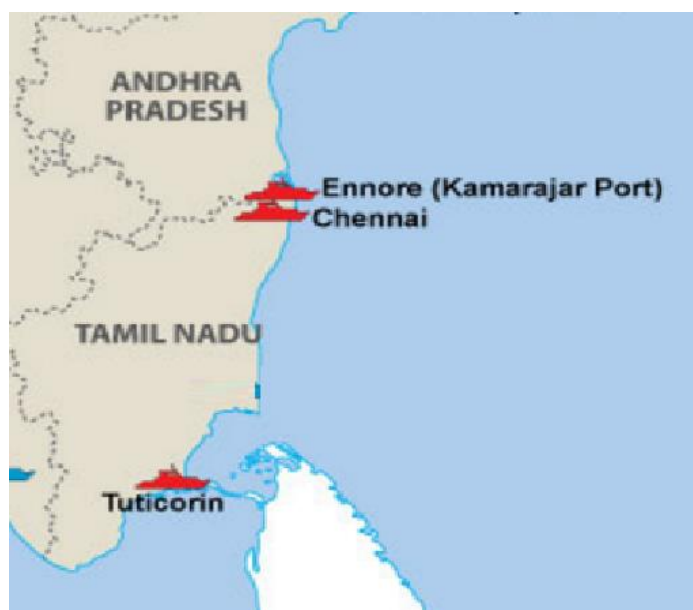
- It is the **largest nuclear power plant** in India.
- Construction of this nuclear power plant was started in **2002**.
- It is located in Tirunelveli district in **Tamil Nadu**.
- It was built with the support of **Russia**.
- It is functioning under the **Nuclear Power Corporation of India**.
- Current power generation level is **2000MW**.

## 4.16 Ennore port

### Why in the news?

Recently, Adani Ports and Special Economic Zone Ltd. (APSEZ) said it had entered into a second pact with Terminal Investment Ltd. for the operation of Adani Ennore Container Terminal Pvt. Ltd. (AECTPL).

### About Ennore Port:



- **Kamarajar Port Limited**, formerly **Ennore Port** is located in Chennai.

- It is one of the major ports of India, and the **first port in India which is a public company**.
- It is the **first corporatised port in India**.

## 4.17 Rare earths

### Why in the news?

Recently, China, the world's top processor of rare earths, banned the export of technology to extract and separate the strategic metals, as it overhauled a list of technologies deemed key to national security.

### Key points:

- China has added the technology to its **"Catalog of Technologies Prohibited and Restricted from Export"**.
- China accounts for 90% of global refined rare earths output.

### Rare Earths:

- The rare earth elements are a set of seventeen metallic elements. These include the fifteen lanthanides on the periodic table plus scandium and yttrium.
- Rare earths are used to make magnets for use in EVs and other electronics.
- It has a wide range of applications, especially high-tech consumer products, such as cellular telephones, computer hard drives, electric and hybrid vehicles, and flat-screen monitors and televisions.

### Distribution in India:

- The Rare Earth resources in India are reported to be the **fifth largest** in the world.
- Indian resource is significantly lean w.r.t. grade and it is tied with radioactivity making the extraction long, complex and expensive.

- Indian resources contain Light Rare Earth Elements while Heavy Rare Earth Elements are not available in extractable quantities.
- 13.07 million tonnes in-situ monazite (containing ~55-60% total Rare Earth

Elements oxide) resource occurring in the **coastal beach placer sands in parts of Kerala, Tamil Nadu, Odisha, Andhra Pradesh, Maharashtra and Gujarat and in the inland placers in parts of Jharkhand, West Bengal and Tamil Nadu.**

## 5.AGRICULTURE

### 5.1 Cotton

#### Why in the news?

Recently, the 81st plenary session of the International Cotton Advisory Committee (ICAC) was held in Mumbai.

- Theme of the event is "**Cotton Value Chain: Local Innovations for Global Prosperity**".

#### Key points:

- India has the **largest area under cotton cultivation and second largest cotton producer.**
- India has also launched **PM MITRA** - a Central government scheme to set up mega textile parks and promote the entire value chain.
- **National Technical Textiles Mission** promotes research and development in technical textiles.
  - These are man-made fabric meant for a specific function and are not generally used for apparel or aesthetic appeal.
- The Indian textile industry is working towards achieving \$250 billion by 2030, including \$ 100 billion exports.
- India introduced the **Kasturi Cotton Bharat** brand, which could be traceable using blockchain technology, and that it would be "carbon positive".

#### Top producer in the world:

- China > India > USA

#### India's position:

- India is the second largest producer of Cotton.
- It has the largest area under cotton cultivation
- Around 67% of India's cotton is grown in rain fed areas.
- 95% of the total cotton production is Bt cotton variety.

#### Distribution in States:

- Northern Zone: Punjab, Haryana and Rajasthan
- Central Zone: Gujarat, Maharashtra and Madhya Pradesh
- Southern Zone: Telangana, Andhra Pradesh, Karnataka and Tamil Nadu
- Top Producer in India: Gujarat > Maharashtra > Telangana.

#### About Cotton Corporation of India:

- Cotton Corporation of India was established under the Companies Act 1956.
- Year: 1970
- Nodal ministry: Ministry of Textiles
- Headquarters: Navi Mumbai
- Functions: CCI played a role of a canalizing agency for imports of cotton and purchase

of raw cotton for giving necessary price support to enterprising cultivators and also for procuring raw cotton for textile mills.

- Operation limits: CCI Operations cover all the cotton growing states in the country comprising of:
- Punjab, Haryana and Rajasthan in Northern Zone
- Gujarat, Maharashtra, Madhya Pradesh & Orissa in Central Zone and
- Andhra Pradesh, Telangana, Karnataka & Tamil Nadu in Southern Zone

## 5.2 Tea Production

### Why in the news?

Recently, India's tea exports declined during the January - June period.

### Key details:

- North India total tea export - 59 mn kg, the tea exports increased
- South India total tea exports - 37 mn kg, the tea exports declined by 2%.
- India exports almost 17% of the total production.

### About tea production in India:

- India is the second largest tea producer
- Northern india - 83% of total production
- Southern India - 17% of total production.
- Biggest producers- **Assam > West Bengal.**
- Only 17% of the total tea production is exported, around 83% is consumed domestically.
- Assam, Nilgiri and Darjeeling tea are considered the best in the world.
- **GI tag:** Darjeeling tea got GI tag recognition.

### Climate conditions:

- It is a tropical and subtropical plant.
- It grows well in hot and humid conditions
- Temperature: Ideal temperature is between 20-30 degree Celsius.
- Rainfall: 150 - 300 mm rainfall and well distributed throughout the year.

## 5.3 Kinnow

### Why in the news?

Recently, due to poor demand, abundant production, and early plucking of the produce this winter have left growers of Kinnow, a citrus mandarin fruit in Punjab, grappling for a fair price for their season's harvest.

### About Kinnow farmers:



- Kinnow is a hybrid variety between king and willow leaf mandarin.
- Punjab is the largest producer of Kinnow in India.
- It can be used for crop diversification, as it requires less amount of water.
- Harvesting of Kinnow starts from December and competes within February.

### Difference among Oranges, Mausambi, and Kinnow:

- Oranges, Mausambi, and Kinnow oranges are all members of the citrus family, but they have distinct characteristics.
- Oranges have a sweet and tangy flavor with a citrusy aroma, while Mausambi has a sweet and mild flavor and Kinnows are slightly more tangy.
- Oranges are medium to large-sized fruits with a bright orange-colored peel, Mausambi is smaller with a greenish-yellow peel, and Kinnow oranges are similar in appearance to regular oranges.
- Oranges and Kinnows are rich in vitamin C and antioxidants, while Mausambi is a good source of vitamin C and known for its digestive benefits.
- Oranges are grown in warm climates, Mausambi in tropical regions, and Kinnows in subtropical regions. Oranges are widely available throughout the year, Mausambi and Kinnow are more available during the winter months.

## 5.4 Banana exports

### Why in the news?

Recently, the Agriculture Ministry said that the Union government is taking initiatives to make banana exports \$1 billion in the next five years.

- Current banana export value is \$176 million.

### World Top producers:

- India is the largest banana producer in the world.
- Its export share in total world export is just 1%.
- Top producer: India > China > Indonesia

### Top producing states:

- Banana is a major horticultural crop grown in the states of Andhra Pradesh, Tamil Nadu,

Maharashtra, Kerala, Maharashtra, Gujarat, Telangana, and Uttar Pradesh.

- **Andhra Pradesh** is the largest banana-producing state, followed by Maharashtra, Karnataka, Tamil Nadu, and Uttar Pradesh.
  - These five states collectively contribute around 67 percent to India's banana production in the fiscal year 2022-23.

## 5.5 Ethanol production

### Why in the news?

Recently, the Ministry of Consumer Affairs, Food and Public Distribution directed sugar mills and distilleries not to use sugar cane juice or syrup to produce ethanol in the ethanol year 2023 - 24.

### Key details:

- The government approved the ethanol production from **B heavy molasses**.
- This move was taken to ensure the sufficient availability of sugar for domestic consumption.

### Sugar cane production:

- Sugar season is calculated in India from **October to September every year**.
- Total sucrose production in the country would be about 373 LMT which is second highest in the last 5 sugar seasons.
  - India has already crossed sugar production of 330 LMT excluding diversion of about 43 LMT for ethanol production.
- India is the world's **second largest producer of sugarcane** and the **largest sugar producer in India**.
- Top sugarcane producing states in India: **Maharashtra > Uttar Pradesh > Karnataka**.
- **Climatic requirements:**

- **Temperature:** Between 21 - 27 degree celsius with hot and humid climate
- **Soil:** Deep rich loamy soil
- **Rainfall:** 75 - 100 cm
- **Season:** Kharif
- **Crop type:** Tropical crop
- It is the most **water intensive crop**.

## 5.6 Onion ban

### Why in the news?

Recently, the Centre has imposed a ban on the export of onions till March 31, 2024 to curb the surging local prices of the product.

- An amendment to the export policy of onions provided that the onions are changed from the free export category to prohibited category.

### About power to ban exports:

- The **Director General of Foreign Trade** will issue an order regarding ban of agriculture exports.
- State governments have no say to control the export of agricultural commodities.

## 5.7 Seed festival

### Why in the news?

Recently, farmers from several districts of West Bengal organized an indigenous seed festival and took a pledge to conserve different varieties of native seeds.

### Key points:

- The festival was organized by **ActionAid**, an NGO, along with Kajla Janakalyan Samiti and Purba Medinipur Kisan Swaraj Samity.

- It was organized mainly for the **conservation of indigenous seed varieties and traditional knowledge**.
- It is part of the **climate justice campaign** launched by ActionAid across India.

## 5.8 National Dairy Development Board

### Why in the news?

Recently, the National Dairy Development Board plans to take the Amul model of milk cooperatives to Kenya.

### About National Dairy Development Board (NDDB):

- The National Dairy Development Board is a **statutory body**, created to finance and support producer-owned and controlled organizations.
- Year: **1965**
- Headquarters: **Anand, Gujarat**
- **Vargese Kurien** was the founding father of this board.
- It functions under the **Ministry of Fisheries, Animal Husbandry and Dairying**.
- Its programmes and activities seek to strengthen farmer cooperatives and support national policies that are favorable to the growth of such institutions.
- Landmark project of this board is **Operation Flood**, which was started in 1970 to increase the milk production in the country.



## 6. ENVIRONMENT

### 6.1 ALTERRA

#### Why in the news?

Recently, the UAE, host of the 28th Conference of Parties (COP-28), announced a \$30-billion commitment to an investment fund called ALTERRA.

#### Key points:

- \$2.5 trillion is required every year to manage climate disasters.

#### About ALTERRA:

- It is a **privately managed fund** set up by the **United Arab Emirates** to provide financial assistance to the emerging countries and least developed countries to invest in climate mitigation and adaptation measures.
- It aims to **mobilize \$250 billion by 2030**.
- From the initial tranche, financial support will be given for the development of over 6 GW (1 GW is 1,000 MW) of new clean energy capacity in India.
  - This includes establishing 1,200 MW of wind and solar projects that will begin producing clean power by 2025.
- **Four key verticals:**
  - Energy Transition
  - Industrial Decarbonisation
  - Sustainable Living
  - Climate Technologies

### 6.2 The Global Climate 2011-2020: A decade of acceleration

#### Why in the news?

Recently, the World Meteorological Organisation released the Global Climate 2011-2020: A Decade of Acceleration report.

#### Key points from the report:



- **Lower deaths:** The 2011-2020 decade, though warmest ever recorded in history, saw the lowest number of deaths from extreme events.
  - Main reasons for the dip in deaths: Better early warning systems, better disaster management.
  - The 2011-2020 decade was the first since 1950 when there was not a single short-term event with 10,000 deaths or more,
- **Melting of glaciers:** Glaciers that were measured around the world thinned by

approximately 1 meter per year on an average between 2011 and 2020.

- Greenland and Antarctica lost 38% more ice during the period than during the 2001-2010 period.
- **Heatwaves:** Heatwaves were responsible for the highest number of human casualties, while tropical cyclones caused the most economic damage.
- **Ocean warming:** Ocean warming rates accelerated significantly, with 90% of accumulated heat stored in the ocean.

#### **About World Meteorological Organisation:**

- The World Meteorological Organization (WMO) is a specialized agency of the United Nations Responsible for promoting international cooperation on atmospheric science, climatology, hydrology and geophysics.
- Year: 1950
- Headquarters: Geneva, Switzerland.
- Members: 193
- Organizational structure:
  - It is governed by the World Meteorological Congress, which meets every four years.
  - The congress is led by an Executive Council.

#### **About Nanda devi glacier:**

- It is located in Chamoli district, Uttarakhand.
- It is a cluster of seven glaciers namely Bartoli, Kuruntoli, Nanda Devi North, Nanda Devi South, Nandakna, Ramani and Trsul.

## **6.3 Global Renewable and Energy Efficiency Pledge**

### **Why in the news?**

Recently, around 118 countries signed the Global Renewable and Energy Efficiency Pledge during the CoP 28 Climate summit.

### **About The Global Renewables and Energy Efficiency Pledge:**

- **Key targets:**
  - Triple renewable energy installed capacity to at least 11,000 GW by 2030
  - Double the global average annual rate of energy efficiency improvements to more than 4% by 2030.
- **India and China are not a signatory to this pledge.**

### **About Nationally Determined Contributions:**

- NDCs are 'Nationally Determined Contributions' and they represent the commitments of each country to reduce greenhouse gas emissions and adapt to climate change.
- They were agreed to by countries during the Climate Change Conference of the Parties (COP) in Paris in 2015, a commitment known as 'The Paris Agreement'.
- **India's updated Nationally Determined Contributions:**
  - Cumulative electric power installed capacity from non-fossil sources to reach 40% by 2030
  - Reduce the emissions intensity of GDP by 33 to 35 percent compared to 2005 levels by 2030
  - Creation of an additional carbon sink of 2.5 to 3 billion tonnes of CO<sub>2</sub>

equivalent through additional forest and tree cover by 2030.

## 6.4 Global Stock Take

### Why in the news?

Recently, the **Global Stock Take (GST)** gained importance in Climate change related negotiations.

### About Global Stock Take (GST):

- It was established under the **Paris agreement (2015)** of the United Nations Framework Convention of Climate Change.
- **Functions:**
  - It is an assessment of implementation of Paris agreement commitments.
  - It guides countries in updating their stated commitments to reduce greenhouse gas emissions.
- The GST draft includes a clause that calls for a global effort to triple renewable energy capacity by 2030 (compared to the 2022 level) to 11,000 GW and double the global average annual rate of energy-efficiency improvement by 2030. This pledge was first articulated during the G-20 leaders' summit in Delhi.

## 6.5 Climate Change inducing diseases

### Why in the news?

Recently, government ministers are planning to discuss ways they can protect people from climate-driven health threats. This is the first time ever at the annual U.N. climate summit COP28.

### Facts on Climate change inducing diseases:

- According to the World Health Organisation from 2030, experts expect that malnutrition,

malaria and dengue, diarrhea, and heat stress will push global death tolls up by 250,000 per year.

- Mosquitoes that carry viruses including dengue, malaria, West Nile, and Zika are shifting into new parts of the world as warmer temperatures and heavy rains create more hospitable conditions for them to breed.
- Dengue cases have grown from around half a million in 2000 to more than 5 million in 2019, according to the WHO.
- WHO malaria report found that annual malaria cases have increased 5 million more than the previous year.
- In 2022, 25% more countries reported cholera cases over 2021, according to the WHO.

## 6.6 Dubai Consensus Agreement

### Why in the news?

Recently, the Dubai Consensus Agreement was adopted in the 28th Conference of Parties of UNFCCC.

### About Dubai Consensus agreement:

- It is an agreement taken in the **28th conference of parties of UNFCCC**.
- It recommends countries to take steps to **transition away from fossil fuels and achieve a net zero emission target by 2050**.
- Earlier drafts with terms like 'phase-out' were softened due to opposition from oil-dependent countries.
- It recommends natural gas as a transition fuel.
- Parties should accelerate the **reduction of**

**non-carbon dioxide, especially methane emission by 2030.**

- **India supports the Dubai consensus agreement.**

## 6.8 Significant Climate milestones of 2023

### Why in the news?

- Recently, the important climate related events of 2023 have been released

### Key points:

- **Hottest year:**
  - According to the Copernicus Climate Change Service (C3S), 2023 was 0.1°C warmer than the 10-month average for 2016, currently the warmest calendar year on record.
- **High Sea Surface Temperature:**
  - According to the U.S. National Ocean and Atmospheric Administration (NOAA), 48% of global oceans experienced marine heat waves in August 2023.
- **Lowest Antarctic Sea ice extent:**
  - Sea-ice extent is the area of ice covering the Antarctic Ocean at a given time.
  - In 2023, Antarctic Sea ice had record low ice growth from April.
  - According to NOAA, sea ice in the Antarctic reached an annual maximum extent of 16.96 million sq. km on September 10, 2023, the lowest since 1979.
- **Record carbon dioxide levels:**
  - Global carbon dioxide emissions are expected to have hit a new high in 2023, up 1.1% from 2022.
  - The Global Carbon Budget Report, published by the Global Carbon Project in December 2023, said overall CO<sub>2</sub> emissions, which climbed to a record last year, had

## 6.7 India's concern on emission issue

### Why in the news?

Recently, the Union Environment Minister said that India welcomes the Dubai consensus agreement.

### Key points:

- India accounted for **3% of greenhouse gasses emitted historically** (1850-2019) compared to the United States (25%) and European Union (17%).
- India is the **third-largest greenhouse-gas emitter**
- The Dubai Consensus, however, for the first time brings in mention of methane, a non-carbon dioxide greenhouse gas that is more potent, in its heat trapping effect, than carbon dioxide.

### India's concerns on emissions issue:

- India hasn't used its energy resource (coal) to achieve economic growth.
- Phase down of coal usage was a great concern for India.

### Major source of Methane emissions:

- India is currently the **world's fourth largest methane emitter** after China, the United States and Russia.
- **Agriculture** accounts for **61% of total methane emissions**, while India's energy sector accounts for 16.4% and waste 19.8%, as per the Global Methane Tracker 2022.

plateaued in 2023 due to a slight drop in deforestation.

- **Loss and damage fund:**

- The world's first loss and damage fund for the impacts of climate change was created in 2023, at the start of the COP28 climate talks in the U.A.E. in early December.
- The fund will be based at the World Bank but managed by an independent secretariat.

- **Impact of food systems:**

- For the first time in the history of climate summits, 134 countries at COP28 pledged to tackle the climate impact of the food industry.
- These countries represent over 5.7 billion people, 70% of the food we eat, nearly 500 million farmers, and 76% of total emissions from the global food system.

communications based on the GHG inventory of 2019 or later.

**Key details:**

- **Carbon Emission Intensity:** It states that a reduction of emission intensity of India's Gross Domestic Product (GDP) by 33 per cent has been achieved between 2005 and 2019.
  - In the original submission of NDCs, India had set a goal of a 33 per cent reduction in the emission intensity of GDP by 2030.
- **Greenhouse Gas Emission:** The TNC reports GHG emissions for 2019, with the energy sector contributing the most (75.81 per cent), followed by the agriculture sector (13.44 per cent), industrial processes and product use (IPPU) sector (8.41 per cent) and waste (2.34 per cent).
  - India's net national emissions in 2019 were 26,46,556 GgCO<sub>2</sub>e.
- **Carbon sink:** The report indicates that India added an extra carbon sink of 1.97 billion tonnes of CO<sub>2</sub> equivalent between 2005 and 2019.
- **Adaptation communication report:** India's Adaptation Communication will also be submitted as an annexure to the TNC that discusses adaptation measures taken in India.

## 6.9 Third national communication to the UNFCCC

### Why in the news?

Recently, India submitted its 'Third National Communication to the United Nations Framework Convention on Climate Change' in the CoP 28.

### About Third National Communication to the United Nations Framework Convention on Climate Change:

- The submission will fulfill India's obligation to furnish information under the Convention and the Paris Agreement.
- It is based on the National Greenhouse Gas (GHG) Inventory of 2019, and the press brief reported India as among the first 26 developing countries submitting

## 6.10 African Climate Summit

### Why in the news?

Recently, the Consulting giant McKinsey & Company sought to place controversial carbon market schemes favored by its fossil fuel clients at the heart of the Africa Climate Summit.



### About African Climate summit:

- It is an **inaugural climate summit** in the African continent.
- It brings together Heads of State and Government, policymakers, civil society organizations, the private sector, multilateral institutions, and youth to design and catalyze actions and solutions for climate change in Africa.
- It is hosted by the **Government of Kenya and African Union Commission**.
- Theme: **Driving Green Growth and Climate Finance Solutions for Africa and the World**.
- It is going to be held in **Nairobi, Kenya**.
- **Seven thematic areas:** Nature Capital, Climate Finance, Renewable Energy and Energy Transition, Green Minerals and Manufacturing, Sustainable Agriculture, Land Use, Oceans and Water, Sustainable Infrastructure and Urbanisation and Adaptation and Resilience.

### Carbon offset:

- Carbon offsets are billed as a way for big polluters like oil companies to make up for their CO<sub>2</sub> emissions by supporting green projects like those that claim to safeguard forests.

### Greenwashing:

- Greenwashing is the process of conveying a false impression or misleading information about how a company's products are environmentally sound.

## 6.11 Climate Vulnerable Forum

### Why in the news?

Recently, the Secretary General of the Climate Vulnerable Forum said that developed

countries should invest in climate vulnerable countries.

### About Climate Vulnerable Forum:

- It is a forum of countries, which are vulnerable to natural disasters from climate change.
- It was established in **2009** in Maldives as a voice for climate vulnerable countries.
- **Members:** 58
  - India is not a member of this forum.
- The Forum is led by a rotating chair for an **ordinary period of two years**.

## 6.12 Adaptation

### Why in the news?

Recently, a key climate draft said that by 2025, all countries must have in place a detailed plan to adapt to the current and future impacts of climate change in their countries, and must demonstrate progress in implementing such a plan by 2030.

### What is Adaptation?

- Adaptation refers to the adjustments or preparations in ecological, social or economic systems that countries must make in response to the adverse effects of climate change.

### Examples:

- Flood defenses, setting up early warning systems for cyclones, switching to drought-resistant crops, redesigning communication systems, business operations, and government policies based on climate friendly.

### About Adaptation fund:

- The Adaptation Fund was established in 2001 to finance concrete adaptation

projects and programmes in developing country Parties to the Kyoto Protocol that are particularly vulnerable to the adverse effects of climate change.

- NABARD is the national project implementing agency in India of Adaptation funds.

## 6.13 Ammonia

### Why in the news?

Recently, hundreds of residents woke up with burning eyes and faces and difficulty breathing after ammonia gas leaked from an underwater supply pipeline to a fertilizer plant in Chennai.

### About Ammonia:

- Ammonia is an inorganic chemical compound of nitrogen and hydrogen with the formula  $\text{NH}_3$ .
- It is a colorless gas with a pungent smell.

### Major sources:

- Anaerobic decay of plant and animal
- Some plants, mainly legumes, in combination with rhizobia bacteria, "fix" atmospheric nitrogen to produce ammonia.

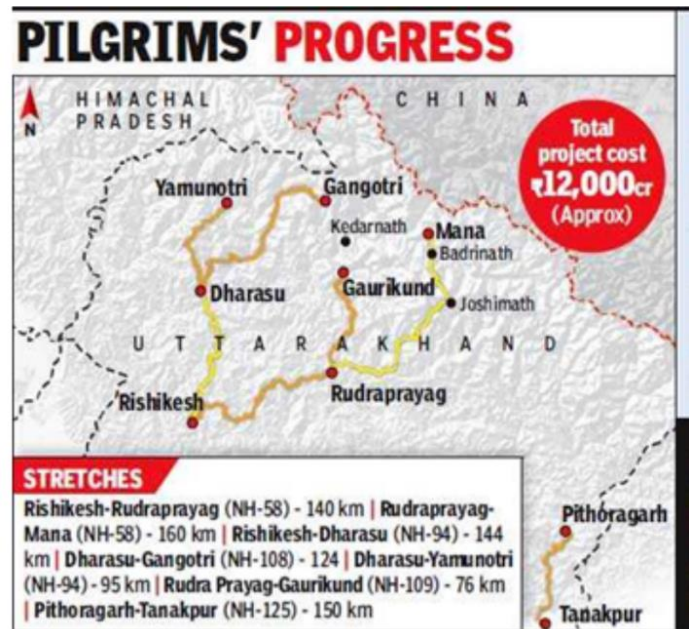
### Applications:

- Around 70% ammonia produced industrially is used for fertilizer production
- Produce pharmaceutical products
- Once used as a refrigerant

## 6.14 Chardam Project

### Why in the news?

Recently, the Union Government told the Parliament that the Char Dham project in Uttarakhand, under which the Silkyara tunnel is being developed, did not require an Environment Impact Assessment (EIA)



### About Chardham project:

- The Char Dham project was started to provide all-weather connectivity to four major pilgrimage sites in Uttarakhand-Kedarnath, Badrinath, Yamunotri and Gangotri.
- **Implementing agency:**
  - Border Roads Organization
  - National Highway and Infrastructure Development Corporation Limited
  - Uttarakhand State Public Works Department.
- **Year:** 2016
- **Total length:** 893 km

### Criticisms:

- This project did not conduct an Environmental Impact Assessment.
- Scientists warn that this project disturbs the existing geology of the himalayan system.

## 6.15 Cafeteria-based conservation

### Why in the news?

Recently, experts from the wildlife trust of India recommended the use of a cafeteria to

conserve birds, which were affected by the oil spill in Ennore creek, Chennai.

#### About Cafeteria based conservation:

- It is a conservation approach where feeding stations, often referred to as "cafeterias," are strategically set up in the natural environment to provide supplementary food resources to wildlife, especially in situations where their normal feeding habits may be disrupted or compromised.
- **Purpose:** To address specific threats to wildlife, such as habitat degradation, pollution, or incidents like oil spills, by providing temporary support to the affected animals.

#### Ennore Creek Scenario:

- **Oil Spill Impact:** The Ennore Creek has experienced a significant decrease in the bird population due to an oil spill from industries in Manali. The contamination has affected the natural feeding habitats of the birds, particularly pelicans and painted storks.
- **Feeding Stations:** Wildlife experts from organizations like the Wildlife Trust of India (WTI) and the Besant Memorial Animal Dispensary (BMAD) are proposing the establishment of feeding stations or "cafeterias" in the Ennore Creek. These stations would be equipped with fresh fish to provide supplementary nutrition to the affected birds.
- **Rescue and Rehabilitation:** The goal of cafeteria-based conservation, in this case, is to not only provide food resources to the birds but also to facilitate the capture and rehabilitation of those that are sick or severely affected by the oil spill. The feeding stations are strategically set up with nets to capture specific individuals in need of intervention.

- **Temporary Support:** The use of feeding stations is considered a temporary measure to support the wildlife population during a period of environmental stress. It aims to bridge the gap caused by the disturbance and allow the affected animals to recover while mitigating the immediate impacts of the threat.

## 6.16 Pangolin

#### Why in the news?

Recently, based on genomic analyses, researchers reveal illegal pangolin trafficking routes from origins in Africa to markets in Asia.

- It allows for targeted and more effective anti-trafficking measures.

#### About Pangolin and its spread:



- These are **nocturnal** mammals
- They **dig burrow and feed ants and termites**
- Pangolins are known for their unique appearance.
- They have scales made of keratin that cover their entire body.
  - When threatened, they can roll into a ball to protect themselves.

- **Types of Pangolin Species:** There are eight species of pangolin:
  - **4 Species in Africa:** Black-bellied pangolin, White-bellied pangolin, Giant Ground pangolin and Temminck's Ground pangolin.
  - **4 Species in Asia:** Indian pangolin, Philippine pangolin, Sunda pangolin and the Chinese pangolin.
- The white-bellied pangolin is the world's most trafficked mammal.
- **IUCN protection status:**
  - Indian pangolin: **Endangered**
  - Chinese pangolin: **Critically endangered**
- They have been listed under the **Schedule 1** of the Wildlife Protection Act 1972.

- It is **common to coastal habitat**.
- IUCN conservation status: **Least concern**
- It has a **diet of aquatic species** like fishes, sea snakes.
- It is also known to steal or pirate food from other raptors and occasionally feed on carrions.
- Recent studies carried out in Kerala have shown that the depletion of tall trees near the shoreline where these majestic birds roost could have caused a major decline in their population in that State.
- **Ficus and casuarina trees** facing the sea are said to be preferred nesting sites of these birds.
- The raptor is found in India, Sri Lanka, Andaman Islands, southern China, the Philippines, New Guinea, Australia, and Tasmania, among other countries.

## 6.17 White bellied sea eagle

### Why in the news?

Recently, a white bellied sea eagle spotted in Mukkombu, Tiruchi.

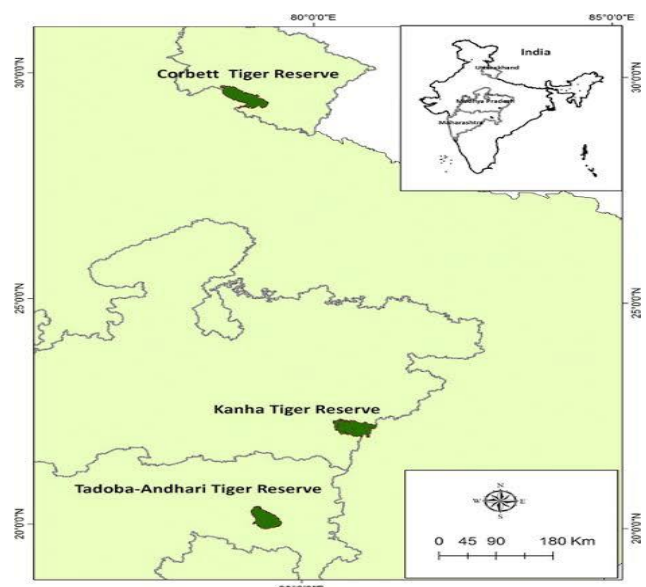
### Key details:



## 6.18 Tadoba Andhari Tiger Reserve

### Why in the news?

Recently, Maharashtra Forest Minister has requested the Centre to reconsider the State government's proposal to construct an airport near the Tadoba Andhari Tiger Reserve in Chandrapur district.





### Tadoba Andhari Tiger Reserve:

- It is a wildlife sanctuary cum tiger reserve located in the Chandrapur district of Maharashtra.
- It was created in 1955.
- It harbors around 80 tigers.
- Its **tropical dry deciduous forest ecosystem** is suitable for the thriving of various other carnivores such as hyena, etc.
- Tadoba is a name derived from the tribal **god Taru** and **Andhari is a river** name that flows in the middle of the tiger reserve.

### About Global River Cities Alliance:

- It was launched by the **National Mission of Clean Ganga**.
- This initiative was started to expand the reach of the existing **River Cities Alliance (RCA)**, formed by NMCG in association with National Institute of Urban Affairs (NIUA) in 2021.
- Around **275 global river cities** have joined in this initiative.
- Main objectives of this initiative are **river conservation** and **sustainable water management**.

## 6.19 Global River Cities Alliance

### Why in the news?

Recently, India launched the Global River Cities Alliance at 28th Conference of Parties at Dubai.

# 7. SCIENCE AND TECHNOLOGY

## 7.1 X-ray Polarimeter Satellite

### Why in the news?

Recently, the Indian Space Research Organisation has announced a plan to launch its first X-ray Polarimeter Satellite (XPoSat) to investigate the polarization of intense X-ray sources.

### About X-ray Polarimeter Satellite (XPoSat):

- The XPoSat is designed for **observation from a low earth orbit**.
- It will carry two scientific payloads. With these two payloads, the mission is capable of simultaneous studies of temporal, spectral, and polarization features of the bright X-ray sources.

- **XSPECT X-ray Spectroscopy and Timing:** Provide spectroscopic information within the energy range of 0.8-15 keV.
- **POLIX Polarimeter Instrument in X-rays:** Measure polarimetry parameters, specifically the degree and angle of polarization.

### • Objectives:

- Measurement of X-ray polarization in the energy band of 8-30 keV emanating from X-ray sources
  - Long-term spectral and temporal studies of cosmic X-ray sources in the energy band of 0.8-15 keV.
- Life of the mission is **five years**.



## 7.2 Transiting Exoplanet Survey Satellite (TESS)

### Why in the news?

Recently, the Transiting Exoplanet Survey Satellite (TESS) discovered six exoplanets orbiting around a nearby bright star (HD 110067) in the Coma Berenices constellation.

### Key points:

- The planets have radii between that of Earth and Neptune.
- HD 110067 is a bright star in the Coma Berenices constellation (around 100 light-years away), which is visible from Earth's Northern Hemisphere.

### About Transiting Exoplanet Survey Satellite (TESS):

- Transiting Exoplanet Survey Satellite (TESS, Explorer 95 or MIDEX-7) is a space telescope for NASA's Explorer program, designed to search for exoplanets.
- Launch year: 2018
- It is led by the Massachusetts Institute of Technology (MIT) with seed funding from Google.

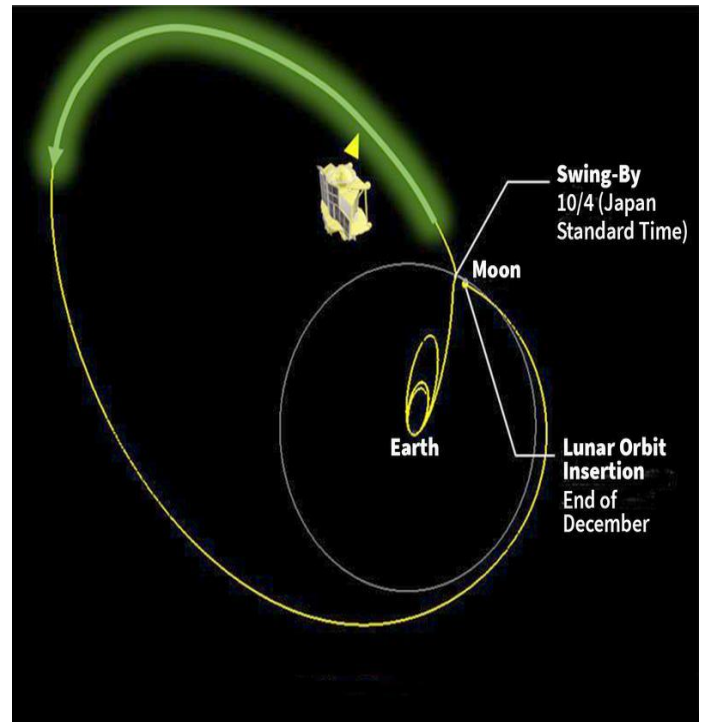
## 7.3 Smart Lander for Investigating Moon (SLIM)

### Why in the news?

Recently, Japan's Smart Lander for Investigating Moon (SLIM) spacecraft entered into orbit around the moon after a months-long journey.

- If it soft lands, it will become the fifth nation to be soft landed on the moon surface.

### About SLIM:



- This moon landing spacecraft was launched by the **Japan Space Exploration Agency from Tanegashima space port.**
- This is the second moon mission of Japan after the failed **Hakutoma R1 moon mission**, which failed to soft land on the moon surface.
- Along with this moon mission, a **X Ray space telescope named 'XRISM'** was also launched.
- Its apogee (farthest point) in this orbit is 4,000 km and perigee (closest point) is 600 km above the lunar surface.
- **Note: Earlier moon missions in 2023: India's Chandrayaan 3 and Russia's Luna 25.**
- It is also called ' **Moon sniper**'; It is trying to soft land on the moon surface within 100m of its chosen landing site.
- SLIM will deploy two small rovers called Lunar Excursion Vehicle (LEV) 1 and 2.
- LEV-1, LEV-2, and SLIM will together study the lunar surface near the landing point, collect temperature and radiation readings, and attempt to study the moon's mantle.
- As the Smart Lander for Investigating Moon (SLIM) touched down near Shioli crater, Japan

became the **fifth country to soft-land a robotic instrument on the moon.**

## 7.4 Blue Origin

### Why in the news?

Recently, Amazon founder Jeff Bezos said that he is going to lead Blue Origin, a space company.

### About Blue origin:

- It was started in **2015** by the Amazon CEO Jeff Bezos.
- It is a space company, which aims to send humans to the Moon.

### Significance:

- Increase private participation in space activities
- Increase the reach of the benefits of space activities
- Economic development through space tourism

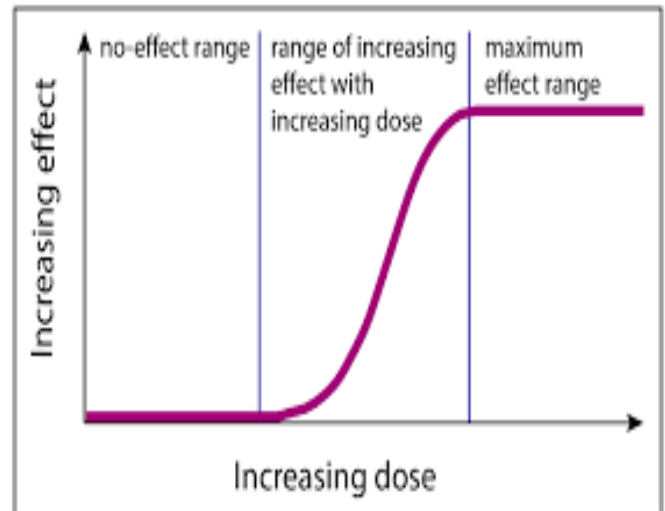
## 7.5 CT scan

### Why in the news?

Recently, Scientists found that CT scans are highly associated with the risk of blood cancers.

### CT scan:

- It is also known as **Computed Tomography scan.**
- CT scan is a diagnostic imaging procedure that uses a combination of X-rays and computer technology to produce images of the inside of the body. It shows detailed images of any part of the body, including the bones, muscles, fat, organs and blood vessels.



### Applications:

- Diagnosing medical conditions
- Surgery planning
- Medical devices development
- Visualize blood vessels in angiography

### Issues:

- Radiation exposure: CT scans utilize ionizing radiation, which carries a small risk of causing cancer.
- Contrast material reactors, which are used in CT scans, can cause allergies.
- Overutilization
- High cost

### Doss effect:

- Doss effect refers to the relationship between the amount of a medication or other substance taken (the dose) and its outcome or impact on the body (the effect).
- This relationship can be studied through dose-response curves, which visualize how the effect changes with increasing or decreasing doses. Understanding dose effects is crucial for safe and effective medication use.

## 7.6 Global Partnership for Artificial Intelligence

### Why in the news?

Recently, representatives from 28 countries and the European Union adopted the "New Delhi Declaration" of the Global Partnership on Artificial Intelligence.

### Key details:

- The declaration affirms the countries' commitment to "principles for responsible stewardship of trustworthy AI rooted in democratic values and human rights and promoting trustworthy, responsible, sustainable and human-centered use of AI".
- The Delhi Declaration commits countries to work on mitigating "concerns around misinformation and disinformation, unemployment, lack of transparency and fairness, protection of intellectual property and personal data, and threats to human rights and democratic values".

### About Global Partnership for Artificial Intelligence (GPAI) Summit:

- The Global Partnership on Artificial Intelligence is an international initiative established to guide the responsible development and use of artificial intelligence (AI) in a manner that respects human rights and the shared democratic values of its members.
- Year: 2020
- Headquarters: Paris, France and Montreal, Canada.
- Members: 29; India is a member

## 7.7 Applications of AI

### Why in the news?

Recently, intuition robotics has developed an Artificial Intelligence based chatbot called ElliQ to alleviate loneliness.

### Applications of Artificial Intelligence:

- **Healthcare:**
  - Robotic operations have a very small margin of error
  - Administrative work to reduce human error and improve productivity
- **E Commerce:**
  - Virtual shopping assistants and chatbots aid in the enhancement of the online buying experience.
- **Robotics:**
  - AI-enabled robots have found use in a variety of verticals and industries, particularly in the manufacturing and packaging industries.
- **Finance:**
  - Artificial Intelligence provides features like risk assessment, fraud detection, and management, financial advisory services, and Automated trading in Finance.
- **Facial recognition:**
  - Face recognition, for example, is an application of AI that focuses on learning and recognizing patterns that lead to quick and efficient outputs.
- **Marketing:**
  - With the use of AI, marketers can deliver highly targeted and personalized ads.
- **Social media:**
  - On Instagram, AI takes into account your interests and the accounts you follow to select which posts appear in your Explore tab.

## 7.8 Google Gemini

### Why in the news?

Recently, Google launched its large language model tool 'Gemini AI'.

### About Google Gemini:

- Gemini is a family of multimodal large language models developed by Google DeepMind.
- It comprises Gemini Ultra, Gemini Pro, and Gemini Nano, it was announced in December 2023, positioned as a contender to OpenAI's GPT-4.

### Functions:

- Computer vision (object detection, scene understanding, and anomaly detection)
- Geospatial science (multisource data fusion, planning and intelligence, and continuous monitoring)
- Human health (personalized healthcare, biosensor integration, and preventative medicine)
- Integrated technologies (domain knowledge transfer, data fusion, enhanced decision-making, and LLMs)

## 7.9 mRNA vaccine

### What is in the news?

Recently, some molecular scientists said that the ability to easily customize and produce mRNA increases their potential as effective, personalized therapies with fewer side effects.

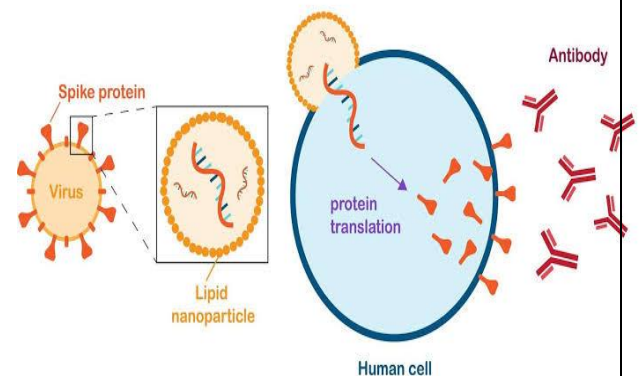
### About mRNA vaccine:

- mRNA vaccines, short for messenger RNA vaccines, refer to vaccines that use genetic material called messenger RNA to activate the immune system and produce antibodies against specific infections.

### Working of mRNA vaccine:

- mRNA vaccines work by introducing a small piece of mRNA that carries the genetic instructions to produce a viral protein, usually the spike protein found on the virus's surface.
- The mRNA is encapsulated in lipid nanoparticles to protect it and help deliver it into cells.

### Mechanism of mRNA Vaccine



- Once inside the body's cells, the mRNA serves as a template for protein synthesis. This mechanism is known as the Translation of genetic code.
- The cells use this genetic information to produce the viral protein, in this case, the spike protein of the virus.
- This protein is then displayed on the surface of the cells, triggering an immune response.
- The presence of the viral protein alerts the immune system, which recognises it as foreign and mounts an immune response.
- This response includes the production of antibodies that can recognise and neutralize the virus if the person is later exposed to it.

### About mRNA:

- mRNA is present all over the cell to take the protein code from the DNA and take it to the ribosome to make required proteins.

## 7.10 Gene Therapy

### Why in the news?

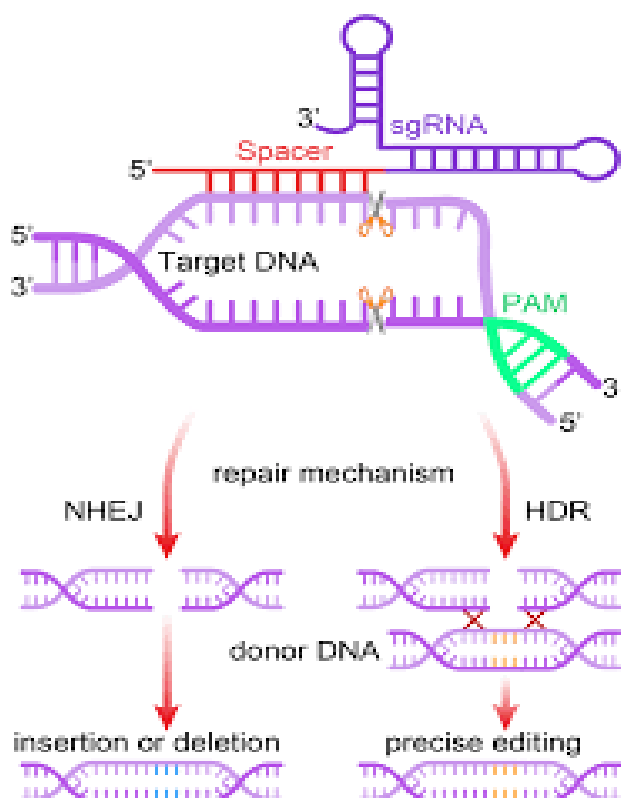
Recently, the drug regulator of the UK approved 'Casegevvy' gene therapy to use to cure sickle cell anemia.

### Key points:

- The two gene therapies are Lyfgenia and Casegevvy.
- Both gene therapies can be used only on patients over 12 years of age.
- **Casegevvy:** Casgevvy uses the gene-editing tool of CRISPR-Cas9 to disable a particular gene (BCL11A) that turns off fetal hemoglobin production in blood stem cells.
- **Lyfgenia:** Lyfgenia uses a disabled lentivirus as a vector to introduce into the blood stem cells a new gene for hemoglobin that mimics the healthy version.

### About CRISPR CAS9:

- CRISPR stands for **Clustered Regularly Interspaced Short Palindromic Repeats**



### How does it work?

- The CRISPR-Cas9 system consists of two key molecules that introduce a change (mutation) into the DNA. These are:
  - An enzyme called **Cas9**. This acts as a pair of 'molecular scissors' that can cut the two strands of DNA at a specific location in the genome so that bits of DNA can then be added or removed.
  - A piece of RNA called **guide RNA** (gRNA). This consists of a small piece of pre-designed RNA sequence (about 20 bases long) located within a longer RNA scaffold. The scaffold part binds to DNA and the pre-designed sequence 'guides' Cas9 to the right part of the genome. This makes sure that the Cas9 enzyme cuts at the right point in the genome.

### About Sickle Cell Disease:

- Sickle cell disease is a painful, inherited blood disorder that can be debilitating and lead to premature death. It affects an estimated 1,00,000 people in the U.S., most of whom are Black.
- In sickle cell disease, the body makes flawed, sickle shaped hemoglobin, impairing the ability of red blood cells to properly carry oxygen to the body's tissues.
- The sickle cells tend to stick together and can block small blood vessels, causing intense pain.
- It also can lead to strokes and organ failure.
- The only longer treatment for sickle cell disease is a bone marrow transplant.



## 7.11 Huntington's disease

### Why in the news?

Recently, some scientists in India asked the government to do research in Huntington's disease.

### About Huntington's disease:

- Huntington's disease is an **inherited condition** that causes **brain cells to slowly lose function and die**.

### Symptoms:

- Uncontrolled movements like jerking or twitching
- Loss of coordination
- Trouble walking.
- Difficulty swallowing
- Slurred speech.

### What causes Huntington's disease:

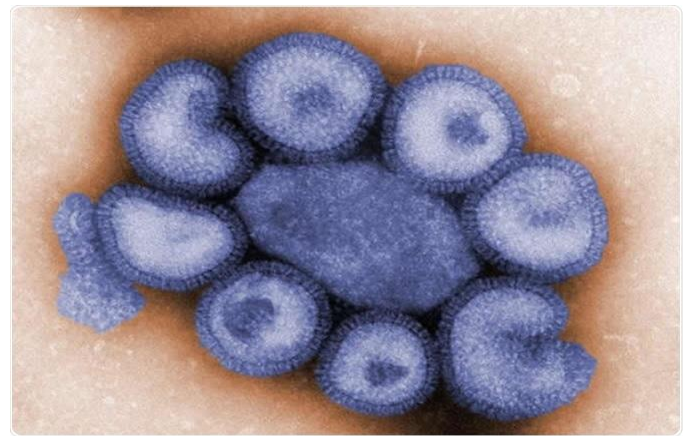
- The patient's misfortune is that they carry a **mutated version of a gene called HTT**.
- The HTT gene codes for a protein called Huntingtin, or HTT.
- Nerve cells in the human body require the HTT protein for their normal functioning and survival.
- The mutated gene, however, encodes an abnormal HTT protein that instead destroys the neurons that regulate movement, thinking, and memory.
- The normal HTT gene contains a stretch of DNA that specifies the number of times the amino acid glutamine is repeated in the HTT protein.
- This number varies from 11 to 31. In the mutant versions of the HTT gene, this stretch is expanded to encode 35 or more repeats.
- Researchers have even found variants with more than 150 repeats.

- As the number of repetitions increase, the severity of Huntington's disease increases and its debilitation begins at an earlier age.
- Note:** There is no specific treatment available for this disease. Only symptoms can be treated.

## 7.12 H1N2 virus

### Why in the news?

Recently, the United Kingdom Health Security Agency (UKHSA) reported the first known human case of influenza A (H1N2)v in the UK.



### About H1N2:

- Influenza A H1N2 is a **subtype of influenza that is endemic in pigs** and is rarely reported in humans.
- Swine influenza** viruses normally do not infect humans, however, in rare cases, sporadic infections can occur especially with close contact with animals carrying the virus.
- In such occurrences, the infecting influenza strain is known as a "**variant virus**" denoted by adding "v" after the subtype.
- Among humans, only three subtypes of influenza A virus are known to exist** and these include **H1N1, H1N2, and H3N2**.

## 7.13 INSACOG

### Why in the news?

Recently, the INSACOG chief said that a fourth dose of Covid 19 is not required.

- Those over 60 years of age who have co-morbidities and high-risk patients in this age group may take a precautionary third dose.

### About INSACOG:

- The Indian SARS-CoV-2 Genomics Consortium (INSACOG) is a consortium of 54 laboratories to monitor the genomic variations in the SARS-CoV-2.
- Year:** 2020
- It is jointly initiated by the **Union Health Ministry of Health, and Department of Biotechnology (DBT) with Council for Scientific & Industrial Research (CSIR) and Indian Council of Medical Research (ICMR).**
- The data from the genome sequencing laboratories is being analyzed as per the field data trends to study the linkages (if any) between the genomic variants and epidemiological trends.
- This helps to understand super spreader events, outbreaks and strengthen public health interventions across the country to help in breaking the chains of transmission.

## 7.14 Arctic Winter

### Why in the news?

Recently, the Raman Research Institute has participated in India's first winter expedition to the Arctic region.

### Key details:

- Main aim of this expedition is to examine the characterisation of the radio frequency

environment in the Svalbard region of the Arctic in Norway.

- India has been running its own research station, Himadri, in Svalbard since 2008.
- This project is funded by the **Ministry of Earth Sciences.**
- The **National Centre for Polar and Ocean Research** is the nodal agency spearheading the expedition.
- Raman Research Institute has been working on the development of the **Shaped Antenna measurement of the background Radio Spectrum (SARAS)** series of experiments.
- SARAS aims to study the faint cosmological signal from hydrogen, commonly referred to as the **21cm signal**, emerging from the cosmic dawn and the epoch of reionization.

## 7.14 Abel Prize

### Why in the news?

Recently, the Infosys founder N.R. Narayana Murthy said it was time to ponder why no Indian resident has ever won an Abel Prize for mathematics or the Fields Medal, which is often described as the Nobel Prize in mathematics.

### About Abel Prize or Fields Medal:

- The Abel Prize is awarded annually by the King of Norway to one or more outstanding mathematicians.
- Year of formation: 2003
- It also called as Nobel prize for Mathematics
- 2023 award winner:

**Louis  
caffarelli**



## 7.15 Limestone

### Why in the news?

Recently, the Meghalaya State government has urged the people of the Jaintia Hills to stop illegal rat-hole mining of limestone.

### About Limestone:

- Limestone, sedimentary rock composed mainly of calcium carbonate ( $\text{CaCO}_3$ ), usually in the form of calcite or aragonite.
- It comprises around 15% of the Earth's crust.

### Distribution in India:

- In India, total limestone reserves/resources of all types and grades are estimated to be 203,224 million tonnes.

- **Top States with limestone reserves: Karnataka, Andhra Pradesh, Rajasthan**

- In terms of annual extraction volume, limestone ranks first among non-fuel solid mineral deposits in India.

### Applications:

- To manufacture cement, lime, edible lime, etc.
- Water treatment and purification plants
- Construction industry

### Threats of Limestone mining:

- Denudation of forest
- Pollution of soil, water, air
- Lowering of water table

## 8. DISASTER MANAGEMENT

### 8.1 Disaster management training to railway officers

### Why in the news?

Recently, the Ministry of Railways has made training in disaster management mandatory for railway officers.

### Key points from news:

- Disaster management has now been incorporated as an integral component of the training module for railway officers at the induction/foundation course level and also included in refresher or mid-career training programmes.
- **Implemented by:** National Academy of Indian Railways (NAIR), Vadodara, and the Indian Railway Institute of Disaster Management (IRIDM), Bengaluru.
- It also called for reviewing the coordination of railways with disaster management

agencies such as the National Disaster Response Force and State Disaster Response Force.

### 8.2 Cyclone Michaung

### Why in the news?

Recently, the cyclonic storm Michaung over Bay of Bengal off south Andhra Pradesh intensified into a 'severe cyclonic storm', the India Meteorological Department said.

### About Cyclone Michaung:

- It is a **super cyclonic storm**, developed in the Bay of Bengal.
- Michaung originated as a low-pressure area in the Gulf of Thailand which crossed into the Bay of Bengal and became a deep depression.

- Cyclone Michaung's own intensification was also assisted by the **Madden-Julian oscillation (MJO)**.
  - The MJO consists of a 'pair' of weather anomalies that move eastward around the world once every one to two months. The leading side imposes dry weather while the trailing side imposes wet (rainy) weather.
- Cyclone Michaung crossed over land just south of Bapatla district in Andhra Pradesh.
- The name Michaung was given by **Myanmar**.

### 8.3 Integrated Urban Flood Management Project

#### Why in the news?

Recently, the Union government has allocated around ₹561 cr for the Integrated Urban Flood Management Project for Chennai Metropolitan Areas under the National Disaster Mitigation Project.

#### About National Disaster Mitigation Fund:

- This fund was established based on the recommendation of 15th Finance Commission, specifically for the climate change related disaster mitigation projects.
- **Nodal Ministry:** Ministry of Home Affairs
- **Year:** 2021
- The Central government also has asked all the states to constitute a **State Disaster Mitigation Fund**.
- It also allocated ₹35,000 cr fund to the state disaster mitigation projects for the period 2021 - 2025.
- The corpus of SDMF is contributed by the Government of India and the State

Government in the ratio **75:25 for all States, except for the North-Eastern and Himalayan (NE&H) States, for which it is contributed 90:10.**

### 8.4 Unauthorized constructions along flood plains

#### Why in the news?

Recently, The Supreme Court has ordered the Bihar government to clear unauthorized constructions from the floodplains of the Ganga, especially in and around Patna.

#### Impacts of unauthorized constructions along floodplains:

- Improper sewage disposal
- Noise pollution
- Obstruction of the natural flow of river
- Habitat destruction in the river ( eg. Gangetic Dolphin)
- Affects water quality

#### About Arsenic Contamination:

- The IIT Kharagpur report said that around 25% of the total land area has high levels of arsenic contamination.
- Around 250 million people are exposed to arsenic contamination.
- Arsenic enters the human body through drinking contaminated water, food system, industrial process and smoking tobacco.
- The World Health Organization's provisional guideline value for arsenic in drinking water is 0.01 mg/l (10 µg/l).
- The permissible limit of arsenic in India in the absence of an alternative source is 0.05 mg/l (50 µg/l).
- Long-term arsenic exposure can lead to various health issues, including cancer, skin

lesions, cardiovascular disease, and negative impacts on cognitive development.

## 9. SECURITY

### 9.1 INTERPOL Vision 2030

#### Why in the news?

Recently, A high-ranking Indian delegation to the 91st Interpol General Assembly has urged other member countries to deny safe haven to crime, criminals, and the proceeds of crime.

#### About Interpol's Vision 2030:

- Enable the global law enforcement community to more effectively counter and prevent terrorism through international cooperation.
- Promote border security worldwide.
- Enhance the law enforcement response to protecting vulnerable communities.
- Reduce the global harm and impact of cybercrime.
- Tackle corruption and financial crime in all its forms.
- Counter serious organized crime and drug trafficking.
- Strengthen environmental security and support the promotion of sustainable livelihoods by countering crimes that affect the environment and climate.
- **Seven types of notices:**
  - There are seven types of notices issued by Interpol, **Red Notice, Yellow Notice, Blue Notice, Black Notice, Green Notice, Orange Notice, and Purple Notice.**

#### Blue corner notice:

A blue corner notice also known as an "enquiry notice" allows police forces in member states to share critical crime-related information

such as obtaining a person's criminal record, and location and having his or her identity verified among others.

Red corner notice	Blue corner notice
<ul style="list-style-type: none"><li>• It is issued to arrest a wanted criminal.</li></ul>	<ul style="list-style-type: none"><li>• It is issued to know about the crime records of the fugitive.</li></ul>
<ul style="list-style-type: none"><li>• It is issued after criminal convictions.</li></ul>	<ul style="list-style-type: none"><li>• It is issued prior to the filing of criminal charges.</li></ul>
<ul style="list-style-type: none"><li>• Not compulsory to arrest a fugitive, it is discretionary in nature.</li></ul>	<ul style="list-style-type: none"><li>• Not compulsory to share the information.</li></ul>

#### About INTERPOL and mandate:

- International Criminal Police Organization
- Formed: 1923
- It is an intergovernmental organization
- 195 Member countries

#### Mandate:

- Help police in all the member countries to work together to **make the world a safer place.**
- To do this, enable the member nations to **share and access data on crimes and**



**criminals** and offer a range of technical and operational support.

## 9.2 Anti-Submarine Warfare Ship

### Why in the news?

Recently, the first three of a series of eight anti-submarine warfare shallow water crafts being built by Cochin Shipyard Ltd. for the Navy were launched on the shipyard premises.

- Three ships: INS Mahe, INS Malvan and INS Mangrol.

### Anti-submarine warfare ship:

- It is built by the **Cochin Shipyard Ltd.**
- The contract was between Cochin Shipyard Ltd and the Ministry of Defense in **2019** to build eight Anti-Submarine Warfare Ships.
- The vessels are designed to fit indigenously developed, state-of-the-art Sonars, for underwater surveillance.
- The vessels boast capabilities for anti-submarine operations in coastline waters, low-intensity maritime scenarios, mine laying and sub-surface surveillance operations.

## 9.3 Intercontinental Ballistic Missiles

### Why in the news?

Recently, a new Intercontinental Ballistic Missile called Sentinel has been launched by the US.

### Key points from the news:

- This sentinel missile system is going to replace cold war era minuteman missiles.

- The \$96 billion Sentinel overhaul involves 450 silos, their control centers, three nuclear missile bases and testing facilities.

### About Intercontinental ballistic missiles (ICBM):

- An intercontinental ballistic missile (ICBM) is a ballistic missile with a range greater than 5,500 kilometers, primarily designed for nuclear weapons delivery.
- modern designs support **multiple independently targetable reentry vehicles (MIRVs)**, allowing a single missile to carry several warheads, each of which can strike a different target.
- The United States, Russia, China, France, India, the United Kingdom, Israel, and North Korea are the only countries known to have operational ICBMs.

### India's ICBM:

- India has developed its intercontinental ballistic missile under the Integrated Guided Missile Development Programme.
- **Agni V** is the Intercontinental ballistic missile of India with a range over 5000 km.



## 9.4 Exercise Milan

### Why in the news?

Recently, the Indian Navy said that India's largest multilateral naval exercise 'Exercise Milan' will be hosted in February 2024.

### About Exercise Milan:

- Exercise Milan is a **biennial multilateral naval exercise**.
- Year: **1995**.
- The last edition of Milan, which was held off Visakhapatnam, saw participation from over 40 countries.
- It is conducted by **India**.

### Purpose:

- The main purpose of the exercise is to ensure a Free and Open Indian Ocean Region.
- To promote its foreign policies 'Act East India', 'SAGAR'.

### Operation Trident:

- Launched by the **Indian Navy during the Indo-Pakistan War of 1971**, Operation Trident was a well-executed offensive operation.
- It took place on Dec 4 and 5 in the city of Karachi.

### Sindhudurg Fort:

- Sindhudurg Fort is a historical fort that occupies an island in the Arabian Sea, just off the coast of **Maharashtra in Western India**.
- The fort was built by Chhatrapati Shivaji I.
- The fortress lies on the shore of Malvan taluka of the Sindhudurg District in the Konkan region of Maharashtra.
- Year: **1664**

## 9.5 Information Fusion Centre for Indian Ocean Region

### Why in the news?

Recently, the Indian Navy's Information Fusion Centre for Indian Ocean Region (IFC-IOR)

located in Gurugram played a quiet but crucial role in the backend as the hijacking incident of (Merchant Vessel) m.v. Ruen unfolded off Somalia, by coordinating between the Navy and with the ship owner.

### About Information Fusion Centre for Indian Ocean Region (IFC-IOR):

- It was started in **2018** to strengthen and promote collaboration for maritime safety and security.
- **Headquarters:** Gurugram
- Since its inception, the Centre has established **67 linkages in 25 countries**.
- To enable better correlation, compressed information cycles and timely inputs, the Centre also hosts International Liaison Officers (ILOs) from partner nations.
- The Centre hosts ILOs from 12 partner nations: **Australia, France, Italy, Japan, Maldives, Mauritius, Myanmar, Sri Lanka, Seychelles, Singapore, United Kingdom and United States of America**.

## 9.6 Namsai Declaration

### Why in the news?

Recently, the regional committees on the boundary dispute between Assam and Meghalaya have been asked to submit their reports by December 31.

### Key points of boundary disputes between NE states:

- Assam and Meghalaya had 12 disputed sectors along their 884.9-km boundary.
- The disputes in six of these sectors were settled through an agreement signed on March 29, 2022.
- The six disputed sectors that remain are **Langpih, Borduar, Nongwah-Mawtamur,**

### **Deshdooomreah, Block-I, Block-II, and Psiar-Khanduli.**

- Assam and Arunachal Pradesh also resolved their boundary disputes over 37 of 123 villages with the signing of the **Namsai Declaration in 2022.**
- Assam also has an ongoing boundary dispute with Mizoram and Nagaland.



### **About Namsai Declaration:**

- The Namsai Declaration is an agreement to reduce the number of disputed villages from 123 to 86.
- It was signed between **Assam and Arunachal Pradesh in 2022.**
- As per the declaration, both the states will now constitute 12 regional committees, each for the 12 districts where there is a dispute.

## **9.7 Operation Prosperity Guardian**

### **Why in the news?**

Recently, the multi-national security initiative **Operation Prosperity Guardian (OPG)** has now been set up and deployed to allow maritime commerce to pass through the Red Sea / Gulf of Aden to respond to Houthi-led attacks on shipping in the Red Sea.

### **Operation Prosperity Guardian:**

- It is a multi-national security initiative Operation Prosperity Guardian (OPG) to allow maritime ships passage through the critical Red Sea/Gulf of Aden that connects Asia with Europe and the US.
- The OPG is a US-led military operation by a predominantly Western multi-national coalition formed a few days ago to respond to Houthi-led attacks on shipping in the Red Sea.

### **Red Sea:**



- Red Sea, narrow strip of water extending southeastward from Suez, Egypt, for about 1,200 miles (1,930 km) to the Bab el-Mandeb Strait, which connects with the Gulf of Aden and thence with the Arabian Sea.
- The sea separates the coasts of Egypt, Sudan, and Eritrea to the west from those of Saudi Arabia and Yemen to the east.
- With its connection to the Mediterranean Sea via the Suez Canal, it is one of the most heavily traveled waterways in the world, carrying maritime traffic between Europe and Asia.

## 9.8 National Investigation Agency (NIA)

### Why in the news?

Recently, Federal Bureau of Investigation (FBI) Director Christopher A. Wray informed the National Investigation Agency that the FBI was aggressively investigating the attack on the Indian consulate in San Francisco.

### About National Investigation Agency:

- The NIA is a federal agency of the Indian government responsible for investigating and prosecuting crimes related to Terrorism, Insurgency, and other national security matters.
- **Year:** It was established in **2009** following the Mumbai terrorist attacks.
- **Headquarters:** Delhi
- **Nodal Ministry:** Ministry of Home Affairs
- The NIA has the power to take over investigations of terrorism-related cases from state police forces and other agencies.
- **Functions:**
  - Collect and disseminate terrorism related matters
  - Ensure coordination of law enforcement agencies
  - Capacity building of law enforcement agencies.

### Important provisions of 2019 amendment:

- The central government can direct the NIA to conduct an investigation, even if it happens out of the country.
- The scope of the law has been widened
  - Human trafficking
  - Counterfeit currency
  - Prohibited arms

- Cyber terrorism
- Crimes under the Explosive Substances Act, 1908.

### Federal Bureau of Investigation:

- The FBI is an intelligence-driven and threat-focused national security organization with both intelligence and law enforcement responsibilities of USA.
- Headquarters: Washington DC
- Year: 1908

## 9.9 Central Industrial Security Force

### Why in the news?

Recently, the Union Home Ministry has approved the deployment of the Central Industrial Security Force (CISF) in the Parliament complex, according to a government order.

### About Central Industrial Security Force:

- It is one of the **Central Armed Police Force organizations** in India.
- **Nodal ministry:** Ministry of Home Affairs

### Security coverage:

- CISF provides security to over 356 industrial units (including 13 Private Sector Units), government infrastructure projects and facilities and establishments located all over India.
- These include atomic power plants, space installations, mines, oil fields and refineries, major ports, heavy engineering, steel plants, barrages, fertilizer units, airports and hydroelectric/thermal power plants owned and controlled by Central Public Sector Undertakings (PSUs), and currency note presses.
- **Headquarters:** New Delhi
- **Year:** 1969

- **Total strength:** 1,80,000.

## 9.8 China about SC verdict on Article 370

### Why in the news?

Recently, China said that the Supreme Court's verdict on Article 370 will not impact the Chinese position on Ladakh and argued that the western part of the India- China border has "always belonged to China".

### Key points:

- China has never recognised the so-called Union Territory of Ladakh set up unilaterally and illegally by India.
- India's domestic judicial verdict does not change the fact that the western section of the China-India border has always belonged to China.
- Pakistan's caretaker Foreign Minister, Jalil Abbas Jilani, had criticized the order and said, "International law doesn't recognise India's unilateral and illegal actions of 5 August 2019. The judicial endorsement has no legal value.
- Earlier, the Organisation of Islamic Cooperation (OIC) had expressed concern about the Supreme Court's decision.

## 9.9 Pegasus spyware

### Why in the news?

Recently, the Security Lab of Amnesty International announced that the founder editor of The Wire news website Siddharth Varadarajan and another journalist in India were targeted with Pegasus spyware.

### What is Spyware?

- Spyware is any software with malicious behavior that aims to gather information about a person or organization and send it to another entity in a way that harms the

user by violating their privacy, endangering their device's security, or other means without the user's knowledge.

### Examples:

- Adware, keyloggers, tracking cookies

### About Pegasus spyware:

- Pegasus is an advanced form of spyware designed to install itself on Android and iOS devices without any action from the targeted user.

### Issues:

- Threat to privacy
- Mostly used against government critics
- Political usage by government machineries

## 9.10 Financial Intelligence Unit

### Why in the news?

Recently, the Financial Intelligence Unit (FIU) sent a notice to cryptocurrency exchange Binance for "operating illegally" in India through an offshore entity.

### About Anti Money Laundering/Counter Financing of Terrorism (AML-CFT) framework:

- AML/CFT policies and measures are designed to prevent and combat these crimes and are essential to protect the integrity and stability of financial markets and the global financial system.
- Over the past 20 years, the Fund has helped shape AML/CFT policies globally, and within its members' national frameworks.
- Virtual Digital Assets Service Providers [cryptocurrency services] were brought into the ambit of Anti Money Laundering/Counter Financing of Terrorism (AML-CFT) framework under the provisions



of the Prevention of Money Laundering Act (PML) Act, 2002 in March 2023,

#### About Financial Intelligence Unit (FIU):

- It is an organization to collect financial intelligence offenses under the Prevention of Money Laundering Act 2002.
- It reports directly to the **Economic Intelligence Council**, headed by the Union Finance Minister.
- **Year of formation:** 2004
- FIU comes under the **department of revenue, Ministry of Finance**

### 9.11 Donkey or Dunki route

#### Why in the news?

Recently, Police in a suspected human trafficking case said that in cases of illegal or irregular migration, people usually do not register complaints as they have often willingly opted for the so-called "dunki" or donkey route to emigrate and are aware of the risks in the process.

#### Key points:

- An A340 Airbus chartered for a flight by a Romanian company named Legend Airlines took off from Fujairah in the United Arab Emirates on December 22, 2023.

- It was headed for Nicaragua in Central America.
- The flight had a technical stopover at France's Vatry airport, but was grounded there after the local French administration received an anonymous tip-off about probable "human trafficking".
- The U.S. government has designated Nicaragua as one of several countries deemed as failing to meet minimum standards for eliminating human trafficking.
- Nicaragua has also been used as a migratory springboard because of relaxed or visa-free entry requirements.

#### About Dunki" or Donkey route:

- The term "donkey route" originates from the Punjabi word "dunki," meaning to move from one place to another.
- It typically involves illegal border crossings via indirect routes with multiple stops in different countries.
- For instance, individuals might obtain a tourist visa for the European Union's **Schengen Area**, allowing free movement across 26 countries, and then illegally enter the UK with the help of "consultants" or "agents."

## 10. SCHEMES

### 10.1 GIAN Scheme

#### Why in the news?

Recently, the Education Ministry is gearing up to restart the fourth phase of the **Global Initiative of Academic Networks (GIAN)**.

- 39% of the total courses delivered at IITs, 24% delivered at NITs.

#### About GIAN Scheme:

- It is an initiative to **enhance the research and education qualities** across the country.
- This scheme was launched in 2015
- **Nodal Ministry:** Ministry of Education
- **Objectives:** To foster collaboration between Indian students and Institutes with world renowned faculties.

## 10.2 PM MITRA

### Why in the news?

Recently, the Minister of Textiles said India launched the PM MITRA scheme to improve the textile supply chain in the country.

### About PM Mega Integrated Textile Regions and Apparels Parks:

- It was launched based on the 5F vision of the Prime Minister.
  - 5F vision is Farm to Fibre to Factory to Fashion to Foreign.
- Year: **2022**
- Nodal Ministry: **Ministry of Textiles**
- Time Period: **2022 - 2027**
- **Objectives:**
  - Creation of integrated textile value chain
  - Reduce logistic cost in the sector
  - Employment generation
- **Funding support:** Government will provide financial assistance upto ₹800 cr per greenfield park and ₹500 cr per brownfield park.
- Each park will be led by the **Special Purpose Vehicle** created for this purpose.
- So far, seven PM MITRA parks were set up under this scheme.

## 10.3 Small savings scheme

### Why in the news?

Recently, the Union government decided to raise the returns on the Sukanya Samriddhi Account Scheme.

### Key details:

- The interest rate is raised from 8% to 8.2%

and on three-year time deposits from 7% to 7.1% for the first quarter of 2024.

- It retained the status quo on interest rates for all other small savings schemes.

### About Small Savings Schemes:

- Small savings instruments help individuals achieve their financial goals over a particular period.
- Deposits under these schemes are going to the Small Savings Deposits Fund.
- There are 12 schemes or instruments that have been included under this small savings scheme.
- The interest rates are decided on a quarterly basis by the Union government.
- **Example:**
  - Provident Fund Scheme
  - Sukanya Samriddhi Account Scheme
  - Post Office Savings Scheme
  - Kisan Vikas Patra
  - Senior Citizens Savings Scheme
  - Mahila Samman Savings Certificate

### Sukanya Samriddhi Account Scheme:

- The Sukanya Samriddhi Yojana (SSY) is a small deposit scheme by the Ministry of Finance exclusively for a girl child.
- SSY was launched by the Hon'ble Prime Minister on 22nd January 2015 as a part of the Beti Bachao Beti Padhao campaign.
- The scheme is meant to meet the education and marriage expenses of a girl child.
- One can apply for SSY through Post Offices or through the branches of Public Sector Banks and three Private Sector Banks viz. HDFC Bank, Axis Bank, and ICICI Bank.

- The account can be opened by a parent or legal guardian of the girl child. The girl child must be below the age of 10 years.
- Minimum deposit ₹ 250/- Maximum deposit ₹ 1.5 Lakh in a financial year.
- Account can be opened in the name of a girl child till she attains the age of 10 years.
- Only one account can be opened in the name of a girl child.
- Account can be opened in Post offices and in authorised banks.
- Withdrawal shall be allowed for the purpose of higher education of the Account holder to meet education expenses.
- The account can be prematurely closed in case of marriage of girl child after her attaining the age of 18 years.
- The account can be transferred anywhere in India from one Post office/Bank to another.
- The account shall mature on completion of a period of 21 years from the date of opening of account.
- Deposit qualifies for deduction under Sec.80-C of I.T.Act.
- Interest earned in the account is free from Income Tax under Section -10 of I.T.Act.

## 10.4 PM-DevINE

### Why in the news?

Recently, the Prime Minister Office reported that only 10% of the budgetary amount has been sanctioned under the Prime Minister's Development Initiative for North East Region (PM-DevINE) scheme.

### About Prime Minister's Development Initiative for North East Region (PM-DevINE) Scheme:

- The PM-DevINE scheme was announced in the **2022-23** Union Budget.
- Time duration: **2022-23 to 2025-26**.
- Total approved outlay for PM-DevINE scheme is **₹6,600 crore**.
- Nodal Ministry: **Ministry of Development of North Eastern Region**.
- **Objectives:** Ensure rapid and holistic development of the northeast region by funding infrastructure and social development projects, based on felt needs of the States.
- This scheme was started to fill the gaps in various schemes and **will not be a substitute for existing Central and State Schemes**.

## 10.5 Palna Scheme

### Why in the news?

Recently, the Women and Child Development Ministry said it aimed to establish 17,000 creches in Anganwadis across the country.

### About Palna Scheme:

- Palna scheme is to address the need for quality daycare facilities or creches for children of working women by providing a safe and secure environment for the nutritional, health and cognitive development of the children.
- It will enable more women among all socio-economic groups to take up gainful employment in the organized and unorganized sector.
- Under the plan, two additional creche workers would be debuted to all the anganwadi centers.

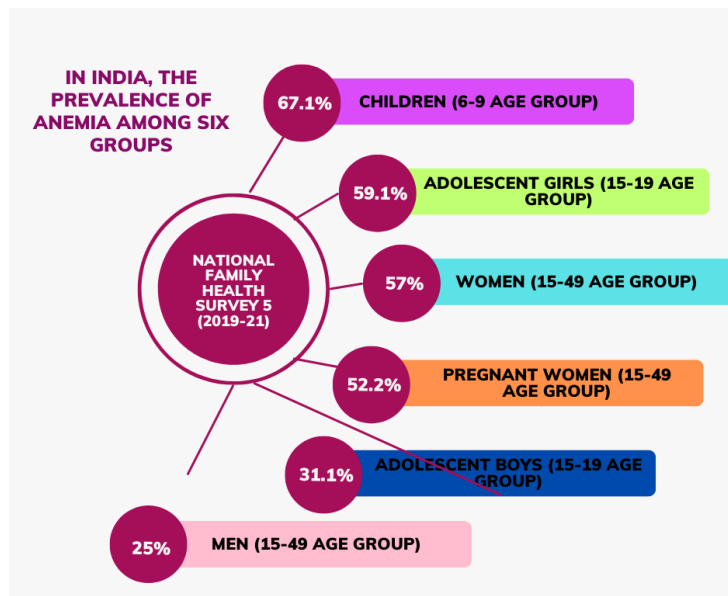
- Currently, 13.87 lakh anganwadi and mini-anganwadi centers are operational across the country.

## 10.6 Anaemia Mukht Bharat Programme

### Why in the news?

Recently, the Indian Council of Medical Research (ICMR), Delhi, has invited Expression of Interest (EoI) from the eligible organizations, companies and start-ups manufacturing non-invasive hemoglobinometers useful in effective screening of anemia.

### National Family Health Survey report:



### Anaemia-mukt Bharat (AMB) programme:

- This programme was started in **2018** to reduce the anemia level among most vulnerable groups.

#### Initiatives:

- Field level awareness through ASHAs
- More focus on high priority districts
- IV iron blood transfusion

#### 6\*6\*6 strategy:

- **6 beneficiaries:**

- Adolescent girls
- Women with reproductive age
- Pregnant women
- Lactating mothers
- Children (6-59 month)
- Children (5-9 years)

#### 6 interventions:

- Deworming
- Prophylactic Iron Folic Acid
- Behavior change communication campaign
- Point of care treatment
- Mandatory Iron folic acid fortified foods in public health programmes.
- Addressing non nutritional causes of anemia.

#### 6 Institutional mechanisms

- National Anemia Mukht Bharat Unit
- Intra ministerial coordination
- Strengthening supply chain
- Convergence with other ministries
- National center of excellence on Anemia control
- Anemia Mukht Bharat Dashboard

### Purpose of non-invasive hemoglobinometer devices:

- A non-invasive hemoglobinometer is a device that can measure the level of hemoglobin in your blood without needing to draw a blood sample.
- There is no need to prick your finger or draw blood.

- You can use a non-invasive hemoglobinometer at home or anywhere else.
- Results are usually available within seconds.
- There is no risk of infection from a needle prick.

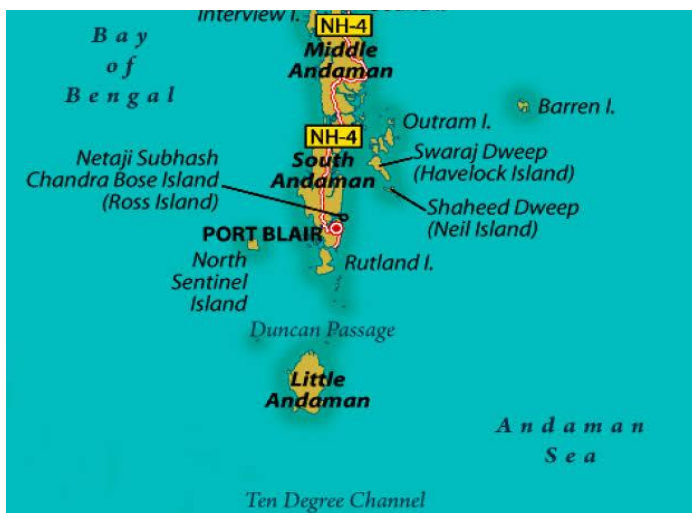
## 11. PLACES IN NEWS

### 11.1 Shaheed Dweep

#### Why in the news?

Recently, the United Nations High Commissioner for Refugees (UNHCR) expressed gratitude to Indian authorities on the Andaman and Nicobar Islands for taking care of 142 Rohingya refugees, whose boat was intercepted by coastal security agencies near Shaheed Dweep.

#### Shaheed Dweep:



- Shaheed Dweep, earlier known as Neil Island is an island of the Andaman Islands, located in **Ritchie's Archipelago**.
- In **2018**, the Indian government changed the name of the Neil island as Shaheed Dweep.

### 11.2 Avdiivka

#### Why in the news?

Recently, the Russian troops progressed towards the industrial town Avdiivka.



#### Avdiivka:

- It is an industrial town of Ukraine located in the eastern side.
- Nearby, one of the largest cities of Ukraine, Donetsk is located.

### 11.3 Gaza

#### Why in the news?

Recently, the Human Rights watch accused Israel of using starvation as a weapon to attack Gaza.

#### Key details:

- The United Nations also accused Israel of blocking the passage of foods, water and other basic facilities to the Gaza region.
- **Places where Israel forces attacked:**



- Jabalia refugee camp: Northern Gaza
- Deir al balah : Central Gaza
- Rafah : South Gaza
- Khan yunis



## 11.4 Sierra Leone

### Why in the news?

Recently, Sierra Leone has signed a memorandum of understanding with a Chinese firm to build an 8-km bridge with an estimated cost of about \$1.5 billion.

### Sierra Leone:



- It is a West African country.
- Capital: Freetown
- Border countries: Liberia, Guinea, Atlantic Ocean

## 11.5 Volcano eruption in Iceland

### Why in the news?

Recently, a volcano erupted in Iceland after weeks of intense seismic activity southwest of Reykjavik.

- It is located only 3 km from the evacuated fishing port of Grindavik.

### Port Grindavik:



- It is located southwest of Iceland.

## 11.6 Nicaragua

### Why in the news?

Recently, a Nicaragua-bound flight carrying 303 passengers, mostly Indians, was allowed to resume its journey, three days after they were detained by the French authorities at an airport near Paris over suspected "human trafficking."

### Nicaragua Map:

- It is a Central American Nation in the North American Continent.
- It is known for its beaches, volcanoes and lakes.



## 11.7 Essequibo region

### Why in the news?

Recently, Britain deployed a naval ship off Guyana, as the South American nation faces a border dispute with Venezuela over the oil-rich Essequibo region.

### About Essequibo region:



- Essequibo is the largest **traditional region of Guyana** but not an administrative region of Guyana today.
- This region is known for its rich oil resources.
- For this oil rich resource, **Guyana and Venezuela are fighting each other.**

- The **Essequibo River** is flowing through this region and it is **the largest river in Guyana.**

## 11.8 Whitsun reef

### Why in the news?

Recently, around 135 Chinese vessels were spotted near the Whitsun reef.

### About Whitsun reef:



- It is a disputed reef between **China and the Philippines.**
- The Philippines called this reef as **Julian Felipe Reef.**
- Whitsun Reef is more than 1,000 km from the nearest major Chinese landmass of Hainan Island.
- It is located in the **South China Sea.**

## 11.9 River Danube

### Why in the news?

Recently, the Ukrainian military said a Panama-flagged bulk carrier, headed to a River Danube port to load grain, has hit a mine in the Black Sea injuring two persons.

## About River Danube:



- It is the **second longest river in Europe** after the Volga in Russia.
- It **originates in Germany** and flows through ten countries in central and southeastern Europe.
- Total length of this river is **2850 km**.
- It drains into the **Black Sea**.
- **Countries through which this river flows:**
  - Austria, Slovakia, Hungary, Croatia, Serbia, Romania, Maldiva, Ukraine, Bulgaria and Germany.

## 11.10 Leningrad

### Why in the news?

Recently, Russian President Putin says that a new military district in Leningrad will be established.

### Key details:

- In the 1920's Leningrad military district was established.
- But in 2010, Leningrad military district was merged with the Moscow military district.
- Now, Russia again is going to create a new Leningrad military district.
- This move is taken to strengthen the defense in the areas near Finland.
- Because Finland has joined NATO recently.

## 11.11 Gulf of Finland

### Why in the news?

Recently, the entire Finland is covered by snow.

### Gulf of Finland:



- The Gulf of Finland is the easternmost arm of the Baltic Sea.
- It is located between **Estonia, Finland and Russia**.
- **River Neva from Russia** drains into the Gulf of Finland.



## 12. PERSONALITIES

### 12.1 Shivaji Maharaj

#### Why in the news?

Recently, Prime Minister Narendra Modi unveiled the statue of Chhatrapati Shivaji Maharaj at Rajkot Fort in Sindhudurg district, Maharashtra.

- He also attended the Navy Day celebrations, which is celebrated on December 4.

#### About Shivaji Maharaj:

- He was born in 1630 in Pune district of Maharashtra.
- Parents: Shahaji Bhonsle and Jijabhai.
- **Important battles:**
  - **Battle of Pratapgad, 1659:** Battle between Shivaji and Adil Shahi general Afzalkhan.
  - **Battle of Surat, 1664:** Fought near the city of Surat, Gujarat, between Chhatrapati Shivaji Maharaj and Inayat Khan, a Mughal captain.
  - **Battle of Purandar, 1665:** Fought between the Mughal Empire and Maratha Empire.
  - **Battle of Sangamner, 1679:** Fought between the Mughal Empire and Maratha Empire. This was the last battle in which the Maratha King Shivaji fought.

- He was crowned as the king of the Marathas on 6<sup>th</sup> June, 1674, at Raigad.
- He took on the titles of **Chhatrapati, Shakakarta, Kshatriya Kulavantas and Haindava Dharmodhhaarak**.
- He founded a **centralized administration** with King as the head of the state.
- King was assisted by the council of eight ministers called '**Ashtapradhan**'.
- He **abolished the Jagirdhari system and replaced it with the Ryotwari system**.
- The revenue system was patterned on the **Kathi system of Malik Amber** in which every piece of land was measured by Rod or Kathi.
- **Chauth and Sardeshmukhi** were other sources of income.
  - **Chauth** amounted to 1/4<sup>th</sup> of the standard which was paid to Marathas as a safeguard against Shivaji's forces raiding non-Maratha territories.
  - **Sardeshmukhi** was an additional levy of 10% demanded from areas outside of the kingdom.
- He died in 1680.

## 13. REPORTS AND INDEX

### 13.1 World Malaria Report

#### Why in the news?

Recently, the World Health Organization released the World Malaria Report, 2023.

#### Key points from news:

- In 2022, **India accounted for 66% of malaria cases** in the WHO **Southeast Asia Region**.

- India saw a decline of 30 per cent in malaria incidence and 34 per cent in mortality in 2022, compared to the previous year.
- It adds that almost 46% of all cases in the region were due to Plasmodium vivax.
  - Plasmodium Vivax is a protozoan parasite and human pathogen which is the most frequent and widely distributed cause of recurring malaria.
- The Southeast Asia Region accounted for about 2% of malaria cases globally.
- Malaria cases declined by 76% from 23 million in 2000 to about five million in 2022.
- In 2022, there were an estimated 249 million cases globally, exceeding the pre-pandemic level of 233 million in 2019 by 16 million cases.
- **Factors contributed for the rising malaria cases worldwide:**
  - Drug and Insecticide resistance
  - Resource Constraints
  - Humanitarian crises
  - Climate change impacts
  - Delays in program implementation
  - Covid 19 disruptions
- **Reasons for the reduction of malaria cases:**
  - Providing primary health care to the remotest areas,
  - Surveillance that is now being backed by digital data, and
  - Better handling of extreme weather events such as cyclones
  - Good preventive practices,
  - Use of effective tools to keep the mosquito population in check,

- Use of point of care tests for quick diagnosis.

#### About World Malaria Report:

- The World Malaria Report tells the current situation, impacts and measures taken by the world governments.
- It is released **annually** by the **World Health Organization**.

#### Measures in India to eliminate Malaria:

- **National Vector Borne Disease Control Program:** It is a program for prevention and control of vector borne diseases viz. Malaria, Dengue, Chikujgunya, Kala Azar, Japanese Encephalitis and Lymphatic Filariasis.
- **National Framework for Malaria Elimination 2016-2030:**
  - Elimination of malaria by 2030
  - Maintain malaria free status in areas where malaria transmission has been interrupted.
- **Malaria Elimination Research Alliance-India (MERA-India):** It has been established by Indian Council of Medical Research (ICMR) with the conglomeration of partners working on malaria control.

## 13.2 Food Security and Nutrition 2023 Report

#### Why in the news?

Recently, the Food and Agriculture Organization released 'Regional Overview of Food Security and Nutrition 2023: Report'.

#### About the Regional Overview of Food Security and Nutrition 2023: Statistics and Trends:

- More than 74% of Indians could not afford a healthy diet in 2021.



- Because of rising food costs, most people could not afford healthy diets.
- **Reasons for these statistics:**
  - Pandemic
  - 5F crisis: Food, Feed, Fuel, Fertilizer and Finance.
- 370 million undernourished people living in Asia- Pacific region.

#### India related findings:

- 16.6% of the country's population is undernourished.
- 31.7% of children in India have stunting.
- 18.7% of children are wasting.
- 53% of women have anemia issues.

#### About Food and Agriculture Organization (FAO):

- The Food and Agriculture Organization (FAO) is a specialized agency of the United Nations that leads international efforts to defeat hunger.
- **Members:** 195
- **Headquarters:** Rome, Italy.
- **Year:** 1945

#### Important 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).

#### World Health Assembly:

- The World Health Assembly (WHA) is WHO's decision-making body attended by

delegations from all of WHO's member states.

- **Headquarters:** Geneva, Switzerland
- **Functions:**
  - Appointment of Director General of WHO
  - Deciding Organization's Policies
  - Review and approve the budget

## 13.3 Global Status Report on Road Safety 2023

#### Why in the news?

Recently, the **World Health Organization** released the Global Status Report on Road Safety 2023.

#### Key details about worldwide:

- Road traffic deaths fell by 5% to 1.19 million annually worldwide between 2010 and 2021.
- Ten countries succeeded in reducing road traffic deaths by over 50%.
- These are Belarus, Brunei Darussalam, Denmark, Japan, Lithuania, Norway, Russian Federation, Trinidad and Tobago, and Venezuela.
- 28% of global road traffic deaths occurred in the WHO's South-East Asia Region, 25% in the Western Pacific Region, 19% in the African Region, 12% in the Region of the Americas, 11% in the Eastern Mediterranean Region, and 5% in the European Region.

#### About Global Status Report on Road Safety 2023 report:

- It is released by the **World Health Organization**

- This report has details about the road deaths, causes and trends and recommendations on road safety etc.

### 13.4 LEADS Index

#### Why in the news?

Recently, the Ministry of Commerce released the LEADS Index 2023.

#### Performance highlights:

##### Coastal Group:

- **Achievers:** Andhra Pradesh, Gujarat, Karnataka, Tamil Nadu
- **Fast Movers:** Kerala, Maharashtra
- **Aspirers:** Goa, Odisha, West Bengal

##### Landlocked Group

- **Achievers:** Haryana, Punjab, Telangana, Uttar Pradesh
- **Fast Movers:** Madhya Pradesh, Rajasthan, Uttarakhand
- **Aspirers:** Bihar, Chhattisgarh, Himachal Pradesh, Jharkhand

##### North-East Group

- **Achievers:** Assam, Sikkim, Tripura
- **Fast Movers:** Arunachal Pradesh, Nagaland
- **Aspirers:** Manipur, Meghalaya, Mizoram

##### Union Territories

- **Achievers:** Chandigarh, Delhi
- **Fast Movers:** Andaman & Nicobar, Lakshadweep, Puducherry
- **Aspirers:** Daman & Diu/ Dadra & Nagar Haveli, Jammu & Kashmir, Ladakh

#### About Logistics Ease Across Different States Index:

- It was introduced in 2018 based on the **Logistics Performance Index of the World**

**Bank** to evaluate the logistics performance of the States.

- **Nodal Ministry:** Ministry of Commerce and Industries
- **Key pillars:**
  - Logistics infrastructure
  - Logistics Business
  - Operating environment
  - Regulatory environment

### 13.5 Financial Stability Report

#### Why in the news?

Recently, the Reserve Bank of India (RBI) said in the bi-annual Financial Stability Report (FSR) that bolstered by strong capital buffers and robust earnings, financial institutions were supporting durable credit growth.

#### About Financial Stability Report (FSR):

- It is released by the Reserve Bank of India.
- It is released bi annually to report about the conditions of the country's economy.
- Global Financial Stability Report is released by the International Monetary Fund.

### 13.6 Accidental Deaths and Suicides in India

#### Why in the news?

Recently, the **National Crime Records Bureau** released 'Accidental Deaths and Suicides in India - 2022 report.

#### Key details from the Accidental Deaths and Suicides in India report:

- India reported a total of over 1.7 lakh suicides in 2022.

- Nearly one third of whom were daily wage earners, agricultural laborers, and farmers.
- The maximum suicides in the year were reported from Maharashtra (22,746), Tamil Nadu (19,834), Madhya Pradesh (15,386), Karnataka (13,606), Kerala (10,162), and Telangana (9,980).
- Among the total suicides, 12,000 are students and 9% of the total suicides are unemployed persons.
- 52% of the total women died by suicide are home makers.

#### Key details from the Crime in India Report:

- The latest Crime in India report showed an overall increase in crimes and atrocities committed upon Scheduled Castes (SC) and Scheduled Tribes (ST), with Rajasthan, Madhya Pradesh, Chhattisgarh, and Telangana.
- Madhya Pradesh and Rajasthan continued to figure in the top five States with the highest incidents of crimes and atrocities committed upon SCs and STs.
- The report also showed that cases of offenses against the State had also increased marginally in 2022 compared with the previous year, showing about a 25% increase in cases registered under the Unlawful Activities Prevention Act (UAPA).
- The government authorities seized fake Indian currency notes (FICN) worth over ₹342 crores in 2022.

#### NCRB:

- **Non statutory organization** responsible for **collecting and analyzing crime data as defined by the Indian Penal Code (IPC) and Special and Local Laws (SLL)**.
- NCRB is headquartered in New Delhi and is part of the **Ministry of Home Affairs (MHA)**, Government of India.

#### Formation:

- NCRB was **set-up in 1986** to function as a **repository of information on crime and criminals** so as to assist the investigators in linking crime to the perpetrators.
- It was set up based on the **recommendation of the Task force, 1985 and National Police Commission, 1977**
- By **merging**:
  - the Directorate of Coordination and Police Computer (DCPC),
  - Inter State Criminals Data Branch of CBI and
  - Central Finger Print Bureau of CBI.
- The Statistical Branch of Bureau of Police Research and Development (BPR&D) was also merged with NCRB, but was later de-merged.

#### Objectives:

- **Create and maintain secure sharable National Databases** on crimes and criminals for law enforcement agencies and promote their use for public service delivery.
- **Collect and process crime statistics** at the national level and clearing house of information on crime and criminals both at National and International levels.
- **Lead and coordinate development of IT applications** and create an enabling IT environment for Police organizations.
- **National repository of fingerprints** of all criminals.
- To **evaluate, modernize and promote automation** in State Crime Records Bureau and State Finger Print Bureau.
- **Training and capacity building** in Police Forces in Information Technology and FingerPrint Science.

# MAINSTORIES

## 1. POLITY AND GOVERNANCE

### 1.1 Chief Election Commissioner and Other Election Commissioners Act 2023

#### Why in the news?

Recently, the President has given her assent to the Chief Election Commissioner and Other Election Commissioners (Appointment, Conditions of Service and Term of Office) Bill, 2023.

#### Major provisions of the act:

- **Replacing 1991 Act:**
  - The Bill replaces the Election Commission (Conditions of Service of Election Commissioners and Transaction of Business) Act, 1991.
- **Composition of the Election Commission:**
  - The Election Commission will consist of a Chief Election Commissioner (CEC) and other Election Commissioners (ECs).
  - The President will periodically fix the number of ECs.
- **Appointing authority:**
  - The CEC and ECs will be **appointed by the President** upon the recommendation of a Selection Committee.
- **Search Committee:**
  - This act has provisions to set up a search committee to prepare a panel of five persons for consideration of the selection committee for appointment as CEC or ECs.
  - This search committee will **be headed by the Law Minister and two other members, not below the rank of secretary level.**
- **Selection Committee:**
  - The Bill also has provisions for a Selection Committee to make recommendations to the President for appointment of CEC and other ECs.
  - The selection committee is **chaired by the Prime Minister and Leader of Opposition of Lok Sabha and Union Cabinet Minister recommended by the PM as members.**
  - Recommendations of the Selection Committee will be valid even when there is a vacancy in this Committee.
  - The Selection Committee may consider any person other than those suggested by the Search Committee.
- **Eligibility:** The CEC and ECs must:
  - Be persons of integrity,
  - Have knowledge and experience in the management and conduct of elections,
  - Be or have been Secretary (or equivalent) to the government.
- **Term:**
  - Members of the Election Commission will hold office for six years, or until they attain the age of 65 years, whichever is earlier.
  - Members of the Commission cannot be re-appointed.

- If an EC is appointed as a CEC, the overall period of the term may not be more than six years.
- **Salary:**
  - The salary and conditions of service of the CEC and ECs will **be equivalent to that of Cabinet Secretary**.
  - Under the 1991 Act, it was equivalent to the salary of a Supreme Court Judge.
- **Removal:**
  - The Bill retains the manner of removal of CEC and ECs as specified in the Constitution.
  - The CEC may be removed in the same manner and on the same grounds as a Supreme Court Judge.
  - ECs may be removed only upon the recommendation of the CEC.
- **Safeguards:**
  - The CEC and ECs are provided safeguards from legal proceedings and it is related to actions taken during their tenure, provided such actions were carried out in the discharge of official duties.

#### Concerns:

- **Executive dominance:** The selection process of the Election Commission may be dominated by the government, which has implications for its independence.
- **Exclusion of judiciary:** Previous selection committee included CJI as a member.
  - This new committee does not include CJI. Exclusion of CJI doesn't make this committee an inclusive committee.
- **Bureaucratisation of EC:** Making the CEC and EC's salary equivalent to the Cabinet Secretary may lead to government influence as it is fixed by the government.
  - This is unlike the salary of a Supreme Court judge which is fixed through an Act of Parliament.
- **Limitations in appointment:** CECs and ECs also perform quasi-judicial functions. Limiting these posts to senior bureaucrats may exclude other suitable candidates.
- **Subjugation of the commission:** Another main concern is that the exclusion of CJI and the dominance of the executive can negate and subjugate the commission to the executive or the government.

#### Way forward:

- **Inclusion of CJI:** The selection committee should include the Chief Justice of India as a member. The inclusion of CJI will make this committee more accountable.
- **Equivalent status as the SC judge:** The salary, service conditions of the CEC and other ECs should be fixed under the statutory provisions like the Supreme Court Judges.
- **Diverse eligibility criteria:** The eligibility criteria to the CEC and EC post should be diverse. The diversification of the eligibility criteria will avoid the bureaucratisation of the Election Commission.
- **Adoption of international practices:** The appointment processes for election commissions in countries like South Africa, the UK, the US, and Canada vary, with some involving judicial members or parliamentary approval.



## 1.2 Arbitration and Retired Judges

### Why in the news?

Recently, the Vice-President Jagdeep Dhankhar said that retired judges had kept the arbitration system of the country in a "tight fist grip", denying the chance to other qualified minds.

### What is Arbitration?

- Arbitration is one of the components of **the Alternative Dispute Resolution** process, in which a dispute is submitted by the parties to the arbitrator who makes binding decisions.
- **Major characteristics:**
  - It is consensual
  - Parties choose arbitrator
  - Decision is binding

### Purpose:

- **Cost effective:** Compared to the conventional judicial process, arbitration is cost effective.
- **Time effective:** Less time consumption makes arbitration a viable choice
- **Reduce judicial pendency:** It helps to reduce the judicial case pendency across the country.
  - **Eg. Around 3.5cr cases are pending across the judicial system in India.**
- **Less formal:** The process is simple; so, the parties can easily understand the procedure.

### Major provision from various laws:

- **Arbitration and Conciliation Act, 1996:** This act was enacted to consolidate and regulate domestic and international arbitration and its enforcement.
- **Major provisions:**
  - Sec 7: Arbitration agreement between parties.
  - Sec 8: Power of Court to refer the parties to arbitration
  - Sec 9: Interim orders by Court during or before arbitration proceedings
  - Sec 10: Parties are free to choose the desired number of arbitrators
  - Sec 11: If the arbitrators are not appointed by the concerned parties, then the Supreme Court or High Court have the power to appoint arbitrators.

### Issues in arbitration with respect to retired judges:

- **Dominance of Retired Judges:** Vice-President Dhankhar criticizes the overwhelming influence of retired judges in India's arbitration space in India.

- **Lack of diversity:** Lack of sectoral diversity in the arbitration system reduces the efficiency of the system.
- **"Old Boys' Club" Mentality:** CJI Chandrachud suggests an "Old Boys' Club" mentality within arbitration, signaling a select group's dominance and potential exclusion of others.
- **Exclusion of youngsters:** Most of the panel members are retired judges; so, young minds like advocates, academicians don't get an opportunity to work in the arbitration system.
- **Judicial intervention:** Retired judges being arbitrators, will attract judicial interventions in the arbitration process.

#### **Advantages of having retired judges in the arbitration:**

- **Deep Knowledge and Experience:** Retired judges bring extensive legal knowledge and practical experience to the arbitration process. Their tenure on the bench equips them with a robust understanding of legal principles, case adjudication, and procedural nuances.
- **Quality Assurance:** Their track record of managing legal proceedings, ruling on motions, and producing reasoned opinions adds credibility to their role as arbitrators.
- **Trust and Confidence:** Parties involved in arbitration often find comfort and confidence in the expertise of retired judges. Their reputation for impartiality, fairness, and adherence to the rule of law fosters trust among the disputing parties in the arbitration process.
- **Familiarity with Legal Frameworks:** Retired judges are well-versed in legal frameworks, which can be advantageous in interpreting laws and regulations relevant to the arbitration case.
- **Efficiency in Dispute Resolution:** Their ability to manage cases and make informed decisions can lead to timely and conclusive resolutions.

#### **Measures taken to address issues in arbitration:**

- **Expert panel:** Government formed a committee with T.K Vishwanathan as chairman to improve the efficacy and efficiency of the system.
- **Arbitration Council of India:** It was established in 2019 to regulate the conduct of arbitrators.

#### **Way forward:**

- **Sectoral diversification:** Government can ensure the sectoral diversification in the arbitration panel through legislation.
- **Awareness panel:** Awareness panel in every court with NGOs, social workers, lawyers as members can be formed to guide the people during the arbitration process.
- **Appoint youngsters in local disputes:** Retired judges can be appointed as an arbitrator only in some important or international level disputes.

### Other methods of Alternative Dispute resolution:

- **Conciliation:** It is a procedure in which third party is appointed as conciliator to assist the parties in a dispute to reach an agreement.
  - It is less formal than arbitration
  - Parties can accept or reject the recommendations
  - It accepts, then it shall be final and binding
- **Mediation:** In mediation, an impartial person called a "mediator" helps the parties try to reach a mutually acceptable resolution of the dispute.
  - The mediator does not decide the dispute but helps the parties communicate so they can try to settle the dispute themselves.
- **Negotiation:** A non-binding procedure in which discussions between the parties are initiated without the intervention of any third party with the object of arriving at a negotiated settlement to the dispute.

## 1.3 Assam Accord

### Why in the news?

Recently, the Chief Justice of India D.Y. Chandrachud said that the government should be given leeway if a 'compromise' is necessary to save the nation.

- The Assam Accord of 1985 and the new citizenship regime which followed in its wake might have been an "adjustment" reached by the Rajiv Gandhi government to calm the waves of violent anti-immigrant protests that rolled over the northeastern State for years, and threatened national peace.

### What is the Assam Accord?

- The Assam Accord, a Memorandum of Settlement (MoS), signed in the early hours of August 15, 1985, by the **Union government, the All-Assam Students' Union (AASU) and the All Assam Gana Sangram Parishad** ended the six-year bloody agitation (1979-1985) to detect, disenfranchise and deport "illegal" residents from the State.

### Provisions:

- All persons who came to Assam prior to 1.1.1966 shall be regularized.
- Those who came between 1.1.1966 and March 24, 1971, shall be detected in accordance with the relevant laws and removed from the electoral rolls for 10 years.
  - On the expiry of 10 years, the names of all such persons shall be restored in the electoral rolls.
- Foreigners who came to Assam on or after March 25, 1971 shall continue to be detected, deleted and expelled in accordance with law.
  - Immediate and practical steps shall be taken to expel such foreigners.

- Integral to Clause 5, Clause 6 of the Accord assures Constitutional, legislative and administrative safeguards to **“protect, preserve and promote the cultural, social, linguistic identity and heritage of the Assamese people.”**

#### **Outcomes of the accord particularly Section 6A:**

- **Section 6A of the Citizenship Act:** It was inserted as an amendment to accommodate the Assam accord. It effectively establishes March 24, 1971 as the cut-off date for entry into the state, meaning that those entering the state after that would be considered “illegal immigrants”.
  - The plea before the bench, while questioning the constitutional validity of Section 6A, wants 1951 to be established as the cut-off date for inclusion in the National Register of Citizens instead of 1971.
  - The core argument is that by establishing a different cut-off date for Indian citizenship in Assam than in the rest of India, which is July 1948, Section 6 A is “discriminatory, arbitrary and illegal” and violative of the rights of “indigenous” Assamese people.
  - The petition said that different cut off dates have changed the demographic pattern of Assam and reduced assam people into a minority one.

#### **Reasons for the signing of Assam Accord:**

- **Violent Agitation and Youth-led Movement:** The Accord emerged in response to a six-year-long, youth-led agitation beginning in 1979, demanding the identification and deportation of illegal immigrants.
- **Apprehensions and Impact of Influx:** AASU expressed concerns to Prime Minister Indira Gandhi in 1980 about continuous foreign influx, leading to apprehensions over its adverse effects on Assam's political, social, and economic life.
- **Dialogue and Negotiation Process:** Originating from dialogue initiated by the Indian government, talks at various levels between 1980 and 1985, involving both Prime Minister Indira Gandhi and Rajiv Gandhi, culminated in the Accord's signing.
- **Foreigners Issue at the Core:** The Accord's central focus was the "Foreigners Issue" addressed in Clause 5, outlining regularization, detection, and expulsion of individuals based on their arrival dates in Assam.
- **Cultural Identity and Safeguards (Clause 6):** Clause 6 emphasized safeguards to protect Assamese cultural, social, and linguistic identity, addressing concerns about the impact of immigration.
- **Restoration of Normalcy and Economic Development:** Clauses 13 and 14 focused on restoring normalcy, with a commitment to speedy economic development in Assam, particularly in education and science and technology.

#### **Criticisms on the Assam Accord:**

- **Ineffective Resolution of Immigration Issues:** Critics argue that the Assam Accord failed to provide a comprehensive and effective solution to the issues of immigration, as subsequent events, such as the Citizenship Amendment Act (CAA) of 2019, reopened debates on citizenship and influx.

- **Religious Discrimination Concerns:** The Accord is criticized for not addressing concerns related to religious discrimination explicitly. While the Accord focuses on the detection and expulsion of immigrants, subsequent developments like the CAA introduced religious considerations, leading to fears of potential discrimination.
- **Delayed Implementation and Unmet Promises:** Critics highlight the delayed and incomplete implementation of the Accord, with promises made in Clause 6 regarding constitutional, legislative, and administrative safeguards for Assamese culture and identity remaining largely unfulfilled.
- **Lack of Inclusive Dialogue:** Accord's negotiation process did not involve comprehensive and inclusive discussions, leading to potential oversights and gaps in addressing the diverse concerns and interests of the Assamese population.
- **Challenges to Cultural Identity:** Despite the safeguards promised in Clause 6, the evolving political and legislative landscape, particularly with the introduction of the Citizenship Amendment Act, poses challenges to the cultural and linguistic identity of the Assamese people.

#### **Government measures to implement the Assam Accord:**

- **Foreigners' tribunals:** Government so far has set up more than **1000 foreigners' tribunals** to detect the illegal immigrants.
- **Justice Biplab Kumar Sarma Committee:** Government formed a **committee headed by High Court Judge Biplab Kumar Sarma** on the Assam accord issue. Some recommendations:
  - 1951 as cut-off date to define Assam people
  - Reservation for Assamese in parliament, State legislature and local bodies
  - Extension of Inner Line Permit to Assam
- **Establishment of Implementation Department:** The Government of Assam established the "Implementation of Assam Accord Department" to monitor and coordinate the execution of various clauses of the Assam Accord.
- **Nodal Ministry Oversight:** The Home Ministry serves as the nodal agency which plays a crucial role in coordinating efforts between different departments, organizations, and the governments of India and Assam.

#### **Way forward:**

- **Implement committee recommendations:** Government can take measures to implement some recommendations of the Biplab Kumar sarma committee.
- **Setting priorities:** Priority should be given to protect and conserve the local culture and tradition of the people.
- **Comprehensive Review and Update:** Conduct a thorough review of the Assam Accord to identify gaps, challenges, and evolving concerns.
- **Inclusive Stakeholder Consultations:** Foster inclusive dialogues and consultations with diverse stakeholders, including local communities, civil society organizations, and indigenous groups



- **Legislative Reforms:** Address any legal ambiguities, introduce new provisions if needed, and ensure that subsequent legislation complements and reinforces the Accord's provisions.

#### SC suggestions:

- In 2013, the Supreme Court directed the State of Assam to update the NRC. The process was closely monitored by a 2-Judge Bench, comprising then CJI Ranjan Gogoi and Justice Rohinton Nariman.

## 1.4 POCSO Act

#### Why in the news?

Recently, a research paper of India Child Protection Fund said that around 2.43 lakh POCSO cases are pending trial in Fast Track Special Courts.

#### Key points:

- Arunachal Pradesh takes around 30 years to complete the trial.
- Out of the total 2,68,038 cases that were under trial, only 8,909 cases resulted in conviction.

#### What is the POCSO Act?

- The Protection of Children from Sexual Offences (POCSO) Act, 2012 was enacted by Government of India to safeguard children from sexual abuse and sexual offences.

#### Major provisions:

- **Age Definition:** The Act clearly **defines a child** as any person **below the age of 18 years**. This act is **gender neutral** in nature.
- **Forms of Sexual Abuse:** Different forms of sexual abuse including but not limited to sexual harassment, pornography, and penetrative & non-penetrative assault are defined in the Act.
- **Aggravated Sexual Assault:** Sexual assault is deemed to be "aggravated" under certain circumstances such as when the child is mentally ill. Also, when the abuse is committed by a person in a position of trusts such as a doctor, teacher, policeman, or family member.
- **Preventing Re-victimization:** Adequate provisions are made to avoid re-victimization of the Child at the hands of the judicial system. The Act assigns a policeman to the role of child protector during the investigation process.
- **Timely Disposal and Special Courts:** The Act stipulates that such steps must be taken which makes the investigation process as child-friendly as possible and the case is disposed of within one year from the date of reporting of the offense.
  - The Act provides for the establishment of **Special Courts** for the trial of such offenses and matters related to them.
- **Government Oversight and Monitoring:** Under section 45 of the Act, the power to make rules lies with the central government. To monitor the implementation of the Act, the National Commission

for the Protection of Child Rights (NCPCR) and State Commissions for the Protection of Child Rights (SCPCR) have been made the designated authority. Both are statutory bodies.

- **Legal Supremacy:** Section 42 A of the Act provides that in case of inconsistency with provisions of any other law, the POCSO Act shall override such provisions.
- **Mandatory Reporting and False Complaints:** The Act calls for mandatory reporting of sexual offenses. A false complaint with intent to defame a person is punishable under the Act.
- **Amendments in 2019:** The act was amended in 2019 to increase the minimum punishment from seven years to ten years. It further adds that if a person commits penetrative sexual assault on a child below the age of 16 years, he will be punished with imprisonment between 20 years to life, with a fine.
- **Child Pornography and IT Act:** The Act defines child pornography as any visual depiction of sexually explicit conduct involving a child, including photographs, video, digital, or computer-generated images indistinguishable from an actual child. The Act is critical as it clearly defines child pornography and makes it punishable. The amendments also penalize the transmitting of pornographic material to children and propose synchronizing it with the IT Act.
- **Death Penalty Provision:** The Act enhances punishment for sexual offenses against children with a provision for the death penalty.
- **No Time Limit for Complaint:** A Victim of Child Sexual Abuse can file a **complaint at any time irrespective of his/her present age.**
- **Police Reporting Obligation:** Police officers should therefore inform the Child Welfare Committee about every case under the Act within 24 hours.
- **Support Person Appointment:** The **Child Welfare Committee** can appoint a support person for the child who will be responsible for the psycho-social well-being of the child.

#### Challenges in implementing POCSO Act:

- **Consent and Medical Examination:** Lack of guidance in POCSO Act regarding child/teenager's refusal for medical examination raises consent issues.
- **Female Medical Evaluation:** Ambiguity arises in situations where a female physician is required, as no provision ensures their availability.
- **Costs of Treatment:** Legal obligation for free medical care to survivors, but potential inadequacy raises concerns about proper treatment.
- **Consented Sexual Intimacy:** Act considers consensual sexual contact between adolescents illegal, conflicting with age of consent under other laws.
- **Child Marriage Contradiction:** Prohibition of child marriage under POCSO Act conflicts with personal laws allowing child marriage, requiring resolution.
- **Training for Stakeholders:** Urgent need for comprehensive training on POCSO Act for medical, teaching, judicial, legal, and law enforcement professionals.

- **Role of Mental Health Professionals:** Essential involvement of mental health experts in evaluating and supporting child victims is crucial but not explicitly addressed.
- **Underreporting and Social Stigma:** Common knowledge that child sexual abuse often goes unreported, emphasizing the need for awareness and support.
- **Digital Exploitation Challenges:** Growing challenges due to digital technologies amplifying child exploitation, requiring updated legislative measures.
- **Legislative Ineffectiveness:** Despite the POCSO Act, its low conviction rate, judicial delays, and unfriendliness to children pose significant challenges in preventing and addressing child sexual abuse.

### Criticisms and Controversies:

- **Ineffective Legislation:** Despite the POCSO Act's enactment, it has not succeeded in effectively preventing and addressing child sexual abuse.
- **Low Conviction Rates:** The average conviction rate under the POCSO Act over the last five years is approximately 32%, indicating a significant gap in successful prosecution.
- **Judicial Delays:** Instances like the Kathua Rape case, taking 16 months for the primary accused's conviction, highlight the Act's failure to ensure swift justice.
- **Unfriendly to Children:** Challenges in determining a child's age, particularly rules prioritizing biological age over mental age, create obstacles in implementing the Act.
- **Digital Challenges:** Inadequate provisions to address the challenges posed by digital technologies, leading to increased child exploitation online.
- **Complications in Child Marriage:** Conflict between the prohibition of child marriage in the POCSO Act and permissibility under some personal laws creates legal complications.
- **Consent and Privacy Issues:** Lack of clarity on consent issues, especially when a child or teenager refuses medical examination, raises concerns about privacy.
- **Consented Sexual Intimacy:** Criminalizing consensual sexual contact between adolescents, without exceptions, contradicts other laws and may lead to increased legal complexities.
- **Challenges in Reporting:** Most instances of child sexual abuse go unreported due to social stigma and fear of consequences, indicating a need for improved reporting mechanisms.

### Measures taken by government to ensure children safety from sexual abuse:

- **POCSO e-Box:** Online complaint management system for easy and direct reporting of sexual offenses against children and timely action against offenders.
- **National Commission of Protection of Child Rights:** This ensures the proper implementation of child abuse related laws.

- **Operation smile:** Operation Smile is an initiative of the Ministry of Home Affairs (MHA) to rescue/rehabilitate missing children.
- **Beti Bachao Beti Padhao:** This scheme was started to ensure the education of children, participation of women children.
- **UJJAWALA:** To tackle the problem of trafficking, it is a Comprehensive Scheme for Prevention of Trafficking and Rescue, Rehabilitation and Reintegration of Victims of Trafficking for Commercial Sexual Exploitation.
- **Digital Safety Measures:** Implemented measures to address challenges posed by digital technologies, including stricter regulations against online child exploitation and abuse. Section 67B punishes child pornography, child grooming or exploitation. This Section was added by IT (Amendment) Act, 2008.

#### Way forward:

- **More special courts:** More special courts should be established to ensure speedier discharge of justice.
- **Child-Friendly Infrastructure:** Establish child-friendly infrastructure and protocols within the judicial system, ensuring a supportive environment during investigations and trials.
- **Enhanced Training Programs:** comprehensive training programs on the POCSO Act for medical, teaching, judicial, legal, and law enforcement professionals to ensure effective implementation.
- **Awareness promotion:** Awareness about the act should be promoted in schools and public places.
- **Break social stigma:** Government and investigation agencies should act to break the social stigma about the act.
- **Addressing Legislative Gaps:** Address legislative gaps, such as conflicts with other laws, ensuring consistency and clarity, particularly regarding consensual sexual intimacy among adolescents.

## 2. INTERNATIONAL RELATIONS

### 2.1. India - Oman

#### Why in the news?

Recently, PM Modi said India and Oman are on track to sign a comprehensive economic partnership agreement.

#### Key points:

- There is an agreement between the Financial Intelligence Unit of India and the National Centre for Financial Information (NCFI) to prevent money laundering.
- As a gesture to celebrate the ancient relation between India and Oman the two sides also took up a proposal by the Ministry of Culture to recreate the maritime voyage of a stitched ship which is expected to sail from Mandvi in Gujarat to Muscat during 2025-26.

## Why does India need Oman?

- **Strategic relations:** Oman is a member of important political organizations such as the Gulf Cooperation council, Organization of Islamic Cooperation etc. India can use Oman's membership to lobby in various matters.
- **Strategic location:** Strategic location of Oman can help India to effectively ensure the security and peace in the Indian ocean region.
  - India acquired the port of Duqm for military usage.
- **Energy security:** Ties with Oman is important for India to ensure energy security, as 85% of the crude oil is imported by India.
- **Neutral foreign policy:** Neutral policy of Oman can help India to maintain a balanced relationship in the west asia region.
- **Remittances:** Every year around \$1 billion remittance amount is sent by the Indian community to India.
- **Security issues:** Security challenges in the region have a ripple effect in India and, therefore, any instability in the region has a direct bearing on the safety and security of millions of Indians working there.

## Oman needs India:

- **Tourist destination:** Around 3.5 lakh tourists from India visited Oman in 2022. This makes India as the second highest source market for Oman tourism.
- **Trade relations:** India was Oman's second largest destination for its non-oil exports and its fourth largest source for imports.
- **Anti-piracy security:** Since 2012-13, an Indian naval ship has remained on duty in the Gulf of Oman for anti-piracy operations.

## Historical - Political - Economic - Cultural Relations:

- **Political cooperation:** India and Oman share a rich historical, cultural, and economic relationship that spans over 5,000 years. Diplomatic relations were established in 1955 and further elevated to a strategic partnership in 2008.
- **Defense cooperation:** Regular military exercises between all three services in the name of 'Al najah' and 'Eastern Bridge'.
- **Strategic cooperation:** Oman is very supportive of India for its UNSC permanent membership.
- **Economic cooperation:** \$7.5 bn investments were made so far into India by Oman companies.
  - Bilateral trade during FY 2022-23 reached \$12.4 billion.
  - India was the 2<sup>nd</sup> largest market for Oman's crude oil exports for the year 2022.
- **Cultural cooperation:** Over 5000 years, both countries were doing trade.
- **Diplomatic cooperation:** Sultan Qaboos was taught by former president of India Shankar Dayal Sharma.



- Sultan Qaboos of Oman was given the Gandhi Peace Prize in 2020.
- **People - People ties:** Around 6.5 lakh Indians are living and working in India. This is helping to strengthen bilateral relations between both the countries.

#### **Impediments in strengthening relationships:**

- **Religious atrocities** against Muslims in India hinders the development of relationships.
- **Energy Partnership Obstacles:** The proposed Middle East to India Deepwater Pipeline (MEIDP), aiming to bring Iranian natural gas to India via Oman, faces obstacles like technology limitations, Iran sanctions, and objections from Pakistan.
- **Chinese Presence:** The presence of Chinese companies, like Ningxia China-Arab Wafang, developing a \$10.7 billion industrial city near Duqm, raises competition and necessitates proactive Indian engagement.
- **Regional geopolitical dynamics:** Balancing the security interests with regional geopolitical dynamics and potential uncertainties, especially concerning Oman's succession and the need to address security concerns in the post-Qaboos era.

#### **Measures taken by government:**

- **Oman - India Friendship association** was established in 2020 to promote business to business and people to people connect.
- The Indian community is organized under **Indian Social clubs** in various cities such as Muscat, Salalah, Sohar, and Sur.
- **Programme of cooperation:** The POC for Cooperation in Science and Technology for the period 2022 – 2025 was signed in pursuance of the Agreement for Cooperation in Science and Technology concluded in 1996.
- **Connectivity projects:** The proposed India-Middle-East-Europe Connectivity Corridor (IMEEC) project will see Oman playing an important role in India's connectivity ambitions.
- **South Asia Gas Enterprise Pipeline:** India has been constructing SAGE pipeline from Oman for gas transport.

#### **Way forward:**

- **Enhanced Diplomatic Dialogue:** Increase diplomatic engagement through regular high-level dialogues to address concerns, foster mutual understanding, and strengthen ties.
- **Multilateral Engagement:** Leverage multilateral forums and organizations to address shared concerns and promote regional stability.
- **Addressing Human Rights Concerns:** India should take actions against the atrocities against Muslims. This will help both the countries to actively improve their bilateral relationships without hesitation.
- **Elevating Oman to Strategic Partner:** Oman should be treated as a strategic partner to ensure a balanced relationship with West Asian countries.

- **Enhancing Security Cooperation:** Oman is very helpful for India during the security crisis in the gulf region. Example, during the 2019 Persian Gulf crisis, India conducted 'operation sankalp' to secure safe passage of Indian vessels with the support of Oman.

## 3.ECONOMY

### 3.1 Disinvestment

#### Why in the news?

According to a recent report, Union government likely to miss disinvestment target again in FY 2024.

#### What is Disinvestment?

- It is an action of an organization of selling and liquidating the assets.
- In most contexts, disinvestment typically refers to sale from the government, partly or fully, of a government-owned enterprise.
- **Types:**
  - **Minority stake sale:** Government retains majority (51%) of the shares in the CPSE.
  - **Majority stake sale:** Government sells majority of the shares and retains minority shares.
  - **Privatization:** Complete sale of shares by the government.

#### Why does government disinvest its assets?

- To reduce the financial burden on the Government
- To improve public finances
- To introduce, competition and market discipline
- To fund growth
- To encourage wider share of ownership
- To depoliticise non-essential services

#### Why disinvestment is done?

- **Organising the market segment:** A company may disinvest in one of its underperforming divisions when they demand similar resources and expenditure compared to the divisions that deliver high profitability
- **Offloading unnecessary assets:** A company is cornered into adopting this strategy when the keeping of an asset does not fit its long- term strategy. When companies are stuck with assets they do not intend to use, they choose to disinvest such assets and focus on their competitive abilities.
- **Social and legal considerations:** A company may have to disinvest if they cross a certain threshold limit in the market holding, to enable fair competition.

#### Disinvestment rules and Procedures in India:

- In principle consent by the **Administrative Ministry** of the **Central Public Sector Enterprises (CPSE)** concerned.
- Approval of the proposal to disinvest by **Cabinet Committee on Economic Affairs (CCEA)**.

- Constitution of an Inter-Ministerial Group (IMG) with the approval of the finance minister to guide and oversee the disinvestment process.
- IMG appoints Advisers for the transaction including Merchant Bankers/ Book Running Lead Managers (BRLMs)/ Legal Advisers.
- Presentation by BRLMs before the High-Level Committee (HLC) on valuation.
- HLC recommends price band/ floor price to 'Alternative Mechanism' taking into consideration the recommendation of the BRLMs.
- Approval by 'Alternative Mechanism' of recommended price band/ floor price, method of disinvestment, price discount for retail investors and employees, etc.

#### Merits:

- **For the Government:**
  - Reduce the burden on the government by raising valuable resources for the government, which could be used to bridge the fiscal deficit and also can be used for various social infrastructure projects or invest towards profit-making PSUs
  - The government can focus more on core activities such as infrastructure, defense, education, healthcare, and law and order.
  - A leaner government.
- **For the Markets and Economy:** Brings about greater efficiencies for the economy and markets as whole increasing competitiveness.
- **For the Employees:** Monetary gains through ESOPs and preferential issue of shares.
- **For the PSUs:** Greater autonomy and introduction of corporate governance that may lead to higher efficiency.
- **For retail investors:** Unlocking of shares from disinvestment through various means like IPO allows retail investors to invest.

#### Criticisms:

- Government's dividend income will decrease
- Increasing fiscal deficit of the government as the dividend revenue was reduced
- Workers in the PSUs may fear about job loss through this privatization
- It can lead to complete monopoly by the private sector

#### Reason for not achieving the target:

- Workers of the PSUs are demanding to withdraw the disinvestment decision.
- Political parties in government also fear to take steps against the workers for political purposes.
- Most of the private investors / Industries think that the PSUs, which are going to be disinvested, are financially unviable.

#### Government measures:

- The government has set up the **Department of Investment and Public Asset Management** to effectively manage the disinvestment process.

- The government had constituted the **National Investment Fund (NIF)** in November 2005 into which the proceeds from the disinvestment of Central Public Sector Enterprises were to be channelized.

- The **National Land Monetisation Corporation**, which was approved by the Union Cabinet in March 2022, aims to monetise land and other non-core assets of central public sector enterprises (CPSE) that are being taken up for strategic sale and closure.

## Reason for not achieving the target:

Workers of the PSUs are demanding to withdraw the disinvestment decision.

Political parties in government also fear to take steps against the workers for political purposes.

Most of the private investors / Industries think that the PSUs, which are going to be disinvested, are financially unviable.

### Way forward:

- **Worker Welfare and Rights:** Concerns of the workers should be addressed by the government.
- **Identification and Retention of Strategic Sectors:** Strategic sectors can be identified and retained by the government for the sake of people's welfare.
- **Selective Disinvestment in Loss-Making Industries:** Only loss-making industries should be disinvested.

## 3.2 Ethanol conundrum

### Why in the news?

Recently, more than 100 countries at COP28 in Dubai pledged the tripling of global renewable energy capacity by 2030, India faces a tightrope walk with regard to its ethanol blending target..

### What is Ethanol?

- Ethanol, also called ethyl alcohol, is an organic compound.
- It is more volatile, flammable, colourless liquid with wine like odor and pungent taste.
- Ethanol is naturally produced by the fermentation process of sugars by yeasts or via petrochemical processes such as ethylene hydration.
- Ethanol is 99.9% pure alcohol that can be blended with petrol to create a cleaner fuel alternative.
- Ethanol is a biofuel produced from various sources such as sugarcane, maize, rice, wheat and biomass.

### About Ethanol Blending Program:

- This program was started in 2003 to promote the use of renewable and environmentally friendly fuels and reduce India's import dependence for energy security.

- In 2021-22, the Central government amended the **Biofuel Policy (2018) to set a target of country-wide blending rates of 20% ethanol and 5% biodiesel by 2025.**
- **Current rate of ethanol blending is 11.8%.**
- This program is implemented in accordance with the **National Policy of Biofuels.**
- Under this programme, oil marketing companies (OMCs) will procure ethanol from domestic sources at prices fixed by the government.
- Till now, only sugarcane was used to produce ethanol. Recently, the government has extended the ambit of the scheme to include foodgrains like maize, rice etc.

#### **Benefits of ethanol blending:**

- **Reduce crude oil import:** High rate of ethanol blending with petrol has reduced India's crude oil import dependency.
- **High income to farmers:** Around 19,000 cr payment has been given to farmers by the Oil marketing companies by purchasing agriculture items from farmers.
- **Forex savings:** Every year around 24,000 cr foreign exchange has been saved by reducing crude oil import.
- **Environmentally friendly:** Ethanol is a climate friendly fuel unlike fossil fuels.
- **Increase renewable energy capacity:** Ethanol production and its blending with petrol can help the government to meet its target of increasing renewable energy capacity.

#### **Challenges:**

- **Impact on agricultural practices:** Ethanol blending programs can encourage the farmers to shift towards water intensive sugarcane cultivation.
- **Food security concerns:** Recent government's approval of use of foodgrains to produce ethanol can affect the food security of the country. More than 400 million people are in hunger according to the Global Hunger Index.
- **Livestock and poultry feedstock disruption: Diversion of maize to ethanol production** can reduce the feedstock availability to livestock and poultry.
- **Financial constraints of sugar mills:** Sugar mills do **not have the financial stability to invest in biofuel plants.**
- **Compatibility challenges in vehicle production:** Vehicles production in India are **incompatible with the 20% ethanol blended** petrol.

#### **Government measures:**

- **Ethanol Blending Program:** The Indian government has launched an Ethanol Blending Program to promote the blending of ethanol with petrol, aiming to achieve a 20% ethanol blend by 2025.
- **Enhanced Ethanol Production Capacity through Loan and credit:** India has set targets to increase ethanol production capacity through measures such as encouraging investments in ethanol plants and providing financial incentives to sugar mills for ethanol production



- **Promotion of Second-Generation Ethanol:** Efforts are being made to promote the production of second-generation ethanol from agricultural residues and lignocellulosic biomass to utilize non-food sources and improve overall sustainability.
- **Pradhan Mantri JI-VAN Yojana:** This scheme aims to incentivize the production of second-generation (advanced) biofuels such as cellulosic ethanol, bio-CNG, and bio-Butanol. It provides financial support for setting up biofuel projects and supports R&D initiatives in advanced biofuels.
  - Second-generation biofuels are produced from non-food biomass feedstocks, such as agricultural residues (corn stover, wheat straw), forest residues, and dedicated energy crops. Eg: Jatropha
- **Collaboration with Stakeholders:** The government is collaborating with various stakeholders, including the agriculture sector, sugar industry, and oil marketing companies, to promote ethanol production and blending.
- **National Policy on Biofuels:** The Indian government has formulated a National Policy on Biofuels to provide a comprehensive framework for the promotion of biofuels in the country.
  - The policy includes provisions for the production of ethanol from various feedstocks and promotes the use of biofuels in transportation, power generation, and other sectors
- **Global biofuel alliance:** India joined this alliance to get financial and technological support from the member countries to increase ethanol production.

#### Way forward:

- **Diversification of ethanol sources:** The government should **find ways and alternatives** to reduce the sugarcane dependency in ethanol production.
- **Emission monitoring for accountability:** **Regular monitoring of emission** from ethanol usage is necessary to assess the real changes.
- **Incentivizing non-food sources:** More **incentives** should be given by the government **to use non-food sources** to produce ethanol.
- **Regulation of vehicle manufacturers:** **Vehicle manufacturing companies** also should be monitored by the government to ensure that the car manufacturers are producing ethanol fuel friendly cars.

### 3.3 Textile sector in India

#### Why in the news?

Recently the Indian textile sector faces Environmental, Social, and Governance (ESG) goals from the European Union.

#### What are Environmental, Social, and Governance (ESG) goals?

- Environmental, Social, and Governance (ESG) goals are a set of standards for a company's operations that force companies to follow better governance, ethical practices, environment-friendly measures and social responsibility.

- **Environmental** criteria consider how a company performs as a steward of nature.
- **Social** criteria examine how it manages relationships with employees, suppliers, customers, and the communities where it operates.
- **Governance** deals with a company's leadership, executive pay, audits, internal controls, and shareholder rights.
- It focuses on non-financial factors as a metric for guiding investment decisions wherein increased financial returns is no longer the sole objective of investors.
- Ever since the introduction of the **United Nations Principles for Responsible Investing in 2006**, the ESG framework has been recognised as an inextricable link of modern-day businesses.

#### How will it affect the Indian textile industries?

- **Dominance of MSME sector:** India's textile sector is mostly dominated by the MSME (90%) industries. To comply with ESG standards is technically less feasible for these small industries than large industries.
- **High capital investment:** To ensure sustainability in the textile sector supply chain, large scale financial investment is required.
- **Reduced Profit margin:** Profit margin of the textile industries will decrease due to large scale investment.
- **Uncommon labor issues:** Labour issues vary in each textile/garment producing State. To ensure a common labor standard is difficult.
  - Eg. ESG talks about 'living wages. It will be different in each State, leading to differences in labor costs.
- **Reduction in fashion seasons:** Another issue of the ESG norms implementation would be reduction in the fashion seasons. Some brands have more than 10 fashion seasons in a year and this is likely to reduce with emphasis on circularity and reuse.

#### Significance of Indian textile sector:

- **MSME dominance:** Around 90% of the textile industries are MSMEs.
- **Employment generator:** Textile sector is the second largest employment generation area in India.
  - Eg. Around 11 crore employers are working in the textile sector alone.
- **Export contribution:** Textile industry contributes around 15% of the total exports of India.
- **Women employment:** Around 30% of the total employers in the textile sector are women. After agriculture, the textile sector is the largest employment generator for women.
- **GDP contribution:** Textile sector alone contributes around 2% to the Indian GDP.

#### What are the issues in the textile sector?

- **Rising imports:** Large scale dumping of Man-made fabrics from China at very low cost has affected the fabric sector in India.
  - Fabric imports from China have doubled in the last three years.

- **Affects local producers:** High domestic prices of Man-made fibres (**MMF**) fabrics and rising import of fabrics, are impacting local producers as they are unable to supply at competitive prices.
- **Reduced employability:** Due to this rising imports, downstream industries are operating with 70% capacity.
- **Lack of innovation:** India, nowadays does small value additions only in fabric. Lack of innovation in the textile sector also reduces the efficacy of the textile sector.
- **Trade restriction:** Quality Control Orders on MMF fibers are severely impacting the entire value chain.

#### **Sustainable measures taken by Indian textile sectors:**

- **ESG task force:** The Ministry of Textiles has formed an ESG task force and is considering supportive interventions for the industry.
- **Cotton Textiles Export Promotion Council:** This Texprocil is promoting Indian cotton brand Kasturi that comes with traceability.
- **Financial assistance:** The Indian government makes financial institutions reach out to MSMEs to fund green and sustainable projects.
- **Apparel Industry Sustainability Action:** Apparel Export Promotion Council (AEPC) launched the Apparel Industry Sustainability Action (AISA) to boost sustainable practices among micro, small, and medium-sized enterprises
- **Zero Liquid Discharge:** Eco-friendly practices extend to garment production, with manufacturers adopting sustainable dyes and chemicals and certified processes for Zero Liquid Discharge to minimize water consumption.
- **Bale Identification and Traceability System:** Government has started in traceability with the Bale Identification and Traceability System (BITS), utilizing blockchain and QR codes to trace cotton from its origin.

#### **Government schemes for Indian textile sector:**

- **SAMARTH:** This scheme was started to address the skill gap in the industry, training over 150,000 beneficiaries and focusing on empowering women.
- **PM MITRA scheme:** MITRA Park will have an incubation center, common processing house and a common effluent treatment plant and other textile related facilities such as design centers and testing centers.
- **Amended Technology Upgradation Fund Scheme (ATUFS):** The Technology Upgradation Fund Scheme was introduced by the Government to facilitate new and appropriate technology for making the textile industry globally competitive and to reduce the capital cost for the textile industry.
- **Scheme for Integrated Textile Parks:** To provide the industry with world-class state of the art infrastructure facilities for setting up their textile units.
  - To attract foreign investors to the domestic textile sector.

- **National Technical Textile Mission:** It aims to position the country as a global leader in technical textiles and increase the use of technical textiles in the domestic market.
  - The Mission will aim at taking domestic market size to \$40 billion to \$50 billion by 2024.

#### Way forward:

- **Exemption to MSME:** MSMEs can be given exemption from ESG norms in the proposed FTA with the EU. Because, the EU has exempted its own MSMEs from ESG norms.
- **Financial assistance:** Financial assistance in the form of incentives or loans can be given to this sector to let them comply with ESG norms of the European Union.
- **Surveillance committee:** District level awareness and compliance committee can be established to oversee the sustainable production in the textile sector.
- **Technology upgradation:** Government should help the MSME industries to upgrade to new technologies.
- **Common infrastructure facilities:** India can make the sector organized by setting up mega apparel parks and common infrastructure for the textile industry. Focus should be on the modernisation of obsolete machinery and technology.

### 3.4 Eastern Dedicated Freight Corridor

#### Why in the news?

Recent report of the Institute for Energy Economics and Financial Analysis said that the recent plan of the Indian Railways to raise the quantum of coal to be transported by rail by at least 400 million tonne (mt) in the next eight years faces congestion and logistical challenges.

#### Key issues in coal transportation:

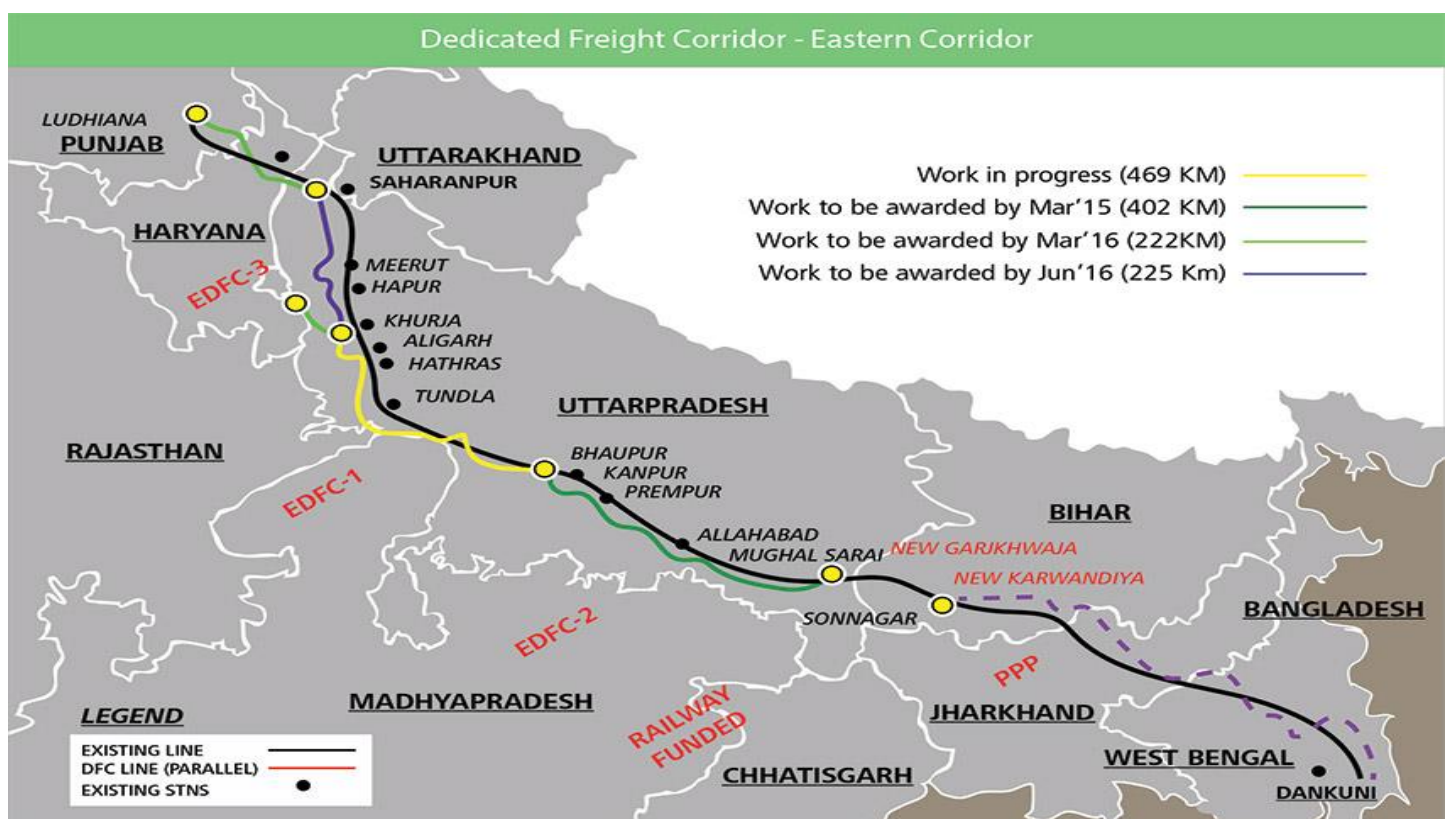
- **Existing method is costlier:** Large volumes of coal are transported by road using diesel-operated trucks that are costlier, more polluting as well as inefficient.
- **Freight vs. Passenger Conflict:** In May 2022 passenger trains were canceled to prioritize coal movement when the coal supply crisis arose. The increasing demand for both freight and passenger services poses a substantial challenge to the railway network, leading to potential congestion and capacity issues.
- **Weak link in Coal transport chain:** Despite declining stocks in power plants, Coal India Ltd. and Singareni Collieries Company Ltd. reported having a significant vendible stock on hand at the end of August. The weakest link in the coal transport chain is identified as the transportation from mines to power plants.
- **Impact on train speeds:** The focus on coal transportation has led to a decline in the average speed of non-suburban trains, reaching the lowest monthly average since at least June 2015 by September

2023. The congestion issues may further exacerbate if coal freight is significantly increased, impacting overall train speeds.

- Current coal carrying freight speed is 25 KM per hour, which is very low compared to other developing countries.
- **Need for renewables in remote regions:** The IEEFA recommends prioritizing and incentivizing renewable energy projects in regions where thermal power plants are distant from coal mines. This suggests a potential shift towards renewable sources as a solution to the challenges posed by coal transportation.
- **Capacity expansion requirement:** The Railways' Traffic, Transportation, and Business Research unit estimates that the annual coal transportation capacity needs to double to 1,200 million tonnes by 2030 from the current 660 million tonnes to meet growing energy demand.
- **Impact on Track Renewal Activities:** While planning and engineering resources are directed towards coal evacuation projects, track-renewal activities on major routes take a hit. This has implications for the overall maintenance and efficiency of the rail network.

#### About Eastern Dedicated Freight Corridor:

- Eastern Dedicated Freight Corridor or Eastern DFC is a broad-gauge freight corridor in India.
- The railway will run between **Ludhiana in Punjab** and **Dankuni (near Kolkata) in West Bengal** via Meerut and Khurja in Uttar Pradesh.
- It is built by the **Dedicated Freight Corridor Corporation of India**.
- It was opened to **operate in 2023**.





## 4. ENVIRONMENT

### 4.1 Green Credit Initiative

#### Why in the news?

Recently, PM Modi has made a pitch for countries to join India on its "Green Credit initiative" which was a "non-commercial" effort to create a carbon sink.

#### About Green Credit initiative:

- The Green Credits Programme, launched by the Environment Ministry in **October 2023**, is an effort to create a market-based incentive for different kinds of environment-positive actions.
- The Green Credits programme attempts to replicate the global carbon credit mechanism for other environmental actions, like water conservation or soil improvements.
- **Individuals, Companies and Industries can buy these green credits.**

#### About Climate Investment Fund (CIF):

- Climate Investment Funds (CIF) is the largest multilateral climate fund focused on transformational climate innovation in 72 middle- and low-income countries.
- Year: 2008
- CIF works exclusively through six multilateral development banks (MDBs) to mobilize investments to pilot and scale cutting-edge climate solutions to address frontier climate challenges the MDBs can't fight on their own.

#### About New Collective Quantified Goal (NCQG):

- The 2015 Paris Climate Agreement Agreed on setting a New Collective Quantified Goal (NCQG) for climate financing prior to 2025, a reference point which accounts for the needs and priorities of developing nations.
- The NCQG is expected to be finalized by 2024. It will replace the current climate finance goal of \$100 billion annually from developed countries.

#### About Green Climate Fund (GCF):

- It was established in 2010 to limit or reduce greenhouse gas (GHG) emissions in developing countries and to help vulnerable societies adapt to the unavoidable impacts of climate change.

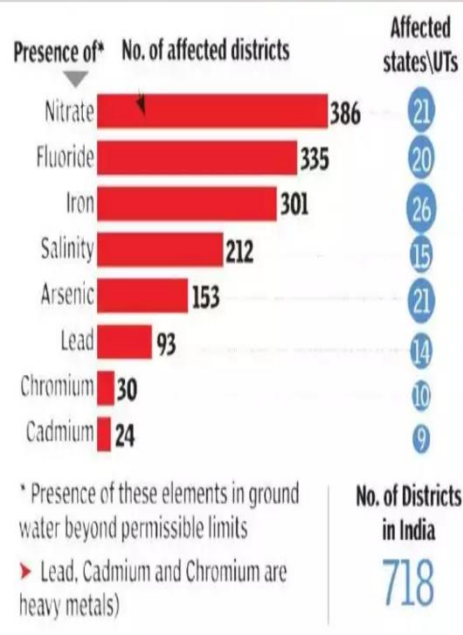
#### About Adaptation Fund:

- It was established under the Kyoto Protocol in 2001 and has committed US\$ 532 million to climate adaptation and resilience activities.

#### Procedure to host COP with respect to India:

- India proposed to host the 33rd edition of the Conference of Parties in 2028.

## HEAVY METALS AT WORRYING LEVELS



- Previously India hosted the COP in 2002.
- A proposal to host the Conference of the Parties (COP) must be approved by other signatories to the United Nations Framework Convention on Climate Change (UNFCCC).

### India's commitments made at Glasgow, in COP-26:

- At the CoP26, India presented the following **five nectar elements (Panchamrit)** of India's climate action:
  - Reach 500GW **non-fossil energy** capacity by 2030.
  - 50 per cent of its energy requirements from **renewable energy** by 2030.
  - Reduction of total projected **carbon emissions** by one billion tonnes from now to 2030.
  - Reduction of **the carbon intensity of the economy** by 45 per cent by 2030, over 2005 levels.
- Achieving the target of **net zero emissions** by 2070.

## 4.2 Heavy metal contamination

### Why in the news?

Recently, the survivors of the Bhopal gas leak tragedy complained about the groundwater contamination.

### What are heavy metals?

- Heavy metals are generally defined as metals with relatively high densities, atomic weights, or atomic numbers.
- Scientists found around 40 heavy metals, **Eg. Arsenic, Cobalt, Lead, Mercury, Iron.**

### Distribution of Heavy metal contamination of water in India:

- Nearly **718 districts have contaminated groundwater** with arsenic, cadmium, chromium etc.
- Across 25 states, the amount of arsenic discovered in groundwater was more than 0.01 mg per liter in some parts of 209 districts.
- The amount of iron in groundwater in excess of 1 mg per liter was found in some parts of 491 districts of 29 states.
- Cadmium in groundwater was discovered in some parts of 29 districts of 11 states exceeding 0.003 mg per liter.

- Across 16 states, the amount of chromium in groundwater was over 0.05 mg per liter in some parts of 62 districts.
- In 18 states, there were 152 districts with over 0.03 mg per liter of uranium in the groundwater.

### **Challenges in eliminating heavy metal contamination:**

- **Poor adoption of safeguard measures:** Industries are not following proper safeguard measures such as safe disposal of wastes etc.
- **Bioaccumulation:** Heavy metals are non-biodegradable in nature; so it will accumulate in the ecosystem.
- **Lack of enforcement:** Existing regulations and enforcement mechanisms are not effective in nature.
- **New sources:** Emerging contaminants from new sources such as electronic wastes and medical wastes make it hard to eliminate heavy metal contamination.
- **Poor knowledge:** People in India don't have any knowledge about the heavy metal contamination of improper disposal of domestic wastewater.

### **Government measures to ensure safe drinking water from contamination:**

- **Jal Jeevan Mission (2019):** Through this scheme, the government will provide proper drinking water through taps to all the households.
- **Namami Gange Program (2011):** Under this scheme, proper discharge of wastewater from industries and households is enforced.
- **AMRUT mission (2015):** Two objectives are mandated under the scheme,
  - Sewage treatment of household's wastewater.
  - Tap water connection to all the urban households
- **Swachh Bharat Mission (2014):** Under this scheme, scientific treatment of wastewater is monitored.

### **Way forward:**

- **Special care to most affected districts:** District wise Surveillance Authorities can be set up in most affected districts to ensure the proper adoption of safeguard measures by the industries.
- **Effective enforcement:** Proper enforcement of regulations and schemes by the authorities can be ensured.
- **Wastewater Treatment:** Treated wastewater can be a safe source for groundwater recharge
- **Awareness promotion:** Proper awareness can be given to industries and households about the toxic consequences of heavy metals.

### International protocol, convention on heavy metals:

- **Minamata Convention:** In 2013, Minamata Convention was adopted for the proper handling and discharge of Mercury.
- **Aarhus Protocol (1998):** The Protocol aims to cut emissions from industrial sources (iron and steel industry, non-ferrous metal industry), combustion processes (power generation, road transport) and waste incineration.

### About Bhopal Gas tragedy:

- In 1984, Methyl Isocyanate leaked from the pesticide plant of Union Carbide in Bhopal.
- Around 40 tonnes of gas leaked from the factory.

### Application of Methyl isocyanate:

- It is used in the production of pesticides, polyurethane foam, and plastics.

## 4.3 Carbon Capture & Storage and CO<sub>2</sub> removal technologies

### Why in the news?

Recently, at the 28th conference of parties (COP) meeting, there a discussion to remove CO<sub>2</sub> by using Carbon capture & storage (CCS) method and CO<sub>2</sub> removal (CDR) technologies.

### What are CCS and CDR?

**Carbon Capture & Storage technology:** CCS refers to technologies that can capture carbon dioxide (CO<sub>2</sub>) at a source of emissions before it is released into the atmosphere. These sources include the fossil fuel industry (where coal, oil and gas are combusted to generate power) and industrial processes like steel and cement production.

**CO<sub>2</sub> removal technologies:** CDR takes the forms of both natural means like afforestation or reforestation and technologies like direct air capture, where machines mimic trees by absorbing CO<sub>2</sub> from their surroundings and storing it underground.

### Merits:

- **Enrich concrete:** Captured CO<sub>2</sub> could be used to strengthen concrete, leading to increased infrastructure durability.
- **Value added products:** CO<sub>2</sub> could be used to make chemicals and plastics, such as polyurethanes that are used to create soft foams like those used in mattresses.
- **Create more fuel:** Technically, it's possible to convert CO<sub>2</sub> into a fuel. There are multiple ways to accomplish this, but they're difficult in terms of cost and process.
- **Job creation:** The deployment of CCS technologies can lead to job creation in areas such as construction, engineering, and maintenance. This can benefit local communities and help to revitalize local economies.

### Demerits of both CCS and CDR:

- **Land constraints:** CDR methods like afforestation, reforestation, BECCS, and direct air capture are constrained by their need for land.
- **Affects indigenous community:** CDR projects can adversely affect land rights of indigenous communities and biodiversity and compete with other forms of land-use, like agriculture that is crucial for ensuring food security.
- **High cost:** One of the major drawbacks of CCS is that it still has a relatively high cost. The technology requires significant investments in research, development, and infrastructure, which can be prohibitively expensive. Thus, research needs to be further developed to help reduce such costs.
- **Fossil fuel dependency:** In some cases, CCS has been used to extract more oil by injecting captured CO<sub>2</sub> into oil fields, potentially prolonging reliance on fossil fuels rather than transitioning away from them.

### Way forward:

- **Make CCS cost effective:** To make the technology grow cheaper and work better, governments need to tax carbon, make it easier to approve CCS projects and help set up the infrastructure around it.
- **Incentives:** Government can provide incentives like tax support to companies and industries to adopt and install CCS systems.

### Outcomes of the CoP 28

#### Important initiatives:

- **Loss and Damage Fund:** Operationalization of Loss and Damage Fund is an important initiative to provide adaptation and mitigation fund support to the most vulnerable countries.
- **Global stocktake:** This 28th CoP saw the first global Stocktake. According to the UNFCCC, the GST "enables countries and other stakeholders to see where they are collectively making progress towards meeting the goals of the Paris Agreement and where they are not".
- **Global Renewable and Energy Efficiency Pledge:** 130 countries commit to tripling the world's installed renewable energy generation capacity to at least 11,000 GW by 2030 and doubling the global average annual rate of energy efficiency improvements.
- **Nuclear energy increase:** More than 20 countries have pledged to triple their nuclear energy capacity by 2030.
- **Funding support:** The green climate fund has received \$3.5 bn and \$188 million to the Adaptation fund.
- **ALTERRA:** The COP28 Presidency also introduced ALTERRA, an investment initiative with an ambitious goal to globally mobilize an unprecedented sum of \$250 billion by 2030.
- **UAE declaration on climate and health:** Around 123 countries have signed the UAE declaration on Climate and health. These countries committed \$1 bn to address the climate impact on health.

- India didn't sign this declaration because reducing greenhouse gas (GHG) emissions in the health sector would mean reduction in emissions from gasses used for cooling.
- **Global Methane Pledge:** Climate and clean air coalition has been made as the new secretariat of the Global Methane Pledge.
  - India did not sign this pledge, because methane emissions in India are primarily from rice cultivation and enteric fermentation (livestock rearing), which support the livelihoods of small and marginal farmers.
- **Global River Cities Alliance:** India led Global River Cities Alliance provides effective river management. With nine countries pledging support, this coalition aims to support river sensitive development.
- **Global Goal on Adaptation:** The Global Goal on Adaptation introduced at COP28 is a positive step addressing critical issues like climate-induced water scarcity, resilient food and agricultural production and health impacts.

#### Issues:

- **Less financial support:** Only \$790 million has been garnered for climate action, which requires around \$100 billion every year.
- **Poor commitment of developed nations:** Developed countries still did not commit to provide enough financial support to the developing nations.
  - Eg. The USA, the largest emitter of greenhouse gasses, has committed 17 million for the loss and damage fund.

**Funding support as grants:** The least developed countries also said that the funding support should be grants not loans.

**Restricted fossil fuel transition:** Transitions from fossil fuels have been restricted to energy systems alone, and they can be used in transport, plastics etc.

**Mitigation measures:** This CoP summit has alluded to unproven technologies such as Carbon capture and storage, Carbon dioxide removal technologies.

**World Bank role in fund management:** World bank's designation as a new manager of loss and damage fund has been an issue for developing countries, as the world bank always favors developed countries.

## 5. SCIENCE AND TECHNOLOGY

### 5.1 Gene Cell Therapy

#### Why in the news?

Recently, Vertex pharmaceutical has received an approval from the UK government to authorize CASEGEVY, a **CRISPR** based gene cell therapy.



### About CASEGEVY:

- Casgevy uses the gene-editing tool of **CRISPR-Cas9** to disable a particular gene (BCL11A) that turns off fetal hemoglobin production in blood stem cells.
- It was mainly designed to treat Sickle Cell Anemia and Transfusion Dependent B-Thalassemia.

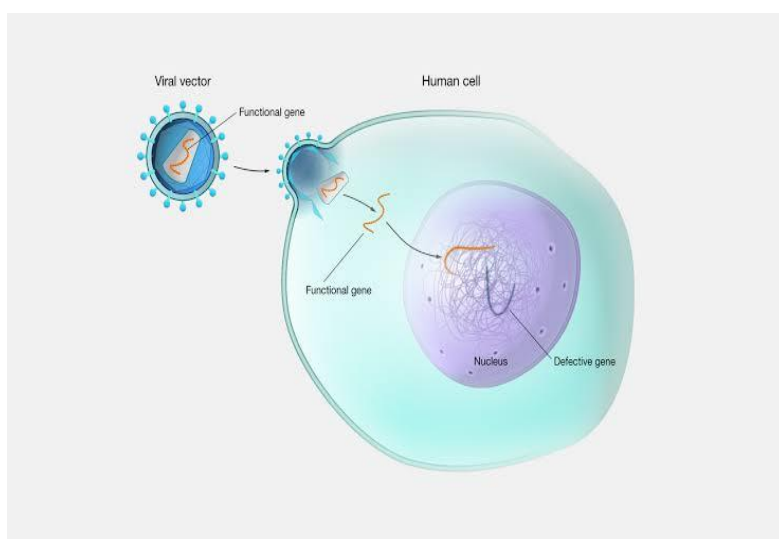
### What is Gene Cell Therapy?

- Gene therapy is a technique that modifies a person's genes to treat or cure disease.
- Gene therapies can work by several mechanisms:
  - **Replacing** a disease-causing gene with a healthy copy of the gene.
  - **Inactivating** a disease-causing gene that is not functioning properly.
  - **Introducing a new** or modified gene into the body to help treat a disease
- **Difference between Gene therapy and Cell therapy:**

Gene Therapy	Cell Therapy
Gene therapy aims to treat diseases by replacing, inactivating or introducing genes into cells— either inside the body (in vivo) or outside of the body (ex vivo).	Cell therapy aims to treat diseases by restoring or altering certain sets of cells or by using cells to carry a therapy through the body  With cell therapy, cells are cultivated or modified outside the body before being injected into the patient.  The cells may originate from the patient (autologous cells) or a donor (allogeneic cells).

### Process of Gene Therapy:

- The cells are taken from the bone marrow or directly from the affected tissue.
- Various genetic engineering tools are used such as CRISPR to remove, add or modify the genes in the cells.
- The corrected cells are then injected back into your body, where they can start producing the desired protein or effect.



## Types of Gene Therapy:

- **Somatic gene therapy:**
  - Occurs in the somatic cells of the human body. A section of DNA is transferred to any cell of the body that doesn't produce sperm or eggs.
  - It is related to a single person, and the effects of gene therapy will **not be passed on to the patient's offspring**.
- **Germline gene therapy:**
  - Takes place in the germline cells of the human body. This method is utilized to treat genetic disease-causing variations of genes that are passed from parents to their children.
  - A section of DNA is delivered to the cells producing eggs or sperm. Effects of gene therapy will be passed down to the patient's children and future generations.

## Advantages of Gene Therapy:

- **Provides options:** Gene therapy can potentially cure someone of a disease, especially in instances where no other medications have worked.
- **Only has to be given one time:** Existing gene therapies are given as a one-time dose. This is appealing compared to some other treatments that require multiple doses.
- **Long-lasting effects:** Gene therapy has the potential to get rid of a person's symptoms for life. Gene therapy can give many people a better quality of life.
- **Positive effects passed down through generations:** If you remove a faulty gene from a parent, they won't transfer this gene to their kids.
- **Rapidly-changing technology:** Gene therapy is able to exist because of massive advances in technology over the past few decades.
  - Since technology continues to advance, we can expect gene therapy to continue to improve. We can also expect more gene therapies to gain FDA approval.

## Disadvantages:

- **Expensive:** Gene therapy can be extremely pricey, making it inaccessible for some people.
- **Experimental:** Gene therapy is relatively new and there's still a lot about it.
  - Right now, there are no guarantees. Exactly how successful gene therapy will be is still uncertain.
- **Potentially dangerous:** There's some concern that if gene therapy reaches other cells in the body besides the faulty cell, it could have harmful effects.
  - There's also concern that reproductive cells could be changed without detection, and these could be passed on to people's children.
- **May cause infection:** Some gene therapies use inactivated viruses to carry healthy genetic material into a faulty cell in the body. It's possible that these viruses could infect the person receiving therapy.

### Gene therapy in India:

- **Human clinical trial for Haemophilia A:** India has conducted the first human clinical trial of gene therapy for haemophilia A (FVIII deficiency) at Christian Medical College (CMC) Vellore.
- **Department of biotechnology support:** The programme is supported by the Department of Biotechnology, the Centre for Stem Cell Research, in collaboration with Emory University, USA, at Christian Medical College, Vellore.
- **Lentiviral vector technology:** The trials involved deploying a novel technology of using a lentiviral vector to express an FVIII transgene in the patient's own haematopoietic stem cell, potentially paving the way for further clinical trials.
- **Indigenous vector manufacturing:** The Union Minister of health expressed hope that manufacturing of this vector will commence soon in India, indicating a move towards self-reliance in gene therapy technology.

## 5.2 Artificial Intelligence Act

### Why in the news?

Recently, the European Union has enacted an Artificial Intelligence act.

### Key details from the act:

- The EU seeks to strike a balance between fostering innovation and ensuring ethical and responsible AI development.
- The legislation categorizes AI applications into different risk levels, ranging from unacceptable to low.
- This approach enables tailored regulations, with higher risk applications subject to more stringent requirements.
- This EU AI Act introduces the concept of independent conformity assessment. Higher Risk AI applications like medical devices, biometric identification, and access to justice and services, must undergo assessment processes conducted by third party entities.
- Clear information about the capabilities and limitations of AI systems, enabling users to make informed decisions.

### Limitations in the act:

- **Poor definitions and categorization** of AI apps is one main issue.
- AI technology is evolving in nature, and this evolving nature provides **uncertainties** in regulatory implementation.
- **Overly restrictive measures** could stifle innovation in related fields.

### Why do we need global level AI regulations?

- **Healthy competition:** Global level cooperation will improve healthy competition and can drive innovation in the evolving landscape of Artificial Intelligence.

- **Promote ethical usage:** Global regulation can be useful to reduce the usage of AI in other unethical sectors or areas.
- **Ensure universal AI access:** Universal access to the benefits of AI can be ensured through global level regulations.
- **Ethical use of data:** Artificial intelligence uses data for its operation and this data is borderless. So, ethical and accountable use of data can be ensured only through global level regulations.
- **Ensures fairness:** Global regulations could help to establish common standards for data collection, algorithm development, and deployment, mitigating the risk of discriminatory AI systems.
- **Protect human rights:** Global regulations could help to protect fundamental rights by setting clear boundaries on how AI can be used in these sensitive areas.

#### **Issues in the global level AI regulation:**

- **Lack of global consensus:** Different countries have different values and priorities, making it difficult to reach a consensus on global AI regulations.
- **Implementation issues:** Enforcing global regulations across different countries, with varying legal systems and resources, could be a significant challenge.
- **Lack of definition:** There is no single, universally accepted definition of what constitutes artificial intelligence. This ambiguity makes it challenging to create regulations that are specific and targeted.
- **Uneven distribution of data:** Access to the data resources are unevenly distributed, raising concerns about fairness and discrimination.

#### **Way forward:**

- **Continuous calibration of regulations:** Regularly review and calibrate regulations to accommodate the dynamic nature of AI technologies, ensuring that definitions and categorizations remain relevant and effective.
- **Support mechanisms for small businesses:** Implement support mechanisms, incentives, or simplified processes to alleviate the compliance burden on small businesses and start-ups, promoting a more level playing field.
- **International collaboration and standards:** Strengthen international collaboration on AI regulation, working towards consistent global standards to address challenges and promote responsible AI development.
- **Public awareness and education:** Invest in public awareness and education initiatives to enhance understanding of AI technologies, their implications, and the regulatory framework, fostering informed discussions and responsible use.
- **Adaptive governance structures:** Develop adaptive governance structures that can evolve in response to technological advancements, emerging risks, and changing global dynamics, ensuring the regulatory framework remains effective and relevant.

## 6. SECURITY

### 6.1 Disinformation

#### Why in the news?

Recently, Director of The Hindu Publishing Limited N.Ram said that disinformation is weaponised in social media networks at the fifth world media summit.

#### What is Disinformation?

- Disinformation is understood as false information that is created or spread with the deliberate intent of causing harm; in the case of misinformation, the element of intent is thought to be absent.

#### Implications of disinformation:

- **Social unrest:** Disinformation can create caste and religious violence between the people.
- **Mob lynching:** Most of the mob lynchings in India are happening due to the spread of disinformation.
- **Disruption of state administration:** State machineries or functions are getting affected due to disinformation.
- **Election influence:** Disinformation could influence the election results also in many western countries.

#### Challenges in curbing disinformation issue:

- **Lower digital literacy** among the people, especially in rural areas.
- Most of the **disinformation is anonymous in nature**, law enforcement agencies could not find the exact source of disinformation.
- Disinformation in recent times is used for **political purposes** also.
- **Lack of transparency among the social media platforms** is a hurdle for law enforcement agencies to find the source of disinformation.
- **Fact checking infrastructure is very poor** in India.

#### Government measures:

- **Provisions in the Indian Penal Code:**
  - **Section 153A:** This section pertains to “promoting enmity between different groups on grounds of religion, race, place of birth, residence, language, etc., and doing acts prejudicial to maintenance of harmony”.
  - **Section 295A:** This section relates to “deliberate and malicious acts intended to outrage religious feelings”.
  - **Section 504:** This section deals with “intentional insult with intent to provoke breach of the peace”.

- **Information Technology Act 2000:**

- Section 67: This section pertains to “publishing or transmitting obscene material in electronic form”.

- **Other acts:**

- **Section 54 of the Disaster Management Act, 2005:** “If any person circulates any fake news or warning as to disaster, or regarding its severity or magnitude, which leads to panic among the public, then such person shall be punished with one year of imprisonment or with fine.”

- **Fact Checking Unit:** This unit was created by the Union government to cross check the news to curb the menace of fake news and disinformation.

**Way forward:**

- **Social media platforms can increase their level of transparency**, especially in the context of disinformation.
- **Better coordination between the government and social media** and print media platforms can curb the disinformation issue.
- **Election commission can act as a watchdog** to find and curb the disinformation issue among the political parties.
  - **Deregistration of political parties**, who are spreading disinformation for their political purposes.
- **Fact checking system with representation from all the stakeholders** can be an impediment for the spread of disinformation.

## 6.2 Crime in India Report 2022

**Why in the news?**

Recently, the National Crime Records Bureau released its annual Crime in India Report 2022.

**About the report:**

- The report is a compilation of data on reported crime from across the country.
- This report of the NCRB, which functions under the Union Ministry of Home Affairs, includes statistics on offenses ranging from crimes against women to economic and financial crimes.
- The data cover overall crimes, and separately note crimes against women, Scheduled Castes (SCs) and Scheduled Tribes (STs), cybercrimes.
- It is released annually by the National Crime Records Bureau.

**Key findings:**

- **Total crimes:** 2022, a total of 58,24,946 cognizable crimes comprising 35,61,379 Indian Penal Code (IPC) crimes and 22,63,567 Special & Local Laws (SLL) crimes were registered.



- This was a decline of 4.5% in the registration of cases over the second pandemic year, 2021.

- **Crime rate:**

- The crime rate, or crimes registered per lakh population, has declined from 445.9 in 2021 to 422.2 in 2022.

- **Crimes against women:**

- Totally 4,45,256 cases of crime against women were registered in 2022.
- This was an increase of 4% over the 2021 numbers.
- The largest share of crimes against women under IPC sections was registered under 'Cruelty by Husband or His Relatives' (31.4%), followed by 'Kidnapping & Abduction of Women' (19.2%), and 'Assault on Women with Intent to Outrage her Modesty' (18.7%).

- **Cybercrime:**

- Reporting of cybercrime increased significantly by 24.4 percentage points compared to 2021, to 65,893 cases.
- Around 64.8% of registered cases were of fraud, followed by extortion (5.5%), and sexual exploitation (5.2%).

- **Suicidal issue:**

- An increase of 4.2% was observed in suicides reported during 2022 (1,70,924 suicides) as compared to 2021.
- 'Family Problems (other than marriage-related problems)' (31.7%), 'Marriage Related Problems' (4.8%) and 'Illness' (18.4%) have together accounted for 54.9% of total suicides in the country during the year 2022.
- The overall male-to-female ratio of suicide victims was 71.8:28.2.

- **Charge sheeting rate:**

- This is the percentage of cases in which the police reached the stage of framing charges against the accused, out of the total true cases (where a charge sheet was not laid but a final report submitted as true, plus the total cases charge sheeted).
- The states/ UTs reporting the highest

#### **About National Crime Records Bureau:**

- It functions as a repository of information on crime and criminals based on the recommendation of the **Tandon committee**.
- **Year:** 1986
- **Nodal Ministry:** Ministry of Home affairs
- **Headquarters:** New Delhi
- It also acts as a "national warehouse" for the fingerprint records of Indian and foreign criminals.
- **Publications:**
  - **Crimes in India**
  - **Accidental Deaths and Suicides**
  - **Prison Statistics**
  - **Reports on missing women and children in India**

chargesheeting rate under IPC crimes are Kerala (96.0%), Puducherry (91.3%), and West Bengal (90.6%).

## 7. SOCIETY

### 7.1 Crime against women

#### Why in the news?

Recently, the National Crime Records Bureau released its annual report.

#### Key details from the report:

- The crime rate declined in 2022 258.1 per lakh population compared to 268 per lakh population in 2021.
- Crimes against women rose 4% in 2022 compared to 2021.
- The majority of crimes against women were of cruelty by husband or his relatives (31.4%), kidnapping and abduction of women (19.2%), assault on women with intent to outrage her modesty (18.7%) and rape (7.1%).
- Around 13,479 cases were registered under the Dowry Prohibition Act.

#### Which are the laws that deal with women's safety?

- **Protection of Women from Domestic Violence Act 2005:** This act provides safety measures to women against domestic violence.
- **Dowry Prohibition Act 1961:** This act provides that giving or taking dowry is illegal and a crime.
- **The Sexual Harassment of Women at Workplace Act 2013:** It provides safety provisions to women against sexual harassment at workplace.
- **Prohibition of Child marriage Act 2006:** This act forbids child marriages, and protects and provides assistance to the victims of child marriages.
- **The Protection of Children from Sexual Offences Act 2012:** It deals with the issue of sexual offenses against children.
- **The Criminal Law (Amendment) Act, 2013,** was also a significant legal reform in India that addressed issues related to women's safety.
  - This act amended several sections of the Indian Penal Code (IPC), including the sections related to rape, acid attacks, and stalking. It also introduced the death penalty as a punishment for certain types of rape cases.

#### What are the hurdles in their implementation?

- **Poor implementation:** At the grassroot level, the implementation of these acts are very poor.
- **Bribery:** Government officers sometimes take bribes from the parties and don't take any actions.

- **Poor awareness:** Awareness about these women safety laws is very low, especially among the rural people.
- **Poor investigation** by police officers
- **High time** taken by courts to deliver justice
- **Social stigma** among women in India

#### **Government measures to address these hurdles:**

- **Nirbhaya Fund:** This fund was established to provide financial assistance to make greater awareness about women safety laws across the country.
- **Special courts:** Special courts such as family courts, POCSO courts are set up to ensure speedy investigation and completion of trial.
- **Awareness in schools:** Lessons about the women safety laws are incorporated in school books. This will help students to know about the women safety laws in their early life.
- **Digital platforms:** Digital apps like Shakthi app provides digital awareness and guidelines about the women safety laws in India.

#### **Way forward:**

- **Capacity training:** Capacity training to police officers about the effective implementation of women safety laws.
- **Awareness promotion:** Awareness about the Women safety laws should be promoted among women especially in rural areas.
- **Speedy justice delivery:** Judges should be given special training to deliver justice effectively and early.
- **Digital platforms** should be used effectively by the government to ensure effective implementation of women safety laws.

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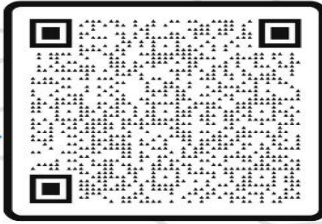
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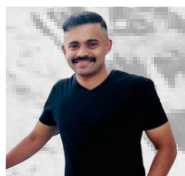
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