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## Current Affairs November 2022

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**This Document was prepared under the supervision of Mr. Pramod Singh, Director, IAS Edge.**

**Current Affairs, November 2022**

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# 1. Polity and Governance

## 1.1 Office-of-profit

Jharkhand Governor Ramesh Bais has sought a “second opinion” in a case of office-of-profit that has triggered a political crisis in the State.

### About Office of Profit:

- The origin of this term can be found in the English Act of Settlement, 1701.
- This was instituted so that there would not be any undue influence from the royal household in administrative affairs.
- It is a position in the government which cannot be held by an MLA or an MP.
- The post can yield salaries, perquisites and other benefits.
- According to Articles 102(1)(a) and 191(1)(a) of the Constitution, an MP or MLA is barred from holding an office of profit as it can put them in a position to gain a financial benefit. Under the RPA 1951 too, holding an office of profit is grounds for disqualification.
- The expression “office of profit” has not been defined in the Constitution or in the Representation of the People Act, 1951.
- It is for the courts to explain the significance and meaning of this concept.
- In 1964, the Supreme Court ruled that the test for determining whether a person holds an office of profit is the test of appointment.
  1. whether the government is the appointing authority
  2. whether the government has the power to terminate the appointment
  3. whether the government determines the remuneration
  4. what is the source of remuneration
  5. power that comes with the position

The essence of disqualification under the office of profit law is if legislators holds an ‘office of profit’ under the government, they might be susceptible to government influence, and may not discharge their constitutional mandate fairly.

## 1.2 Basic structure doctrine

The Supreme Court has agreed to examine a PIL challenging changes made to the right to freedom of speech and expression by the first amendment to the Constitution in 1951, with the petitioner contending that the amendment damages the basic structure doctrine.

The plea urged the court to declare Section 3 (1)(a) and 3 (2) of the First Amendment “beyond the amending power of Parliament” and void since the “same damage the basic or essential features of the Constitution and destroy its basic structure”.

### About:

- Section 3(1) of the 1951 Amending Act substituted original Clause (2) of Article 19 – dealing with reasonable restrictions on the freedom of speech and expression guaranteed under Article 19(1)(a) – with a new Clause (2), which contained “two objectionable insertions” allowing restrictions also “in the interest of public order” and “in relation to incitement to an offence” and omitted the expression “tends to overthrow the State.”
- The two insertions protect Sections 124A (sedition), 153A (promoting enmity), 295A (deliberate and malicious acts, intended to outrage religious feelings) and 505 (statements conducing to public mischief) of the Indian Penal Code “from the vice of unconstitutionality”.
- The two questionable expressions inserted unduly abridge the fundamental right under Article 19 and damages democracy and republicanism and supremacy of the Constitution.

- The amendment also neglects national security by dropping the expression ‘tends to overthrow the State’ by radicalism, terrorism and religious fundamentalism.

#### **First Amendment:**

- Passed in 1951 by the then Provisional Parliament headed by Jawaharlal Nehru.
- It amended articles 15, 19, 85, 87, 174, 176, 341, 342, 372 and 376.
- It inserted articles 31A and 31B and Ninth Schedule to protect the land reform and other laws present in it from the judicial review.
- It placed reasonable restrictions on fundamental rights and added three more grounds of restrictions on freedom of speech such as public order, friendly relations with foreign states and incitement to an offence.

### **1.3 Governor**

Recently, Dravida Munnetra Kazhagam (DMK) leader urged “all like-minded MPs” to support a proposal to remove the Tamil Nadu governor, R N Ravi.

#### **Appointment and Removal of Governor:**

- Under Article 155 and 156 of the Constitution, a Governor is appointed by the President and holds office “during the pleasure of the President”.
- If this pleasure is withdrawn before completion of the five-year term, the Governor has to step down.
- As the President works on the aid and advice of the Prime Minister and the council of ministers, in effect, the Governor can be appointed and removed by the central government.
- Thus, a Governor is a representative of the Union government in states.
- Article 163 of the Constitution says the Governor will normally be aided and advised by the Council of Ministers except in those functions which require his discretion.
- While the Governor’s duties and responsibilities lie in a particular state, there is no provision for impeaching the Governor.

#### **Relation between Governor-Elected Govt:**

- Although a governor need to be apolitical head who must act on the advice of the council of ministers, the Governor enjoys certain powers granted under the Constitution, such as
- giving or withholding assent to a Bill passed by the state legislature,
- assenting to the convening of the state legislative assembly,
- determining the time needed for a party to prove its majority, and which party must be called first do so, generally after a hung verdict in an election.
- All these powers have been flashpoints recently — to cite two instances, when the Maharashtra Governor had Devendra Fadnavis sworn in as the chief minister in 2019 amid a hung verdict, only for his government to fall in 80 hours; and when the Punjab Governor in September refused to allow a special session of the Assembly for a vote of confidence in the AAP government.
- There are no provisions laid down in the Constitution for the manner in which the Governor and the state must engage publicly when there is a difference of opinion.
- The management of differences has traditionally been guided by respect for each other’s boundaries.

#### **Judicial rulings on the relation:**

- Since the Governor holds office “on the pleasure of the President”, questions have been raised time and again on whether the Governor has any security of tenure, and if the President is obligated to show reasons for recalling a Governor.
- In *Surya Narain Choudhary vs Union of India (1981)*, the Rajasthan High Court held that the pleasure of the President was not justiciable, the Governor had no security of tenure and can be removed at any time by the President withdrawing pleasure.

- In *BP Singhal vs Union of India* (2010), the Supreme Court elaborated on the pleasure doctrine. It upheld that “no limitations or restrictions are placed on the ‘at pleasure’ doctrine”, but that “does not dispense with the need for a cause for withdrawal of the pleasure”.
- the Bench, while noting that the President can remove the Governor from office “at any time without assigning any reason and without giving any opportunity to show cause”, the power to remove can’t be exercised in an “arbitrary, capricious or unreasonable manner”.
- “The power will have to be exercised in rare and exceptional circumstances for valid and compelling reasons.
- A Governor cannot be removed on the ground that he is out of sync with the policies and ideologies of the Union Government or the party in power at the Centre. Nor can he be removed on the ground that the Union Government has lost confidence in him,”

#### **Recommendations of various commissions:**

- The Sarkaria Commission had recommended that Governors are not sacked before completing their five-year tenure, except in “rare and compelling” circumstances.
- Punchi Commission (2010): Recommendations have also been made for a provision to impeach the Governor by the Assembly.

#### **Way Forward:**

- The recommendations of the Sarkaria Commission and the Punchi Commission report need to be examined closely to make proper amendments to the functions of the post of governor.
- Governor’s office should be apolitical. There should be a panel involving the opposition, ruling party, civil society and the judiciary in the selection process of Governor.
- Governor should be appointed only after consultation with the CM of the state where he/she will work.

### **1.4 22nd Law Commission**

The Centre constituted the Law Commission of India with Justice (retd) Rituraj Awasthi, former Chief Justice of Karnataka High Court, at its head.

#### **About:**

- The Law Commission is a non-statutory body that is constituted by a notification of the Government of India in the Official Gazette.
- It carries out research in the field of law and vital review of the laws in India.
- It makes recommendations to the Government (in the form of Reports).
- It was first constituted in 1955, and has so far submitted 277 reports.
- The Commission would have a tenure of three years from the date of publication of the Order of Constitution.

#### **Functions:**

- The Commission shall, among other things, identify laws which are no longer needed or relevant and can be immediately repealed
- examine the existing laws in the light of Directive Principles of State Policy and suggest ways of improvement and reform and suggest such legislations as might be necessary to implement the Directive Principles and to attain the objectives set out in the Preamble of the Constitution
- revise the Central Acts of general importance to simplify them and remove anomalies, ambiguities and inequities.
- The tenure of the 21st Law Commission, which was headed by former Supreme Court judge Justice B S Chauhan, came to an end on August 31 2018.
- The 22nd Commission has been constituted two and a half years after it was approved by the Union Cabinet in 2020, just before the outbreak of the Covid-19 pandemic.

## 1.5 EWS quota

Supreme Court, in a 3:2 majority decision, upheld the validity of 103rd constitutional amendment and held that the 10% EWS quota to “poorest of poor” among forward castes did not pose any danger to the Basic Structure of the Constitution.

### Background:

Reservation is a form of quota-based affirmative action governed by constitutional laws in India.

Current reservation in India:

ST	7.5%
SC	15%
OBC	27%
EWS	10%
Total	59.5%

- Article 14 states that the State shall not deny to any person equality before the law or the equal protection of the laws within the territory of India. Supreme Court held that where equals and unequal's are treated differently, Article 14 does not apply.
- Article 15 provides that the State shall not discriminate against any citizen on grounds only of religion, race, caste, sex or place of birth.
- Exception to article 15 – The 103rd Constitutional Amendment provides 10% reservation in government jobs and educational institutions to the ‘economically weaker sections’ of the society but excludes the ‘poorest of poor’ among Scheduled Castes (SC), Scheduled Tribes (ST), Socially and Educationally Backward Classes (SEBC) and Other Backward Classes (OBC) from its scope.

### Current issues in reservation:

- Indira Sawhney judgment in 1992: SC upheld the principle that the combined reservation beneficiaries should not exceed 50% of India's population. However, with EWS reservation of 10%, the total reservation in India's population amounts to almost 60%.
- Rohini Commission report: Asymmetrical distribution of reservation – 97% of central OBC quota benefits go to just under 25% of its castes. As many as 983 OBC communities — 37% of the total — have zero representation in both central government jobs and admissions to central universities.
- Data Deficiency: There is hardly any legible data on the socio-economic conditions of varied social groups at State & local level. Also, we do not know what liberalisation has done to castes which remained tied to more traditional sources of income.
- The creamy layer threshold: SC admits plea challenging Rs 8 lakh EWS annual income criteria is the same as that for the creamy layer of Other Backward Classes quota and is unfair.
- Lack of merit-based recognition

### Significance of the judgement:

- Expansive view: Reservation was an “instrument of affirmative action by the state” and should not be confined to just SCs, STs, SEBCs, and the non-creamy layer of OBCs, but also include “any class or sections so disadvantaged as to answer the description of ‘weaker section’”
- 103rd Amendment only created “a separate class of EWS without affecting the special right of reservation provided to SEBCs, STs, SCs and OBCs”.
- Even the SC/ST/SEBC/OBC members had been treated as a separate category for the purpose of the 50% reservation. Now, they cannot be treated at par with citizens belonging to the general or unreserved category.
- Article 14: Just as equals cannot be treated as unequal's, unequal's cannot be treated equally. Treating unequal's as equals will offend the doctrine of equality in Article 14.

### Concerns:

- Existing reservation should not be seen as a “free pass to equal opportunity” for these backward classes,

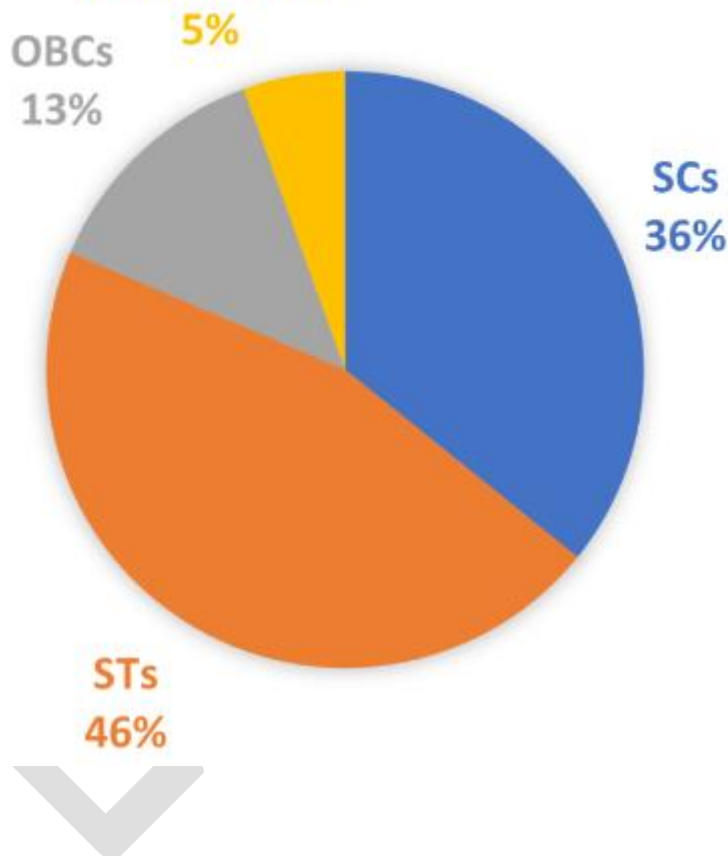


he noted, but as a reparative and compensatory mechanism to level the field for those crippled by social stigmatisation.

- Hostile discrimination: Excluding the SC/ST/OBC/SEBC communities, on the ground that they already enjoy the benefits of a pre-existing 50% reservation based on their caste and class origins, would amount to heaping injustice based on their past disability and struck at the essence of the “Non-Discriminatory Rule” and destroyed the Equality Code of the Constitution.
- Orwellian exclusion: Such an exclusion was simply “Orwellian” as the government’s statistics itself showed that the “bulk of economic deprived section of the society belonged to SC/ST/SEBC/OBC”.
- Narrow scope: The petitioners had argued that the exclusion of SC/ST/SEBC/OBC had left only the “middle class” among the forward castes drawing less than ₹8 lakh as annual family income to reap the benefits of the EWS quota.
- 50% ceiling limit: Permitting the breach of 50% ceiling limit would become “a gateway for further infractions and result in compartmentalisation”.
- BPL population: Of the 31.7 crore people living under the poverty line in the country, the classification is as follows:

## % OF BPL POPULATION

Forward class



### Way forward:

- Both sides agreed on the state’s power to make special provisions for implementing reservation in private unaided institutions, including professional colleges.
- The Amendment cannot be said to violate Basic Structure by permitting the state to make special provisions in relation to admission to private unaided institutions.

### 1.6 House arrest

- Supreme Court has allowed ‘house arrest’ for human rights activist Gautam Navlakha.
- An accused in the Bhima Koregaon case and has been in jail since April 2020.

- He suffers from multiple ailments.
- He moved the Supreme Court after the Bombay High Court rejected his plea seeking transfer to house arrest on account of his medical condition.

### What is House Arrest?

- House arrest—also known as home confinement or home detention—is the act of confining a person to specified premises that are not a regular jail.
- These premises can be the person’s own home or someone else’s, subject to approval by the authorities.
- House arrest is seen as an alternative to confinement in jail either during trial or after sentencing, which can be used in the case of certain categories of prisoners with specific medical or other needs, or those who are not deemed dangerous.
- House arrest is allowed under specific conditions that are peculiar to each prisoner. They almost always include restrictions on travel and meeting people, and may include electronic surveillance of the prisoner by means of a wearable tracking device.
- The Code of Criminal Procedure does not mention house arrest.
- Section 5 of the National Security Act, 1980, empowers the state to detain an individual “in such place and under such conditions...as the appropriate Government may, by general or special order, specify”.
- The detained person may be “removed from one place of detention to another place of detention, whether within the same State or in another State, by order of the appropriate Government”.

### 1.7 Sealed cover jurisprudence

A Bench led by (now) Chief Justice of India D Y Chandrachud criticised the practice of “sealed cover” jurisprudence. In its order issued in ‘Cdr Amit Kumar Sharma v Union of India’ on October 20, 2022, SC called it as setting a “dangerous precedent”, which makes “the process of adjudication vague and opaque”.

#### Sealed cover jurisprudence:

- It is the controversial practice followed by the Supreme Court (and sometimes lower courts as well) of seeking and accepting information from government agencies in sealed envelopes that can only be perused by the judges.
- It is found in Rule 7 of Order XIII (“Copying”) of the Supreme Court Rules, 2013 (notified in May 2014)
- Applicability: When information is connected to an ongoing investigation, and when it involves personal or confidential information.
- Effect: The sealed cover procedure affects the functioning of the justice delivery system both at an individual case- to case level and at an institutional level.
- It denies the aggrieved party their legal right to effectively challenge an order since the adjudication of issues has proceeded based on unshared material provided in a sealed cover. It prevents parties from having a full overview of the charges against them
- It perpetuates a culture of opaqueness and secrecy by bestowing absolute power in the hands of the adjudicating authority.
- It also tilts the balance of power in a litigation in favour of a dominant party which has control over information.
- It also takes away the opportunity to analyse judicial decisions, and to appreciate the rationale behind them.
- The Supreme Court clarified that all information must be not disclosed in the public, example “sensitive information affecting the privacy of individuals such as the identity of a sexual harassment victim”.
- The Supreme Court itself has encouraged the practice of seeking public-interest related information in sealed envelopes such as in the Rafale aircraft case, the court accepted the government’s argument that the matter pertained to the Official Secrets Act.

## 1.8 India's democratic tradition

An Indian Council of Historical Research (ICHR) concept note on Constitution Day has been criticised as an attempt to negate the country's challenge of "caste-based social hierarchy"

The themes chosen by the UGC for the Constitution Day lectures range from "Harappans: the pioneering architects of the democratic system in the world" to "Ancient Indian value system and concept of Kingship" and "Khap Panchayats and Democratic Traditions in Haryana".

### About the note:

- The note, circulated among Union ministries, underlines that the ancient democratic traditions explain the "survival of the Hindu culture and the civilisation in the face of the 2,000 years of invasions by alien ethnicities and cultures".
- Recent archaeological excavations at Rakhigarhi and Sanauli reveal that the roots of people's self-governance date back to at least 5,000 BCE.
- India has been practising democratic traditions since the "Vedic times" when villages developed a hierarchy of self-governing institutions such as panchayats and khaps
- Whether the existence of two kinds of states janapada and rajya or the two assemblies called sabha and samiti forming essential features of the government – all indicate that the ancient form of governance in India was democratic, contrary to the general belief that it was monarchical.
- In India, there was no concentration of the prestige of birth, influence of wealth and political office which made social organisations autocratic and aristocratic, like in Greece.
- The Hindu state rarely presented that high degree of centralisation associated with the Roman empire
- The survival of Hindu culture has become possible because the Hindu mind from the beginning addressed the central question of how to weld this vast multiplicity that is India into a single larger community and from ancient times a geo-cultural definition has been given to this entity, rashtra, Bharata.

### Indian Council of Historical Research (ICHR):

- It is an autonomous organization under the Ministry of Education, Government of India
- It was established in 1972.
- ICHR was registered under Societies Registration Act being an Act for registration of Literary, Scientific and Charitable Societies in India.
- The primary aim and objective is to promote and give directions to scientific research in history and to encourage and foster objective and scientific writing of history.
- Council advises the Government of India on all such matters pertaining to historical research and training in history methodology.
- It consists mainly of eminent historians of the country.

## 1.9 Atal New India Challenge (ANIC)

Atal Innovation Mission of NITI Aayog launched the Women centric challenges under the 2nd edition of Atal New India Challenge (ANIC).

### About:

- ANIC is an initiative by AIM, NITI Aayog.
- It aims to seek, select, support and nurture technology-based innovations that solve sectoral challenges of national importance and societal relevance through a grant-based mechanism of up to ₹1 crore
- The Woman centric challenges address the major issues faced by women from all spheres of life including driving women hygiene through innovation, innovations to improve women's safety, professional networking opportunities for women, innovations that make working mothers' life better, and easing the life of Rural Women.

**Atal Innovation Mission:**

- It is Government of India's flagship initiative to promote a culture of innovation and entrepreneurship in the country.

**AIM's objectives are:**

- To develop new programmes and policies for fostering innovation in different sectors of the economy.
- To provide platform and collaboration opportunities for different stakeholders.
- To create awareness.
- To create an umbrella structure to oversee innovation ecosystem of the country.

**Major initiatives:**

- Atal Tinkering Labs-Creating problem solving mindset across schools in India.
- Atal Incubation Centers-Fostering world class startups and adding a new dimension to the incubator model.
- Atal New India Challenges(ANIC)-Fostering product innovations and aligning them to the needs of various sectors/ministeries.
- Mentor India Campaign– A national Mentor network in collaboration with public sector, corporates and institutions, to support all the initiatives of the mission.
- Atal Community Innovation Center– To stimulate community centric innovation and ideas in the unserved /underserved regions of the country including Tier 2 and Tier 3 cities.
- ARISE-To stimulate innovation and research in the MSME industry.
- AIM-iCREST – an Incubator Capabilities enhancement program for startups.
- AIM-PRIME – to promote and support science-based deep-tech start-ups & ventures with Bill & Melinda Gates Foundation (BMGF).

**1.10 Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)**

The Central government has constituted a committee to review the implementation of the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) scheme, especially to assess the programme's efficacy as a poverty alleviation tool. The committee, headed by former Rural Development secretary Amarjeet Sinha.

**About MGNREGA:**

- It is a poverty alleviation programme of the Government of India, which provides the legal Right to Work in exchange for money to the citizens of the country.
- On average, every day approximately 1.5 crore people work under it at almost 14 lakh sites.
- It aims to enhance livelihood security in rural areas by providing at least 100 days of guaranteed wage employment in a financial year to every household whose adult members volunteer to do unskilled manual work.
- Funding: It is shared between the Centre and the States.
- The Central Government bears 100 per cent of the cost of unskilled labour, 75 percent of the cost of semi-skilled and skilled labour, 75 percent of the cost of materials and 6 percent of the administrative costs.
- Current employment: There are currently 15.51 crore active workers enrolled under the scheme.

**Features of MGNREGA scheme:****Legal Right to Work:**

- The Act provides a legal right to employment for adult members of rural households.

**Women labour force:**

- At least one-third of beneficiaries have to be women. Wages must be paid according to the wages specified for agricultural labourers in the state under the Minimum Wages Act, 1948.

**Time-Bound Guarantee of Work:**

- Employment must be provided within 15 days of being demanded to fail which an 'unemployment allowance' must be given.

**Decentralised Planning:**

- Panchayati Raj Institutions (PRIs) are primarily responsible for planning, implementation and monitoring of the works that are undertaken.
- Gram Sabha's must recommend the works that are to be undertaken and at least 50 per cent of the works must be executed by them.

**Transparency and Accountability:**

- There are provisions for proactive disclosure through wall writings, Citizen Information Boards, Management Information Systems and social audits (conducted by Gram Sabha's).

**Significance of the scheme:**

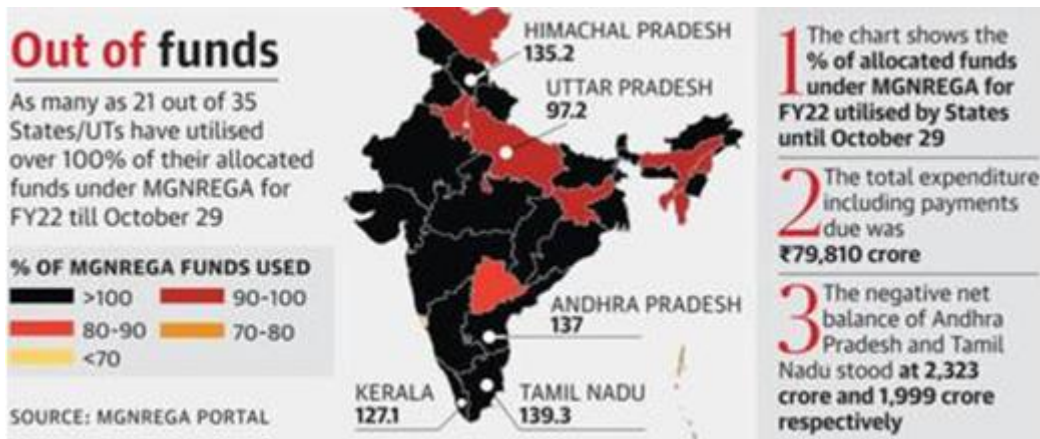
- It is a social security scheme to generate employment for the rural poor and ensure livelihood for people in rural areas.
- The scheme sees large-scale participation of women, Scheduled Castes (SCs) and Scheduled Tribes (STs) and other traditionally marginalised sections of society.
- It increases the wage rate in rural areas and strengthens the rural economy through the creation of infrastructure assets.
- It facilitates sustainable development which is very clear by its contribution in the direction of water conservation.
- The program provided a sigh of relief to millions of migrants and other people who lost their livelihood in the pandemic times. The scheme ensured that the vulnerable get access to basic income thereby decreasing suicide rates in the country.
- The scheme has led to the creation of common community assets. These assets are built by communities on common lands thereby creating a sense of responsibility towards the structure which results in better care.
- For instance, many Johads (percolation ponds) and check dams had remained abandoned for several years in many villages of Karnataka. However, villagers revived them under the MGNREGA.

**Performance of MGNREGA during Covid-19 Pandemic:**

- According to the government data, over 11 crore people worked under MGNREGS during the financial year 2020-21 alone. Few other achievements of the Scheme last year are,
- This is the first time since the launch of the scheme in 2006-07 that the MGNREGS numbers crossed the 11-crore mark in a year.
- Further, the 11 crore mark is also higher by about 41.75% if we compare 2019-20 data (about 7.88 crores worked).
- In 2020-21, the total expenditure was 62.31% higher than in 2019-20.
- As part of the economic package during the Covid-19 pandemic, the government announced additional funding of Rs 40,000 crore for the MGNREGS over and above the budgetary allocation of 2020-21.

**Issues with MGNREGA:**

- Poor maintenance: Many structures created under MGNREGA become defunct due to poor maintenance. This simply implies the wastage of time, energy, and resources.
- Data on the impact of productive assets: The government does not monitor whether a structure has actually helped water conservation. Further, there is no government data on the impact on groundwater levels, improvements in livelihoods etc. post the creation of assets.
- Inadequate Funds: A huge surge in demand for MGNREGA works has been witnessed in pandemic times. But the government hasn't duly allocated funding in a similar proportion.



- Insufficient support: With the unemployment rate reaching a 45-year high at 6%, giving merely 100 days of employment is not sufficient.
- Payment Delays: Despite Supreme Court orders, various other initiatives and various government orders, no provisions have yet been worked out for calculation of full wage delays and payment of compensation for the same.
- Corruption and Irregularities: Funds that reach the beneficiaries are very little compared to the actual funds allocated for the welfare schemes.
- Discrimination: Frequent cases of discrimination against women and people from the backwards groups are reported from several regions of the country and a vast number goes unreported.
- Non-payment of Unemployment Allowance: There is a huge pendency in the number of unemployment allowances being shown in the Management Information System (MIS).

#### Suggestion measures:

- There is a need to carry out social audits as per rules and effective implementation of the delay compensation system.
- The participation of women and backwards classes must be increased by raising awareness and making it more inclusive.
- The people should be sensitised to do away with the discrimination against them.
- Reasons for poor utilisation of funds should be analysed and steps must be taken to improve them.
- In addition, actions should be initiated against officers found guilty of misappropriating funds.
- Villages must also be allowed to take control of their own water security, noting that catchment areas for many villages are on land controlled and owned by the Forest Department.
- The government should provide greater funds for the proper implementation of the scheme. It currently provides 0.47% of GDP while the World Bank recommends 1.7 % for the optimal functioning of the program.
- The frequency of monitoring by National Level Monitors (NLMs) should be increased and appropriate measures should be taken by States based on their recommendations.
- The National Rural Employment Guarantee Act (MGNREGA) 2005 is a milestone in India's history of post-independence social security laws. Made after a successful legal struggle to secure employment, it is a partial victory for the full right of employment in any developing country. An important aspect of this law that distinguishes it from any other public service delivery system is its defeat by the Indian parliament.

Thus, the MNREGA programme has definitely brought about development in rural households, allowing them to access many facilities and improve the quality of their lives.

### 1.11 India's transparency regime

- India's transparency regime is in trouble as the very institution mandated to guard it (Central Information Commission or CIC) has become responsible for its downfall.
- It had passed orders seeking transparency in many cases of public importance.

- However, the present set of Information Commissioners have together adopted a new jurisprudence that has created additional hurdles in a citizen's quest for accountability.

### Central Information Commission:

- Established under the Right to Information (RTI) Act 2005, it is the apex body under India's transparency regime.
- Its most vital mandate is to decide the disclosure or the non-disclosure of information.
- Citizens can file applications under the Right to Information Act with any public body and are guaranteed a reply from the public information officer of that public body within 30 days.
- Under the RTI Act, when an applicant is denied information by a government department, the first appeal is made to the appellate authority in the department. If unresolved, the RTI applicant can move the office of the Central Information Commission (CIC)—for queries related to central government—or State Information Commission.
- Information Commissioners (ICs) appointed to the CIC are equal in status to the Chief Election Commissioner, and that of a Supreme Court judge; having a five-year fixed term and terms of service.
- In its current form, Section 8 of the RTI Act lists ten exemptions, ranging from any information that may hurt national security, impede the process of ongoing investigations to cabinet papers and deliberations of the council of ministers.

### Challenges to RTI:

- Centre's dominance: After the amendments of 2019, the Centre gave itself powers to change and decide these terms whenever it wished, thereby striking at the independence of the commission and those who man it.
- Lack of public welfare orientation: The CIC has become more like a walking dead institution, where records will show that not a single order for disclosure has been forthcoming in matters of public importance.
- Delay in hearings: Cases at the CIC come up for a hearing roughly after a two year wait. If the matter is not already infructuous or lost its significance, one can look forward to the commission deciding one's case.
- In a case seeking disclosure of documents relating to the making of the Unlawful Activities (Prevention) Amendment Act, 2019, the commission has resorted to keeping the matter pending for final order for more than three months now, something which is unheard of.
- Lack of transparency: In matters of public importance, such as cases seeking disclosure of files related to the national lockdown during COVID-19, or the case seeking disclosure of data pertaining to phone tapping orders passed by the Home Ministry, the Commission has adopted a new way of delegating its mandate — to decide cases — to the Ministry before it.
- Vagueness: In most cases, the Ministries reiterate their stand of non-disclosure, most often under vague grounds of national interest.
- Lack of procedure: The CIC refuses to accept any further challenge to such orders, therefore, refusing to do its duty of deciding the cases.
- One of the cardinal rules of natural justice is that no one should be a judge in their own cause.
- However, the commission now allows, or rather wants, the very Ministry that stands accused of violating the RTI Act to act as the judge in their own cause and decide whether a disclosure is necessary.
- Such as, CIC refused to hear the Internet Freedom Foundation's challenge to the fresh non-disclosure order passed by the Home Ministry in the phone tapping case.
- Ultra-virus actions: In another case related to disclosure of non-performing assets and top defaulters of a co-operative bank, the matter was listed out-of-turn to issue a "stay" order against the Bank's First Appellate Authority's order for disclosure. A stay order is unheard of and there is no provision in the RTI Act for the same.
- High number of vacancies: information commissions are purposely deprived of commissioners to scuttle the effective functioning of the RTI Act.

### Suggestions for future:

- Simplicity: Unlike court cases, RTI matters do not involve complex legal arguments and are simple to

adjudicate.

- Reduce pendency: In May 2014, close to 35,000 appeals were pending before the CIC.
- In June 2019, about 31,000 appeals were pending, over 9,000 of those pending for over a year.
- Fill vacancy: Currently, four out of the ten positions of information commissioners are vacant.
- Several information commissions in the states were either non-functional or working at a reduced capacity.
- Prune the exemption list: In an RTI ratings report by the Canada-based Centre for Law and Democracy, India's rank slipped from second position in 2011 to eighth in 2018.
- It flagged blanket exemptions from the RTI to "security, intelligence, research and economic institutes" and "information held by private entities which perform a public function".
- Protect whistle-blowers: In March 2018, Nanji Sondarva was allegedly clubbed to death in Gujarat's Rajkot district after filing an RTI application seeking details of a newly constructed road in his village.
- 84 RTI activists have been murdered since 2005 for seeking information on illegal construction, alleged scams in social welfare scheme.
- CIC as a constitutional body: the RTI is safeguarding a fundamental right guaranteed under the Constitution.
- Article 19 (1)(a) of the Constitution guarantees freedom of speech and expression to citizens, but without the RTI, one cannot express oneself, including while making an electoral choice.
- the Supreme Court has also interpreted RTI as a fundamental right—in 1975 and 1982.
- Political parties under RTI: Political parties are reluctant to share information with citizens.
- The CIC classified political parties as a public authority since they benefit from land allotted by the government at cheap rates, free air time with state broadcasters during elections, and are allowed to claim income tax exemptions.

#### Way forward:

- Citizens must mount intense pressure on authorities to act and appoint commissioners of integrity.
- Lawyers must help willing citizens take matters to court and seek justice.
- If there is a failure to do so, India will lose its cherished right to know.

### 1.12 Safety on digital space

India has one of the youngest youth demographics in the world and is among the most active online.

#### Key facts:

- As online interactions increase, more and more content is created and shared among people, helping them form new and wonderful connections. Sometimes, however, these interactions also make them vulnerable to harm.
- As per the NCRB Data, A total of 50,035 cases in 2020 were registered under cybercrimes, showing an increase of 11.8 per cent in registration over 2019 (44,735 cases).
- In India, an estimated 71 million children aged between 5 to 11 years access the Internet on the devices of their family members, constituting about 14 percent of the country's active Internet user base of over 500 million.
- It should also be noted that two-thirds of internet users in India are in the age group of 12-29 years.

#### About The Information Technology Act, 2000:

- It came into force on October 17, 2000, and contains cyber laws in India.
- The main objective of the Act is to provide legal recognition to electronic commerce and to facilitate the filing of electronic records with the government.

#### Important Sections:

- Section 66E – Publishing obscene images



- Section 67 – Publishes or transmits unsolicited material
- Section 67A – Publishes or transmits explicit sex
- Section 67B – Abusing children online

#### **About the New Information Technology (IT) Rules:**

- The New Information Technology (IT) Rules ensure the online safety and dignity of women users and give a framework to deal with content, including fake content, which results in heinous crimes. Features includes the following:
- Imposes several obligations on online entities including appointing grievance redressal officers and assisting in investigations.
- Provides a set of checks and balances for the removal of unlawful content and information on the internet.
- Empower the ordinary users of social media digital platforms and make intermediaries, including the social media intermediaries, accountable.
- Intermediaries shall remove or disable access within 24 hours of receipt of complaints of contents that exposes the private areas of individuals, show such individuals in full or partial nudity or a sexual act or is in the nature of impersonation including morphed images, etc.

#### **Challenges in the Digital Space:**

- Circulation of Private Pics and Videos: Private pictures of young women are leaked online. Sometimes it is from a hacked account, other times because of a soured relationship.
- It should be no surprise that young men and women are exploring new ways to express their sexuality through sharing intimate images.
- These new social norms have created new forms of abuse where women are usually the victims.
- Anonymity: Digital social spaces provide anonymity, which is great for free speech but can be stifling for nuanced debate and dialogue.
- They fuel the polarization of ideas while providing a free run for peddlers of misinformation.
- Cyberbullying: The impact of online sexual harassment could have long-term negative impacts on their mental health and well-being.

#### **Suggestive measures:**

- Platforms need to design choices that help women stay in control of who they engage with.
- They should leverage open-source technology that detects and blurs lewd images so that women don't need to see unsolicited pictures.
- There is a need to upgrade the existing cyber cells by setting up dark web monitoring cells and social media monitoring cells to tackle different types of cyber along with traditional police recruitments, there is a need to induct technical experts into the police force.
- The States should map the cybercrime hotspots which will help in the quick detection of crimes and taking proactive measures to prevent cybercrimes.
- We need to focus on safety tools and features across the spectrum of websites and apps.
- Public discourse around technology-facilitated abuse has to be elevated.
- There's a need for new codes of ethics that define how tech and society interact to promote societal well-being.
- Users need to go beyond protecting their log-in details and one-time-passwords (OTPs) and enable safety measures such as two-factor authentication.
- This feature can be an effective safeguard against unauthorized access to online accounts; however, very few use it.
- A Comprehensive solutions require a multi-stakeholder approach – tech developers should create responsible products that enable safety and privacy by design, and governments can enact regulations and policies that protect users' rights while promoting healthy competition

## 1.13 Data localisation

The most debated matter in recent times is about data localisation and its associated issues. There is always a tussle going on between the need of data localisation requirements and issues associated with it.

### About Data localisation:

- Data localization is the practice of keeping data within the region it originated from.
- Countries mandate data that are created within their borders to remain stored within its territorial boundaries. This process of storing data locally is referred to as data localisation.
- It mandates that companies collecting critical data about consumers must store and process them within the borders of the country.
- As of now, most of these data are stored, in a cloud, outside India.
- RBI's circular on storage of payment system data: In 2018, RBI had issued a circular wherein it directed all system providers to ensure that within a period of six months, the entire data relating to payment systems operated by them is stored in a system only in India.
- This covered not only card payment services by Visa and MasterCard but also of companies such as Paytm, WhatsApp and Google which offer electronic or digital payment services.
- RBI's barring of Mastercard from issuing new domestic cards has been done under the violation of this circular only.

### Arguments in favour of need for data localisation:

- Strengthens the protection: The requirement of data localisation strengthens the protection of personal data, as all of us while using the internet are sending data in some manner or form.
- General Data Protection Regulation: Obligations under the European Union's General Data Protection Regulation (GDPR), obligates businesses in the EU to keep the data secured within the boundaries of the EU.
- If in any case such data is to be transferred to a different country, they need to have similar protections like those that exist in the EU.
- Countries like Russia on the other hand have stricter laws pertaining to the cross-border flow of data and emphasises keeping data within the Russian Federation.
- Control on the data: The motive for different governments to store data locally is not only to protect the privacy of their citizens but also to exercise their control on the data, which is fuelling and driving businesses in their countries, for law enforcement purposes.
- Data protection Bill: India being one of the most powerful markets in terms of data creation and use, the need for data localisation is essential.
- The recently withdrawn Bill on data protection also emphasised this fact.
- Law enforcement agencies in India face a lot of difficulties in getting timely access to data that may be stored elsewhere by businesses operating in India.
- Payment system data information: Due to the increasing number of digital payments in the country, the Reserve Bank of India has also mandated payment system data information to be stored in India for better monitoring and safety.

### Arguments against Data localisation:

- Data more vulnerable: If governments look at data localisation from the point of security and counter data breaches, it can, due to the forced localisation of data, make data security more vulnerable as the data no longer undergoes sharing.
- Risk of local surveillance: There can also be an increased risk of local surveillance through the implementation of stringent data localisation laws.
- Hindrance of global trade: The present technology-powered age is impacting trade on a different level. Therefore, imposing restrictions in the free flow of data can not only create an impact on the global economy but also become a hindrance for local markets.
- Varied nature of compliances: A lot of countries prohibit transfer of data on the account of 'national

interest' which is a very broad term and could encompass various situations. Such variations can foster a varied set of challenges in different settings and the nature of businesses.

- Increases the operational costs: the mandate of data localisation increases the operational costs of the businesses.
- Promotion of monopoly: Another downside of this could be promotion of monopoly and eradication of small and mid-size businesses from the market.
- High investment and energy costs: Maintaining multiple local data centres may entail significant investments in infrastructure and higher costs for global companies, which is why they are not too supportive of this provision.

**Suggestions for data localisation:**

- Globalization: The 'glocalization' approach is one such method in the digital space, wherein laws can be harmonised globally, but by paying attention to local interests.
- Increasing the efficiency of IT systems: There is no denying the fact that robustness of IT systems should become more important than the geographical location of data storage.
- Growing businesses: The cross-border data flow has proven to be an important pillar of strength for established as well as growing businesses.
- The United Nations Conference on Trade and Development in their Digital Economy Report found that businesses using the internet for global trade have a higher survival rate than those who do not.
- Essential for growth: Data is the enabler of businesses and digitisation that has been essential for growth and innovation.
- Multiple stakeholder approach: A way forward could be to move with a multiple stakeholder approach which can not only help in looking at data localisation alone, but also other issues such as privacy and governance.
- India has a stronger bargaining chip than most nations in pushing for data localisation — access to its billion-strong consumer market.

## 2. International Relations

### 2.1 Black Sea Grain Initiative

Recently Russia pulled out of the Black Sea Grain Deal, which was launched to mitigate food inflation caused by conflict in Ukraine.

#### About Black Sea Grain Initiative:

- The Black Sea Grain Initiative was an agreement between Russia and Ukraine with Turkey and the United Nations.
- It sought to create a safe passage of food grains exported from Ukraine, which is currently in war with Russia.
- Under this agreement, export of grain, food and fertilizers will be allowed to resume from Ukraine via a “safe maritime humanitarian corridor” from three key Ukrainian ports i.e., Chornomorsk, Odesa, and Yuzhny/Pivdennyi.
- A Joint Coordination Centre (JCC) having representatives from signatories of the Black Sea Grain Initiative was set up to implement this deal.

#### Reasons why it was signed:

- Ukraine exports around 45 million tonnes of grain to the global market each year. However, after Russia launched military campaign in February 2022, Ukraine was left with large amount of grains stored in silos unable to be transported to other parts of the world.
- This has severely affected the global supply of grains. With the energy prices and food prices increasing because of the conflict, many countries, especially those in Africa, were at the brink of famine.
- The Black Sea Grain Initiative sought to address these issues.
- By mid-September, over three million tonnes of cargo left Ukraine under this deal.
- About 51 per cent of the total cargo was corn, 25 per cent was wheat, 11 per cent sunflower products, 6 per cent rapeseed and 5 per cent barley.
- The rest of the cargo included soya beans and other food commodities.

#### Current status of the Black Sea Grain Initiative:

- Black Sea Grain deal set to expire on November 19, 2022.
- The renewal negotiations were led by the United Nations throughout October 2022.
- However, Russia pulled out of this agreement on October 29 due to drone attack on its naval ships in the port of Sevastopol.
- Despite Russia withdrawing from the deal, several grain ships continued to depart from ports in Ukraine with support from Turkey and UN.

### 2.2 India Australia relations

- India’s External Affairs Minister travelled to New Zealand and Australia.
- This was the minister’s first visit to New Zealand and second visit to Australia this year .
- He also attended the 13th Foreign Ministers’ Framework Dialogue (FMFD) along with his Australian counterpart.

#### Context:

- Against the backdrop of significant geopolitical turmoil, from Russia’s invasion of Ukraine to China’s continuing harassment of its neighbours and heightened tensions in the Taiwan Strait, India-Australia relations assume greater significance.
- India and Australia do not want to see any one country dominating or any country being dominated.

- India and Australia, both are Quad members and their relations are multifaceted and comprehensive, spanning from maritime security and mutual logistics support to cooperation in cyber-enabled critical technology, critical and strategic minerals, water resources management, vocational education and training, as well as public administration and governance.
- Both are strong, vibrant, secular and multicultural democracies that have a free press and an independent judicial system. Moreover, other connections such as the English language, Cricket, and Indian students coming to Australia for education, are significant elements in awareness at the popular level.

#### **Bilateral relations:**

- The Australia-India relationship is at a high point, underpinned by the Comprehensive Strategic Partnership announced in 2020
- It includes an annual meeting of prime ministers, a foreign minister's dialogue, a 2+2 defence and foreign ministers meeting, a trade ministerial commission, an education council, an energy dialogue, and sectoral working groups.
- It entails significant investments to bolster economic ties announced as part of the India Economic Strategy Update, launched in 2022, and the signing of the Australia-India Economic Cooperation and Trade Agreement.
- India's extraordinary support for Australia in the face of stiff opposition from Russia and China with regard to AUKUS at the International Atomic Energy Agency (IAEA).
- Australia's support to India on India's Nuclear Suppliers Group (NSG) membership as well as on counterterrorism issues.
- Australia-India Council (AIC) was established by the Australian Government in 1992 to broaden and deepen Australia-India relations through contacts and exchanges in a range of fields that promote mutual awareness and understanding.
- Australia will be hosting India at the next Quad Counter-Terrorism Tabletop Exercise in October 2022, while India will be welcoming Australia in the proposed No Money for Terror Conference in New Delhi, scheduled for later in 2022.

#### **Economic:**

- Australia is the 17th largest trading partner of India, while New Delhi is Canberra's 9th largest trading partner. India's goods exports were worth USD 6.9 billion and imports aggregated to USD 15.1 billion in 2021. Major exports to India include coal, copper and gold; major imports from India include refined petroleum, pearls and gems, and medicaments.
- In 2022, India and Australia signed the Economic Cooperation and Trade Agreement (IndAus ECTA) under which both the countries are providing duty free access to a huge number of goods and relaxing norms to promote trade in services.
- A\$5.8 million to the three-year India-Australia Critical Minerals Investment Partnership
- To fulfil its ambitions to lower emissions and meet growing demand for critical minerals to help India's space and defence industries, and the manufacture of solar panels, batteries and electric vehicles, etc.
- supply risks exist due to rare availability, growing demand and complex processing value chain.

#### **Defence:**

- Defense Marles' travel to India in June 2022 shows India's importance in Australia's strategic thinking.
- Indian-built offshore patrol vessel INS Sumedha joined HMAS Anzac to conduct cross-deck landing of helicopters, tactical manoeuvres and a farewell steam-past.
- Indo-Pacific Endeavour 2022, a key regional engagement activity of Australia that runs across Southeast Asia and the northeast Indian Ocean.
- Visakhapatnam will be a port of call
- Indo-Pacific Endeavour began in 2017 as an annual activity to deliver on the promise of the 2016 defence white paper to strengthen Australia's engagement and partnerships with regional security forces.
- The maritime waters between Indonesia and northern Australia are an area of mutual interest to both countries, being a gateway to the Indian Ocean region.

#### **Maritime Exercises:**

- Maritime Partnership Exercise (MPX) off Perth in August 2022 – INS Sumedha participated with HMAS Anzac in the exercise.
- Exercise Pitch Black 2022 between Indian Air Force and Royal Australian Air Force.
- INS Satpura participated in Australia’s naval exercise Kakadu 2022
- Australia has been participating in the Malabar series of naval exercises since 2020

#### **Technology:**

- Australian side extending assistance for the temporary Telemetry Tracking and Command Center for the Gaganyaan Mission of India, which is to take place in 2023.

#### **Diaspora:**

- Australia and India will establish a taskforce to develop qualifications recognition arrangements for Australia and India to enhance two-way mobility, from 2023.
- Australia’s Indian communities make important contributions in business, politics, the judiciary, government, civil society, academia, science, the arts and sport.
- 3% of Australians have Indian heritage and in 2020 the Indian-born population became Australia’s second-largest group of overseas-born residents.
- This community is recognised as having a great sense of civic responsibility and being a rich source of dynamism and enterprise.
- Over \$20 million will be given in Maitri (friendship) initiatives, including a scholars program, a grants and fellowship program and a cultural partnership. The Maitri Scholars Program will attract and support high achieving Indian students to study at Australian universities.
- The Maitri Cultural Partnership will boost the role of creative industries in our economic and people-to-people ties.

#### **Way forward:**

- A tricky issue in India’s engagement with Australia as well as its other new security partners is the Russia question. So far, it has not affected the functioning of the Quad.
- The India Economic Strategy is an ambitious plan to transform Australia’s economic partnership with India out to 2035.
- For the time being, Australia and other partners maintain an understanding of the Indian position, but India needs to be careful in not pushing that beyond a point.
- The growing congruence between the two sides must be shaped by their “shared concerns about respect for international law and a rules-based order.”

### **2.3 India-Kyrgyz Republic relations**

Recently, the 10th Session of the India-Kyrgyz Republic Inter-Governmental Commission on Trade, Economic, Scientific and Technological Cooperation (IKIGC).

#### **Historical ties:**

- Historically, India has had close contacts with Central Asia, especially countries that were part of the ancient Silk Route, including Kyrgyz Republic.
- During the Soviet era, India and the then Kyrgyz Republic had limited political, economic and cultural contacts.

#### **Anniversary of Diplomatic relations:**

- India was among the first Nations to establish a diplomatic relationship with the Kyrgyz Republic in March 1992
- The 2022 marked the 30th anniversary of diplomatic relationships between the two nations.

**Strategic relationship:**

- The visit of the Indian Prime Minister to the Kyrgyz Republic in June 2019 had raised the relationship between two nations to the level of strategic partnership.
- The 10th India- Kyrgyz Republic Foreign Office Consultations took place in Bishkek on 20 April, 2019.

**International ties:**

- Political ties with the Kyrgyz Republic have been traditionally warm and friendly.
- Kyrgyz Republic supported India in securing full membership in the Shanghai Cooperation Organization (SCO) and also supports India's bid for permanent seat at UNSC.
- Both countries share common concerns on threats of terrorism, extremism and drug-trafficking.

**Trade and Commerce Cooperation:**

- The India- Kyrgyz Republic Inter-Governmental Commission on Trade, Economic, Scientific and Technological Cooperation was set up in 1992.

**Connectivity:**

- Connectivity remains one of the biggest challenges for trade between India and Kyrgyz Republic.

**Technical assistance:**

- Technical assistance under the Indian Technical and Economic Cooperation (ITEC) Program, particularly in terms of human resources development, is an important component of India's economic involvement in Kyrgyz Republic.

**Defence Cooperation:**

- Agreement on Defence Cooperation, signed in July 2015, has been an important milestone that has laid the framework for defence cooperation between the two sides.
- Joint Special Forces Exercise KHANJAR has now become an annual affair.
- The sixth 'Khanjar' exercise was conducted between Indian and Kyrgyz Special Forces in March, 2019 in Bishkek.
- Fifth exercise was conducted in India in CIJW School, Varaingte (Mizoram) in 2018.

**India – Kyrgyzstan Joint Special Forces Exercise, 2022:**

- The 9th Edition of this exercise was recently concluded in April 2022.
- Besides sharing special skills and techniques between participating Special Forces contingents, the joint training further strengthened the existing bond between India and Kyrgyzstan.

**Cultural ties:**

- There is a great appreciation for Indian culture.
- Kyrgyz Republic has established an India Study Centre in the prestigious National Library of Kyrgyz Republic on 14 November 2014.
- The Centre is running with the help of volunteers and imparts training in English and Hindi languages, Yoga and Kathak.
- Another centre has been opened in Kara Balta, near Bishkek. Numerous Kathak, yoga, Indian dance, fusion music and Bollywood workshops/concerts have been organized to propagate and popularise Indian culture and traditions.

**Indian Community:**

- About 4500 Indian students are studying medicine in various medical institutions in Kyrgyzstan. A few businessmen are engaged in trade and services in Kyrgyzstan.

**Significance India- Kyrgyzstan relations:**

- Kyrgyzstan is important for India's Central Asian policy and connectivity plans and the India-Central Asia

Dialogue forum.

#### **INDIA-CENTRAL ASIA DIALOGUE:**

- It is a ministerial-level dialogue between India and the Central Asian countries namely Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan.
- All these Central Asian countries gained independence after collapsing of USSR.
- All the countries participating in the dialogue, except for Turkmenistan, are also members of the SCO.
- The dialogue focuses on several issues including ways to improve connectivity and stabilize war-ravaged Afghanistan.
- Recent Development between India and Central Asia Relations:
- India has a USD 1 billion Line of Credit for projects in Central Asia.
- To improve connectivity by using the Chabahar Port for enhancing trade between the two sides.
- The Turkmenistan-Afghanistan-Pakistan-India (TAPI) gas pipeline.
- International North-South Transport Corridor (INSTC) in combination with Ashgabat Agreement on International Transport and Transit Corridor (ITTC) is enhancing connectivity between India and the Central Asian countries.
- India assisted by supplying Covid-19 vaccines and essential medicines during the early stage of the pandemic.
- In January 2022 the Prime Minister of India hosted the first India-Central Asia Summit in virtual format.

#### **2.4 Counter-Terrorism diplomacy**

- India decided to host the special session of the United Nations Security Council's Counter-Terrorism Committee (UNSC-CTC) which focused on new and emerging technologies
- India will also host the third edition of the "No Money For Terror" (NMFT) conference that will look at tackling future modes of terror financing.
- India will chair a special briefing on the "Global Counter Terrorism Architecture" at the end of two-year term of India's Presidency of UNSC

#### **Context:**

- There are many examples of terrorism and their post-terror responses such as U.S.'s flattening of Afghanistan post-9/11, Pakistan's aerial strikes on its own populations in Swat and Balochistan, India's crossing of the UN-monitored Line of Control after the Uri attack (September 2016) and missile strikes on Pakistani territory (Balakot in 2019) after the Pulwama suicide bombing (February 2019), or Israel's relentless bombardment of buildings in Gaza in retaliation for rocket attacks.
- The hard reality for India is that the future of counter-terrorism cooperation is going to be less cooperative, and counter-terror regimes such as the UNSC Resolutions 1267, 1373, etc. rendered outdated and toothless.
- Weak international reaction to the Taliban's takeover of Kabul, and its persecution of women and minorities in the country, demonstrate rising fatigue levels in dealing with "another country's problems".

#### **UNSC's role:**

- Resolution 1267 – is a global list of terrorists and was adopted in 1999.
- China has been blocking proposals by India and the United States to designate Pakistan-based terrorists on the list.
- Resolution 1373 – adopted in 2001 in the aftermath of the September 11 attacks to establish a dedicated Counter Terrorism Committee (CTC).

#### **Counter Terrorism Committee:**

- It is a subsidiary body of the UNSC.
- It has 15 members and aims to increase the ability of states to fight terrorism.



- It is not a sanctions body nor does it maintain a list of terrorist groups or individuals.
- In 2004 Resolution 1535 was adopted, creating the Counter-Terrorism Committee Executive Directorate (CTED) to provide the CTC with expert advice and technical assistance

#### Challenges:

- Global War On Terrorism (GWOT) was conceived by a post-9/11 United States
- During IC-814 hijacking in Dec 1999, India was forced to release all terrorists to the al-Qaeda leadership and no help was received from US. However, later, US negotiated with Taliban and withdrew from Afghanistan.
- Pakistan's role as the U.S.'s ally, and China's "iron friend" ensured that the UNSC designations of those who threatened India the most, including Masood Azhar and Hafiz Saeed, never mentioned their role in attacks in India.
- Pakistan has recently been removed from Financial Action Task Force (FATF)'s grey list.
- Growing polarisation and inequality
- Growing global polarisation over the Russia-Ukraine war is shifting the focus from terrorism and also blurring the lines on what constitutes terrorism.
- The polarisation has rendered UNSC paralysed because it is unable to pass any meaningful resolutions that are not vetoed by Russia or western members
- For example, Russia claims that the U.K. helped Ukraine launch drone attacks on Russia's naval fleet.
- On the other hand, drone attacks by Yemeni Houthis on the UAE and Saudi Arabia's oil infrastructure were condemned as terrorist attacks.
- China has been able to block as many as five terror designations requested by India and the U.S.

#### Slow progress:

- India's proposal, of 1996, of the Comprehensive Convention on International Terrorism (CCIT) – very little progress has been made on issues such as the definition of terrorism, concerns over human rights law conflicts, and the old debate on 'freedom fighter vs terrorist'.

#### Emerging technologies:

- Weaponisation of mechanisms for terrorism purposes such as drones being used to deliver funds, drugs, weapons, ammunition and even improvised explosive devices.
- Use of biowarfare, and Gain-of-Function (GoF) research to mutate viruses which could be released into targeted populations.
- Use of artificial intelligence (AI) systems and robotic soldiers to perpetrate mass attacks while maintaining anonymity.
- Terror financing uses bitcoins and cryptocurrency
- Terror communications use social media, the dark web and even gaming centres
- State-sponsored terrorism: Pakistan, Iran and North Korea are the most obvious examples of countries where the establishment has supported terrorist groups carrying out cross-border strikes, drone attacks and cyberwarfare.
- Next drivers of strike will be global inequity, food and energy shortages, climate change and pandemics.

#### Way forward:

- Global stakeholders are at present distracted by territorial disputes and narrow political differences.
- Unless there is global consensus on regulating the use of these emergent technologies by all responsible states, it will be hard to distinguish their use from those by designated terror entities, or state-sponsored terrorism.
- Terrorist acts of the future will grow more and more lethal, will need fewer people to carry out, and with their sponsors having more and more anonymity.
- India, as host of these counter-terrorism events, and of the Shanghai Cooperation Organization (SCO) and the next G-20, must stop fighting the "last war" on terrorism, and steer the global narrative towards preparing for the next ones.

## 2.5 European Securities and Markets Authority (ESMA)

The European Union's financial markets regulator European Securities and Markets Authority (ESMA) said it will withdraw recognition of six Indian clearing bodies or central counterparties (CCPs).

### These six CCPs are:

- Clearing Corporation of India (CCIL),
- Indian Clearing Corporation Ltd (ICCL),
- NSE Clearing Ltd (NSCCL),
- Multi Commodity Exchange Clearing (MCXCCL),
- India International Clearing Corporation (IFSC) Ltd (IICC) and
- NSE IFSC Clearing Corporation Ltd (NICCL).
- As per the European Market Infrastructure Regulations (EMIR), a CCP in a third country can provide clearing services to European banks only if it is recognized by the ESMA.

### Role of these CCPs:

CCPs perform two main functions as the intermediary in a market transaction:

- Clearing and settlement
- Guarantee the terms of a trade.
- CCP is a system provider, who by way of novation interposes between system participants in the transactions admitted for settlement, thereby becoming the buyer to every seller and the seller to every buyer, for the purpose of effecting settlement of their transactions.
- A CCP is authorised by the RBI to operate in India under Payment and Settlement Systems Act, 2007.

### About ESMA:

- The European Securities and Markets Authority (ESMA) is an independent European Union (EU) Authority that contributes to safeguarding the stability of the EU's financial system by enhancing the protection of investors and promoting stable and orderly financial markets.

### ESMA is the direct supervisor of specific financial entities:

- Credit Rating Agencies (CRAs)
- Securitisation repositories (SRs)
- Trade Repositories (TRs)
- These entities form essential parts of the EU's market infrastructure.

### Reason for derecognition:

- The decision to derecognise Indian CCPs came due to 'no cooperation arrangements' between the ESMA and Indian regulators:
- the Reserve Bank of India (RBI),
- the Securities and Exchange Board of India (SEBI) and
- the International Financial Services Centres Authority (IFSCA).
- The ESMA wants to supervise these CCPs, which the Indian regulators are not in favour of as they feel that these entities have robust risk management and there is no need for a foreign regulator to inspect them.

### Impact of Derecognition:

- These CCPs will no longer be able to provide services to clearing members and trading venues established in the EU.
- The derecognition will impact the lenders as they will not be able to provide clearing and settlement facilities to their clients.
- They will also have to set aside additional capital to trade in the domestic market.
- Of the total foreign portfolio investors (FPI) registered in India, close to 20 per cent are from Europe.

## 2.6 Cross-border electricity trade

- In a boost to India's efforts to create a regional power grid, cross border electricity trade has been taking place on the Indian Energy Exchange (IEX).
- Central Electricity Regulatory Commission has issued the notification of CBET (Cross-border electricity trade) Regulations in the year 2019.
- CBET Rules were notified in March 2021 by the Central Electricity Authority (CEA).
- Nepal is the first country to avail the benefit of buying day ahead power from power exchange.

### About Central Electricity Regulatory Commission

- It is a statutory body functioning with quasi-judicial status under the Electricity Act 2003.
- CERC is a key regulator of the power sector in India and is headquartered in New Delhi.
- CERC is constituted for rationalization of electricity tariffs, transparent policies regarding subsidies, promotion of efficient and environmentally benign policies, and for matters connected Electricity Tariff regulation.

### About Central Electricity Authority:

- It is a statutory organization constituted in 1951 and works as per the Electricity Act 2003.
- New Delhi is the headquarters of the Central Electrical Authority.
- The Central Electricity Authority of India (CEA) advises the government on policy matters and formulates plans for the development of electricity systems.
- The CEA is also responsible for concurrence of hydro power development schemes of central, state and private sectors.

### About (Cross Border Trade of Electricity) Regulations, 2019:

- These regulations shall be applicable to the Participating Entities in India and the neighboring countries which are engaged in cross border trade of electricity with India.
- Cross border trade of electricity between India and the neighboring country shall be allowed through mutual agreements between Indian entities and entities of the neighboring country under the overall framework of agreements signed.
- The Designated Authority appointed by the Ministry of Power, Government of India shall be responsible for facilitating the process of approval and laying down the procedure for import and export of electricity.
- Transmission Planning Agency shall be responsible for planning of transmission systems for the purpose of facilitating cross border trade of electricity.
- For India, this function shall be discharged by the Designated Authority.
- Settlement Nodal Agency shall be responsible for settling all charges pertaining to grid operations including operating charges, charges for deviation and other charges related to transactions with a particular neighboring country.
- Central Transmission Utility shall be responsible for granting long-term access and medium-term open access with respect to cross border trade of electricity.
- The National Load Dispatch Centre shall be responsible for granting short-term open access.
- It shall act as the System Operator for cross border trade of electricity between India and the neighboring countries and
- Tariff for import of electricity by the Indian Entity shall be determined through a process of competitive bidding as per the Tariff Policy.
- Tariff for export of electricity to entities of a neighboring country by the Indian entities through long-term or medium-term or short-term agreements or discovered through competitive bidding.
- Where the tariff for import or export of electricity is mutually agreed the same shall be final.

### India's Power Exchange with Neighbouring Countries:

#### India-Nepal:

- Nepal started optimally meeting its dry season demand by trading in India's day-ahead market since April

2021.

- Nepal Electricity Authority started selling surplus monsoon electricity through competition in the day-ahead market since June 2022.
- According to the NEA, between May and August, over 780 million of electricity have been sold in the Indian market, earning about ₹7.2 billion.

#### **India-Bhutan:**

- Bhutan started trading on the Indian Day ahead market in January 2022, importing power for a maximum of 400 megawatt (MW) for import during the lean season.

#### **India-Bangladesh:**

- Bangladesh stands to benefit from CBET with India when it participates in India's power market.
- Through CBET, Bangladesh can import power from India, with the pricing of this energy being optimized through the country's participation in spot markets.
- By importing green power from across the border, Bangladesh's current reliance on fossil fuel-fired power plants can decrease, and in time may usher more investments and efforts into growing the contribution from RE in its own energy mix.

#### **Benefits of Cross-border Electricity Trade: An integrated south as power market has many benefits including:**

- Enhanced energy access and security
- Integrated Power Market

#### **Competitive power prices:**

- Transparent and efficient power procurement
- Resource optimisation

#### **Way Forward:**

- As more of India's neighboring countries begin to participate in CBET, a South Asian power market will emerge which will allow for a price discovery that will be unique for the region.
- CBET will prove to be mutually beneficial for all participating countries and usher in economic and sustainable development to the entire region.
- India is moving towards its ambitious global electricity grid plans to roll out "One Sun, One World, One Grid" (OSOWOG).

## **2.7 Moscow Format Consultations on Afghanistan:**

Recently India participated in the fourth meeting of the Moscow Format Consultations on Afghanistan 2022 held in Moscow. The meeting saw participation from special envoys and senior officials from Russia, China, Pakistan, Iran, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan.

#### **About Moscow Format Consultations on Afghanistan:**

- The Moscow Format Consultations on Afghanistan, launched in 2017, is a regional platform on Afghanistan involving the special envoys of Russia, Afghanistan, India, Iran, China, and Pakistan.
- Its mandate is to facilitate political reconciliation between the then-internationally backed Kabul government and the Taliban, establish peace, and ensure regional security.
- Moscow assumed the lead in this process based on its national concerns and interests in Afghanistan, most notably on two key issues.
- The first issue was centred around the potential threats due to the spread of instability, violence, and extremism in Afghanistan and the rest of Central Asia.
- The second was related to the growing inflow of Afghan heroin to the Russian market. Geopolitical interests related to Moscow's opposition to any US or Western security presence in Central Asia

undergirds Russia's motives to lead such processes.

- April 2017 saw the first round of consultations with Russia, Afghanistan, India, Iran, Kazakhstan, Kyrgyzstan, Pakistan, Tajikistan, Turkmenistan, and Uzbekistan in attendance.
- Five years later, on November 16, 2022, all of these countries—minus Afghanistan—were invited.

## 2.8 India's foreign policy

- In recent years, there has been an unprecedented change in India's foreign policy. The issues of Masood Azhar, the surgical strike, or the Indo-China tension all involved India's foreign policy holders executing their work effectively.
- India is one of the most ancient civilizations in the world and from ancient times, India's foreign policy remained independent whether it was the Mauryan Empire, the Gupta Empire or the Mughal Empire.
- The British were the determinants of India's foreign policy during the colonial period, who used India for their benefit. But after independence, India's foreign policy is again fulfilling Indian interests.
- Today, India is in selected countries of the world in military field, space, religious culture etc. and India has used them better in its foreign policy formulation

Determinants of India's foreign policy:

### Geographical factors: –

- India occupies a central position in Asia and occupies the largest area in South Asia. In such a situation, any big incident in the whole of Asia affects India.
- The Himalayas are like sentinels of India which play an important role in determining relations with other Himalayan countries such as Nepal, Bhutan, Myanmar.
- But the desire of China to maintain its dominance in the region continuously since 1962 has a clear impact on India's foreign policy, which has recently shown a change in relations with Nepal.
- Along with this, India has a natural edge in the Indian Ocean. India's dominance over the Indian Ocean is necessary to become an important power of the Indian-Pacific region.

### Government System:

- India has a democratic governance system that inspires many countries of the world to accept Indian ideology.
- For example, ASEAN countries plagued by China look towards India because India's democracy follows the principle of peaceful coexistence.
- But many times, in the parliamentary system, the role of state governments is also important in determining foreign policy, it becomes more important if there is a coalition government at the centre, as was shown in the Tamil issue in Sri Lanka and the 2005 US Nuclear Deal.

### Economic Development:

- Economic sovereignty is of utmost importance in determining foreign policy. Like its policy, India had to open its markets in 1991, but after that India has become very strong financially.
- India's economic growth has attracted many countries. Today, India is an important energy consumer, with countries like Turkmenistan, Iran Russia having economic alliances with India. But still the negative trade balance with China remains India's main problem.

### Military power:

- Today India is the third most powerful country in the Army, fourth in the Air Force and sixth in the Navy.
- At the same time, India is rich in nuclear power. Everyone knows India dominance in space. In such a situation, they play an important role in the foreign policy making of India.

### Population:

- India is currently the second most populous and youngest country in the world, so India is becoming a consumption-oriented country, in such a situation it will fulfil the need of a big market for all the

producing nations, which is the determinant of foreign policy. But with such a large population, problems like hunger, poverty are evident on India's foreign policy.

- Many times, there has been a dispute in the World Trade Union between India and America about the government's intervention in agricultural subsidies.

#### **Culture:**

- History and culture can be seen as important in the formulation of India's foreign policy. Kautilya's theory of a powerful kingdom with the ideals of Buddha and Gandhi shows the path of India.
- India's civil-civilian religious relationship is well established from many countries of the world where there are Hindu, Islam, Christian, Buddhist majorities.

#### **Regional Environment:**

- Regional events are also important in determining foreign policy. For example, in 1971, the alliance of China, US and Pakistan brought a crisis situation for India, then India got inclined towards Russia.
- At present, the increasing dominance of China is also a reason for intensification of India-US relations. India has increased India's capacity and power with Look East to Act East policies and China's rise in ASEAN.

#### **Global environment:**

- After globalization, when the whole world connected with each other, global factors also became important in determining foreign policy. India may oppose the move to withdraw from the Paris Agreement on environment issues, even if there is cooperation between India and America.
- After the Second World War, the world order has changed in many ways, keeping in mind that India tries to reform the UN Security Council.

#### **Panchsheel Principles:**

- The Five Principles of Peaceful Coexistence are principles first mentioned in the Sino-Indian Agreement, 1954 and publicly formulated by Zhou Enlai.
- These principles would later become the basis of the Non-Aligned Movement.
- The Panchsheel Agreement was signed by Prime Minister Jawaharlal Nehru and Premier Zhou Enlai.
- These principles, also known as Panchsheel, are listed as
- Mutual respect for each other's territorial integrity and sovereignty,
- Mutual non-aggression,
- Mutual non-interference in each other's internal affairs,
- Equality and cooperation for mutual benefit, and
- Peaceful co-existence.

#### **Recent Developments in India's foreign policy:**

- Key Turning Points in Foreign Policy
- The Pokhran nuclear tests, the India-China war, and the Galwan Valley clashes were perceived as key turning points in India's foreign policy.
- Biggest Inter-state Foreign Policy Challenge
- Border conflicts with China were seen as India's biggest inter-state foreign policy challenge – even surpassing conflicts with Pakistan.
- Terrorism and border conflicts with Pakistan remained important challenges for India's foreign policy.
- The majority of respondents also indicated that India's foreign policy of not engaging with Pakistan benefited regional peace and stability.

#### **India-USA Relationship:**

- The USA was seen as the second-most trusted partner since its Independence,
- 85% of respondents thought the USA will be India's leading partner in the next 10 years;
- 83% of respondents also agreed that the USA support will be crucial to India's rise.

### **Russia-India Relationship:**

- Many respondents indicated optimism for Russia, despite its invasion of Ukraine; 43% saw Russia as India's most reliable partner since Independence.
- But many showed their awareness of broader geopolitical changes.
- For instance, an overwhelming majority agreed that India's economic ties with Russia are limited and expressed concerns about strengthening Russia-China ties, and India and Russia drifting away from one another.
- When it came to India's leading partner in the next 10 years, Russia was ranked third, behind the US and Australia.

### **Indian interests as the driver of foreign policy:**

- Indian interests remained the driver for such a perception.
- For instance, Indian youth preferred non-alignment and neutrality if US-China tensions increase.
- But responses changed when Indian interests were at stake: 73% said that India should align with the US to countervail China.

### **Importance of Regional Power:**

- In a multipolar, more uncertain world order, regional powers are growing in importance.
- Quad found limited enthusiasm among respondents but some members such as Australia and Japan enjoyed a significant positive perception.
- Japan was seen as the most important Indo-Pacific partner in the future, followed by Australia.

### **Strategic Importance to India's neighbourhood:**

- Despite India's rising stakes in the new world order, young people attached strategic importance to India's neighbourhood.
- Respondents believed India defined its neighbourhood efficiently and followed an adequate foreign policy across all the sectors – security, trade, and culture.

### **Way Forward:**

- Investing in the South Asia and Indian Ocean Region: There is a need to increase political engagements and infrastructure and connectivity projects across the region. So, India needs to continue investing in South Asia and the Indian Ocean region.
- Multilateralism: It should be India's preferred mode of engagement with other countries. There is a strong urge for multilateral reforms – 91% of respondents supported India's bid for a permanent seat at the United Nations Security Council.
- The foreign policy of a country is often driven by popular perception. It is, therefore, important to understand how young people perceive foreign policy goals as they are important stakeholders, an even more critical process in a young nation such as India.

## **2.9 GREEN MARITIME**

Recently, the 8th Norway-India Joint Working Group Maritime meeting was held in Mumbai.

### **About Indo-Norway joint effort for GREEN MARITIME Sector:**

- Maritime trade with Norway dates back to 1600.
- Norway has the technical expertise in Maritime sector and India has huge potential for development of Maritime sector and large pool of trained seafarers, which make both countries natural complementary partners.
- The 7th JWG on Maritime was held in Oslo in 2019 and issues regarding cooperation in Shipbuilding, enhancing skills of seafarers and environment friendly ships were discussed.

### **Recent Developments in green maritime sector:**

- During the 8th Meeting Discussion was held on use of alternative fuels like green ammonia and hydrogen for futuristic shipping.
- Norway stated that it is committed to India for zero emission solutions.
- The Indian side has requested Norway to extend Ship Board training and Ship Board training in the area of Polar Water Navigation.
- The Norwegian delegation will take part in INMARCO, the Green Shipping Conclave, and the Maritime ShEO conference.
- The Maritime ShEO conference is supported by Norway and focused on maritime diversity and sustainability, including gender equality in the maritime industry.
- Green Voyage 2050 Project: India Norway is part of Green Voyage 2050 project, both parties agreed on willingness, devotion, partnership and capacity building for achieving common goals.
- Hong Kong Convention: India is a signatory to Hong Kong Convention for Recycling of Ships.
- In the 8th meeting, India requested that EU regulation should not hinder recycling to non-European countries which are compliant as per International Convention.

### **Maritime Industry in India:**

- India has 12 major and 200 non-major/intermediate ports (under state government administration).
- Jawaharlal Nehru Port Trust is the largest major port in India, while Mudra is the largest private port.
- India is one of the world's top 5 ship recycling countries and holds 30% share in the global ship recycling market.
- Approximately 95% of the country's trade by volume and 68% by value is moved through Maritime Transport.
- The overall installed capacity of the major ports in India has increased over 76% to reach 1,561 MTPA in Mar 2021, vis-a-vis 872 MTPA in March 2014.

### **Challenges of Maritime Industry:**

- Unsustainable extraction from marine resources, such as unsustainable fishing, exploited by illegal, unreported, and unregulated fishing.
- Physical alterations and destruction of marine and coastal habitats and landscapes due largely to coastal development, deforestation, and mining.
- Unplanned and unregulated development in the narrow coastal interface and nearshore areas has led to the marginalization of poor communities, and loss or degradation of critical habitats.
- Marine pollution, for example, in the form of excess nutrients from untreated sewage, agricultural runoff, and marine debris such as plastics.
- Impacts of climate change, for example, in the form of both slow-onset events like sea-level rise and more intense and frequent weather events.
- Ineffective governance institutions, inadequate economic incentives, technological advances, lack of or inadequate capacities, lack of full implementation of the United Nations Convention on the Law of the Sea (UNCLOS) and other legal instruments, and insufficient application of management tools have often led to poorly regulated activities.

### **Government of India Initiatives:**

- MoPSW (Ministry of Ports, Shipping and Waterways) is working diligently to develop the Maritime Sector as a goal of Maritime India Vision (MIV) 2030.
- Sagarmala Project: Vision of the Sagarmala Programme is to reduce logistics cost for export-import and domestic trade with minimal infrastructure investment.

### **Coastal Economic Zones (CEZ):**

- The government identifies 14 CEZs in the National Perspective Plan for Sagarmala Programme.
- CEZs aims to promote exports by providing infrastructure and facilities to entrepreneurs to set up businesses and industries near Ports.



- Indian Ocean Rim Association: India has been taking active participation in the IORA for promotion of the blue economy in Indian Ocean littoral states.

#### **Matsya Sampada Yojana:**

- It is a flagship scheme for focused and sustainable development of the fisheries sector in the country.
- It will bring about the Blue Revolution by harnessing fisheries potential in a sustainable, responsible, inclusive and equitable manner.
- Polymetallic Nodules (PMN): India has received the sanction from International Seabed Authority for deep-sea mining in the Central Indian Ocean.

#### **Way Ahead:**

- India needs to develop maritime trade among BIMSTEC nations and tie-ups / MoUs with other maritime countries. There is clear potential to further improve the Ease of Doing Business (EoDB) in the shipping ecosystem by a more comprehensive integration of technology. Modernizing Major Ports infrastructure through PPP model.

## **2.10 G20 presidency**

India is assuming its G20 presidency for a year which is a significant development for India.

#### **Context:**

- G20 comprises 20 of the world's largest economies, which represent around 85 per cent of the global GDP, over 75 per cent of international trade, and about two-thirds of the world population.
- India will join a small group of developing nations, which includes Mexico, China, Argentina, Saudi Arabia and Indonesia, that have assumed presidency of the group since the G20 started its annual apex-level summit after the 2008 global financial crisis.
- For the first time, the 'Troika' will comprise only developing nations.

#### **What is G20 Troika:**

- At the G20, the member holding the rotatory presidency every year, works together with its predecessor and successor and is together known as Troika.
- Aim: to ensure continuity of the agenda of G20.
- Currently Italy, Indonesia, and India are the Troika countries (all developing nations).
- India's successor will be Brazil.

#### **Significance for India:**

- Unique opportunity to look at developments from the perspective of the developing world, turning the tables on the developed country members that have largely set the tone of discussions at the G20.
- Important issues such as food security, rising interest rates, indebtedness among some developing countries, the digital economy or climate change, is likely to be viewed keeping its effect on the poor and the vulnerable strongly in consideration.
- The G20 Presidency is a symbol of honour that comes with presiding over the world's premier forum for global economic cooperation.

#### **Challenges to G20 Troika:**

- Russia-Ukraine war is continuing to wreak havoc on the global economy, disrupting supply chains and creating shortages of food and other essentials. On account of this, member countries continue to be split over the sanctions to be imposed against Russia.  
Unity: Internal governance reform is the need of the hour and India has to give thrust to inclusiveness and unity. This will help in thrashing out a consensus that will go a long way in setting a pragmatic, substantive agenda for the forum.

- Climate financing: developed countries have to be prodded for transfer of clean technologies and renewable energies to medium and low-income countries and India must showcase its exceptional solar energy record while doing so.
- The global economy is in the doldrums and there's financial instability across the world. Hence, India has to chalk out a roadmap to deal with the situation by teaming up with the International Monetary Fund (IMF), Organisation for Economic Co-operation and Development (OECD), World Trade Organisation (WTO), and the Financial Stability Board.
- Other challenges include taking measures to ensure global food security. India must talk tough on a "code of conduct" for all G20 members and see to it that it is enforced.

#### **Suggestions for future:**

- Russia- Ukraine War: India's decision to stay diplomatically close to the developed countries, such as the US, the UK, the EU, Japan and South Korea, who are calling for increased action against Russia, while continuing to maintain strong trade ties with Moscow, puts it in a unique position of communicating smoothly with both sides.
- The Leaders' Declaration, based on consensus, was an achievement, as several features are of note, especially those on current political tensions, economic crises and climate change.
- On climate change: Commitments to achieve global net zero greenhouse gas emissions (carbon neutrality) around mid-century and keeping to the 1.5°C temperature limit must be attained.
- Developed countries must be reminded to fulfil their previous commitment to mobilise \$100 billion per year "by 2020 and through to 2025".
- The value of digital technology for multiple sectors — sustainable agriculture, trade, job creation, human capacity development, and inclusive industrialisation — must be reiterated, especially for developing countries.
- It is necessary to acknowledge the impact evident in the economic downturn, increasing global poverty and the delay in achieving the Sustainable Development Goals.

#### **Way forward:**

- India's G20 priorities, as stated by the government, are inclusive, equitable, and sustainable growth, women's empowerment, digital public infrastructure, and tech-enabled development, climate financing, global food security and energy security, among others.
- This is the moment when India can step forward and transition from being a rule-taker to being a rule-maker.

## 3. Economy

### 3.1 Purchasing Managers' Index

- India's manufacturing industry remained robust and expanded at a faster pace indicating a strong improvement in the health of the sector.
- The seasonally adjusted S&P Global India Manufacturing Purchasing Managers' Index (PMI) rose to 55.3 in October from 55.1 in September
- Predictions of better sales and marketing efforts were among the reasons cited for upbeat projections.

#### About:

- Business volumes rose and led to the hiring of extra workers
- Manufacturing employment rose
- Factory orders increased.
- Rise in input purchasing
- Capacities were again expanded to accommodate for improving sales.
- Consumer goods was the best-performing category.
- The overall rate of cost inflation was the second-weakest for two years.
- A modest increase in input lead times.

#### About PMI:

- PMI or a Purchasing Managers' Index (PMI) is an indicator of business activity — both in the manufacturing and services sectors.
- It is a survey-based measures that asks the respondents about changes in their perception of some key business variables from the month before.
- It is calculated separately for the manufacturing and services sectors and then a composite index is constructed.
- The index is compiled by S&P Global from responses to questionnaires sent to purchasing managers in a panel of around 400 manufacturers.
- The PMI is derived from a series of qualitative questions. Executives from a reasonably big sample, running into hundreds of firms, are asked whether key indicators such as output, new orders, business expectations and employment were stronger than the month before and are asked to rate them
- A figure above 50 denotes expansion in business activity. Anything below 50 denotes contraction.
- Higher the difference from this mid-point greater the expansion or contraction. The rate of expansion can also be judged by comparing the PMI with that of the previous month data. If the figure is higher than the previous month's then the economy is expanding at a faster rate. If it is lower than the previous month then it is growing at a lower rate.
- The PMI is usually released at the start of the month, much before most of the official data on industrial output, manufacturing and GDP growth becomes available. It is, therefore, considered a good leading indicator of economic activity and of industrial output
- Central banks of many countries also use the index to help make decisions on interest rates.
- The PMI also gives an indication of corporate earnings and is closely watched by investors as well as the bond markets.

### 3.2 Technology for farmers

- The Prime Minister highlighted that the initiatives like Kisan Rail, DBT transfers, Soil Health Cards, e-NAM, and neem coating of urea, have integrated and scaled-up technology in agriculture during the PM Kisan Samman Sammelan which was held recently.
- He also highlighted drones are another such revolutionary technology to add to farmers' prosperity and dignity.

- As per the latest report by the World Economic Forum (WEF), drones have the potential to be the harbinger of the “technology-led transformation” of Indian agriculture.
- In India’s \$600 billion agriculture sector, they are currently used for pesticide and nutrient application, mapping water spread area, sampling water, mapping macrophyte infestation, etc.

#### **About Drone or Unmanned Aerial Vehicle:**

- An unmanned aerial vehicle, commonly known as a drone, is an aircraft without any human pilot, crew or passengers on board.
- UAVs are a component of an unmanned aircraft system, which includes a ground-based controller and a system of communications with the UAV additionally.
- Drones have been divided into five categories based on their weight (existing rules)-
- Nano: Less than or equal to 250 grams
- Micro: From 250 grams to 2 kg
- Small: From 2 kg to 25 kg,
- Medium: From 25 kg to 150 kg,
- Large: Greater than 150 kg.
- Revolutionising Indian agriculture with aid of Drones:

#### **Precision agriculture:**

- As per WEF, drone usage could reduce the cost of application by 20 percent and also mitigate health hazards of manual work, thereby promoting precision agriculture.
- Drones enable data collection and resource-efficient nutrient application.
- This data facilitates crop production forecast and evidence-based planning.
- With drones, government initiatives like Per Drop More Crop will improve, and water use inefficiency in irrigation will decline.
- Agri-research will become “highly customized and localised” with drones.

#### **Streamlining of schemes:**

- Drones’ data integrated with GIS and Google Earth satellite images will eventually streamline schemes like PMFBY by aiding crop-cutting experiments, crop-loss estimation, insurance determination, and dispute resolution.

#### **Better cropping patterns:**

- The government can announce relief packages for farmers in time, leading to better sowing, irrigation, and harvesting cycles.

#### **Capturing backward and forward linkages:**

- With objective and standardized data on crop quality, food processing industries will procure from farmers at better prices.
- Agri-exports will also increase with technology-supporting compliance with global standards.

#### **Challenges before Indian Farming community:**

- Eighty five percent of the Indian farmers are small and marginal landholders and the drones cost between ₹1 lakh and ₹10 lakh.
- The drone acquisition will increase the cost of cultivation by 45 percent despite productivity gains.
- To address this, FPOs and custom hiring centres should be encouraged to buy and loan them to the farmers for a nominal fee.
- The government provides subsidies in the range of 40-60 percent for the cost of drones.
- As per an ICAR report, India faces challenges due to weather dependency of drones, improper internet connectivity across farms, unskilled end user, and potential for misuse.

#### **Government of India Initiatives to promote drone technology:**

- The Indian arm of the Swiss-based firm launched a drone yatra to cover 10,000 km across 13 States from

Mancher near Pune in Maharashtra.

- A few firms such as Unnati, an Agri-tech start-up platform, have launched drone services. The firm plans to spray 20,000 acres of land by the end of 2022 and increase drones' spray capacity by 4 times next year.
- The Indian Government is popularizing the use of drones by offering various financial assistance to purchase drones for demonstrations.
- Drone purchases by Custom Hiring Centres (CHCs) are given 40 percent assistance.
- The Centre is providing ₹6,000 per hectare as a contingency fund to farmers to hire drones from CHCs.
- The central government notified the Drone Rules 2021 with the following features:
- Abolish the need for various approvals, including certificate of conformance, certificate of maintenance, import clearance, acceptance of existing drones, operator permits, authorisation of R&D organisation and student remote pilot license.
- It shall be developed as a user-friendly single-window system. There will be minimal human interface and most permissions will be self-generated.
- The draft rules reduced the airport perimeter from 45 km to 12 km.
- The rules state that no flight permissions would be required to fly upto 400 feet in green zones and up to 200 feet in the area between 8 and 12 km from the airport perimeter.
- No pilot license would be needed for micro drones for non-commercial use, nano drones and for R&D organisations.
- There would be no restriction on drone operations by foreign-owned companies registered in India.
- The Ministry will also facilitate the development of drone corridors for cargo deliveries and a drone promotion council will be set up to facilitate a business-friendly regulatory regime.
- The draft rule also provides for safety features such as real-time tracking beacon, and geo-fencing, which are expected to be notified in the future and a six-month lead time will be provided for compliance.
- Coverage of drones under Drone Rules, 2021 increased from 300 kg to 500 kg. This will also cover drone taxis.

#### Way Forward:

- The need is to scale up drone use in the agriculture sector from the present 10,000 aerial vehicles.
- Civil military engagement should be promoted to realise gains from the cross-industry application of drones.
- Consultations may be held with experienced strategic partners like Israel where AI-enabled drones are used for mapping plots, assessing crop damage, and even plucking only ripe apples.
- A dedicated research fund and a 'sandbox' or 'green microcosm' should be provided to the private players.
- Thus, use of drones in agriculture will revolutionise farm operations and empower our farmers, especially the smallholders with information and applications that will help them enhance their yields and income in the long run and help the Indian agriculture sector make a huge leap.

### 3.3 One Nation one OTR form:

Recently, the Central Board of Direct Taxes (CBDT) has proposed a single income tax return (ITR) form for all taxpayers.

#### About ITR forms :

There are seven kinds of ITR forms, which are used by different categories of taxpayers. They are as follows:

- ITR Form 1, called 'Sahaj', is for small and medium taxpayers. Sahaj forms can be filed by individuals who have an income up to Rs 50 lakh, with earnings from salary, one house property/ other sources (interest etc).
- ITR-2 is filed by people with income from residential property.
- ITR-3 is intended for people who have income as profits from business/ profession
- ITR-4 (Sugam) is, like ITR-1 (Sahaj), simple forms, and can be filed by individuals, Hindu Undivided Families (HUFs) and firms with total income up to Rs 50 lakh from business and profession.
- ITR-5 and 6 are for limited liability partnerships (LLPs) and businesses respectively.

- ITR-7 is filed by trusts and non-profit organisations.

#### **Changes that has been proposed:**

- All taxpayers, barring trusts and non-profit organisations (ITR-7), will be able to use a common ITR form, which will include a separate head for disclosure of income from virtual digital assets.

#### **Rationale behind bringing one Nation one OTR form:**

- The proposed draft ITR takes a relook at the return filing system in tandem with international best practices.
- The draft form aims to make it easier to file returns, and to considerably reduce the time taken for the job by individuals and non-business-type taxpayers.
- It intends the smart design of schedules in a user-friendly manner with a better arrangement, logical flow, and increased scope of pre-filing.
- It will also facilitate the proper reconciliation of third-party data available with the Income-Tax department vis-à-vis the data to be reported in the ITR to reduce the compliance burden on the taxpayers.

#### **About Central Board of Direct Taxes (CBDT):**

##### **Functions and Organization:**

- The Central Board of Direct Taxes is a statutory authority functioning under the Central Board of Revenue Act, 1963.
- The officials of the Board in their ex-officio capacity also function as a Division of the Ministry dealing with matters relating to levy and collection of direct taxes.

##### **Historical Background of C.B.D.T.:**

- The Central Board of Revenue as the apex body of the Department, charged with the administration of taxes, came into existence as a result of the Central Board of Revenue Act, 1924.
- Initially the Board was in charge of both direct and indirect taxes. However, when the administration of taxes became too unwieldy for one Board to handle, the Board was split up into two, namely the Central Board of Direct Taxes and Central Board of Excise and Customs with effect from 1.1.1964.
- This bifurcation was brought about by constitution of two Boards u/s 3 of the Central Board of Revenue Act, 1963.

##### **Composition and Functions of CBDT:**

- The Central Board of Direct Taxes consists of a chairman and following six Members: –
- Chairman
- Member (Income Tax & Revenue)
- Member (Legislation)
- Member (Admn.)
- Member (investigation)
- Member (TPS & system)
- Member (Audit & Judicial)

### **3.4 Performance Grading Index**

The Education Ministry on Thursday released the latest edition of the Performance Grading Index (PGI) report for the academic year 2020-21.

#### **About:**

- It is a new index that measures the performance of states and union territories on a uniform scale to analyse the transformational change in the field of school education.
- There are five parameters on which performances are graded – learning outcome, access, equity, infrastructure facilities and governance process.

- The PGI report is generated through existing Management Information System platforms such as Unified District Information System for Education (UDISE), National Achievement Survey (NAS) and Mid-Day Meal (MDM), from where information is gathered.
- The infrastructure facilities domain includes measures such as providing safe infrastructure, working toilets, clean drinking water, clean and attractive spaces, electricity, computing devices, internet, libraries, and sports and recreational resources, among others.
- The governance process domain, aims to capture the performance of all states/UTs through indicators such as making use of IT instead of human interface, digital attendance of students, teachers, transfer of funds digitally, time taken by the state government to release the funds, filling vacancies and transfer of teachers through transparent online systems, availability of digital facilities, timely availability of textbooks and uniforms — which are critical inputs for better performance of students — are also measured in this domain.

#### Findings:

- Maharashtra has been ranked first, along with Punjab and Kerala.
- The state has a total score of 928/1000, elevating it to the top position from the eighth rank it had last year.
- Maharashtra has shown considerable improvement in domains such as infrastructure facilities and governance processes.
- MH's score in infrastructure domain jumped to 143/150 from 126/150 in the year 2019-20.
- MH's score in governance process domain, jumped to 340/360 from only 299/360 last year.

### 3.5 Sovereign green bonds

Recently the Central government released the Sovereign Green Bonds Framework. The revenue generated from the issuance of sovereign green bonds will be deployed in public sector projects that help in reducing the carbon intensity of the economy.

#### About Green Bonds:

- Green bonds are issued by companies, countries and multilateral organisations to exclusively fund projects that have positive environmental or climate benefits and provide investors with fixed income payments.
- The projects can include renewable energy, clean transportation and green buildings, among others.

#### Examples of Green Bonds:

- The World Bank is a major issuer of green bonds and issued \$14.4 billion of green bonds between 2008 and 2020.
- These funds have been used to support 111 projects around the world, largely in renewable energy and efficiency (33%), clean transportation (27%), and agriculture and land use (15%).
- By the end of 2020, 24 national governments had issued Sovereign Green, Social and Sustainability bonds totalling a cumulative \$111 billion, according to the London-based Climate Bonds Initiative.

#### About India's Sovereign Green Bonds Framework:

- First announced in the Union Budget 2022-23, the proceeds of these green bonds will be issued for mobilising resources for green infrastructure.

#### Aim –

- To mobilise Rs 16,000 crore through the issuance of green bonds in the current fiscal ending March 2023.
- Under the framework, the Finance Ministry will, every year, inform the RBI about spending on green projects for which the funds raised through these bonds will be used.

#### Implementing Agency:

- The Ministry of Finance has constituted a Green Finance Working Committee (GFWC) including members from relevant line ministries and chaired by the Chief Economic Advisor.

- The GFWC will meet at least twice a year to support the Ministry of Finance with selection and evaluation of projects and other work related to the Framework.
- Initial evaluation of the project will be the responsibility of the concerned Ministry/Department in consultation with experts.
- The allocation of the proceeds will be reviewed in a time-bound manner by the GFWC to ensure that the allocation of proceeds is completed within 24 months from the date of issuance.

#### **Eligible Projects:**

- All eligible green expenditures will include public expenditure undertaken by the government in the form of investment, subsidies, grants-in-aid, or tax foregone (or a combination of all or some of these) or select operational expenditures.
- R&D expenditures in public sector projects that help in reducing the carbon intensity of the economy and enable country to meet its Sustainable Development Goals (SDGs) are also included in the framework.
- The eligible expenditures will be limited to government expenditures that occurred maximum 12 months prior to issuance of the green bonds.
- Sectors not included –Nuclear power generation, landfill projects, alcohol/weapons/tobacco/gaming/palm oil industries and hydropower plants larger than 25 MW have been excluded from the framework.

### **3.6 Currency Monitoring List of USA**

The U.S. Department of Treasury removed India along with Italy, Mexico, Thailand and Vietnam from its Currency Monitoring List of major trading partners.

#### **About Currency Monitoring List:**

- Putting a country under the Currency Monitoring List would mean that the country is artificially lowering the value of its currency to gain an unfair advantage over others.
- This is because the lower value of the currency will lead to a reduction of the export costs from that country.
- The US Department of Treasury releases a semi-annual report in which it tracks global economic developments and reviews foreign exchange rates.
- It also reviews the currency practices of the US' 20 biggest trading partners.
- There are three criteria based on which a country is put under the currency watch list.
- A country that meets two of the three criteria in the US' Trade Facilitation and Trade Enforcement Act of 2015 is put under the Currency Monitoring List.
- A significant bilateral trade surplus with the US — at least \$20 billion in 12 months.
- A material current account surplus equivalent to at least 2 per cent of gross domestic product (GDP) over a 12-month period.
- Persistent, one-sided intervention, when net purchases of foreign currency totalling at least 2 per cent of the country's GDP over a 12-month period are conducted repeatedly, in at least six out of 12 months.
- Once a country meets all three criteria, it is labelled as a 'currency manipulator' by the US Department of Treasury.
- Once on the Monitoring List, an economy will remain there for at least two consecutive reports to help ensure that any improvement in performance versus the criteria is durable and is not due to temporary factors.

#### **The following countries are presently on the list:**

- China, Japan, Korea, Germany, Malaysia, Singapore and Taiwan.

#### **Reasons for removal of India from the list:**

- India was removed from the Monitoring List as they now only met one of the three criteria for two consecutive reports.
- India has been on the list for about two years.



### How does it impact India?

- When on the US' Currency Monitoring List, a country is considered a 'currency manipulator'.
- A currency manipulator is a designation applied by US government authorities to countries that engage in unfair currency practices for a trade advantage.
- This removal from US' Currency Monitoring List means that the Reserve Bank of India (RBI) can now take robust measures to manage the exchange rates effectively, without being tagged as a currency manipulator.
- To manage exchange rates amid the rupee fall, the RBI recently took actions like buying dollars at the time of excess inflows and selling dollars at the time of outflows.

### About Currency Manipulator:

- A currency manipulator is a designation applied by US government authorities to countries that engage in "unfair currency practices" for a trade advantage.
- Putting a country under the Currency Monitoring List would mean that the country is artificially lowering the value of its currency to gain an unfair advantage over others.
- This is because the lower value of the currency will lead to a reduction of the export costs from that country.

### 3.7 India's agriculture exports

India's agriculture exports have grown 16.5% year-on-year in April-September, and look set to surpass the record \$50.2 billion achieved in 2021-22 (April-March).

Interestingly, even commodities whose exports have been subjected to curbs — wheat, rice and sugar have shown significant rise in export.

### Key Facts about India's Exports:

- The government had, on May 13, banned the export of wheat. Yet, according to Commerce Ministry data, wheat exports, at 45.90 lakh tonnes during the April-September period, were nearly twice the 23.76 lakh tonnes for the same period last year.
- On May 24, sugar exports were moved from the "free" to "restricted" list. Also, total exports for the 2021-22 sugar year (October-September) were capped at 100 lt. On September 8, exports of broken rice were prohibited, and a 20% duty slapped on all other non-parboiled non-basmati shipments.
- Despite these measures, non-basmati exports have risen alongside that of basmati rice (from 19.46 to 21.57 lakh tonnes). Sugar exports, likewise, grew 45.5% in value terms to \$2.65 billion during April-September.

However, imports surging even more:

TABLE 1 INDIA'S AGRICULTURAL TRADE (IN \$ MN)				TABLE 2 INDIA'S TOP AGRI-IMPORT ITEMS (IN \$ MN)			
	Exports	Imports	Surplus		2021-22	Apr-Sep 2021	Apr-Sep 2022
2012-13	41.73	18.98	22.75	Vegetable oils	18991.62	8862.38	11097.72
2013-14	43.25	15.53	27.72	Fresh fruits	2460.33	1101.08	1237.85
2014-15	39.08	21.15	17.93	Pulses	2228.95	835.35	595.78
2015-16	32.81	22.58	10.23	Spices	1299.38	658.37	755.27
2016-17	33.70	25.64	8.05	Cashew	1255.46	755.62	1412.52
2017-18	38.90	24.89	14.01	Natural rubber	1032.71	442.99	542.18
2018-19	39.20	20.92	18.28	Alcoholic beverages	693.23	319.28	435.80
2019-20	35.60	21.86	13.74	Raw cotton	559.55	297.25	1081.16
2020-21	41.90	21.65	20.24	<b>TOTAL*</b>	<b>32422.30</b>	<b>15119.78</b>	<b>19309.05</b>
2021-22	50.24	32.42	17.82				
Apr-Sep 21	22.98	15.12	7.86				
Apr-Sep 22	26.77	19.31	7.46				

- The impressive growth in exports is, however, offset somewhat by imports that have surged even more.
- The surplus in agricultural trade matters because this is one sector, apart from software services, where India has some comparative advantage.

- To put things in perspective, India's deficit in its overall merchandise trade account (exports minus imports of goods) widened from \$76.25 billion in April-September 2021 to \$146.55 billion in April-September this year.
- During the same period, the surplus in agriculture trade reduced only a tad, from \$7.86 billion to \$7.46 billion.
- The above table shows that almost 60% of India's total Agri imports is accounted for by a single commodity: vegetable oils.
- Their imports were valued at a massive \$19 billion in 2021-22, and imports have increased by more than 25% in the first half of this fiscal. Vegetable oils are today the country's fifth biggest import item after petroleum, electronics, gold, and coal.
- In order to counter it, two major decisions taken by the government last month.
- The first is the raising of the minimum support price of mustard from Rs 5,050 to Rs 5,450 per quintal for the 2022-23 crop season.
- The second decision has been to grant clearance ("environmental release") for commercial cultivation of genetically modified (GM) hybrid mustard.
- Seed yields from the transgenic mustard DMH-11, bred by Delhi University scientists, are claimed to be 25-30% more than from currently-grown popular varieties.
- Besides, the "barnase-barstar" GM technology is seen as a robust platform, which can be used to develop new mustard hybrids giving higher yields than DMH-11 and with better disease-resistance or oil quality traits.
- A similar approach, aimed at boosting domestic output and yields, may be required in cotton.
- Insect pest-resistant GM Bt technology helped nearly treble India's cotton production from 140 lakh bales in 2000-01 to 398 lakh bales in 2013-14, and exports to peak at \$4.33 billion in 2011-12.

#### Recent trends in composition of trade:

**TABLE 3**

**INDIA'S TOP AGRI-EXPORT ITEMS (IN \$ MN)**

	2021-22	Apr-Sep 2021	Apr-Sep 2022
Marine products	7772.36	3836.75	4120.08
Non-basmati rice	6133.63	2968.77	3207.29
Basmati rice	3537.49	1659.60	2279.66
Sugar	4602.65	1820.68	2649.00
Spices	3896.03	1992.11	1928.67
Buffalo meat	3303.78	1593.60	1636.54
Raw cotton	2816.24	1137.83	435.87
Wheat	2122.13	630.15	1487.47
Fruits & Vegetables	1692.48	736.71	752.98
Processed F&V	1190.59	583.89	694.63
Castor oil	1175.50	615.62	662.93
Oilseeds	1113.65	453.28	531.02
Other cereals	1087.39	467.42	524.85
Oil meals	1031.94	471.65	556.61
Coffee	1020.74	460.40	610.23
<b>TOTAL*</b>	<b>50240.21</b>	<b>22984.54</b>	<b>26771.64</b>

*\*Includes all other items.*

- The above table shows India's top agriculture export items. As many as 15 of them individually grossed more than \$1 billion in revenue during 2021-22.
- All barring two (cotton and spices) have posted positive growth in the first half of the current fiscal too.
- In cotton, not only have exports collapsed from over \$1.1 billion in April-September 2021 to \$436 million in April-September 2022, imports have soared from below \$300 million to \$1.1 billion.
- This has primarily been due to lower domestic production — the 2021-22 crop was estimated at just 307.05 lakh bales (of 170 kg each), as against 353 lakh bales and 365 lakh bales in the preceding two years — forcing mills to import. In the process, India has turned a net cotton importer.
- Equally interesting is spices, where India's exports in recent times have been powered mainly by chilli,

mint products, oils & oleoresins, cumin, turmeric, and ginger.

- On the other hand, in traditional plantation spices such as pepper and cardamom, the country has become as much an importer as an exporter.
- India has been out-priced by Vietnam, Sri Lanka, Indonesia, and Brazil in pepper, while it has lost market share to Guatemala in cardamom.
- Another traditional export item where India has largely turned an importer is cashew. In 2021-22, the country's cashew exports were valued at \$453.08 million, compared to imports of \$1.26 billion.
- Imports have further shot up to \$1.4 billion-plus during the first six months of this fiscal alone.

#### Way Forward:

- Therefore, diversification of export basket of agricultural commodities will lead to rise in export of agricultural commodities which will help in Balance of Payments along with rising the income of farmers.
- Along with it, use of state of art technology such as GM based crops should also be promoted in order to increase the production certain production deficit crops. So that in place of net importer, Indian become net export of those crops.

### 3.8 Urban infrastructure development report

- The report released by World Bank, titled 'Financing India's Infrastructure Needs: Constraints to Commercial Financing and Prospects for Policy Action', estimated that India would need \$840 billion over the next 15 years to meet the needs of the growing urban population
- India needs to increase its annual investment in city infrastructure from an average of \$10.6 billion a year in the past decade to an average of \$55 billion a year for the next 15 years.

#### Findings of the report:

- By 2036, 600 million people will be living in urban cities in India, representing 40% of the population.
- Currently, the central and state governments finance over 75% of city infrastructure, while urban local bodies (ULB) finance 15% through their own surplus revenues.
- About half of the investment needed – \$450 billion – in the next 15 years was in the basic municipal services sector, while most of the remaining amount was to address urban transport requirements.
- Private sector participation in urban infrastructure investments is only 5%.
- As per ULBs of Tamil Nadu and Gujarat
- Over 3/4th of the total urban capital expenditure was from the Union and state governments.
- State governments share = 70% in Tamil Nadu and 55% in Gujarat
- Commercial financing share = only 1% in Gujarat, while 12% in Tamil Nadu
- Commercial financing means primarily loans from state-controlled financial institutions.
- Between 2011 and 2018, urban property tax stood at 0.15% of GDP compared to an average of 0.3-0.6% of GDP for low and middle-income countries.
- Low service charges for municipal services also undermines their financial viability and attractiveness to private investment.

#### Recommendations of the World Bank

- Making the transfer of funds to cities formula-based and unconditional and increasing the mandates of city agencies gradually
- removing market frictions that cities face in accessing private financing.

### 3.9 Inclusive growth

- The use of technology in financial inclusion stands to be pertinent in today's context as it paves the way towards inclusive growth through the upliftment of disadvantaged sections of society.
- Globally, from 51 percent in 2011, over 76 percent of adults now have a bank or mobile account. In addition, more than 80 nations have introduced digital financial services, some of which have attained a

sizable market, including those utilising mobile devices.

- As a result, millions of formerly excluded clients are switching from only using cash for formal financial transactions to using digital banking services over mobile phones or other devices.

#### **What is financial inclusion:**

- Financial inclusion refers to the availability to both individuals and companies of useful and cost-effective financial goods and services.
- This includes payments, transactions, savings, credit, and insurance, that are sustainably and ethically provided.
- It allows social mobility and empower individuals and foster communities.
- It aids in promoting economic growth by launching and grow enterprises through utilising credit and insurance.
- Enhance overall quality of life by making investments in their children's or own health or education, manage risk, and recover from financial setbacks, all of which can

#### **Impediments to financial inclusion:**

- Urban-Rural Digital Divide:
- Only 4.4% rural families have computers, compared to 14.4% of urban households and 14.9 percent of rural homes have internet connectivity, compared to 42 percent of families in metropolitan regions.
- Only 13 percent of adults in rural regions have access to the internet, compared to 37 percent in metropolitan areas.
- Nearly 80% of the population has a bank account but Indians are still not fully integrated into the formal banking system.
- Almost 18 percent (81.38 million) of bank accounts are inoperative, having "zero balance"
- 38 percent of accounts are inactive, which means that there have been no deposits or withdrawals in the past year
- more than 310 million individuals needing a basic cell phone which prevents account holders from receiving crucial information, such as details relating to account transactions.
- Increasing dependency on local agents because financial institutions are less willing to deliver messages for transactions of small quantities.
- Complicated banking procedures such as requiring identity credentials and maintaining a specific balance in an account.
- Access to credit is low
- small-time lenders charge high-interest rates in rural regions.
- Government programmes are yet to reach more remote areas to improve loan availability efficiently.
- Individuals find that online loans need more options from reliable financial institutions or digital lending.
- Limited access to computer and communication technologies due to low affordability and knowledgeable to utilise the internet.
- Lack of financial literacy causes low potential to maximise technological interventions.

#### **About 266 million adults are illiterate.**

- Financial cyber-crimes are peaking in proportion to the growing distrust among rural residents, leading to lower adoption rates and a 6-percent jump in cybercrimes in the same year.
- Burden of providing diversified content across different regions, as individuals across India have different mother tongues.
- Personal Identifiable Information (PII) guidelines are not strictly enforced, causing large quantities of data readily accessible to numerous parties, raising serious concerns about data privacy.
- This includes Mobile numbers and Know Your Customer (KYC) Data.
- Few business correspondents' (BCs) agents secretly record biometric information in clay, where they would subsequently recreate it for fraudulent purposes.

#### **Suggestions towards inclusion:**

- Technological advancements through various e-governance schemes such as GeM portal.

- Robust policy framework focused on the needs of citizens and the disadvantaged:
- Information and Communication Technology policies are primarily top-down and supply-focused.
- These policies should focus on digital inclusion strategies to ensure that rural areas can access proper internet connectivity.
- To ensure digital financial inclusion encourage the middle-aged bracket to educate themselves in reading and writing to use the various facilities they provide.
- Government websites to have information in multiple tongues, keeping in mind the language barrier and access to technology.
- To combat financial fraud, implementing a one-to-one Management of Financial Services (MFS) agent mentorship programme that focuses on vulnerable populations and teaches them the fundamentals of mobile and online interaction is possible.
- Removing barriers to financial service access for low-income persons by reducing transaction costs could facilitate increased participation, as observed in Nepal, where free and easily accessible accounts were more prevalent among women.

#### Way forward:

- The inability of the country to adapt to robust telecommunication infrastructure with a stable broadband internet connection and lack of access to technology has widened social exclusions already present and deprive people of necessary resources.
- The digital divide affects every area of life, including literacy, wellness, mobility, security, access to financial services, etc.
- Therefore, for a fast-growing nation such as India, the focus needs to shift from simple economic growth to equitable and inclusive growth.

### 3.10 Sovereign Green Bonds

- The Government and the RBI have decided to issue sovereign green bonds during Q4 of FY23. The finance minister in her Budget 2022 speech announced the government's promise to issue a sovereign green bond to boost green investment.

#### About Bond:

- A bond is a fixed-income instrument that represents a loan made by an investor to a borrower (typically corporate or governmental).
- A bond could be thought of as an (I owe you) I.O.U. between the lender and borrower that includes the details of the loan and its payments.
- Bonds are used by companies, municipalities, states, and sovereign governments to finance projects and operations.
- Owners of bonds are debtholders, or creditors, of the issuer.

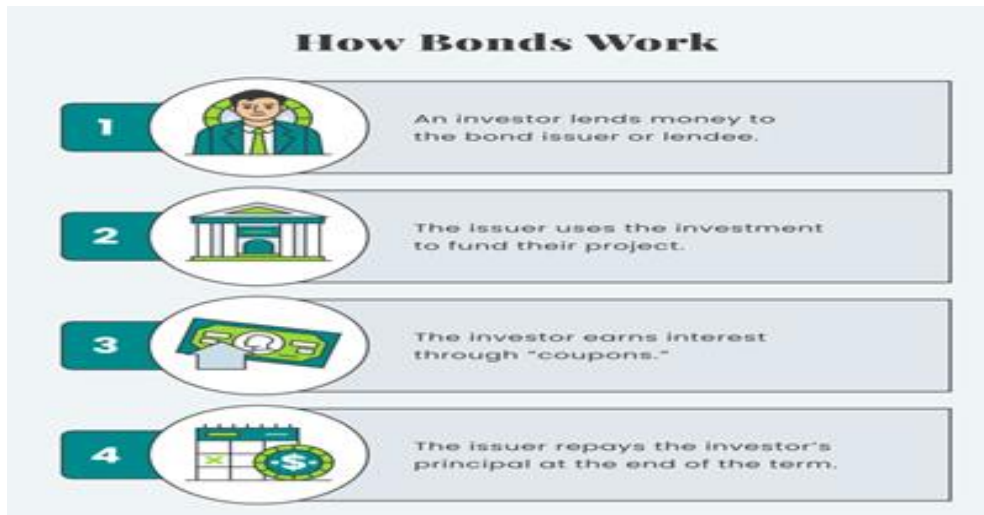
#### About Sovereign Green Bonds:

- It is a type of fixed-income instrument that is specifically earmarked to raise money for climate and environmental projects.
- The first green bond was issued in 2007 by the European Investment Bank, the EU's lending arm.
- This was followed a year later by the World Bank. Since then, many governments and corporations have entered the market to finance green projects.
- As a part of the Government's overall market borrowings in 2022-23, sovereign green bonds will be issued for mobilising resources for green infrastructure.
- A project is classified "green" on the basis of four key principles. These include:
  - encouraging energy efficiency in resource utilisation,
  - reducing carbon emissions and greenhouse gases,
  - promoting climate resilience and
  - improving natural ecosystems and biodiversity, especially in accordance with SDG (Sustainable

Development Goals).

### Aims and Objectives of SGB:

- They are aimed at energy efficiency, pollution prevention, sustainable agriculture, fishery and forestry, the protection of aquatic and terrestrial ecosystems, clean transportation, clean water, and sustainable water management.
- They also finance the cultivation of environmentally friendly technologies and the mitigation of climate change.

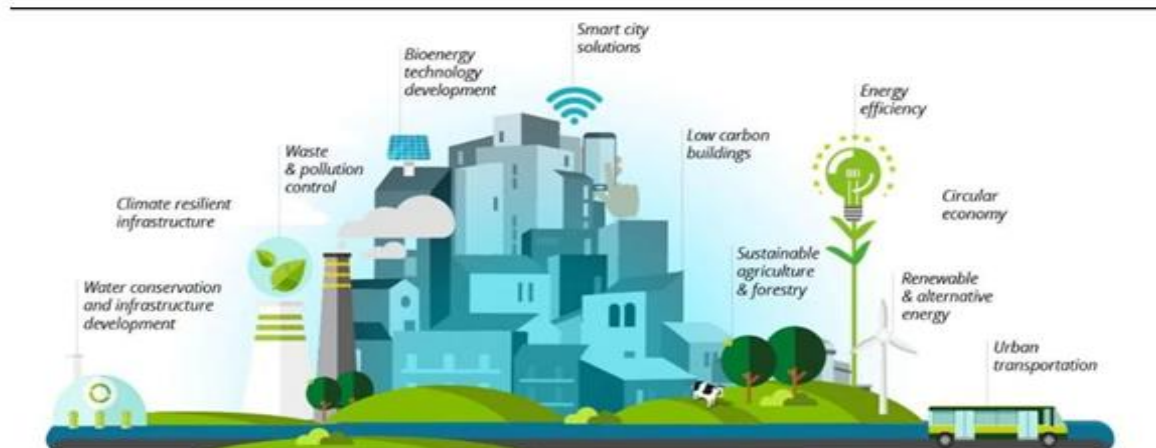


### How are they different from conventional government bonds?

- Government bonds or government securities (G-Secs) are normally categorised into two — Treasury Bills and Dated or Long-Term Securities.
- Treasury Bills have a maturity of less than one year and they do not carry coupon rates. These are issued at a discount, while redeemed at face value.
- Dated Or Long-term securities are issued for a period above 1 year and up to 40 years. These bonds carry coupon rates and are tradable in the securities market.
- SGB is one form of dated security. It will have a tenor and interest rate. Money raised through SGrB is part of overall government borrowing.
- SGB may carry lower interest rate than that for regular government borrowings.
- The government and the RBI decided to borrow ₹5.92 lakh crore in H2 FY23 through dated securities, including ₹16,000 crore through issuance of SGBs.

### Benefits of investing in Sovereign green bonds:

#### Benefits of investing in Sovereign green bonds:



- Environmental causes: green bonds provide a way to help environmental causes through investing.
- Buying a green bond might be too costly for retail investors: Still there are green bonds that make it easy to invest in baskets of green bonds.
- Exemption from taxes: green bonds provide you with a way to earn income that is exempt from taxes.
- No Harm: The money that is being invested is being used in a way that is not harmful.
- Fight climate change: The green angle attracts a growing number of people who are more aware of and want to act to help fight climate change.
- Higher demand for green bonds equals lower cost of money which means reduced spending for business: These savings are passed on to the investor in the form of a dividend or used to lower the cost of funds thus increasing profitability.
- Some issuers also use the money to help restore water habitats and biomes and to take steps to reduce carbon output: These bonds tend to carry the same credit rating as other debts issued by the same firm.
- Longer maturities can lower the borrowing cost for green projects: Sovereign green bonds have been issued with an average tenor of 14 years the longest being 40 years issued by the Chilean government in 2021 drawing long-term investors like pension funds, insurers and those with a focus on environmental, social and governance (ESG) issues.

#### **Challenges associated with Sovereign Green Bonds:**

- Borrowing programme: The government has a gross borrowing programme of around 14.95-lakh crore. But in this case, there will be earmarking of the amount raised to specific targeted projects. Therefore, the crux is that the recipients of such funds should be compliant.
- Monitoring challenge: There would be a challenge with respect to monitoring how this green grading performs. This will be a challenge until such time the system of evaluation is streamlined as deviations from the norm are hard to capture.
- Pricing issue: Should they be lower than the regular bond or higher is the major question here. Ideally, it needs to be higher; this is because investors need to be rewarded for choosing to promote ESG goals.
- On the other side it can be argued that the rates can be lower than normal because investors like to reward green projects, anyway.
- Overseas launch: The downside is that once the government goes global, then credit rating will matter a lot as all bonds issued globally need to be rated.
- Once one is rated by them, there is constant scrutiny on domestic policies. Presently, this does not matter because the government of India does not borrow from the overseas market.

#### **Way Forward:**

- Centre's approval to the framework for sovereign green bonds will definitely solidify India's commitment towards its Nationally Determined Contribution targets.
- The flows from green bonds could be derailed for some time due to the war between Ukraine and Russia but over the long term we should be moving ahead fast in reshaping the climate debate and ensuring more funding for climate friendly initiatives.
- Developing markets, including Serbia, Nigeria, Egypt, Colombia, Fiji, Indonesia and Benin, have also issued sovereign green bonds.
- The proceeds were allocated to climate mitigation or adaptation projects.

### **3.11 Securities Appellate Tribunal (SAT)**

The Securities Appellate Tribunal (SAT) has upheld the order of insurance regulator IRDAI directing Go Digit General Insurance to discontinue the product "Digit Group Total Protect Policy" as the product falls under the purview of life insurance which could not be offered by a general insurance company.

#### **About Securities Appellate Tribunal:**

- SAT is a statutory body established under the provisions of Section 15K of the SEBI Act, 1992.
- The Securities Appellate Tribunal has only one bench which sits at Mumbai.

- It is under the jurisdiction of Ministry of Finance.

**Composition:**

- SAT consists of a Presiding Officer and Two other members.
- The Presiding officer of SAT shall be appointed by the Central Government in consultation with the Chief Justice of India or his nominee.

**Powers and Functions:**

- It has the same powers as vested in a civil court. Further, if any person feels aggrieved by SAT's decision or order can appeal to the Supreme Court.
- To hear and dispose of appeals against orders passed by the SEBI or by an adjudicating officer under the SEBI Act,1992.
- To hear and dispose of appeals against orders passed by the Pension Fund Regulatory and Development Authority (PFRDA).
- To hear and dispose of appeals against orders passed by the Insurance Regulatory Development Authority of India (IRDAI).

**About The Insurance Regulatory and Development Authority of India (IRDAI):**

- History: Following the recommendations of the Malhotra Committee report, in 1999, the Insurance Regulatory and Development Authority (IRDA) was constituted as an autonomous body to regulate and develop the insurance industry.
- Made an independent statutory body in 2000 that was set up under the IRDA Act,1999.
- It is under the jurisdiction of Ministry of Finance.
- Mandate: It is tasked with regulating and licensing the insurance and re-insurance industries in India.
- Aim: To protect the interests of the insurance policyholders and to develop and regulates the insurance industry. It issues advisories regularly to insurance companies regarding the changes in rules and regulations.
- HQ: The agency's headquarters are in Hyderabad, Telangana, where it moved from Delhi in 2001.
- Composition: IRDAI is a 10-member body including the chairman, five full-time and four part-time members appointed by the government of India.

**Main Objectives:**

- To ensure fair treatment and protect the interests of the policyholder.
- To regulate the insurance companies and ensuring the industry's financial soundness.
- To formulate standards and regulations so that there is no ambiguity.

**Functions:**

- Granting, renewing, cancelling or modifying the registration of insurance companies.
- Levying charges and fees as per the IRDA act.
- Conducting investigation, inspection, audit, etc. of insurance companies and other organizations in the insurance industry.
- Specifying the code of conduct and providing qualifications and training to intermediaries, insurance agents etc.
- Regulating and controlling the insurance premium rates, terms and conditions and other benefits offered by insurers.
- Provides a grievance redressal forum and protecting interests of the policyholder.

### 3.12 Confederation of Indian Industry (CII)

Flagging the need to revive consumption demand in the economy, the Confederation of Indian Industry (CII) has urged the government to reduce personal income tax rates to increase households' spending power in Union Budget 2023-23, slash the 28% GST rate on some consumer durables, and engender job creation in the hinterland.



### About CCI:

- It is a non-government, not-for-profit, industry-led and industry-managed organization.
- It was founded in 1895, its headquarters is in New Delhi.
- It works to create and sustain an environment conducive to the development of India, partnering industry, Government and civil society, through advisory and consultative processes.
- Initiatives by CCI: CII has embarked on smarter initiatives that enhance competitiveness of Indian industry by underlining the need for rapid up gradation on parameters like quality, corporate governance, knowledge management, energy efficiency and environment management.
- Specialised Services Division aims to provide solutions to organisations not just for their competitiveness needs, but also to help them become more self-reliant by helping them develop flexible strategies that cater to changing needs.
- Corporate Services Group assists companies maximise corporate and shareholder value through a range of activities covering : Consulting, Research Projects, Knowledge Based Events and Research Papers.
- Energy Management Division provides its expertise to domestic as well as overseas organisations. The range of services offered includes : comprehensive energy audits, in-house and centre-wise intensive training programmes, specific energy consumption norms, 'Energy Conservation (Encon)' missions and international conferences / exhibitions on trends in energy efficiency.
- Environment Management Division facilitates the utilisation of national and international expertise through seminars, workshops and training programmes.
- It undertakes a wide range of programmes & awareness activities covering legal and technical aspects including design and implementation of Environment Management systems, Pollution Prevention and Waste Minimization Initiatives, Green Supply Chain Management, Environmental Performance Evaluation, Strategic Environmental Assessment, Sustainable Development and Environmental Planning, Hazardous Waste Management, Site Feasibility Assessment etc. are some of the other services offered.
- Green Services Division operates through the Green Business Centre (CII-GBC), offering niche Green Services to Indian industry.
- The objective of the CII-GBC is to promote Green Concepts leading to sustainable development, efficiency and equitable growth.
- Services offered : Green Process Certification, Green Building Certification (advisory services on construction of green buildings and award of Green Building certificate), Technology Centres, Training Programmes on Green related topics and business incubation facilitating entrepreneurs in developing and marketing new and innovative green products for commercialisation.
- Technology Services Division offers the following services to members : Technology Audit, Technology Export, technology transfer and problem solving skills from R&D and academic institutions (through CII TDB Technology Transfer Centres).
- CII's Social Development and Community Affairs Council (SDCA) has pledged the allegiance of all members, taking the 'More for India' slogan to their boardroom agenda.
- SDCA's various initiatives cover issues like education, child rehabilitation, women empowerment, rural development, human rights, population, healthcare and the control of HIV/AIDS.
- Through the Brand India Campaign, CII strives to Build Brand salience for India by positioning it as a "Globally Competitive and sound Investment destination and as a Reliable Partner to do business with."
- The Integrity India Campaign takes on the challenge of "working to improve probity in public life by putting the issue of Integrity on the front burner".

### 3.13 Credit-Deposit Ratio

- RBI's data on State-wise C-D ratio of scheduled commercial banks according to place of utilisation was released.
- Ratio of the Northern and Western Regions declined in 2022 even as that of the North-Eastern, Eastern, Central and Southern Regions improved.
- States that saw improvement are: Haryana, Himachal Pradesh, and Rajasthan
- States that saw a decline are: Punjab, Chandigarh, and Delhi

#### About CD ratio:

- Credit-Deposit Ratio = Total Advances/Total Deposits \*100
- It is the ratio of how much a bank lends out of deposits it has mobilised.
- It indicates how much of each rupee of deposit goes towards credit markets in a particular region.
- For example, a CD ratio of 75% means that three-fourth of deposits of banks has been given out as loans.
- A very low ratio indicates banks are not making full use of their resources (i.e. deposits), shows poor credit growth.
- Alternatively, a high ratio indicates more reliance on deposits for lending purposes and may be risky.
- It may become difficult to cover any unforeseen fund requirements, may affect capital adequacy and asset-liability mismatch.
- CD ratio helps in assessing a bank's liquidity and indicates its health.
- RBI does not stimulate a minimum or maximum level for the ratio.
- It is used as a broad indicator for measuring the inter-State disparities in banking development and the role of banking in economic activity.

### 3.14 Loan Write Offs

- Banks wrote off more than Rs 10 lakh crore in loans over the last five years, according to RBI under the Right to Information (RTI) Act.
- They have been able to recover only 13% of the \$123.86 billion they wrote off.
- Public sector banks write-offs accounted for 72.78% includes SBI, PNB and BOB.
- Private sector banks accounted for 27.2% includes ICICI (highest reduction), Axis Bank, HDFC Bank.

#### About Loan Write Offs:

- A loan is an asset on the balance sheet of a bank, lent out of depositor's money.
- Writing off a loan essentially means it will no longer be counted as an asset.
- The bank writes off a loan after the borrower has defaulted on the loan repayment and there is a very low chance of recovery.
- The lender then moves the defaulted loan, or NPA, out of the assets side and reports the amount as a loss.
- After the write-off, banks are supposed to continue their efforts to recover the loan using various options and make provisioning as well.

#### Significance:

- By writing off loans, a bank can reduce the level of non-performing assets (NPAs) on its books.
- Amount so written off reduces the bank's tax liability.
- Due to low chances of recovery from written-off loans, it raises questions about the assets or collateral against which the banks lent funds to these defaulters.

### 3.15 Gender equality in labour markets

- As the world hits a population milestone of 8 billion, India is all set to become the world's most populous country in 2023, much before 2027, as predicted earlier by the United Nations Population Division.
- India is poised to gain a massive number of working-age individuals in the next 25 years, almost every fifth in the world.
- Such a huge potential of human resources will not benefit Indian economy, unless we are able to enhance women's participation on a significant scale.

#### Challenges for females:

- Low Female labour force participation rate (FLFPR)
- India was placed at 140 of 156 countries in 2021 by The Global Gender Gap Report of the World Economic Forum.

- Further, it remains in declining mode, having fallen from 30.5% in 2000 to 21.1% in 2019, and 18.6% in 2020, by International Labour Organisation figures;
- It hit a record low of 15.5% during the first covid lockdown when many urban women either quit or lost their jobs
- Non-diverse growth: A 2020 research study observed that a structural shift and sectoral transformation in the Indian economy (1983-2018) made no impact on the pattern of women's employment in India, both quantitatively and qualitatively.
- In terms of absolute numbers, it decreased from 148.6 million in 2004-05 to 104.1 million in 2017-18.
- Overdependence on agriculture: With little space for job diversification, women continued to overcrowd the agriculture sector, despite its declining share of the economy. Non-farm sectors did not open many opportunities for them.
- Workplace Discrimination: 90% of working women are in the informal sector and hence, they are subject to high degrees of gender discrimination in wages, job and social security.
- Oxfam India's India Discrimination Report 2022 – wages are lower for women overwhelmingly because of discriminatory practices and only slightly due to lack of education and work experience.
- In 2019-20, about 60% of men (aged 15 years and above) had either regular salaried and self-employed jobs, while only 20% for women.
- Social hurdles: A significant number of qualified women were found unwilling to join the labour market due to 'family responsibilities'.
- The Economic Survey of 2020, 60% of women in the 15-59-years age group are engaged in full-time housework, as compared to 1% of men.
- 84% of Indians agree to the view that in a situation of job scarcity, "men have more right to opportunities than women".
- Low GDP Contribution: Bloomberg Economics analysis estimated that though Indian women represent 48% of India's population, they contribute only around 17% of GDP, compared to 40% in China.
- Other factors: Several cross-cutting factors like a disproportionate burden of child care, an income effect, logistical barriers of mobility and safety, and socio-cultural norms around marriage, etc, have also acted as deterrents to Indian women entering our labour market.
- A 2019 UNDP study – India has so far seen only a downward trend in women's workforce participation as their education has risen, and that combined participation (labour market and/or educational) covered only 55-60% of young working age women.

#### Suggestions for future:

- India's trend of female labour supply doesn't follow a U-shaped curve in keeping with the typical pattern of GDP growth and a rise in female literacy; there is a persistent demand-supply mismatch which must be addressed.
- Increase participation in STEM: even though 43% of India's Science, Technology, engineering, and Math (STEM) graduates were women, only 14% of the STEM workforce is female (AISHE Report).
- Fill Academia-Industry gap: Better educational achievements have not necessarily converted to women's sustained workforce participation.
- Investment in social sectors: Many Asian countries like Singapore, Taiwan, China and South Korea have harnessed the benefits of a growing youth population by imparting quality education and industry-relevant skills, and offering the youth good health services.
- India's investment in education is 3.1% of GDP (2021-22), and only 1% on health.
- There is high level of unfulfilled requirements for reproductive health services (by the National Family Health Survey of 2019-21).
- Focus on skilling: Only 4.7% of India's total workforce have undergone any formal skills training (3.8% of adult women and 9.3% of adult men, by NSSO's 68th round).
- Skill programmes in India also suffer from a gender bias, which reinforces our labour market imbalance.
- Securing their future: Employed women are at greater risk of being displaced by automation, as a McKinsey Global Institute report cautioned.
- Gender differentials in access to education and skill development must be removed on a priority basis
- Social infrastructure to relieve women from their 'double burden' of work should be expanded, and a

'women-friendly' work culture fostered.

#### Way forward:

- India expects to gain eight million youth annually. Unless this human capital, particularly of women, is optimally utilized, our economy will perform worse than it can.
- An Asian Development Bank study said that if the participation of women were to equal that of men, India's GDP could be 60% higher in 2025.
- India has an ambitious Amrit Kaal target of having half its workforce female by 2047.

### 3.16 Open offer

- Gautam Adani-led Adani Group, a conglomerate with diverse business interests, acquired 29.18 per cent stake in television channel NDTV Ltd, and said it would launch an open offer as required by the Securities and Exchange Board of India (SEBI) to buy another 26 per cent in the company.
- The single-largest shareholder of NDTV, besides promoters Prannoy Roy and Radhika Roy (32.26%) and the Adani Group (29.18%), is Mauritius-registered foreign portfolio investor (FPI) LTS Investment Fund Ltd with a 9.75% stake.

#### About open offer:

- According to SEBI (Substantial Acquisition of Shares and Takeovers) Rules, an open offer is an offer made by the acquirer to the shareholders of the target company inviting them to tender their shares in the target company at a particular price.
- The primary purpose of an open offer is to provide an exit option to the shareholders of the target company on account of the change in control or substantial acquisition of shares, occurring in the target company.
- An open offer is triggered if an acquirer holds more than 25 per cent of the public shareholding in the company.
- The open offer price can be lower than the market price as per SEBI Rules.
- Open offer price for acquisition of shares under the minimum open offer shall be 1) the highest negotiated price under the share purchase agreement triggering the offer; 2) the volume-weighted average price of shares acquired by the acquirer during 52-weeks preceding the public announcement; 3) the highest price paid for any acquisition by the acquirer during 26 weeks immediately preceding the PA; and 4) the volume weighted average market price for sixty trading days preceding the PA.
- Significance: After the open offer, If the Adanis manage to get the required 26 per cent stake, the group's total stake will go up to 55.18 per cent, enabling it to take management control of the target company (NDTV). The acquirer will be able to bring in their own key management persons.
- If the Adanis fail to get a 50 per cent stake, they have the option to buy shares from other institutional investors. The Adanis may have to raise the offer price to get the required majority.
- The Roys have the option to launch a counter offer to the open offer made by the Adanis at a higher price.

## 4. Science & Technology

### 4.1 India and cyber power

- The debate about the efficacy of cyber power must necessarily involve analysing both offensive and defensive cyber capabilities.
- While defensive cyber operations are necessary to protect a network, Offensive Cyber Operations (OCOs) are equally necessary for effectively prosecuting kinetic operations in contemporary and future warfare.
- A cyber-attack can be carried out in conjunction with other instruments such as Electronic Warfare (EW) and space capabilities, as well as kinetic means in the form of air, naval, and land power.

#### Offensive cyber operations (OCOs):

- Offensive Cyber-attacks can be divided into two types: attacks that disrupt the effective operation of a weapons system, and another set that destroy or inflict damage on weapons systems.
- OCOs are fundamentally an evolutionary aspect of intangible warfare, which covers EW and operations across the EMS.
- OCOs are domain-specific or confined exclusively to the cyber domain may have limitations about escalation and the degree to which they damage a target.
- When evaluating OCOs, consider: event-based and presence-based operations. The latter encompass primarily strategic capabilities that involve protracted network intrusions of the adversary and end with an offensive or attack.
- The former cover tactical tools which are deployed in the course of ongoing operations on the field to generate localised impact.

#### Uses of OCOs:

- “hacking” to destroy propaganda by terrorist groups or disinformation
- “adversarial infrastructure destruction” against a hostile cyber group located in another country;
- “counter-influencing” missions planting unhelpful information or “digital harassment”.
- “kinetic” offensive operations that cause damage and disruption in the adversary country.
- a comprehensive attack against the adversary’s digital networks amidst a conflict.
- can serve as key force multiplier during conventional operations and more limited tactical action and contingencies.
- imposing countervailing costs against an opponent in the middle of a war or to pre-empt an opponent. For instance, India might want to take out the command network of the Western Theatre Command (WTC) of China’s People’s Liberation Army (PLA) in the midst of active hostilities.

#### Challenges:

- Cyber power should not be used offensively because it is ineffective as cyber operations have limited psychological and coercive effect against adversaries.
- Further, cyber weapons such as viruses could infect the attacker’s systems as much as it would the enemy’s.
- Given the collateral damage cyber-attacks could cause, their deterrent value is at best modest. NotPetya, for instance, was a cyber-attack against Ukraine which affected not only the primary target but inadvertently, third parties, too.
- Defensive cyber security is more demanding than developing offensive cyber capabilities such as malware. This is because defence is harder than offence in the cyber domain.
- Cyber power intersects with space technology such as counterspace missions to disrupt the performance of orbiting spacecraft.
- There are three specific elements in a space network that are vulnerable to a cyber-attack: uplink, downlink, and satellite-to-satellite attacks.
- Cyber-attacks can disrupt uplink communications between their ground control segments and in-orbit satellites; in downlink, communications between satellite-derived internet service.

- Russia, for example, has combined electronic and cyber warfare to target the North Atlantic Treaty Organisation's (NATO) satellite capabilities.
- Penetration of communication and C2 networks using malware can disrupt the effective operation of logistics nodes.
- The attack could be executed in the form a Radio Frequency (RF), which is primarily an electronic action merging cyber and electronic warfare operations
- The US, for instance, has used exclusively cyber means to disable Iranian rocket and missile systems, which was executed by the US Cyber Command (USCYBERCOM) in 2019.

#### Indian context:

- There is generally a strong focus on cyber defence than offence in India.
- At present, India's offensive cyber capabilities are weak, especially relative to China.
- India requires more robust cyber warfare capabilities geared for offensive action to deal with Pakistan and China, which could engage in cyber collusion against India.
- Pakistan is likely to serve as a key Chinese proxy for cyber-attacks against India.
- Pursuit of the "cult of the defensive" can be an answer.
- India needs the combined application of cyber and air power (such as Balakot air strike) for offensive action to be lethally effective, rather than a purely or dichotomous "air/cyber power" application.
- Tibetan Autonomous Region (TAR) create target-rich opportunities for the conduct of OCOs by India.

#### Suggestions:

- Develop traffic or network analysis capabilities by which develop the service's traffic analysis capabilities and its crucial develop the service's traffic analysis capabilities.
- Well-trained personnel for the conduct of OCOs such as civilian hackers who have technical proficiency and provides cover in terms of deniability and anonymity.
- Organisational Integration of Technical Agencies such as National Technical Reconnaissance Organisation (NTRO), Defence Cyber Agency (DCA), which is a tri-service organisation, Defence Intelligence Agency (DIA).
- Leveraging India's IT and Software Ecosystem which are generally weak vis-à-vis China, and at best moderately strong against Pakistan and including private sector.
- India may have to develop a large reserve of OCO capabilities.

#### Way forward

- While defensive cyber security is important, offensive cyber capabilities cannot be ignored.
- However, the Indian armed services, especially the Air Force and the Army, will need to recognise the limits of offensive action when reacting to crises.
- Well-planned cyber-attacks in conjunction with electronic attack and kinetic attack, as Israel and America have demonstrated against enemy air defences, require attention and focused investment.
- Given the growing fusion between electronic, cyber and space technology that are applicable to military operations, investment in these capabilities will need high priority.
- Thus, developing capabilities as part of a strategy where cyber power plays a central role whether against Pakistan or China is well worth pursuing.

## 4.2 Early warning systems in Himalayan States

The National Geophysical Research Institute (NGRI) of the Council of Scientific and Industrial Research has begun field studies to put in place an early-warning system in the Himalayan States.

#### About CSIR

- The Council of Scientific & Industrial Research (CSIR), known for its cutting edge R&D knowledge base in diverse S&T areas, is a contemporary R&D organization.
- Headquarters: New Delhi

- CSIR is funded by the Ministry of Science and Technology and it operates as an autonomous body through the Societies Registration Act, 1860.

#### **Organisational Structure:**

- President: Prime Minister of India (Ex-officio)
- Vice President: Union Minister of Science and Technology (Ex-officio)
- Governing Body: The Director-General is the head of the governing body.
- The other ex-officio member is the finance secretary (expenditures).
- Other members' terms are of three years.

#### **CSIR Advisory Board:**

- 15-member body composed of prominent members from respective fields of science and technology. Its function is to provide science and technology input to the governing body.
- Member terms are of three years.

#### **Significance of CSIR:**

##### **Strategic Sector:**

- Drishti transmissometer: It is an Indigenous – Innovative – Cost-effective visibility measuring system that provides information to pilots on visibility for safe landing & take-off operations and is suitable for all airport categories.
- Head-Up-Display (HUD): CSIR-National Aerospace Laboratories (NAL) developed an indigenous Head-Up-display (HUD) for Indian Light Combat Aircraft, Tejas.
- HUD aids the pilot in flying the aircraft and in critical flight manoeuvres including weapon aiming.
- Indigenous Gyrotron: Design and development of indigenous gyrotron for nuclear fusion reactors have been accomplished.
- A gyrotron is a vacuum electronic device (VED) capable of generating high-power, high-frequency THz radiation.

##### **Energy & Environment:**

- Solar Tree: It was designed by CSIR- The Central Mechanical Engineering Research Institute (CMERI) lab in Durgapur. It occupies the minimum space to produce clean power.
- Lithium-Ion Battery: The Central Electrochemical Research Institute (CECRI), Karaikudi in Tamil Nadu, has set up the first indigenous Li-ion fabrication facility that has applications in defence, solar-powered devices, railways and other high-end usages.

##### **Agriculture:**

- Samba Mahsuri Rice Variety: CSIR in collaboration with ICAR developed an improved bacterial blight-resistant Samba Mahsuri variety.
- Rice Cultivar (Muktashree) for Arsenic Contaminated Areas: A rice variety has been developed which restricts assimilation of Arsenic within the permissible limit.
- White-fly Resistant Cotton Variety: Developed a transgenic cotton line which is resistant to whiteflies.

##### **Healthcare:**

- JD Vaccine for Farm Animals: Vaccine developed and commercialized for Johne's disease (JD) affecting Sheep, goats, cows and Buffalo so as to immunize them and increase milk & meat production.
- Plasma Gelsolin Diagnostic Kit for Premature Births, and Sepsis-related Deaths to diagnose premature birth and sepsis.
- GOMED: A programme called GOMED (Genomics and other omics technologies for Enabling Medical Decision) has been developed by the CSIR which provides a platform for disease genomics to solve clinical problems.

##### **Food & Nutrition:**

- Ksheer-scanner: It is a new technological invention by CSIR-Central Electronics Engineering Research

Institute (CEERI) to detect the level of milk adulteration and adulterants in 45 seconds at the cost of 10 paise.

- Double-Fortified Salt: Salt fortified with iodine and iron has improved properties developed and tested for addressing anaemia in people.
- Anti-obesity DAG Oil: Oil enriched with Diacylglycerol (DAG) instead of conventional triacylglycerol (TAG) developed.

#### **Water:**

- Aquifer Mapping of Water Scarce Areas: Heliborne transient electromagnetic and surface magnetic technique-based aquifer mapping was carried out in six different geological locations in Rajasthan (2), Bihar, Karnataka, Maharashtra and Tamil Nadu.
- Understanding the Special Properties of Ganga Water: An assessment of water quality & sediment analysis of Ganga from different parts being done.

#### **Waste to Wealth:**

- Non-toxic radiation shielding materials utilizing industrial waste like red mud (from aluminium industries) and fly ash (Thermal Power Plants) developed which have been accredited by Atomic Energy Regulatory Board (AERB) for application in diagnostic X-Ray rooms.
- Waste Plastic to Fuel: Process for conversion of waste plastics to gasoline/diesel or aromatics developed.

#### **Traditional Knowledge Digital Library:**

- CSIR has established the first-ever 'Traditional Knowledge Digital Library' in the world. It is accessible in five international languages (English, German, French, Japanese and Spanish).
- CSIR successfully challenged the grant of patent in the USA for use of Haldi (turmeric) for wound healing and neem as an insecticide on the basis of traditional knowledge.
- Genome sequencing: CSIR completed the sequencing of the Human Genome in 2009.
- Computing: Flo solver, India's first parallel computer was built in 1986. Flosolver's success triggered other successful parallel computing projects in the country such as PARAM.
- CSIR envisages a vision of CSIR@2030 as to "Enhance quality of life of the citizens of India through innovative Science and Technology, globally competitive R&D, by developing sustainable solutions and capacity building to fulfil dream of Aatmanirbhar Bharat".
- This vision of CSIR is aligned to the Government of India's vision for the next 25 years 'Amrit Kal' when independent India becomes 100 years old.

#### **About NGRI:**

- The National Geophysical Research Institute (NGRI), a constituent research laboratory of the Council of Scientific and Industrial Research (CSIR) was established in 1961 with the mission to carry out research in multidisciplinary areas of the highly complex structure and processes of the Earth system and its extensively interlinked subsystems.
- NGRI is situated in Hyderabad.
- The research activities fall broadly under three themes:
- Geodynamics, which revolve round investigating and modelling fundamental aspects of the Earth system and processes.
- Earthquake Hazards, which encompass features on the surface and subsurface of crust which may potentially endanger lives and properties through catastrophes like earthquakes and
- Landslides as well as deterioration in pollution levels of groundwater and soil, changes in climatic conditions and associated environmental issues.
- The Institute is structured into seven major R&D Groups and twenty one Activities, which include expertise in a variety of geophysical, geochemical, geological techniques like Seismology, Magnetotellurics, GPS, Paleo-seismology, Structural geology, Controlled source seismics, Gravity and Magnetism, Geochemistry, Geochronology, Paleomagnetism, Planetary geology, Geomagnetism, Airborne geophysics, Shallow subsurface geophysics and Rock Mechanics, Hydrochemistry, Paleo-environmental studies and Modelling and simulation of Earth processes.



## About Early warning systems in Himalayan States

### Application:

- Against major and sudden floods, rockslides, landslips, glacier lake bursts and avalanches and to prevent Chamoli kind of disasters in future.

### Significance:

- These instruments are crucial for the safety of large infrastructure projects and hydroelectric power plants in this region.
- The NGRI has started utilising Machine Learning to detect these observations faster than the normal approach because time becomes crucial during a warning.

## 4.3 Mastodon

- Amid concerns over the direction that Twitter seems to be taking after its takeover by billionaire Elon Musk, a number of users are flocking to a platform called Mastodon, a decentralised, open source social media platform.

### About Mastodon:

- Mastodon was founded in 2016 by a German software developer.
- Unlike Facebook, Twitter, Reddit, and Instagram, it is a decentralised, open source, ad-free platform that is essentially made up of thousands of different servers, or “instances”, run across the world.
- All the different instances on Mastodon can communicate to each other, that is, what users in a certain instance are posting is accessible to users in a different instance.
- Users or organisations can even start their own servers.
- Otherwise, there’s a list of servers which focus on specific locations or topics of interest.
- The admin of each server can decide the content moderation guidelines for that particular server.
- It essentially means that anyone can download, modify and install Mastodon on their own server.
- The developers of the platform don’t own the copyright.
- However, if someone creates a platform using Mastodon’s code, they will have to acknowledge the source of the code.

### Content moderation on Mastodon:

- Since Mastodon is a collection of thousands of different servers, there is not a singular content moderation strategy for the entire platform.
- Content moderation is done by admins of each server who can set their own rules — this means that a kind of speech allowed on one server may not be allowed on a different one.
- Users can also migrate to other instances on Mastodon.

## 4.4 Asian Conference on Diarrhoeal Disease and Nutrition (ASCODD)

- Recently, the 16th Asian Conference on Diarrhoeal Disease and Nutrition (ASCODD) was held at Kolkata.
- Theme: “Prevention and control of cholera, typhoid and other enteric diseases in low and middle-income countries through community participation: beyond the SARS-CoV-2 pandemic”.

### Focus Areas:

- Epidemiology of cholera and typhoid
- Roadmap to end Cholera by 2030, Cholera vaccine development and rapid diagnostics,
- Contemporary perspectives of antimicrobial resistance of enteric bacteria: new Initiatives and challenges,
- Enteric bacterial infections, including Shigella spp, epidemiology, burden, and
- vaccines against other viral infections, including Hepatitis,
- Lessons learned about diarrhoea research during the COVID pandemic.

### **About Diarrhea:**

- Gastrointestinal infection leading to Loose, watery and possibly more-frequent bowel movements
- Caused by:
- A Variety of bacterial, viral and parasitic organisms.
- Infection is spread through contaminated food or drinking-water, or from person to person as a result of poor hygiene.
- Associated with other symptoms: nausea, vomiting, abdominal pain or weight loss.

### **Measures to treat diarrhoea:**

- Rehydration with oral rehydration salts (ORS) solution
- Rehydration may require intravenous fluids in case of severe dehydration or shock.
- Zinc supplements
- Nutrient-rich foods.

### **Achievements of India:**

- India successfully ran a free vaccination program with record break vaccination of more than 219 crores.
- India provided vaccinations to other nations so that it can win over the pandemic together. Effective use of safe and affordable vaccines,

### **Various Health initiatives under Digital India initiative:**

- Online Registration System,
- eHospital for hospital management,
- eSanjeevani telemedicine app

## **4.5 Global Dashboard for Vaccine Equity**

The Global Dashboard for Vaccine Equity has put out recent data that justifies the vexatious core of the vaccine distribution programme.

### **About Global Dashboard for Vaccine Equity:**

- It is a joint effort by the United Nations Development Programme (UNDP), the World Health Organization (WHO) and the University of Oxford with cooperation across the UN system.
- Only one in four people has been vaccinated with at least one dose in low and middle income countries.
- In comparison, in high income countries, three in four people have got at least one dose of the vaccine.
- The Global Dashboard for Vaccine Equity combines the latest data on the global roll-out of COVID-19 vaccines with the most recent socio-economic information to illustrate why accelerating vaccine equity is not only critical to saving lives but also to driving a faster and fairer recovery from the pandemic with benefits for all.
- Everyone in the world has the same access to vaccines.
- While the availability of drugs across the world continues to remain iniquitous, disadvantaging large swathes of people in low and middle income countries.

### **The Dashboard also points out another key factor:**

- While vaccination programmes will increase healthcare costs across all countries, it is especially the case in low-income countries as they would need to increase their health expenditure by a staggering 30-60% to reach 70% of their population under the current pricing.
- High-income countries are expected to increase theirs by only 0.8% to achieve the same vaccination rate in one year.

### **Efforts taken to reduce vaccine inequity:**

- A waiver in the TRIPS agreement was proposed as a radical way to overcome the anticipated shortfalls.
- The COVID-19 Vaccine Delivery Partnership (COVAX), a collective international effort was launched by

WHO, UNICEF, and Gavi and the World Bank, to intensify country readiness and delivery support.

- It aimed at accelerating COVID-19 vaccination coverage in 34 low coverage countries, along with their governments.

#### 4.6 Indian Biological Data Centre (IBDC)

Union Minister of state for Science and Technology recently dedicated Indian Biological Data Centre (IBDC) to the nation.

##### About Indian Biological Data Centre:

- The Indian Biological Data Centre is India's first national repository for life science data.
- It will store all life science data generated from publicly funded research in the country.
- It operates with the assistance from the Department of Biotechnology (DBT).
- In long-term, IBDC seeks to become a major data repository for all life science data originating from India.
- It was established at the Regional Centre of Biotechnology (RCB) in Faridabad, Haryana.
- It has a data "disaster recovery" site in National Informatics Centre (NIC) in Bhubaneswar.
- It has a data storage capacity of around 4 petabytes.
- It hosts the 'Brahm' High Performance Computing (HPC) facility.

##### The objectives of IBDC:

- Provide IT platform for archiving of biological data originating from India.
- Develop standard operating procedures for storing and sharing of life sciences data based on FAIR (Findable, Accessible, Interoperable and Reusable) principle.
- Perform quality control and curation of data, maintain data backup and manage data life cycle.
- Develop web-based tools/APIs for data sharing or retrieval
- Organize training programme for analysing of large data and create awareness about the benefits of data sharing.

##### Significance:

- At present, most Indian researchers depend on the European Molecular Biology Laboratory (EMBL) and National Centre for Biotechnology Information databases for storing biological data. 'Indian Biological Data Bank' will reduce our dependency on them.
- TB Bacteria sequences will help not only in understanding the spread of multi-drug and extremely drug resistant TB in the country, but also aid the search for targets for new therapies and vaccines.
- With genomes of humans, animals, and microbes present in the same database, it will also help researchers in studying zoonotic diseases, that is, diseases that jump from animals to humans.

#### 4.7 No Money for Terror (NMFT)

- The Third Ministerial 'No Money for Terror (NMFT)' Conference will be hosted by the Ministry of Home Affairs, with representatives of 75 countries and global bodies.
- Previous conferences were held in Paris (in 2018) and Melbourne (in 2019).

##### About NMFT conference:

- Aim: To discuss key issues including use of dark web, virtual assets, crowdfunding platforms, Money Transfer Service Scheme and hawala networks by terrorist entities
- To discuss global trends in terrorism and terrorist financing, the use of formal and informal channels of funding terrorism, emerging technologies and terrorist financing, and requisite international cooperation to address related challenges
- The declaration acknowledged the "essential" role of the Financial Action Task Force (FATF) in this regard and asked member states to enhance the traceability and transparency of financial transactions.

### About Dark Web:

- The dark web is the part of the World Wide Web (or the Internet) that isn't indexed by search engines.
- It uses a technology called "onion routing," which protects users from surveillance and tracking through a random path of encrypted servers.
- Such as , when users access a site through Tor, their information is routed through thousands of relay points that cover the user's tracks and make their browsing virtually impossible to trace.
- People use the dark web for both legal and illegal purposes.
- Illegal uses include buying and selling of illegal drugs, weapons, passwords, and stolen identities, as well as the trading of illegal pornography and other potentially harmful materials as well as malware, DOS attacks, espionage, etc.
- The dark web's anonymity has also led to cybersecurity threats and various data breaches.

### 4.8 Inclusive growth

- The use of technology in financial inclusion stands to be pertinent in today's context as it paves the way towards inclusive growth through the upliftment of disadvantaged sections of society.
- Globally, from 51 percent in 2011, over 76 percent of adults now have a bank or mobile account. In addition, more than 80 nations have introduced digital financial services, some of which have attained a sizable market, including those utilising mobile devices.
- As a result, millions of formerly excluded clients are switching from only using cash for formal financial transactions to using digital banking services over mobile phones or other devices.

### What is financial inclusion:

- Financial inclusion refers to the availability to both individuals and companies of useful and cost-effective financial goods and services.
- This includes payments, transactions, savings, credit, and insurance, that are sustainably and ethically provided.
- It allows social mobility and empower individuals and foster communities.
- It aids in promoting economic growth by launching and grow enterprises through utilising credit and insurance.
- Enhance overall quality of life by making investments in their children's or own health or education, manage risk, and recover from financial setbacks, all of which can

### Impediments to financial inclusion:

- Urban-Rural Digital Divide:
- Only 4.4% rural families have computers, compared to 14.4% of urban households and 14.9 percent of rural homes have internet connectivity, compared to 42 percent of families in metropolitan regions.
- Only 13 percent of adults in rural regions have access to the internet, compared to 37 percent in metropolitan areas.
- Nearly 80% of the population has a bank account but Indians are still not fully integrated into the formal banking system.
- Almost 18 percent (81.38 million) of bank accounts are inoperative, having "zero balance"
- 38 percent of accounts are inactive, which means that there have been no deposits or withdrawals in the past year
- more than 310 million individuals needing a basic cell phone which prevents account holders from receiving crucial information, such as details relating to account transactions.
- Increasing dependency on local agents because financial institutions are less willing to deliver messages for transactions of small quantities.
- Complicated banking procedures such as requiring identity credentials and maintaining a specific balance in an account.
- Access to credit is low
- small-time lenders charge high-interest rates in rural regions.

- Government programmes are yet to reach more remote areas to improve loan availability efficiently.
- Individuals find that online loans need more options from reliable financial institutions or digital lending.
- Limited access to computer and communication technologies due to low affordability and knowledgeable to utilise the internet.
- Lack of financial literacy causes low potential to maximise technological interventions.
- About 266 million adults are illiterate.
- Financial cyber-crimes are peaking in proportion to the growing distrust among rural residents, leading to lower adoption rates and a 6-percent jump in cybercrimes in the same year.
- Burden of providing diversified content across different regions, as individuals across India have different mother tongues.
- Personal Identifiable Information (PII) guidelines are not strictly enforced, causing large quantities of data readily accessible to numerous parties, raising serious concerns about data privacy.
- This includes Mobile numbers and Know Your Customer (KYC) Data.
- Few business correspondents' (BCs) agents secretly record biometric information in clay, where they would subsequently recreate it for fraudulent purposes.

#### **Suggestions towards inclusion:**

- Technological advancements through various e-governance schemes such as GeM portal.
- Robust policy framework focused on the needs of citizens and the disadvantaged:
- Information and Communication Technology policies are primarily top-down and supply-focused.
- These policies should focus on digital inclusion strategies to ensure that rural areas can access proper internet connectivity.
- To ensure digital financial inclusion
- encourage the middle-aged bracket to educate themselves in reading and writing to use the various facilities they provide.
- Government websites to have information in multiple tongues, keeping in mind the language barrier and access to technology.
- To combat financial fraud, implementing a one-to-one Management of Financial Services (MFS) agent mentorship programme that focuses on vulnerable populations and teaches them the fundamentals of mobile and online interaction is possible.
- Removing barriers to financial service access for low-income persons by reducing transaction costs could facilitate increased participation, as observed in Nepal, where free and easily accessible accounts were more prevalent among women.

#### **Way forward:**

- The inability of the country to adapt to robust telecommunication infrastructure with a stable broadband internet connection and lack of access to technology has widened social exclusions already present and deprive people of necessary resources.
- The digital divide affects every area of life, including literacy, wellness, mobility, security, access to financial services, etc.
- Therefore, for a fast-growing nation such as India, the focus needs to shift from simple economic growth to equitable and inclusive growth.

## **4.9 Anti-microbial resistance**

Recently an international network under Natural Livestock Farming Foundation (NLF) a non-profit has developed an effective methodology to support farmers in reducing their use of antibiotics and other veterinary drugs in smallholder and large-scale dairy systems.

#### **About Antimicrobials and Anti-microbial resistance:**

- Antimicrobials – including antibiotics, antivirals, antifungals and antiparasitics – are medicines used to prevent and treat infections in humans, animals and plants.

- Antimicrobial Resistance (AMR) occurs when bacteria, viruses, fungi and parasites change over time and no longer respond to medicines making infections harder to treat and increasing the risk of disease spread, severe illness and death.
- As a result of drug resistance, antibiotics and other antimicrobial medicines become ineffective and infections become increasingly difficult or impossible to treat.

**Factors that accelerates the emergence and spread of AMR:**

- AMR occurs naturally over time, usually through genetic changes. Antimicrobial resistant organisms are found in people, animals, food, plants and the environment (in water, soil and air).
- They can spread from person to person or between people and animals, including from food of animal origin.
- The main drivers of antimicrobial resistance include the misuse and overuse of antimicrobials; lack of access to clean water, sanitation and hygiene (WASH) for both humans and animals; poor infection and disease prevention and control in health-care facilities and farms; poor access to quality, affordable medicines, vaccines and diagnostics; lack of awareness and knowledge; and lack of enforcement of legislation.

**About Global Action Plan on Antimicrobial Resistance (GAP):**

- Globally, countries committed to the framework set out in the Global Action Plan<sup>1</sup> (GAP) 2015 on AMR during the 2015 World Health Assembly and committed to the development and implementation of multisectoral national action plans.
- It was subsequently endorsed by the Governing Bodies of the Food and Agriculture Organization of the United Nations (FAO) and the World Organisation for Animal Health (OIE).
- Prior to the endorsement of the GAP in 2015, global efforts to contain AMR included the WHO global strategy for containment of Antimicrobial Resistance developed in 2001 which provides a framework of interventions to slow the emergence and reduce the spread of AMR.

**World Antimicrobial Awareness Week (WAAW):**

- WAAW was previously called World Antibiotic Awareness Week. Since 2020, it has been called World Antimicrobial Awareness Week.
- Held annually event since 2015, WAAW is a global campaign that aims to raise awareness of antimicrobial resistance worldwide and encourage best practices among the general public, health workers and policy makers to slow the development and spread of drug-resistant infections.
- The Tripartite Executive Committee decided to set all future WAAW dates as 18 to 24 November. The overarching slogan used for the last 5 years was “Antibiotics: Handle with Care.” This was changed to “Antimicrobials: Handle with Care” in 2020.

**The Global Antimicrobial Resistance and Use Surveillance System (GLASS):**

- WHO launched the Global Antimicrobial Resistance and Use Surveillance System (GLASS) in 2015 to continue filling knowledge gaps and to inform strategies at all levels.
- GLASS provides a standardized approach to the collection, analysis, interpretation and sharing of data by countries, territories and areas, and monitors the status of existing and new national surveillance systems, with emphasis on representativeness and quality of data collection.

#### 4.10 Need for safety in digital space

India has one of the youngest youth demographics in the world and is among the most active online.

**Key facts:**

- As online interactions increase, more and more content is created and shared among people, helping them form new and wonderful connections. Sometimes, however, these interactions also make them vulnerable to harm.
- As per the NCRB Data, A total of 50,035 cases in 2020 were registered under cybercrimes, showing an

increase of 11.8 per cent in registration over 2019 (44,735 cases).

- In India, an estimated 71 million children aged between 5 to 11 years access the Internet on the devices of their family members, constituting about 14 percent of the country's active Internet user base of over 500 million.
- It should also be noted that two-thirds of internet users in India are in the age group of 12-29 years.

#### **About The Information Technology Act, 2000:**

- It came into force on October 17, 2000, and contains cyber laws in India.
- The main objective of the Act is to provide legal recognition to electronic commerce and to facilitate the filing of electronic records with the government.

#### **Important Sections:**

- Section 66E – Publishing obscene images
- Section 67 – Publishes or transmits unsolicited material
- Section 67A – Publishes or transmits explicit sex
- Section 67B – Abusing children online

#### **About the New Information Technology (IT) Rules:**

- The New Information Technology (IT) Rules ensure the online safety and dignity of women users and give a framework to deal with content, including fake content, which results in heinous crimes. Features includes the following:
- Imposes several obligations on online entities including appointing grievance redressal officers and assisting in investigations.
- Provides a set of checks and balances for the removal of unlawful content and information on the internet.
- Empower the ordinary users of social media digital platforms and make intermediaries, including the social media intermediaries, accountable.
- Intermediaries shall remove or disable access within 24 hours of receipt of complaints of contents that exposes the private areas of individuals, show such individuals in full or partial nudity or a sexual act or is in the nature of impersonation including morphed images, etc.

#### **Challenges in the Digital Space:**

- Circulation of Private Pics and Videos: Private pictures of young women are leaked online. Sometimes it is from a hacked account, other times because of a soured relationship.
- It should be no surprise that young men and women are exploring new ways to express their sexuality through sharing intimate images.
- These new social norms have created new forms of abuse where women are usually the victims.
- Anonymity: Digital social spaces provide anonymity, which is great for free speech but can be stifling for nuanced debate and dialogue.
- They fuel the polarization of ideas while providing a free run for peddlers of misinformation.
- Cyberbullying: The impact of online sexual harassment could have long-term negative impacts on their mental health and well-being.

#### **Suggestive measures:**

- Platforms need to design choices that help women stay in control of who they engage with.
- They should leverage open-source technology that detects and blurs lewd images so that women don't need to see unsolicited pictures.
- There is a need to upgrade the existing cyber cells by setting up dark web monitoring cells and social media monitoring cells to tackle different types of cyber along with traditional police recruitments, there is a need to induct technical experts into the police force.
- The States should map the cybercrime hotspots which will help in the quick detection of crimes and taking proactive measures to prevent cybercrimes.
- We need to focus on safety tools and features across the spectrum of websites and apps.

- Public discourse around technology-facilitated abuse has to be elevated.
- There's a need for new codes of ethics that define how tech and society interact to promote societal well-being.
- Users need to go beyond protecting their log-in details and one-time-passwords (OTPs) and enable safety measures such as two-factor authentication.
- This feature can be an effective safeguard against unauthorized access to online accounts; however, very few use it.
- A Comprehensive solutions require a multi-stakeholder approach – tech developers should create responsible products that enable safety and privacy by design, and governments can enact regulations and policies that protect users' rights while promoting healthy competition

#### 4.11 Cerebrotendinous Xanthomatosis or CTX

Recently researchers from Hyderabad have rescued a nine year old boy from a rare progressive genetic disease identified as Cerebrotendinous Xanthomatosis or CTX at an early stage.

##### About Cerebrotendinous Xanthomatosis (CTX):

- Cerebrotendinous xanthomatosis (CTX) is a lipid storage disease characterized by infantile-onset Diarrhea, childhood-onset cataract, adolescent- to young adult-onset tendon xanthomas, and adult-onset progressive neurologic dysfunction (dementia, psychiatric disturbances, pyramidal and/or cerebellar signs, dystonia, atypical parkinsonism, peripheral neuropathy, and seizures).
- Patients with CTX are unable to break down different forms of cholesterol, which build up in certain areas of the body.
- CTX is characterized by fatty yellow nodules (xanthomas) located in the connective tissues within the brain.
- These deposits can cause progressive damage to the brain and other areas of the body.
- Patients with CTX do not have elevated levels of cholesterol in their blood; however, they do have elevated levels in their tissues.

##### Symptoms:

- For infants and children, symptoms may include: Chronic Diarrhea during infancy, Cataracts in late childhood, Frequent bone fractures due to brittle bones
- When a patient with CTX enters into adulthood, they may begin to notice the following neurological symptoms: Dementia, Seizures, Hallucinations, Depression, Difficulty with coordination, Difficulty with speech
- The fatty deposits can also result in cardiovascular disease or stroke if they limit or block the blood flow to the heart or brain.

##### Causes and Risk Factors:

- Cerebrotendinous xanthomatosis is caused by a change in the CYP27A1 gene, which is involved in the production of an enzyme that breaks down cholesterol.
- The condition is inherited, and both parents need to pass on the genetic abnormality in order for their child to have the condition.
- If the child only receives one copy of the abnormal gene, then they are a carrier for CTX but will not have any symptoms.
- The condition is rare and occurs in an estimated 3 to 5 out of every 100,000 people.
- The condition affects all genders and ethnicities; however, it is most common in the Moroccan Jewish population.

##### Treatment:

- There is no cure for CTX, however, if the condition is treated early, its progression can be slowed or stopped.



- The first treatment generally prescribed is chenodeoxycholic acid (CDCA) replacement therapy, which works to normalize the body's ability to break down cholesterol.
- Other medications, known as HMG-CoA reductase inhibitors, may be prescribed to help lower cholesterol levels by blocking the enzyme responsible for the production of cholesterol.
- In CTX patients, cataract surgery also is often required by the age of 50.
- For patients who have experienced a stroke, the Stroke Program provides a multidisciplinary treatment approach through a personalized treatment plan tailored to each patient.
- Patient care is generally broken down into three categories: stroke prevention, treatment immediately after a stroke, and post-stroke rehabilitation.

#### 4.12 Agni 3 missile

India carried out a successful training launch of the Intermediate Range Ballistic Missile (IRBM) Agni-3 developed by DRDO, from APJ Abdul Kalam Island, Odisha, as part of routine user training launches conducted by the Strategic Forces Command.

##### About Agni-3 missile:

- Two-stage solid propellant powered, nuclear capable, Intermediate range ballistic missile (IRBM)
- It is 16-meter-long, weighing more than 48 tonnes, has a range of over 3000 kilometres and can carry a payload of over 1.5 tonnes.
- It was subsequently successfully flight tested in 2007.
- It is under operational purview of the Strategic Forces Command, which is part of India's Nuclear Command Authority.
- The Agni-3 test comes over a month after India's Strategic Strike Nuclear Submarine, INS Arihant, carried out a successful launch of a Submarine Launched Ballistic Missile (SLBM).
- The strategic postures of "credible minimum deterrence" and "no first use" are pivotal to India's nuclear doctrine.

#### 4.13 PSLV-C54

- ISRO successfully placed nine satellites, including an Earth Observation Satellite (EOS-06) in multiple orbits with the help of the space agency's Polar Satellite Launch Vehicle (PSLV-C54).
- The mission was accomplished from Satish Dhawan Space Centre SHAR.
- This is the 56th flight of the Polar Satellite Launch Vehicle (PSLV) and the 24th flight of the PSLV-XL version with 6 PSOM-XIs.
- The nano satellites include ISRO Nano Satellite-2 for Bhutan (INS-2B), Anand, Astrocast (four satellites), and two Thybolt satellites.

##### About the satellites:

###### EOS-6:

- It is the Oceansat series' third-generation satellite, which provides continued services of Oceansat-2 with enhanced payload capability.
- The satellite onboard carries four payloads.
- It is envisaged to observe ocean colour data, sea surface temperature and wind vector data to use in oceanography, climatic and meteorological applications.
- The satellite also supports value added products such as potential fishing zone using chlorophyll, SST and wind speed, and land based geophysical parameter.
- Astrocast, a 3U spacecraft with 4 Satellites is from Spaceflight Inc, U.S.
- Thybolt is a 0.5U spacecraft bus that includes a communication payload to enable rapid technology demonstration and constellation development for multiple users from Dhruva Space using their own Orbital Deployer with a minimum lifetime of one year.
- The Anand is a three-axis stabilised nano satellite and a technology demonstrator for miniaturised electro-

optical payload.

- INS-2B satellite or India-Bhutan satellite has two payloads namely NanoMx, a multispectral optical imaging payload developed by Space Applications Centre (SAC) and APRS-Digipeater, which is jointly developed by DITT-Bhutan and URSC.
- Sub-systems like TTC, power, onboard computer and ADCS from Pixxel, India was also placed in the orbit.

**Future launches:**

- Aditya-L1, a coronagraphy spacecraft to study the solar atmosphere, with a PSLV rocket.

**About Polar Satellite Launch Vehicle (PSLV):**

- PSLV is known as the 'workhorse' of ISRO.
- It is the third generation launch vehicle of India.
- It is a four-staged launch vehicle with first and third stages using solid rocket motors and second and fourth stages using liquid rocket engines.
- It is the first Indian launch vehicle to be equipped with liquid stages.

EDGE IAS

## 5. Environment & Ecology

### 5.1 Flame lily

- The commercial cultivation of flame lily had attracted many in Tamil Nadu since the 1980s as a kilogram of the seeds of the flower, with its therapeutic properties, fetched up to ₹8,000 in a pharmaceutical-driven market. That's no longer the case at present.

#### About flame lily

- Flame lily occupies a special place in Tamil literature.
- The Sangam-era poet, Kapilar, refers to it in his Kurinchipattu that describes the landscape of the mountainous terrain.
- When the State of Tamil Nadu was formed in 1956, flame lily was named as its official flower.
- It is also known as: *Gloriosa superba*/Kanvali kizhangu/Karthigaipoo/Senkanthalpoo
- It is commonly found in scrubland, forests, thickets and even sand dunes.
- Both the roots and the seeds are important pharmaceutical ingredients in indigenous Indian and African medicine.
- They have been part of therapies to treat or manage ailments such as cancer, gout, arthritis, leprosy and dyspepsia.

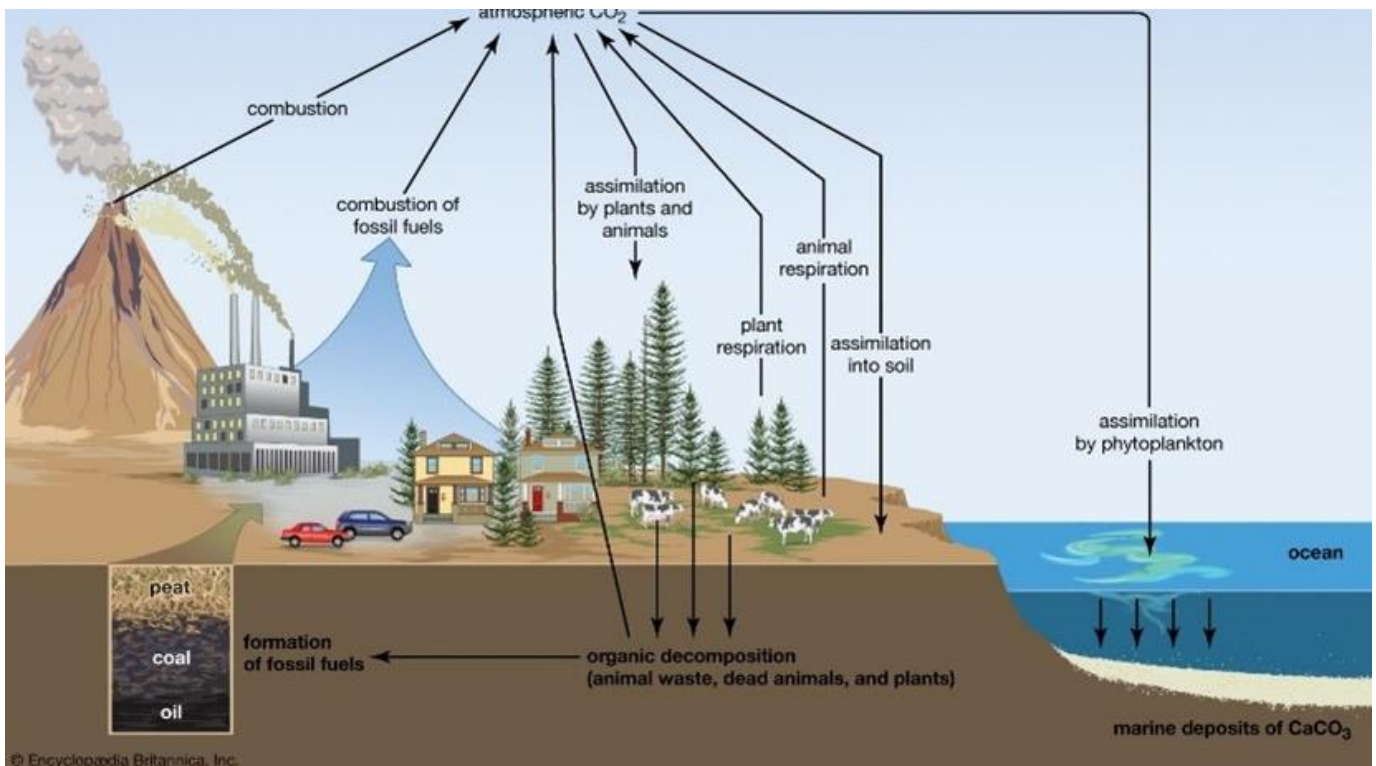
### 5.2 Soil carbon sequestration

- International Crops Research Institute for The Semi-Arid Tropics (ICRISAT) has published a modelling study that revealed how the right combination of fertilisers, biochar, and irrigation could potentially increase soil carbon by 300%.
- The study was conducted in some districts of Maharashtra and Odisha with semi-arid climate (annual rainfall 600 -1,100 mm).
- A new gaming app, 'Mrida', has been launched to promote behavioural change among farmers and will be released in English, Marathi and Odiya.

#### About Carbon sequestration:

- Carbon sequestration is the process of capturing and storing atmospheric carbon dioxide.
- The carbon sequestration increased by more than 300 per cent in combination with fertiliser, biochar, and irrigation.
- Biochar is a charcoal-like substance that burns organic material (biomass) from agricultural and forestry wastes in a controlled process called pyrolysis.
- Biochar has safely reduced contamination and stored carbon.
- Biochar increased carbon value in the soil by 130-300 per cent over 30 years with little difference in yield.
- Optimal use of fertilizers increased the carbon and output by up to 30 per cent.
- Improved nutrients, crop/variety, landform, minimum tillage and residue addition led to a significant increase in soil carbon.
- Carbon sequestration increased by 100 kg ha per year with the improved practices of landform management, fertilizers and crop varieties over 45 years.
- Two major types: geologic and biologic
- Geologic carbon sequestration is the process of storing carbon dioxide (CO<sub>2</sub>) in underground geologic formations like rocks.
- Biologic carbon sequestration refers to storage of atmospheric carbon in vegetation, soils, woody products, and aquatic environments.
- Carbon sequestration occurs both naturally and as a result of anthropogenic activities.
- The Kyoto Protocol under UNFCCC allows countries to receive credits for their carbon-sequestration activities in the area of land use, land-use change, and forestry.

- Carbon capture and storage (CCS): carbon dioxide is first separated from other gases contained in industrial emissions. It is then compressed and transported to a location that is isolated from the atmosphere for long-term storage.



#### Significance:

- Food systems account for nearly one-third of greenhouse gas (GHG) emissions.
- In 2015, food-system emissions amounted to 18 Gt CO<sub>2</sub> equivalent per year globally, representing 34 per cent of total GHG emissions.
- Soil carbon is critical for crop yield and climate adaptation or mitigation measures, which are heavily reduced by both intensive agriculture and indiscriminate use of chemicals leading to increased carbon emissions.
- Carbon sequestering can provide an additional source of income for the farmers.

### 5.3 Himalayan Grey Langur

- According to new studies, differences in altitude make a primate species in the same Himalayan habitat choose between flowers and fruits as food options beyond their staple menu of leaves.

#### About Himalayan Grey Langur:

- The Himalayan Gray Langur or the Chamba Sacred Langur ( *Semnopithecus ajax*) is a colobine, meaning leaf-eating monkey.
- It is considered an endangered species globally.
- The Himalayan Gray Langur was once considered a sub-species of the *Semnopithecus entellus*, commonly known as the Bengal Sacred Langur or Hanuman Langur, but it was separated as a species in 2005.
- In India, most langurs comes under the genus *Semnopithecus*.
- Prior to 2001, *Semnopithecus entellus* (Hanuman Langur) was considered only one species, with several subspecies.
- It was in 2001 that these subspecies were recommended as separate species under the genus *Semnopithecus*.
- Accordingly, seven different species have been recognised which include *Semnopithecus ajax*.

- In the Indian Subcontinent, their distribution is reported from Himachal Pradesh, Jammu and Kashmir and from Pakistan and Nepal.
- S ajax is an endangered species according to the International Union for Conservation of Nature Red List but after reassessment in 2004, it was re-designated as 'Critically Endangered'.
- It is considered endangered due to its restricted range habitat.

## 5.4 IDRA

Launch of IDRA at the 27th Conference of Parties (COP27) to the United Nations Framework Convention on Climate Change (UNFCCC) at Sharm El-Sheikh, along with 30 countries and 20 organisations.

### About the IDRA:

- Launched by Spain and Senegal
- First announced by Spain at the 77th session of the UN General Assembly in 2022.
- Significance: there is no global convention for land, other than UNCCD, which mostly focuses on desertification.
- A 'specific solution' for the United Nations to the impacts of climate change and aims to move from emergency response to building long-term resilience.
- The mission of the alliance is to give political impetus to make the land's resilience to drought and climate change a reality by 2030.
- Political commitments include a five million Euro (Rs 40.76 crore) seed fund by Spain.
- Kenya made a commitment to plant five billion trees in the next five years and 10 billion trees in 10 years.
- The alliance will also collaborate with other platforms, including the initiative launched by the United Nations Secretary-General and the World Meteorological Organization to achieve universal coverage of early warning systems and regional initiatives to reap the maximum benefits of working together on drought resilience.

### Challenges of Drought:

- Drought represents the most serious hazard to livestock and crops in nearly every part of the world.
- It ranks among the greatest threats to sustainable development, especially in developing countries, but increasingly so in developed nations too.
- Recent episodes have shown that droughts are hitting more often and harder than before, up nearly by a third since 2000.
- Climate change is expected to cause more severe droughts in the future.
- Droughts have increased in frequency by 29 per cent since 2000, with around 55 million people affected every year, according to the latest 'Drought in Numbers' report compiled by the United Nations Convention to Combat Desertification (UNCCD).
- The 2022 droughts in Europe, United States, Australia, Chile, the Horn and southern Africa, showed that no country or region is immune to their impacts.
- Drought-generated economic losses from 1998 to 2017 were about \$124 billion (Rs 1,011.57 crore) across the world, not to mention the cost of human suffering and lives.

## 5.5 COP27

All nations that signed the pact under UN Framework Convention on Climate Change (UNFCCC) are meeting in Sharm el-Sheikh, Egypt, at the COP27.

### About current situation:

- As per the Paris Agreement on Climate Change of 2015, the focus is to drive down greenhouse gas emissions and keep the rise in average global temperature to well below 2°C and as close to 1.5°C as possible by the end of the century.
- Current temperature rise stands at 1.2°C to 1.3°C over the pre-industrial average, the highest in about

12,000 years since the last Ice Age.

- UNEP's Emissions Gap Report 2022 says global warming is projected to rise to 1.8°C with a 66% probability, even if all the Nationally Determined Contributions or NDCs (voluntary pledges submitted under the Paris pact) are implemented.
- At 2°C, up to 20% decline in snowmelt water for irrigation, diminished water for farming and human settlements due to glacier mass loss, and a two-fold increase in flood damage could happen, while up to 18% of species on land could go extinct.
- Global annual emissions during 2021 at 52.8 Gigatonnes (GtCO<sub>2</sub>e), represents a slight increase compared to 2019, the pre-COVID year, and that the outlook for 2030 is not bright.
- The latest Sixth Assessment Report (SAR) of the IPCC says that biodiversity loss, Arctic ice loss, threat to coastal settlements and infrastructure, conflicts & migration of affected people and urban challenges to energy and water access could also arise.
- Tipping points means moments that cascade into irreversible changes, with a domino effect on other elements such as heat waves, Greenland ice sheet collapse, West Antarctic ice sheet collapse, thawing of the boreal permafrost, and tropical coral reef die offs, all of which are expected to happen at 1.5°C.
- G20 members account for 75% of emissions, although it is the richer countries that are responsible for accumulated emissions since the industrial revolution.

#### **Objectives of COP27:**

- The COP27 is described as the conference of implementation.
- Aim: to review progress, raise ambition on emissions cuts and draw up funding plans to help vulnerable countries adapt to climate change.
- Countries most affected by the effects of a changing climate have been seeking loss and damage payments from the richer industrialised nations in the form of a separate loss and damage fund.
- To move away from fossil fuels and to peak emissions by 2025.
- "10 New Insights on Climate Science" released at COP27 – shows continuing high emissions from fossil fuels

### **5.6 Methane Alert and Response System (MARS)**

The Methane Alert and Response System (MARS) was launched at the 27th Conference of Parties (COP27) to the United Nations Framework Convention on Climate Change in Sharm El-Sheikh, Egypt.

#### **About MARS:**

- A new satellite-based system to detect methane emissions and tackle them to slow climate change.
- The data-to-action platform was set up as part of the UN Environment Programme's (UNEP) International Methane Emissions Observatory (IMEO) strategy to get policy-relevant data into the right hands for emissions mitigation.
- The system will be the first publicly available global system to connect methane detection to notification processes transparently.
- It will use state-of-the-art satellite data to identify significant emission events, notify relevant stakeholders, and support and track mitigation progress.
- MARS partners will also provide technical or advisory services, such as help in assessing mitigation opportunities.
- UNEP will monitor the event location and make the data and analysis available to the public between 45 and 75 days after detection.

#### **About Methane:**

- Methane is a short-lived climate pollutant like hydrofluorocarbons and stays in the Earth's atmosphere for a few years, unlike carbon dioxide.
- Methane is the second-most abundant greenhouse gas in the atmosphere, after carbon dioxide
- Methane is an 80 times more potent greenhouse gas than carbon dioxide at trapping atmospheric heat in

the 20 years following its release.

- Methane has contributed to about one-third of the current anthropogenic greenhouse gas-driven warming.

#### Major sources of Methane:

- Natural: decay of plant material in wetlands, termites, oceans, digestion of food by cattle or the seepage of gas from underground deposits.
- Anthropogenic: landfills, oil and natural gas systems, agricultural activities, coal mining, stationary and mobile combustion, wastewater treatment, and industrial processes
- India: Agriculture – 61%, Energy sector – 16.4%, waste – 19.8% (as per Global Methane tracker)
- Methane enters the atmosphere due to leaks in oil and gas industries, rearing livestock and the decomposition of waste in landfills.
- Currently, only 2 per cent of global climate finance goes to methane.
- Global methane emissions in 2030, can be reduced by 57 per cent using available strategies and technologies. This reduction can cause lower global warming by around 0.25°C in 2050 and 0.5°C by the end of the century.

#### Miscellaneous:

- The global mean temperature 2022 is 1.15 degrees Celsius (°C) above the 1850-1900 pre-industrial average, with a range of 1.02°C to 1.28°C.
- Global Methane Pledge(2021): cut methane emissions by at least 30 per cent by 2030 — to keep the 1.5°C temperature limit within reach.
- India is not a part to the pledge
- Most emissions can be traced back to
- As per a WMO report, past eight years are on track to be the eight warmest on record, fuelled by ever-rising greenhouse gas concentrations and accumulated heat.
- NASA recently found 50 “super-emitters” of methane gas in central Asia, the west Asia and the southwestern United States. Most of these sites have ties with agriculture and fossil fuel industries.
- UNEP releases the Emissions Gap Report.

### 5.7 Climate Change Performance Index

- The latest Climate Change Performance Index has put India eighth amongst a group of 59 countries and the European Union (which account for 92% of the total GHG emissions)
- Denmark and Sweden have been assessed to be the top performers this year as well.
- The UK has been ranked 11, Germany 16, while China and the United States are placed at 51st and 52nd ranks respectively (China has dropped 13 places).

#### About CCPI:

- Published annually since 2005, it tracks countries’ efforts to combat climate change.
- Germanwatch, the NewClimate Institute and the Climate Action Network publish the index.
- It aims to enhance transparency in international climate politics and enables comparison of climate protection efforts and progress made by individual countries.
- The national performances are assessed based on 14 indicators in the following four categories:
- GHG emissions (weighting 40%)
- Renewable energy (weighting 20%)
- Energy use (weighting 20%)
- Climate policy (weighting 20%)

#### About India’s performance:

- India moved up two ranks.
- India earns a high rating in the GHG Emissions and Energy Use categories, with a medium for Climate

#### Policy and Renewable Energy.

- The country is on track to meet its 2030 emissions targets (compatible with a well-below 2-degree Celsius scenario). However, the renewable energy pathway is not on track for the 2030 target.
- India's upgraded NDC (nationally determined contributions)
- net zero target for 2070.
- at least 50 per cent of its electricity generation in 2030 from renewable energy sources (up from 40 per cent earlier)
- cuts in emissions intensity, 45 per cent from 2005 levels by 2030, instead of the 33-35 per cent which was the earlier target.
- India's climate actions were still not consistent with the 1.5-degree Celsius goal since India has plans to increase its oil and gas production by over 5 per cent by 2030.

### 5.8 Nagaland's Bird count drive

- A recent 4-day birding drive called Tokhü Emong Bird Count (TEBC), was organised in Nagaland during Tokhü Emong post-harvest festival of the Lotha Nagas.
- Birding is a unique enterprise in which birdwatchers contribute crucial information on the behaviour, distribution, and occurrence of bird species to ornithological knowledge.

#### About the event:

- Organised in collaboration with the Wokha Forest Division, Nagaland Forest Management Project, Wokha, Nagaland and Bird Count India.
- Aim: To get people interested in birds, create awareness, celebrate the rich bird diversity of the state and set a benchmark against which future studies of avian populations can be compared.
- This initiative involves local communities to identify different species that are found in the state.
- It has documented a total of 178 bird species in the state.
- eBird is an online platform to record their observations.
- Nagaland is known as the "Falcon Capital of the World".

#### Species reported included:

- Brown Shrike
- Warblers — Ashy-throated, Buff-barred, Yellow-browed, Dusky, Grey-cheeked, Greenish, and Yellow-bellied Warblers, Whistler's, Blyth's Leaf, Grey-hooded, Brown Bush, and Brownish-flanked Bush Warbler.

#### Spot-breasted Parrotbill

- Partridge — Hill, Rufous-throated, and Mountain Bamboo-Partridge.
- Raptors included Eurasian Sparrowhawk, Himalayan Buzzard, Oriental Scops-Owl and Amur Falcon.
- Asian Barred and Collared Owlet
- Scops-Owl — Mountain Scops-Owl, Collared Scops-Owl and Oriental Scops-Owl
- Black-tailed Crake.
- Bulbul — Black-crested, Crested Finchbill, Striated, Red-vented, Red-whiskered, Flavescent, Himalayan Black, Mountain Bulbul;
- Thrush — Long-billed, Black-breasted, Eyebrowed, Blue Whistling-Thrush
- Wagtail — Grey, Eastern Yellow, and White Wagtail.

#### About Bird Count India:

- Bird Count India is an informal partnership of organizations and groups working together to increase our collective knowledge about bird distributions and populations.
- The eBird India portal is managed by Bird Count India.



## 5.9 National Bioenergy Programme

- Recently, the Ministry of New and Renewable Energy organized a seminar on the National Bio Energy Programme in New Delhi in partnership with UNIDO and GEF as part of Azadi Ka Amrit Mahotsav along with launching of Biourja and Biogas portals.
- BioUrja portal has been developed as a single window platform to register and submit online applications for grant of Central Financial Assistance (CFA) to Waste to Energy projects, Biomass Briquette/Pellet manufacturing plants and Biomass (non-bagasse) based cogeneration projects.
- Biogas portal provides an overview on biogas related information.

### About Biomass:

- Biomass has always been an important energy source for the country considering the benefits it offers.
- It is renewable, widely available, carbon-neutral and has the potential to provide significant employment in the rural areas.
- Biomass is also capable of providing firm energy.
- Biomass materials used for power generation include bagasse, rice husk, straw, cotton stalk, coconut shells, soya husk, de-oiled cakes, coffee waste, jute wastes, groundnut shells, saw dust etc.

### Potential of Biomass:

- As per a recent study sponsored by MNRE, the current availability of biomass in India is estimated at about 750 million metric tonnes per year.
- The Study indicated estimated surplus biomass availability at about 230 million metric tonnes per annum covering agricultural residues corresponding to a potential of about 28 GW.
- This apart, about 14 GW additional power could be generated through bagasse based cogeneration in the country's 550 Sugar mills, if these sugar mills were to adopt technically and economically optimal levels of cogeneration for extracting power from the bagasse produced by them.

### About National Bioenergy Programme:

- The Ministry of New and Renewable Energy has notified the National Bioenergy Programme in November 2022.
- MNRE has continued the National Bioenergy Programme for the period from FY 2021-22 to 2025-26.
- The Programme has been recommended for implementation in two Phases:
- The Phase-I of the Programme has been approved with a budget outlay of Rs. 858 crores.
- It will comprise the following sub-schemes:

### Waste to Energy Programme:

- It is programme on Energy from Urban, Industrial and Agricultural Wastes /Residues to support the setting up of large Biogas, BioCNG and Power plants.
- Indian Renewable Energy Development Agency (IREDA) will be the implementing agency for the program.

### Biomass Programme:

- It is a Scheme to Support Manufacturing of Briquettes & Pellets and Promotion of Biomass (non-bagasse) based cogeneration in Industries to support setting up of pellets and briquettes for use in power generation and non-bagasse based power generation projects.

### Biogas Programme:

- To support setting up of family and medium size Biogas in rural areas.

### Significance of Bioenergy:

- Organic enriched Bio-manure: The digested slurry from biogas plants is a rich source of manure which shall benefit farmers in supplementing / reducing the use of chemical fertilizers.
- It is carbon neutral: As a natural part of photosynthesis, biomass fuels only release the same amount of carbon into the atmosphere as was absorbed by plants in the course of their life cycle.

- It reduces the overreliance of fossil fuels: Not only is there a limited supply of fossil fuels, but fossil fuels come with environmental baggage, including the release of large amounts of carbon dioxide into the atmosphere and the pollutants that result from removal, transportation and production.
- Less expensive than fossil fuels: While fossil fuel production requires a heavy outlay of capital, such as oil drills, gas pipelines and fuel collection, biomass technology is much cheaper. Manufacturers and producers are able to generate higher profits from a lower output.
- It helps in providing clean cooking through biogas.
- Co-firing in thermal power plants by utilizing biomass pellets and briquettes and BioCNG for transport.
- Setting up of biogas plants for clean cooking fuel, lighting, meeting thermal and small power needs of users which results in GHG reduction, improved sanitation, women empowerment and creation of rural employment.

#### **Challenges before Bioenergy:**

- Can lead to deforestation: Since wood is one of the most used sources of biomass energy, vast amounts of wood and other waste products have to be burned to produce the desired amount of power.
- While currently there is enough wood waste already, there is a risk of deforestation in the future.
- Biomass energy is not as efficient as fossil fuels: Some biofuels, like Ethanol, are relatively inefficient as compared to gasoline. In fact, it has to be fortified with fossil fuels to increase its efficiency.
- It is not entirely clear: While biomass is carbon neutral, the use of animal and human waste escalates the amount of methane gases, which are also damaging to the environment.
- Additionally, the pollution created from burning wood and other natural materials can be considered just as bad as that resulting from burning coal and other types of energy resources.
- Biomass construction plants don't come cheap: The harvest, transportation and storage of organic matter can be costly and go beyond what other renewable sources need such as solar power.

#### **Way Forward:**

- India is capable of generating over 750 million metric tonnes of biomass each year, creating a huge potential for the generation of bioenergy.
- The Ministry of New and Renewable Energy has been promoting bioenergy in India since the 1980s to make use of the surplus biomass, cattle dung, industrial and urban biowaste that are generated within the country.
- The benefits of utilization of surplus biomass should reach the rural household by way of an additional source of income for farmers.
- The extra push in the form of a 20 per cent higher standard CFA (central financial assistance) pattern for the north-eastern region and Gaushala/shelter was the need of the time to create inclusiveness in an applied manner.
- Thus, as a whole it will also support to national commitments in achieving climate change goals, along with reduction in import of natural gas and crude oil and buffer against crude oil/gas price fluctuations.

### **5.10 Water credit**

- During recently concluded COP 27 of UNFCCC which was held in Sharm el-Sheikh, Egypt, climate finance was a critical issue discussed comprehensively.
- According to the World Bank, India bears losses worth \$9.8 billion each year as a result of extreme events, with floods alone accounting for 50 per cent of the damages.
- In 2020, floods led to damages equivalent to 0.15 percent of the country's GDP in addition to thousands of lives being lost or impacted.

#### **About Water Credit:**

- Water credits are one of the financing mechanisms to drive collective action toward common climate adaptation goals.
- Water credits represent a fixed quantum of water that is conserved or generated and can be transacted

between water deficit and water surplus entities within a sub-basin.

- The concept of water credits is similar to carbon credits; however, unlike the atmosphere, the spatial limit for the transaction should remain within the same hydrological unit — that is, a river basin or watershed.
- g., multiple industries can offset their impact by buying water credits from municipalities that are fund-crunched to finance large-scale floodwater harvesting or wastewater treatment projects that conserve freshwater resources at a city level and promote wastewater reuse.

#### **Usage of Water Credit:**

- The UN GEMS/ Water Program uses a similar concept called the 'Green Water Credits'. It is implementing this in countries like China, Kenya and Morocco.
- This project incentivizes upstream farmers to undertake green water management practices to reduce runoffs, boost groundwater recharge and curb sedimentation in reservoirs.
- Downstream, the public and private beneficiaries have created an investment fund to address the gap between the farmers' initial investment and the realization of benefits by the end-users downstream.
- The UN is expected to expand this model to other countries as well, with the aid of IFAD/ International Fund for Agricultural Development and other institutions.

#### **Benefits of Water Credit:**

- The concept could help boost the 'value' of water in the public eyes. By attaching a monetary value to the resource, people could be encouraged to use it in a more economical manner.
- It is considered as an effective way to discourage water pollution on one hand and encourage maximum sustainable utilization of water on the other hand.
- Such a model could expand the existing recycling system. The discarded metals, plastics, phosphates and other materials would be diverted into recycling units instead of water bodies.

#### **Challenges of Water Credit:**

- Commodification of water is a controversial issue. If water is turned into a tradable commodity, dilemma would arise about pricing in relation to quality.
- Richer entities would simply buy the water credits and continue to pollute, while claiming to be environmentally responsible. This preference for the status quo to maintain productivity, rather than go for sustainability, is a phenomenon being seen in the carbon credit system too.
- Any credit system faces the risk of oligopoly, the market falls under the control of a few institutions, leading to limited competition. If such a situation arises, the rich players could buy up the credits from the economically weaker entities and start to control the market.

#### **About 27th Conference of Parties (COP27):**

- The 2022 United Nations Climate Change Conference, also known as COP27, is the 27th United Nations Climate Change conference.
- It is being held in Sharm el-Sheikh, Egypt from November 6 to November 18, 2022.
- COP27 will bring governments together to accelerate global efforts to confront the climate crisis.
- It is an important meeting because the latest science shows that climate change is moving much faster than we are, pushing ecosystems and communities to their limits.
- The Conference of Parties comes under the United Nations Climate Change Framework Convention (UNFCCC) which was formed in 1994.
- The UNFCCC was established to work towards the "stabilisation of greenhouse gas concentrations in the atmosphere."

#### **Issues of Finance for Climate Adaptation:**

##### **Lack of Support**

- International support for climate adaptation is skewed towards mitigation projects.
- The modalities of financing mechanisms have seen a shift from grants to loans.
- Local Nature of CSR Initiatives.
- Often actions under CSR are directed by context-based targets that represent the most critical challenges

of the environment where businesses are embedded.

- Therefore, the nature of the initiatives mostly remains local.

#### **Suggestive measures:**

- It is necessary to find alternative means of leveraging local financing opportunities to build resilience.
- From the private sector, CSR allocations can be reimagined as adaptation finance.
- Channelling CSR funds more effectively towards climate adaptation may provide a new source of climate finance.
- CSR funds potentially represent the third largest pool of climate finance after government spending and multilateral financing.
- There is a potential to address climate adaptation but it will require industries to pool finances. The industrial sector is the second highest user of freshwater in the country.
- For developing countries to enhance their ambition, developed countries must provide enhanced support.
- Need for nature-based solutions to link actions on mitigation and adaptation in terms of planning, financing, and implementation, which would provide co-benefits.
- It is required urgent efforts to increase the financing and implementation of actions designed to adapt to the growing impacts of climate change,
- There should be collective effort around making adaptation projects investible.
- The world needs innovation in adaptation finance to realize a more sustainable future. Water credits may prove to be one among the many effective mechanisms to achieve water resilience. However, its adoption must be informed by thorough understanding of the ground conditions and international experience with the model.

### **5.11 Earthquake in Indonesia**

The death toll from the earthquake in Indonesia has risen to 162 with hundreds injured and over 13,000 displaced.

#### **About the disaster:**

- The US Geological Survey said the magnitude 5.6 quake was centered in the Cianjur region in West Java province at a depth of 10 kilometres (6.2 miles).
- Indonesia's Meteorology, Climatology, and Geophysical Agency recorded at least 25 aftershocks.
- Several landslides were reported around Cianjur.
- Indonesia, the country of more than 270 million people is frequently struck by earthquakes, volcanic eruptions and tsunamis because of its location on the "Ring of Fire,"
- It also caused panic in the greater Jakarta area, where high-rises swayed and some were evacuated. Earthquakes occur frequently across the sprawling archipelago nation, but it is uncommon for them to be felt in Jakarta.

#### **Other earthquakes in Indonesia:**

- In February 2022, a magnitude 6.2 earthquake killed at least 25 people and injured more than 460 in West Sumatra
- In January 2021, a magnitude 6.2 earthquake killed more than 100 people and injured nearly 6,500 in West Sulawesi

#### **About Ring of Fire:**

- The Ring of Fire, also referred to as the Circum-Pacific Belt, is a path along the Pacific Ocean characterized by active volcanoes and frequent earthquakes.
- It is a horseshoe-shaped belt about 40,000km long and about 500 km wide that contains two-thirds of the world's total volcanoes and 90% of Earth's earthquakes.
- It traces boundaries between several tectonic plates—including the Pacific, Juan de Fuca, Cocos, Indian-Australian, Nazca, North American, and Philippine Plates.

### **The Ring of Fire is a direct result of plate tectonics:**

- Along much of the Ring of Fire, plates overlap at convergent boundaries called subduction zones. That is, the plate that is underneath is pushed down, or subducted, by the plate above. As rock is subducted, it melts and becomes magma. The abundance of magma so near to Earth's surface gives rise to conditions ripe for volcanic activity.
- Transform boundary: The border between the Pacific and North American Plates is a transform boundary, where plates move sideways past one another and generates many earthquakes as tension in Earth's crust builds up and is released.
- Consumption of oceanic lithosphere at these convergent plate boundaries has formed oceanic trenches, volcanic arcs, back-arc basins, and volcanic belts.

## **5.12 Climate Change Performance Index (CCPI)**

CCPI 2023 was released in COP 27, assessing 59 countries and the European Union on climate change policies and actions.

### **About CCPI:**

- Published annually since 2005, the Climate Change Performance Index (CCPI) is an independent monitoring tool for tracking the climate protection performance of 59 countries and the EU.
- These 59 countries together account for 92% of global greenhouse gas emissions.
- Published by German Watch, New Climate Institute and Climate Action Network International based in Germany.
- The CCPI aims to enhance transparency in international climate politics and enables comparison of climate protection efforts and progress made by individual countries.

### **The climate protection performance is assessed in four categories:**

- GHG Emissions (40% of overall score),
- Renewable Energy (20% of overall score),
- Energy Use (20% of overall score) and
- Climate Policy (20% of overall score).

### **India's performance:**

- India jumps 2 spots higher, and now ranks 8th.
- India has been ranked amongst top 5 countries in the world, and the best among the G20 countries, based on its Climate Change performance.
- CCPI places India as the only G-20 country in the top 10 rank.
- Denmark, Sweden, Chile and Morocco as the only four small countries that were ranked above India as 4th, 5th, 6th and 7th respectively.
- The first, second and third ranks were not awarded to any country.
- In effect therefore, India's rank is the best amongst all large economies.
- India earned a high rating in the GHG Emissions and Energy Use categories, while a medium for Climate Policy and Renewable Energy.
- As per the CCPI report, India is on track to meet its 2030 emissions targets (compatible with a well-below-2°C scenario).
- Various demand side flagship programs such as UJALA, PAT Scheme and Standards and Labelling Programme that have contributed significantly to this notable achievement.

## **5.13 Southern white rhino**

- In a major setback to rhino conservation in Africa, the proposal to downgrade the status of southern white rhino from Appendix I to Appendix II was accepted at the 19th Conference of Parties (COP19).
- The COP19, organised by Convention on International Trade in Endangered Species (CITES) in Panama City,

accepted the proposal by Botswana and Namibia to degrade the status. Wild animal species listed in Appendix I include those threatened with extinction.

#### **About Southern white rhino:**

- The southern white rhino and northern white rhino are subspecies of the white rhino. Aside from living in different parts of Africa, they differ slightly in the shape of their teeth and heads, appearance of skin folds, and amount of hair.
- In general, southern whites are a little larger and hairier. Contrary to the species name, both subspecies are Gray in colour.
- “White” may be taken from the Afrikaans word for “wide,” in reference to their mouths, which are wide and square to help them graze on grass.
- COMMON NAME: Southern white rhinoceroses
- SCIENTIFIC NAME: *Ceratotherium simum simum*
- DIET: Herbivore
- AVERAGE LIFE SPAN IN THE WILD: 39 to 43 years
- AVERAGE LIFE SPAN IN CAPTIVITY: 27 to 30 years
- SIZE: Up to 12 feet
- WEIGHT: Up to 7,900 pounds

#### **Habitat and behavior:**

- Nearly 99 percent of southern white rhinos live in the savannas of Kenya, Namibia, and Zimbabwe, though the vast majority are found in South Africa.
- White rhinos are semi-social and territorial. They stay together in herds on the grassy plains and mark their territory with strategically placed deposits of dung.
- The males defend their territory vigorously with their horns and massive sizes.
- Males tend to be more solitary than females, and live on about one square mile of land, whereas females can range over an area almost seven times as large.
- White rhinos love mud. They will roll around in it, cover themselves with it, and cover their young with it. The wet mud cools them and protects their skin from sun and insects.
- Threats: It is mostly threatened by habitat loss, continuous poaching in, and the high illegal demand for rhino horn for commercial purposes and use in traditional Chinese medicine.
- From 2012 to 2017, white rhinos’ population dropped 15 percent, largely because of poaching. Poaching and illegal trade in rhino horn is usually part of sophisticated, organized criminal networks.

### **5.14 1st Biodiversity heritage site in TN**

The Tamil Nadu Government, issued a notification declaring Arittapatti and Meenakshipuram villages in Madurai district the first biodiversity heritage site in the State.

#### **Biodiversity Heritage sites (BHS):**

- “Biodiversity Heritage Sites” (BHS) are well defined areas that are unique, ecologically fragile ecosystems – terrestrial, coastal and inland waters and, marine having rich biodiversity comprising components such as
- species richness, high endemism, presence of threatened species, keystone species or land races, or biological components having cultural or aesthetic values.
- As per Section 37 of the Biological Diversity Act, State Governments are empowered to notify such sites, in consultation with ‘local bodies’.
- State Government in consultation with the Central Government may frame rules for the management and conservation.

#### **Significance:**

- protecting its rich and exclusive ecosystem
- conservation ethics in the community

### About Arittapatti:

- Arittapatti BHS is 139.63 hectares in Arittapatti village (Melur block) and 53.8 hectares in Meenakshipuram village (Madurai East taluk).
- Arittapatti village, known for its ecological and historical significance, houses around 250 species of birds including three important raptors – birds of prey, namely the Laggar Falcon, the Shaheen Falcon and Bonelli's Eagle.
- It is also home to wildlife such as the Indian Pangolin, Slender Loris and pythons
- The area is surrounded by a chain of seven hillocks or inselbergs that serve as a watershed, charging “72 lakes, 200 natural springs and three check dams
- The Anaikondan tank, built during the reign of Pandiyan kings in the 16th century is one among them.
- Several megalithic structures, rock-cut temples, Tamil Brahmi inscriptions and Jain beds add to the historical significance of the region.

### 5.15 Toll of human-animal conflict

#### Stats:

- Between 2018-19 and 2020-21, 222 elephants were killed by electrocution across the country, 45 by trains, 29 by poachers and 11 by poisoning.
- Among tigers, too, 29 were killed by poaching between 2019 and 2021, while 197 tiger deaths are under scrutiny.
- Among human casualties of conflict with animals, elephants killed 1,579 humans in three years.
- Odisha accounted for the highest number of these deaths at 322.
- Around 222 elephant deaths is caused by electrocution
- Tigers killed 125 humans in reserves between 2019 and 2021. Maharashtra accounted for nearly half these deaths, at 61
- Assessments of human-wildlife conflicts indicate that the main causes of human wildlife conflict include habitat loss, growth of population of wild animals, changing cropping patterns that attract wild animals to farmlands, movement of wild animals from forests area to human dominated landscapes for food and fodder, movement of human beings to forests for illegal collection of forest produce, habitat degradation due to growth of invasive alien species, etc.

## 6. Security issues

### 6.1 National Investigation Agency

#### What is the NIA?

- The National Investigation Agency (NIA) was constituted under the National Investigation Agency (NIA) Act, 2008.
- It is a central agency mandated to investigate all the offences affecting the sovereignty, security and integrity of India, friendly relations with foreign states, and the offences under the statutory laws enacted to implement international treaties, agreements, conventions and resolutions of the United Nations, its agencies and other international organisations.
- These include terror acts and their possible links with crimes like smuggling of arms, drugs and fake Indian currency and infiltration from across the borders.
- The agency has the power to search, seize, arrest and prosecute those involved in such offences.
- Headquartered in Delhi, the NIA has its branches in many cities of India.

#### When did the NIA come into being?

- In the wake of the 26/11 Mumbai terror attack in November 2008, GoI decided to establish the NIA.
- The agency came into existence on December 31, 2008, and started its functioning in 2009.
- Government stated that the agency would deal with only eight laws mentioned in the schedule and that a balance had been struck between the right of the State and duties of the Central government to investigate the more important cases.

#### What are the scheduled offences?

The list includes the

- Explosive Substances Act,
- Atomic Energy Act,
- Unlawful Activities (Prevention) Act,
- Anti-Hijacking Act, Suppression of Unlawful Acts against Safety of Civil Aviation Act,
- SAARC Convention (Suppression of Terrorism) Act,
- Suppression of Unlawful Acts Against Safety of Maritime Navigation and Fixed Platforms on Continental Shelf Act,
- Weapons of Mass Destruction and their Delivery Systems (Prohibition of Unlawful Activities) Act and relevant offences under the Indian Penal Code,
- Arms Act and the Information Technology Act.
- In September 2020, the Centre empowered the NIA to also probe offences under the Narcotic Drugs and Psychotropic Substances Act that are connected to terror cases.

#### How wide is NIA's jurisdiction?

- The law under which the agency operates
- extends to the whole of India and also applies to Indian citizens outside the country;
- persons in the service of the government wherever they are posted;
- persons on ships and aircraft registered in India wherever they may be;
- persons who commit a scheduled offence beyond India against the Indian citizen or affecting the interest of India.

#### How does the NIA take up a probe?

- As provided under Section 6 of the Act, State governments can refer the cases pertaining to the scheduled offences to the Central government for NIA investigation.
- Even when the Central government is of the opinion that a scheduled offence has been committed which is required to be investigated under the Act, it may, suo motu, direct the agency to take up/over the probe
- Where the Central government finds that a scheduled offence has been committed at any place outside



India to which this Act extends, it can also direct the NIA to register the case and take up investigation.

## 6.2 Operation Sea Vigil

Recently the third edition of the 'pan-India' coastal defence Exercise 'Sea Vigil-22' is conducted by the Indian Navy.

### About Operation Sea Vigil:

- Sea Vigil is a national-level coastal defence exercise which was conceptualised in 2018 for enhancing maritime security since '26/11' Mumbai terror attack.
- The exercise is being conducted by the Indian Navy in coordination with the Coast Guard and other ministries involved in maritime activities.
- The exercise will be undertaken along the entire 7516-km coastline and Exclusive Economic Zone of India.
- The exercise involves all the Coastal States and Union territories along with other maritime stakeholders, including the fishing and coastal communities.
- Sea Vigil and TROPEX together will cover the entire spectrum Maritime Security challenges.
- Theatre Level Readiness Operational Exercise (TROPEX) is an inter-service military exercise conducted every two years.

### Additional Information:

- An Automatic Identification System (AIS) was made compulsory for all vessels above 20 metres after the 2008 terrorist attacks in Mumbai.
- A project to install transponders on small fishing vessels, under 20 metres in length was planned and the pilot started in Tamil Nadu.
- The transponders with positioning navigation systems have been modified into a two-way communication system in this pilot.

## 7. Social issues

### 7.1 Gender Inclusion and MUDRA scheme

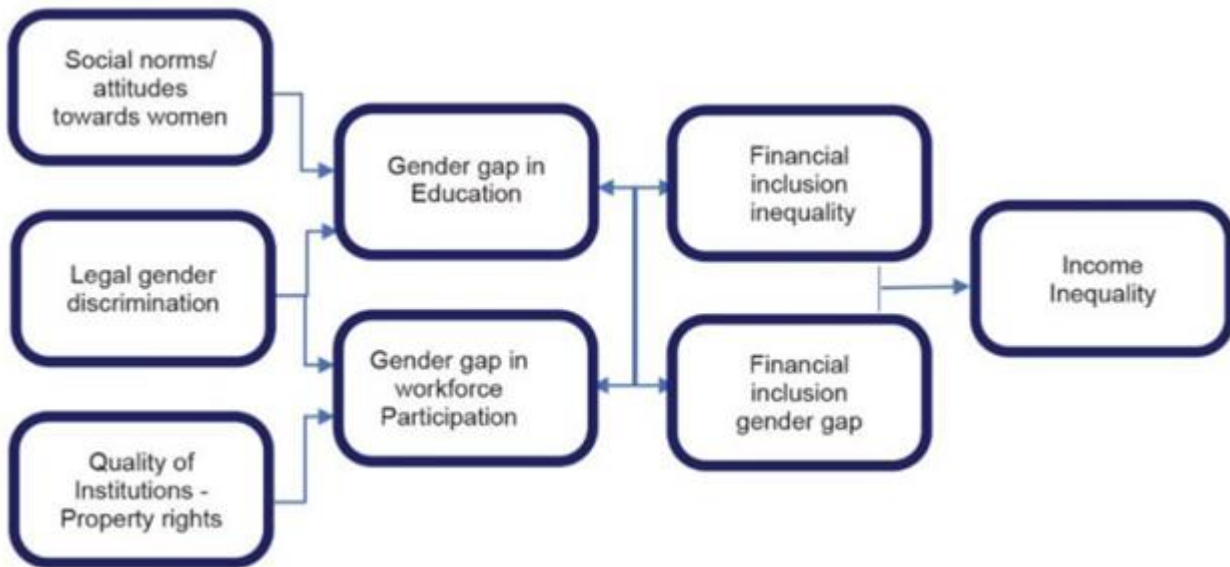
- The World Economic Forum estimates that it would take at least 268 years to close the gender gaps in economic participation and opportunities across the world.
- The Global Gender Gap Report 2021 also shows that despite improvements towards skill development and wage equality—albeit slow—the lack of women in leadership positions remains persistent, limiting progress in parity.
- The G20 economies are attempting initiatives that hold promise in advancing women’s entrepreneurship through financial assistance, knowledge creation, and governance for nurturing entrepreneurial conditions.

#### Indian Context:

- India has nearly half-a-million working-age women and 15 million women-owned micro, small and medium enterprises (MSMEs) that directly or indirectly provide employment to almost 27 million people.
- By 2030, an estimated 30 million women-owned MSMEs are expected to flourish in India, providing employment to nearly 150 million people.
- India launched comprehensive schemes like the Pradhan Mantri Jan Dhan Yojana (PMJDY), Pradhan Mantri MUDRA Yojana (PMMY), Startup India, and Stand-Up India.

#### Concerns:

- Women, accounting for nearly one-half of the global population, contribute only 37 percent to the global gross domestic product (GDP).
- Globally, the number of hours that women spend on unpaid care work is three times (3X) that of men; in India, this difference is 8X.
- In India, decline in female labour force participation rates, which stood at 25.1 percent in 2020-21.
- The Mastercard Index of Women Entrepreneurs 2021, which looks at the progress of women in business, ranked India at 57th position among 65 countries. India has 13.5–15.7 million women-owned enterprises, representing 20 percent of all enterprises.
- Nearly 90 percent of women-owned businesses in India are microenterprises, and they are disproportionately smaller in size than other businesses.
- The Findex found that 32.3 percent of women in India have inactive bank accounts because they do not have access to mobile phones and the internet, or else they are unable to operate the accounts because of lack of digital literacy; there is also no regular inflow of cash, and they are often uncomfortable dealing with male bank or business agents.
- The disproportionate burden of unpaid domestic work directly reduces female labour force participation rates; financial inclusion is therefore an indispensable goal.
- Lack of knowledge about inheritance and property ownership rights, as well as social limitations and a lack of financial literacy force female entrepreneurs to seek financing from informal sources.



### Lessons from India:

- Aadhaar and the India Stack's biometric e-KYC verification capability makes it easier for women who often do not have the required documents, to establish their identity before bank officials.
- PMMY allows small borrowers with no credit history easier access to credit in a flexible manner.
- To improve last-mile delivery of credit, 'Last Mile Financiers' have been roped in, such as companies, trusts, societies, associations, and other networks that provide informal finance to small businesses.
- The credit guarantee scheme for assurance to financial institutions to mitigate the issue of collateral under the "Credit Guarantee Fund for Micro Units" has increased the appetite of financial institutions to disburse loans to first-time entrepreneurs.
- The use of digital technology has created greater transparency and promoted credit quality, thereby reducing NPAs.
- MUDRA Card is a RuPay debit card, it can also be used for drawing cash from an ATM or to make purchases and repay loan amounts.
- MUDRA is a reliable alternative to local money lenders and its strength lies in its collateral-free loans and easy documentation.
- The scheme's focus on women entrepreneurs has also helped in a higher share of loan disbursements to women—leading to increased monthly household incomes and savings.

### Suggestions to G20:

- Ensuring gender-inclusivity among financial service providers:
- Greater inclusion of women as users, providers, and regulators of financial services would have spillover effects beyond addressing gendered economic inequality.
- Banks with higher shares of women board members often have higher capital buffers, a lower proportion of NPAs, and increased resistance to stress.
- Gender impact assessments
- Adoption of non-discriminatory hiring practices
- Adopting a gender-sensitive approach for widespread financial literacy:
- Women take primary responsibility for childbearing, daily decision-making about the allocation of household resources, and transmitting financial habits and skills to children.
- Financial education programs must focus on behavioural aspects like self-confidence and technical assistance.
- Financial education in schools to make young girls aware of financial issues and skills.
- Utilisation of self-help groups and rotating savings and credit societies.
- Promotion of women-led small enterprises:
- Increased public procurement from women-led businesses.

- Strategies such as subsidised interest rates for women accessing credit for setting up their businesses; and employment composition-linked incentives.

#### Way forward:

- The G20 can provide the right platform to promote thought-leadership, delivery of financial and technical assistance, and knowledge sharing among its members and for the rest of the world to advance women's economic and social empowerment.
- India, poised to take the helm of the G20 in 2022, can identify strategies to further advance its efforts towards achieving gender equity in all economic domains, in turn creating scope for social mobility.
- Most importantly, the financial inclusion of informal women-led businesses will help push the process of formalisation, thereby making women's contribution to the economy more tangible and measurable.
- What remains untapped, however, is the greater deployment of fintech to finance micro loans and bring down operational costs and create greater flexibility and transparency.

## 7.2 India unique job crisis

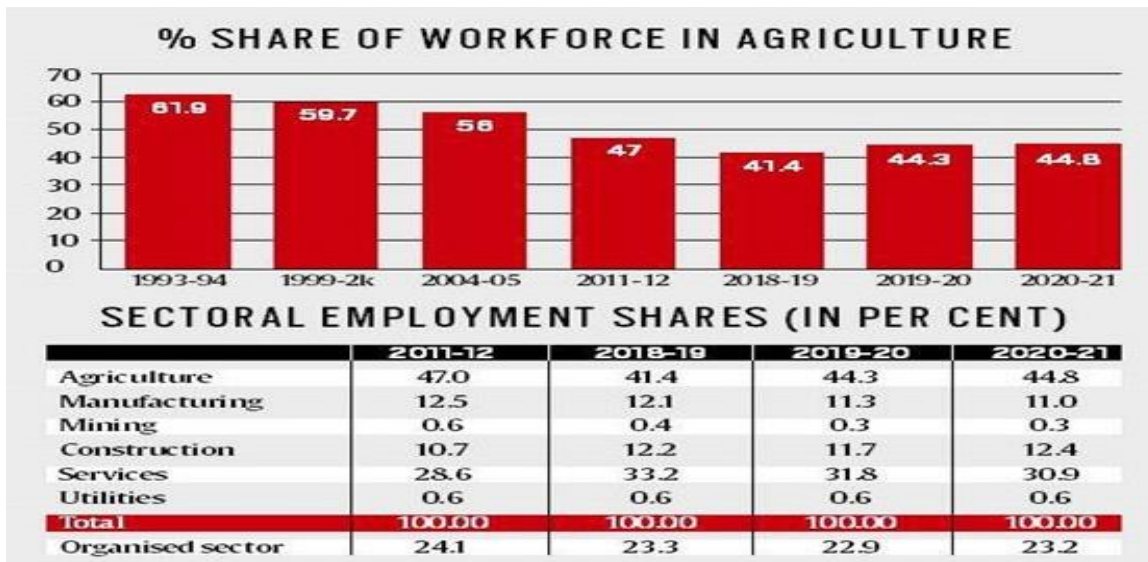
India is currently facing a unique job crisis because, while fewer people are employed in agriculture today, the transformation has been slow.

#### Stats

- Between 1993-94 and 2018-19, agriculture's share in India's workforce came down from 61.9% to 41.4%, roughly a third in 25 years.
- Given its level of per capita GDP in 2018 – and comparing with the average for other countries in the same income bracket – India's farm sector should be employing 33-34% of the total workforce.
- 4% may not be a substantial deviation from the average.

#### Weak structural transformation

- There's been a reversal of the trend in the last two years, which has seen the share of those employed in farms rise to 44-45%. This has primarily to do with the Covid-induced economic disruptions.
- Even the movement of workforce from agriculture that India has witnessed over the past three decades or more does not qualify as what economists call "structural transformation".
- Such transformation would involve the transfer of labour from farming to sectors – manufacturing and modern services – where productivity, value-addition and average incomes are higher.
- The share of manufacturing (and mining) in total employment has actually fallen along with that of agriculture.
- The surplus labour pulled out from the farms is being largely absorbed in construction and services.
- While the services sector does include relatively well-paying industries – such as information technology, business process outsourcing, telecommunications, finance, healthcare, education and public administration – the bulk of the jobs in this case are in petty retailing, small eateries, domestic help, sanitation, security staffing, transport and similar other informal economic activities.



- Simply put, the structural transformation process in India has been weak and deficient.
- The surplus labour isn't moving to higher value-added non-farm activities, specifically manufacturing and modern services (the familiar 'Kuznets Process' named after the American economist and 1971 Nobel Memorial Prize winner, Simon Kuznets).
- Instead, the labour transfer is happening within the low-productivity informal economy.
- The jobs that are getting generated outside agriculture are mostly in low-paid services and construction; the latter's share in employment has even overtaken that of manufacturing.
- Weak structural transformation and persistence of informality also explains the tendency, especially by rural families, for pursuing multiple livelihoods. Many of them cling on to their small plots of lands, even while earning incomes wholly or predominantly from non-farm sources.

#### A picture in contrast

##### IT industry adding jobs:

- The IT industry is clearly an isolated island of the Indian economy that added jobs during the pandemic and is continuing to do so.
- The five companies (Tata Consultancy Services, Infosys, Wipro, HCL Technologies and Tech Mahindra) have more employees than the 12.5 lakh and 14.1 lakh currently on the rolls of the Indian Railways and the three defense services, respectively.
- Much of the IT sector's recent success is courtesy of exports.
- These have, in fact, boomed due to Covid's triggering increased demand for digitisation even among businesses that were hitherto slow in adoption.
- India's net exports of software services have surged from \$84.64 billion in 2019-20 to \$109.54 billion in 2021-22.

##### India's unique job crisis

- The manufacturing sector is potentially best placed to absorb agricultural labourers. However, there is a lack of jobs in the manufacturing sector.
- The more educated are not qualified to be programmers or develop software programs which are essential for the IT industry.
- They aim to join the armed forces or to sit for the Railway Recruitment Board's exams.
- However, there is not much recruitment in these sectors these days.
- So, the Indian workforce possesses skill sets for the sectors where there is a lack of job opportunities. And sectors that generate excess jobs require particular skill sets that the majority of the Indian workforce lacks.
- As a result, the Indian economy is unable to absorb excess labour.

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