

# CURRENT AFFAIRS

**DECEMBER - 22**



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**DECEMBER - 2022**

# Current Affairs

## Sources:

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**M ANANYA PRIYA**

# 1. Polity & Governance

## 1.1. The Extra-Constitutional Delusions of Raj Bhavan

### Why in News?

- A tweet put out recently by the office of the Kerala Governor said that the statements of individual Ministers that lower the dignity of the office of the Governor can invite action including withdrawal of pleasure.

### Constitutional facets:

- The function of the appointed Governor is **always subject to the policies of the elected government, and not vice-versa**. This is a foundational theory of India's constitutional democracy.
- Constitutional provisions **cannot be read in isolation and article 164 should be read with article 163(1)**.
- The Governor is **generally bound by the Cabinet decision** except when he has a **legitimate right to invoke his discretion under article 163(2)**.
- **Article 164**, which contains the provision relevant in the context of the Kerala Governor's tweet and the **letter is inseparable from Article 163**.
- Therefore, it follows that **unless the Cabinet or the Chief Minister** advises the expulsion of a Minister, the **Governor cannot cause the exit of a particular Minister by "withdrawing pleasure"**.

### Shamsher Singh vs State of Punjab (1974):

- In **Shamsher Singh**, for comparison, the **Supreme Court extracted Dr. B.R. Ambedkar's introductory statement made on November 4, 1948, in the Constituent Assembly, which said:**
  - "The President of the United States is not bound to accept any advice tendered to him by any of his secretaries. The President of the Indian

Union will be generally bound by the advice of his Ministers. He can do nothing contrary to their advice nor can he do anything without their advice. The President of the United States can dismiss any Secretary at any time. The President of the Indian Union has **no power to do so, so long as his Ministers command a majority in Parliament"**.

- The **same principles apply to the Governors** as well, since the **Union Minister also holds the office "during the pleasure of the President"** as in **Article 75(2)** of the Constitution.
- **"Withdrawal of pleasure", without advice from the Council of Ministers, as indicated by the office of the governor is a misconception.**

### A titular head:

- The draft Constitution, prepared by the **Constitutional Adviser in October 1947**, contained **Article 126**, according to which, **"Governor's Ministers shall be chosen and summoned by (the Governor) and shall hold office during his pleasure"**.
- This Article, which was made part of the draft of the **erstwhile Article 144**, was discussed at length in the Constituent Assembly. The **general discretion with the Governor was taken away**, and the **Cabinet was given the authority to rule**.
- **Amendment to the draft Article 144** moved by **B.R. Ambedkar** resulted in the present constitutional scheme of **Articles 163 and 164**.
- According to the scholar **Subhash C. Kashyap**, "The words 'during pleasure' were, always understood to mean that the 'pleasure' should not continue when the Ministry had lost the confidence of the majority; and the moment the Ministry lost the confidence of the majority, the Governor would use his 'pleasure' in dismissing it".
- Therefore, the Article implies that the **Governor is only a titular head of the**

**State** and that if the **Cabinet has a majority**, the **Governor cannot act against the Cabinet**.

#### Addressing a concern:

- The Governor's office has a colonial origin. The **Government of India Act, of 1858** situated the **post of Governor** under the **supervision of the Governor General**.
- According to the **Government of India Act, of 1935**, Governors were to **act based on the advice of the Provincial Government**.
- The potential danger that could be posed by the **continuation of the colonial institution was a matter of concern for the makers of the Constitution**.
- During the deliberations of the constituent assembly over the question of **any guarantee against abuse of power by the Governor it was concluded that the guarantee is of the Governor's wisdom and the wisdom of the authority that will appoint the Governor**.
- But this **issue of the Constitution** was to be translated to a **level of judicial realism and pragmatism**, which the **Supreme Court did in the Shamsher Singh case thus the judgment of the Constitution Bench will prevail over the Governor's tweets**.

#### Conclusion:

- The governors of the states are **expected to defend the Constitution** and should use their powers to **caution elected regimes against violating the Constitution**, but this **does not mean that they can use the discretionary space given to them to function as a parallel power centre**.
- The governors **should act in a nonpartisan way while fulfilling their constitutional duties and the parliament should consider the recommendations of various commissions to reform the office of the governor further for a better and healthy democracy**.

## 1.2. The Death Penalty and Humanizing Criminal Justice

#### Why in news?

- A three-judge Bench of the Supreme Court has referred to a five-member Constitution Bench on the issue of giving a meaningful opportunity to those found guilty of a capital offense to

present mitigating factors and circumstances so that they can better plead for a life term instead of a death sentence.

#### What does the law say on sentencing?

- The issue arises from the legal requirement that whenever a court records a conviction, it has to hold a separate hearing on the quantum of the sentence.
- **Section 235** of the Code of Criminal Procedure (**CrPC**) says that after hearing arguments, the judge shall give a judgment; and, **"if the accused is convicted, the judge shall hear the accused on the question of sentence and then pass sentence"**.
  - This process gains significance if the conviction is for an offense that entails either death or life imprisonment.
- **Section 354(3)** says that when an offense is punishable with death or imprisonment for life, the judgment shall state the reasons for the sentence awarded and if the sentence is death, "special reasons" for the sentence.
- Taken together, these provisions would mean that the **sentencing hearing following the conviction of a person for a capital offense** is a matter of great importance, as it would decide if the death penalty should be imposed or a life term will be sufficient.
- This would necessarily entail an **inquiry into the nature and gravity of the offense and the circumstances in which it took place**.

#### How are judges supposed to choose between life and death sentences?

- In May 1980, when the Supreme Court upheld the constitutional validity of the death penalty in **Bachan Singh's case**, a framework was developed for future judges to follow when they had to choose between life imprisonment and the death penalty.
- At the heart of that framework was the **recognition that the legislature in the Criminal Procedure Code had made it clear that life imprisonment would be the default punishment and judges would need to give "special reasons" if they wanted to impose the death sentence**.
- Through the 1980 framework — popularly known as the **"rarest of rare" framework** — the Supreme Court said **that judges must consider both aggravating and mitigating factors**

concerning the crime and the accused when deciding if the death penalty is to be imposed.

- The judgment also made it clear that life imprisonment as a sentence would have to be “unquestionably foreclosed” before judges imposed the death sentence.
- There was an **indicative list of factors** that the judge identified as **being relevant, but it was clear that it was not meant to be an exhaustive list.**

### Inconsistency in application:

- The Supreme Court has repeatedly lamented the inconsistency in the application of the Bachan Singh framework.
- Similar concerns have been expressed by the **Law Commission of India (262nd Report).**
- One of the main concerns has been the crime-centered approach to sentencing, often in violation of the mandate in Bachan Singh that factors relating to both the crime and the accused have to be considered.
- There has been widespread concern that the imposition of death sentences has been arbitrary.
- **A study by Project 39A** looking at 15 years of death penalty sentencing in trial courts has shown that the Bachan Singh framework has broken down, with judges attributing to it multiple and inconsistent meanings.

### What are mitigating circumstances?

- In ‘**Manoj & others v. State of Madhya Pradesh**’, the Supreme Court addressed the **lack of a legal framework or institutional capacity** to handle death penalty sentencing.
- The ruling **acknowledged the arbitrariness and subjective patterns** in awarding the death sentence.
- Studies also show that **largely underprivileged, minorities, and scheduled castes and tribes are awarded the death sentence.**
- Death penalty sentence is **largely driven by the crime in question and not the circumstances of the accused.**
- For example, the Supreme Court’s **1983 ruling in ‘Machhi Singh And Others vs State of Punjab’** introduced “**collective conscience**” into the capital sentencing framework
- The SC order referring the issue to a larger bench **lists social milieu, age, educational levels, whether the convict had faced trauma earlier in**

**life, family circumstances, psychological evaluation of a convict, and post-conviction conduct,** as relevant circumstances that should be accounted for at the sentencing hearing.

### What is expected from the reference?

- The Constitution Bench may lay down **comprehensive guidelines** on the manner in which sentencing decisions can be arrived at.
- It may make it necessary for the trial court to get to know the accused better before passing the sentence.
- **Going beyond the reports of jail authorities or parole officers,** the courts may draft the help of **psychologists and behavioural experts.**
- A study into the **childhood experiences and upbringing** of the accused, **mental health history** in the family, and the **likelihood of traumatic past experiences** and other **social and cultural factors** may be mandated to be **part of the sentencing process.**
- This may mean that trial courts **will be better informed** than now when **only basic data such as educational and economic status** are ascertained before a sentence is imposed.

### Conclusion:

- The **paths of reforming the death penalty** on the one hand and **abolishing it on the other,** go alongside each other for a very long distance.
- Every instance of engagement in reforming the death penalty **throws light on the inherent unfairness of using the death penalty, especially in a system like ours.**
- The taking of life through a legal process **ought to be very tough and must adhere to the highest standards of fair trial rights and the rule of law.**

## 1.3. Scope of Reproductive Rights

### Why in News?

- Recently, a **petition was filed in the Supreme Court and Delhi High Court to challenge the validity of the Assisted Reproductive Technology (Regulation) Act, 2021 and the Surrogacy (Regulation) Act, 2021 and the accompanying Rules with the two legislations.**

### Key Highlights:

- A **Parliamentary Standing Committee in 2017 recommended compensated surrogacy** and stated that mandating altruistic surrogacy was based on **moralistic and paternalistic assumptions**, and expecting free reproductive labour from women was **“grossly unfair and arbitrary”**.
- A **Parliamentary Select Committee** recommended that commercial surrogacy was unethical and antithetical to the **“noble”** and **“selfless”** instinct of motherhood.

#### Issues related to Act:

- **Discriminatory:**
  - It is discriminatory and violative of reproductive autonomy and choice by denying access to ARTs to single persons and people in live-in and same-sex relationships.
- **Ban on Commercial Surrogacy:**
  - It is unreasonable and deprives surrogate mothers of reproductive agency.
- **Availability of Donor Oocytes:**
  - A limited number of oocytes can be retrieved and women can be oocyte donors only once.
- **Shadow Market of Gametes:**
  - Shortage of oocytes due to regulatory pressures may lead to a shadow market of gametes.
- **Privacy Concern:**
  - The ART Act also requires the oocyte donor to share their Aadhaar number, which threatens the donors' privacy.

#### Way Forward:

- In the question of whether commercial surrogacy should be allowed or not, persons acting as **surrogates should have their voices reflected** in deciding the said issue.
- Assess the acts through the **framework of reproductive rights and justice**.
- Recent constitutional jurisprudence on the **right to privacy, reproductive autonomy, and recognition of non-traditional families** should be extended to these acts.

#### Conclusion:

- The promotion of **reproductive rights** should be the **fundamental basis** for government and community-sponsored policies and programs.

### 1.4. Ban on the two-finger Test

#### Why in News?

- Recently, the Supreme Court declared that any person conducting the 'two-finger test' on rape or sexual assault survivors will be found guilty of misconduct.

#### More about the News

- **Court's Recent verdict:**
  - The court said that the test is **“regressive and invasive”** and has **“no scientific basis** as it **neither proves nor disapproves allegations of rape”**.
  - It instead **“re-victimises and re-traumatises women** who may have been sexually assaulted.”
- **2013 SC verdict:**
  - In 2013 **Lillu v. State of Haryana**, the Supreme Court had held that the two-finger test violates the right of rape survivors.
- **Justice Verma Committee:**
  - The Committee in 2013 has recommended the discontinuation of the two-finger test which is conducted to determine the laxity of the vaginal muscles.
    - Justice Verma Committee was constituted to recommend amendments to the Criminal Law so as to provide for quicker trial and enhanced punishment for criminals accused of committing sexual assault against women.

#### About the Two-finger Test

- **About:**
  - The two-finger test is an **invasive, unscientific and regressive practice** where two fingers are inserted in the vagina to assess the

laxity of vaginal muscles and examine the hymen.

- The two-finger test or per vaginum examination is conducted on **alleged victims of sexual assault and rape** to determine whether they are habituated to sexual intercourse.
- **Issues:**
  - **Invalid for sexually active women:**
    - The test is based on the incorrect assumption that a **sexually active woman cannot be raped**.
  - **No evidential value in the investigation:**
    - In the case of sexual assault, the doctor is required to mention marks of resistance and sign(s) of recent intercourse.
    - **Doctor does not give his/her opinion about rape**, as rape is a legal term and not a medical diagnosis.
    - It is for the **investigating officer to conclude** after their investigation whether or not rape was committed.
    - Therefore, it is undesirable to conduct the **two-finger test (on a victim of sexual assault)**, which has no evidential value in the investigation.
  - **More victimisation:**
    - The test instead **re-victimises and re-traumatises women** who may have been sexually assaulted and is an affront to their dignity.

#### Challenges in enforcing the Ban on the two-finger test

- **Lack of training & adherence to guidelines:**
  - In 2014, the Union Ministry of Health issued 'guidelines and protocols' prescribing the application of the two-finger test.
    - These guidelines were circulated to hospitals, but the doctors handling medico-legal cases apparently did not take the instructions seriously.

- Training still remains one of the most neglected branches in most departments.
- It is, therefore, quite likely that the two-finger test will continue to be conducted in some remote areas.
- **Lack of interconnection:**
  - Interaction between the **Health Ministry and the Home Ministry (or the police department)** is limited.
  - Further, the Health Department is not one of the pillars of the **Inter-Operable Criminal Justice System (ICJS)**.
    - **ICJS** is an extension of the **Home Ministry's mission mode project**, the **Crime and Criminal Tracking and Network Systems (CCTNS)**, and is operational at each police station of the country.

#### Suggestions

- **Improved investigation with efficient institutional mechanism:**
  - All departments which have a bearing on the investigation of offences or are stakeholders in the criminal justice system must come together periodically so that they can exchange best practices, latest developments in law, and court rulings.
  - An institutional mechanism needs to be developed to ensure continuity of this process.
- **Congruence within ministries & departments:**
  - The medico-legal section of the Health Department needs to be integrated with the Inter-Operable Criminal Justice System (ICJS).
- **Training:**
  - Training capacity must also be reviewed, and communication channels improved to avoid the status quo.
- **Strict implementation:**
  - There must be a strict implementation of the recommendation of the **Justice Verma Committee about two-finger tests** and regarding the collection of evidence.

#### Initiatives by the Government & the judiciary

- **Criminal Law (Amendment) Act 2013:**
  - It amended the Evidence Act to insert Section 53A that the evidence of a victim's character or of her previous sexual experience with any person shall not be relevant to the issue of consent or the quality of consent, in prosecutions of sexual offences.
- **Workshops:**
  - The SC also ordered workshops to be held to communicate the appropriate procedure to determine sexual assault and rape.
- **Curriculum in medical schools:**
  - SC also directed the government to review the curriculum in medical schools so ensure the practice is no longer used.

### Way Forward

- Though **much needs to be done** for the sexual assault victims, some changes and amendments in the law in the past three decades **have brought in hope for justice and fair treatment**.
- With the **help of various judicial and legislative actions** there is a **transformation in the process of investigation** by the officers and doctors.
- A test like the Two-Finger test is an **inhuman and irrational process** that attacks **the right to privacy** and is a serious blow to the **mental, physical and ethical conditions of the victim**.
- The test should be **condemned** and should be **strictly prohibited** by enacting amended laws that apply uniformly throughout the country.

## 1.5. Broadcasting 'socially relevant' Content

### Why in News?

- Recently, the Union Cabinet has approved the new guidelines for television channels in India.

### More about the news

- **About:**

- The new guidelines are for uplinking and downlinking of television channels in India.
- Under the guidelines, all the stations holding permission would have to broadcast content on **issues of national importance and social relevance for at least 30 minutes every day**.

- **Exemptions:**

- The guidelines exclude foreign channels and cases where it may not be feasible.
- The guidelines also exempt the channels including those related to sports, where it would not be feasible to broadcast such content.
- The provision has been introduced as **"airwaves/frequencies are public property and need to be used in the best interest of the society"**.
  - **The eight listed themes include:**
    - Education and spread of literacy;
    - Agriculture and rural development;
    - Health and family welfare;
    - Science and technology;
    - Welfare of women;
    - Welfare of the weaker sections of society;
    - Protection of environment and of cultural heritage; and
    - National integration.
- **Cases of non-compliance:**
  - Once implemented, the Ministry will monitor the channels for such content, and in case someone is found to be non-compliant, an explanation will be sought.

### Making India a teleport hub

- **Uplinking foreign channels from Indian teleports:**
  - While specific timelines have been proposed for the grant of permission, limited Liability Partnership (LLP)/companies would be allowed to uplink foreign channels from Indian teleports.
    - This would create employment opportunities and make India a teleport-hub for other countries.

- Channel could be uplinked by using facilities of more than one teleport/satellite.
- The guidelines have broadened the possibility of allowing the transfer of TV channel/teleport to a company/LLP, as permissible under the Companies Act or the Limited Liability Act.
- **Extended permissions:**
  - A news agency could now get permission for a five-year period as against one year at present.
- **Penalty:**
  - **The penalty clauses** have also been **rationalised** and separate nature of penalties have been proposed for different types of contraventions as against uniform penalty at present.

### Regulation of media in India:

- Media in India is **mostly self-regulated**.
  - The existing bodies for regulation of media such as the **Press Council of India** which is a **statutory body** and the **News Broadcasting Standards Authority**, a **self-regulatory organization**, issue standards which are more in the nature of guidelines.
- **Print Media:**
  - **Press Council of India (PCI):**
    - The PCI was established under the **PCI Act of 1978** for the purpose of preserving the freedom of the press and of maintaining and improving the standards of **newspapers and news agencies** in India.
    - **Functions:**
      - Helping newspapers maintain their independence;
      - Build a code of conduct for journalists and news agencies;
      - Help maintain “high standards of public taste” and foster responsibility among citizens; and

- Review developments likely to restrict flow of news.
- **Electronic Media:**
  - Today news channels are governed by mechanisms of **self-regulation**.
  - One such mechanism has been created by the **News Broadcasters Association (NBA)**.
    - The NBA has devised a Code of Ethics to regulate television content.
    - **The News Broadcasting Standards Authority (NBSA)**, of the NBA, is empowered to **warn, admonish, censure, express disapproval and fine** the broadcaster a sum upto Rs. 1 lakh for violation of the Code.
  - Another such organization is the **Broadcast Editors’ Association**.
    - The Advertising Standards Council of India has also drawn up guidelines on content of advertisements.
  - These groups govern through **agreements** and **do not have any statutory powers**.
- **Social Media:**
  - Certain standards have been prescribed for content accessible over the internet under the IT Rules 2011.
    - **The Ministry of Electronics and Information Technology** has published a fresh draft of amendments to the **Information Technology Rules, 2021**.
  - Government has also come up with **Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules 2021**.
  - However, a regulatory body such as the PCI or the CBFC does not exist. Complaints are addressed to the internet service provider or the host.

### Way Ahead

- **Freedom of press:**

- **The freedom of press** is a necessary element of the freedom of expression that involves a right to receive and impart information without which democracy becomes an empty slogan.
- **But this right is not absolute and is subjected to the reasonable restrictions of defamation and contempt of court.**
- **Regulation of media & Role of civil society:**
  - The media should practice **better self-regulation.**
    - If the government starts regulating the media, the complete purpose would be defeated.
  - An informed, cultivated, and interested civil society can be the best watchdog over politics and the media.

## 1.6. 50th CJI & Collegium System

### Why in News?

- Justice Chandrachud recently said that criticism of the Collegium system must be looked at in a “positive light” and attempts made to improve it.

### More about the news

#### 50th CJI:

- The President of India recently administered the oath of office to the 50th Chief Justice of India (CJI) - Justice Chandrachud.
- He is the youngest person in the last 10 years to be appointed as the CJI.

### About the appointment of judges:

#### Issue:

- The debate relating to the appropriate procedure for the appointment of judges continues to occupy the political space.
- Recently, the charges were also made by a Minister that the Collegium working is opaque.

### Opinion of Justice Chandrachud:

- He opined that there is a legitimate public interest in knowing how judges are appointed but the judiciary also needs to preserve the privacy of the people, members of the Bar or

judges of the High Court who are under consideration.

### His priorities for the judiciary:

- Justice Chandrachud said the first on the list is filling vacancies, from the district judiciary to High Courts to the Supreme Court.
- He also underlined the need to bring in more diversity in the judiciary.

### More about the Collegium System

#### About:

- It is a novel mechanism devised to ensure a democratic system of appointment and transfer of judges.
- It came into existence through Second and Third Judges Case judgments.
- There is no such law or constitutional provision that mentions or defines the collegium system.

#### Head:

- It is headed by the CJI and comprises 4 other senior-most judges of the court.

### High Court (HC) Collegium:

- An HC collegium is led by its Chief Justice (CJ) and four other senior-most judges of that court.

### Constitutional Provisions Backing it

#### Article 124(2):

- The Judges of the Supreme Court are appointed by the President after consultation with such a number of the Judges of the Supreme Court and of the High Courts in the States as the President may deem necessary for the purpose.

#### Article 217:

- The Judge of a High Court shall be appointed by the President in consultation with the CJI and the State Governor, and, in the case of appointment of a Judge other than the Chief Justice, the Chief Justice of the High Court.

**Criticisms:**

- Critics have pointed out that the system is non-transparent, since it does not involve any official mechanism or secretariat.
- It is seen as a closed-door affair with no prescribed norms regarding eligibility criteria, or even the selection procedure.
- There is no public knowledge of how and when a collegium meets, and how it takes its decisions.
- There are no official minutes of collegium proceedings.
- Lawyers too are usually in the dark on whether their names have been considered for elevation as a judge.

**Governments Stand**

- The Centre has not supported the collegium system. According to the government, the current system is not transparent and is to blame for the high number of vacancies in the higher judiciary.
- In 2014, the National Judicial Appointments Commission (NJAC) Act was brought in by the NDA government, which would have accorded a major role to the executive in appointing judges to the higher judiciary.
- But it was struck down by the Supreme Court in 2015, continuing the current Collegium system of judicial appointments.
- It said the NJAC was against the basic structure of the Constitution.

**Way Ahead**

- Harmony between the three organs of the government (Executive, Legislative and Judiciary) for the growth of the nation is what is required now from a democratic country.
- This is a time to revisit the Collegium issue, either through a Presidential reference to the Supreme Court, or a constitutional amendment with appropriate changes in the original NJAC law.

**1.7. Online Safety of Women****Why in News?**

- Various parliament committees in India have held meetings to discuss the issue of online safety of women over the years.

**More about the news**

- One of the reasons behind notifying the new IT rules had been rooted in the growing concern regarding the safety and security of users, particularly women and children.
- With the government showing regard for the issue of women's safety online, there is an opportunity to discuss the following things in detail:
  - The nature of technology-facilitated abuse,
  - Capturing what this means,
  - Understanding how cases impact individuals as well as communities,
  - The language needed to capture such offences and
  - The punishment — penalties, jail or even rehabilitation programmes for perpetrators.

**Issue of Online safety of Women**

- **What is the Cyber crime?**
  - Cyber crime is a crime that involves the use of computer devices and the Internet.
  - It can be committed against an individual, a group of people, government and private organizations.
- **Following areas in the "online world" that need "urgent" attention:**
  - **Digital divide:**
    - It is a divide that keeps more than half of the world's women offline, largely because it is too expensive, or they do not have access to the equipment or skills to use it.
  - **Online safety:**
    - According to a survey, more than half of young women have experienced violence online, including sexual harassment, threatening messages and having private images shared without consent.

- The vast majority believe the problem is getting worse.
- Women's rights defenders and female journalists were targeted for abuse more than most.
- **Inadequate artificial intelligence:**
  - The third threat comes from badly designed artificial intelligence systems that repeat and exacerbate discrimination.

## Challenges

- **Issues faced by women:**
  - The dangerous trend in online abuse was forcing women out of jobs, causing girls to skip school, damaging relationships and silencing female opinions, prompting him to conclude that "the web is not working for women and girls".
- **Silent impact on people's lives:**
  - What victims are told all the time is 'Oh, that's nothing, ignore it, or close your account. But this has a big impact on people's lives.
- **Tech firms acting as mute spectators:**
  - Tech firms are not neutral actors, and their decisions have real-world consequences.
  - But for too long we've seen a piecemeal and often insufficient response from platforms that put users in harm's way.
- **Offline impacts:**
  - Online harassment often translates into offline impacts and consequences, with much documented evidence in this regard.
- **Aims that can not be achieved:**
  - Without tackling misogynistic online abuse, the aims of the internet & digital dividend cannot be achieved.

## Government initiatives

- **Specific provisions in IT Act for cybercrime against women:**
  - Violation of privacy (section 66E)
  - Obscene material (section 67)
  - Pornography & sexually explicit act (section 67A)
  - Child pornography (section 67B)

- **Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules 2021:**
  - **Definition of Digital Media:**
    - It will cover digitised content that can be transmitted over the internet or computer networks.
    - It also includes intermediaries such as Twitter and Facebook, and publishers of news and current affairs content.
    - It also includes so-called curators of such content.
    - Publishers of news and current affairs content will cover online papers, news portals, news agencies, and news aggregators.
  - **Three Tier Check Structure:**
    - Part III of the rules imposed three-tier complaints and adjudication structure on publishers.
      - Self-regulation.
        - Industry regulatory body headed by a former judge of the Supreme Court and High Court with additional members from an I&B ministry approved panel.
        - Oversight mechanism that includes an inter ministerial committee with the authority to block access to content.
        - The Inter ministerial Committee can also take suo motu cognisance of an issue, and any grievance flagged by the ministry.
- **The "Digital Literacy and Online Safety Programme":**
  - It aims to train 60,000 women in universities across major cities of India regarding safe use of internet, social media and email that will enable them to differentiate between the credible and questionable information available online.
  - The programme, in its initial phase, is to cover the states of Punjab, Manipur, Haryana, Meghalaya, Delhi-NCR, Sikkim, Maharashtra and Tamil Nadu.
  - The programme seeks promoting digital literacy for women including the precautions that can be taken; raising awareness about cyber crimes; and advising the users about the resources available to women; to

prevent the problems and also how to handle such crimes.

## Solutions & Way ahead

- Despite these efforts, it is clear that women in India won't feel safe online anytime soon unless society lets them.
  - What could be helpful here is to elevate the public discourse around technology-facilitated abuse.
- Already, we know that crimes against women are the top category in India's crime statistics, with cyber crimes a few rungs lower on the scale.
  - Where the two intersect is where we need to focus if we are to make online space safe.
- Social media sites can use their "algorithm power" to proactively tackle with the issue.
- Governments need to strengthen laws that hold online abusers to account, and the public to speak up whenever they witnessed abuse online.

## 1.8. Menace of Forced conversions

### In News

- The Union Ministry of Home Affairs (MHA) recently filed an affidavit **regarding the menace of forced conversion.**

### More about the news

- **Union government to take cognisance of Conversions:**
  - Union government told the Supreme Court that it is "cognisant of the menace" of forced conversions and will take "appropriate steps" to deal with it.
- **In conflict with the right to freedom to religion:**
  - The government said that "undoubtedly" the right to freedom to religion, and "more importantly **the right to conscience of all citizens of the country, is an extremely cherished and valuable rights** which ought to be protected by the Executive and the Legislature".

- The MHA also added that "**the right to freedom of religion does not include a fundamental right to convert people to a particular religion**".

- It also stated that the "said right certainly does not include the right to convert an individual through **fraud, deception, coercion, allurement or other such means**".

- **Laws to curb forced conversions:**

- MHA said **some states already had laws** to curb forced conversions and added that these were **also upheld by the top court.**

- The government submitted that "such enactments are necessary for protecting cherished the rights of vulnerable sections of the society, including **women and economically and socially backward classes**".

### Significant Supreme Court judgments on conversions

- **Right to spread & not convert:**

- The SC in its previous judgment has held that "the **word propagate does not** envisage the **right to convert a person**, rather (it) is in the nature of the positive right to spread one's religion by exposition of its tenets".

- The court further held that fraudulent or induced conversion impinges upon the right to freedom of conscience of an individual apart from hampering public order and therefore the state was well within its power to regulate/restrict the same.

- **Sarla Mudgal case (1995):**

- In this, the Supreme Court held that conversion to Islam was not valid if done only in order to be able to practise polygamy.

- **Chandra Sekaran case (1963):**

- In this case, the court observed that a person does not cease to be a Hindu merely because he declares that he has no faith in his religion or stops practising his religion.

## More about the Legislation against Forced Conversions in India

- **About the regulation of Conversions in India:**
  - In **1954**, Parliament took up for consideration the **Indian Conversion (Regulation and Registration) Bill**.
  - Six years later, another law, the **Backward Communities (Religious Protection) Bill, 1960**, was proposed to stop conversion.
    - Both were dropped for want of support.
- **State Laws:**
  - Orissa, Madhya Pradesh and Arunachal Pradesh passed anti-conversion laws in 1967, 1968 and 1978 respectively.
    - Later, similar laws were passed by the state assemblies of Chhattisgarh (2000), Tamil Nadu (2002), Gujarat (2003), Himachal Pradesh (2006), and Rajasthan (2008).
    - The laws were intended to stop conversions by force or inducement, or fraudulently.
  - **Permissions:**
    - Some of the laws made it mandatory to seek prior permission from local authorities before conversion.
  - **Penalties:**
    - Penalties for breaching the laws can range from monetary fines to imprisonment, with punishments ranging from one to three years of imprisonment and fines from 5,000 to ₹50,000.
    - Some of the laws provide for stiffer penalties if women, children, or members of Scheduled Castes or Scheduled Tribes (SC/ST) are being converted.
  - **Offences that the forced conversions attract**
    - These laws made forced conversion a cognisable offence under sections 295 A and 298 of the Indian Penal Code, which pertain to malicious

and deliberate intention to hurt the religious sentiments of others.

## Way Ahead

- **Errors leading to misuse:**
  - While there is reason to suspect that some conversions are merely a sham, the existing anti-conversion laws leave room for error which might result in oppression and misuse by authorities.
- **Motivated by religious dogma:**
  - These legislations are largely motivated by religious dogma and at present, they mostly affect religious minorities negatively.
  - Even though their proposed purpose is to protect the minorities it has a detrimental impact on our society.
- **Indian secularism:**
  - Indian secularism is a unique concept in a way that it has been established by different multicultural groups forever changing its focus to being incredibly flexible and durable.
  - However, the cultural fragmentation that the existence and application of these laws create is a persisting issue.

## 1.9. Police Commissionerate System

### Why In News?

- Recently, the Uttar Pradesh government has decided to introduce the **police commissionerate system** in **Agra, Ghaziabad and Prayagraj** after it was implemented in Noida, Varanasi, Lucknow and Kanpur.
  - The three districts would be declared as **metropolitan cities** as per the rules of the **Code of Criminal Procedure (CrPC)** before implementing the police commissionerate system.

### Commissionerate System

- **Empowerment of police under commissionerate system:**
  - The commissioner of police under the commissionerate system exercises the **powers and duties of a District**

**Magistrate.** These powers are also available to any officer under the commissioner who is **not below the rank of an Assistant Commissioner of Police.**

- This essentially means that such police officers now have **powers of preventive arrest, imposing Section 144 of the CrPC Act.**
- The police are also empowered to **conduct externment proceedings and issue written orders** to remove a person from their jurisdiction of the commissionerate for a maximum of two years.
- **Need to introduce the commissionerate system**
  - **Various committees constituted to suggest police reforms:** They have recommended implementation of a police commissioner system in cities which have **witnessed rapid urbanisation and have a population of more than 10 lakhs.**
  - **6th report of the National Police Commission:** It noted that as compared to police in districts, police in commissionerate in small areas had a better account of themselves.
  - **Changing dynamism and growing complexities of security threats:** It further pointed out that in urban areas, the changing dynamism and growing complexities of security threats required a swift and prompt response.
  - **Solves the issue of lack of understanding:** However, in districts where the SPs and DMs do not have an understanding, orders to swiftly act are rarely issued in time which aggravates the situation.
  - **Additional powers:** Police officers under this commissionerate system will be given additional powers by amending certain sections of the Code of Criminal Procedure (CrPC), Police Act, Motor Vehicles Act, National Security Act, State Security Act (externment from districts), Prisoners Act, Immoral Traffic Prevention Act, Government Secrets Act etc.
- **Issues with commissionerate system:**

- **Delegation of authority and better integration:** Issues like delegation of authority and better integration will have to be addressed.
- **Immense power:** This will lead to immense power in the hands of police which already lacks public confidence.
- **Civil administrative officials have an edge:** because people are more comfortable in interacting with them as they create balance in society.
- **Works well where literacy ratio is higher:** This system works better in states where the literacy ratio is higher and people have wide knowledge about law and their fundamental rights.
- **Structure of commissionerate system:**
  - A deputy inspector general of police (DIG) rank or above officer will be appointed as Commissioner of Police (CP).
  - And, CP will be assisted by special commissioner, joint commissioner, additional commissioner and deputy commissioner.
  - According to the commissionerate system implemented in various states, the CP will directly report to the government, in place of DM.
- **How many states have it?**
  - Almost all states barring Bihar, Madhya Pradesh, UT of J&K, and some Northeastern states have a commissionerate system.
  - The British brought the system first in Kolkata and followed it in Mumbai and Chennai presidencies.
  - Delhi turned into a commissionerate during the Morarji Desai regime.

## 1.10. Norms to Curb Fake Reviews on e-commerce Sites

### Why In News?

- The **Department of Consumer Affairs** has recently announced new regulations to protect consumers from **'fake and deceptive reviews'**.

- It is a part of **the Bureau of Indian Standards** norms that will be implemented from **November 25**.

## Major Guidelines

- **Voluntary Action:**
  - E-commerce platforms will need to voluntarily **disclose paid customer reviews of products and services**.
  - The e-commerce Company or restaurant will have to **develop a code of practice, necessary terms and conditions for accessibility**, and ensure that the content does not contain financial information.
- **Identity:**
  - Reviews should not be misleading, and the identities of the reviewers **should not be disclosed** without their permission.
- **Purchased review:**
  - If a review is purchased or you are rewarding the person for writing the review, then that has to be **clearly marked as a purchased review**.
- **Application:**
  - The **standard, IS 19000:2022**, will apply to all organisations that publish consumer reviews online. These will include suppliers of products and services which collect reviews from their customers, third parties contracted by suppliers or independent third parties.
- **The BIS has defined reviews as solicited and unsolicited:**
  - The person responsible for handling the review in any organisation will be called the **review administrator**.
  - Solicited review refers to consumer reviews requested by the **supplier or review administrator**.
- **Time period:**
  - If a product gets a 4-5 stars rating, the organization will have to inform the **period in which the data was collected**, and if an average was calculated.

## Need of such a regulation

- Reviews posted online play a significant role in **making purchase decisions** and **consumers exceedingly rely** on reviews posted on e-

commerce platforms to see the **opinion and experience of users who have already purchased** the good or service.

## Significance of the move

- **Increased transparency:** The new guidelines for online reviews are designed to drive increased transparency for both consumers and brands and promote information accuracy.
- **Protection of consumers:** Regulations are aimed at protecting consumers from fake and deceptive reviews.
- **Building Trust:** Given that e-commerce involves a virtual shopping experience without any opportunity to physically view or examine the product, it is essential that reviews are genuine, authentic and trustworthy.
- **Penalty:** If they indulge in unfair trade practices, then under the provisions of the Consumer Protection Act, the Central Consumer Protection Authority (CCPA) or a consumer court can take penal action. CCPA usually treats such cases as a 'class' and the consumer commission as individual cases.

## Way forward

- **The government will first set up a mechanism for voluntary compliance**, and will make it mandatory if the menace continues to grow.
- Some countries are making rules, and some are making legal provisions, but **India is the first country to make a standard**.

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## 2. Economy

### 2.1. Will 'Price Cap' For Power Work?

#### Why in News?

- The Central Electricity Regulatory Commission (CERC), has recently issued a discussion paper and has invited suggestions from all the stakeholders on pricing methodology in the power trading market in the wake of price spikes and unprecedented demand in the last year.

#### Key Highlights:

- In March 2022, an **unprecedented demand** was observed **without the increase in supply** and the prices in both the DAM (day ahead market) and RTM (real time market) remained significantly higher for a significant period.

#### What Is The Day-ahead Energy Market?

- The day-ahead energy market is a financial market where individuals and companies can sell and purchase electric energy at **financially binding, or day-ahead, prices for the next day.**
- The day-ahead energy market has a financially **binding schedule of commitments for both the sale and purchase of energy.**
- The day-ahead market ensures both **buyers and sellers can hedge against price changes** and volatility in the real-time energy market as energy prices are locked in before the next operating day.

#### What Is The Real-time Energy Market?

- Real-time energy markets enable consumers, companies, and energy distribution businesses to **buy and sell energy in real-time, usually, an hour before delivery.**

- Auctions on the real-time market take place every 30 minutes, and the **pricing of energy can change throughout the operating day.**

### Day-ahead Vs. Real-time Energy Markets

- The day-ahead energy market lets individuals and companies buy or sell wholesale electricity 24 hours before the operating day, ensuring they avoid being negatively affected by market volatility.
- On the other hand, the real-time energy market lets market users sell and buy wholesale electricity throughout the course of an operating day with no set or previously agreed prices.
- As the real-time energy market calculates its prices based on day-ahead commitments and the real-time demand for energy, it creates prices that reflect market demand.

### Short-term power market:

- According to the discussion paper, power supply in India is predominantly tied up in long-term contracts.
- With 87%, long-term transactions dominate the share of total electricity transactions in the country.
- Of the total short-term transactions, the volume transacted through the power exchanges was the highest at 54%, followed by bilateral transactions through traders at 21%, transactions through DSM at 14%, and bilateral transactions between distribution companies (DISCOMs) at 11%.
- Most of the volume transacted through the exchanges is being transacted in the DAM (including G-DAM), followed by RTM and Term-Ahead Market (TAM).

### Pricing principles at power exchanges:

- Based on the pricing principle, the contracts are broadly categorized into two types:
  1. **Collective Transactions:** The price is discovered through anonymous and simultaneous competitive bidding by the buyers and sellers.
  2. **Continuous Transactions:** The buy and sell bids are matched continuously with price-time priority. For a specific

contract, the seller with the minimum quote and the buyer with the maximum quote are considered the best seller and best buyer.

### Over-the-counter market:

- The discussion paper refers to the **over-the-counter (OTC) market** as a key avenue for electricity trading.
- The Commission made provisions for an OTC platform in the **CERC Power Market Regulations 2021.**

### The objectives of the OTC platform are to:

- Provide a platform with the information on potential buyers and sellers of electricity.
- Maintain a repository of data of buyers and sellers and provide such data to participants
- Provide such services as advanced data analysis tools to market participants.

### Pricing Methodology:

- The mechanism for collective transactions leads to the discovery of a **uniform market clearing price (UMCP).**
- However, due to a uniform price for all market participants who are cleared, all sellers who bid lower prices get an extra profit (difference between the UMCP and the bid price).
- Owing to the recent events in the electricity market, with prices reaching alarming levels, concerns have been raised that some sellers are making huge gains due to this market auction design.

**Uniform Pricing versus Pay as Bid:** The difference between the two lies in the final price paid to the cleared sellers.

1. **Uniform Pricing:** All the cleared sellers receive the same price, which is the market clearing price. As observed, the market cleared price is the bid price of the most expensive seller cleared to meet demand.
2. **Pay as Bid:** Prices paid to the cleared sellers are based on the sell bid offered by the respective seller. Each seller is paid a different price tied to

the bid offered. These prices do not depend on the price of the most expensive seller.

### Supply shortage and uniform pricing:

- UMCP is the most commonly adopted pricing methodology globally, but concerns have been raised regarding the efficacy of this market design.
- In March 2022, India witnessed a period of demand surge coupled with a supply shortage.
- On the other hand, the increase in the supply has been limited. The situation has been further aggravated due to geo-political factors affecting the fuel supply and certain domestic supply constraints.
- The increased prices of fuel, particularly imported coal, led to a significant increase in the marginal costs of the margin-setting generators of the market. This, along with a surge in demand, led to an abnormally high market clearing price, touching ~20/kWh.

### Regulatory intervention:

- The Commission directed the power exchanges to re-design, with immediate effect, the bidding software so that members can submit their bids in the price range of Rs0/kWh to Rs.12/kWh for DAM and RTM.
- As a result of setting the ceiling price at Rs.12/kWh for DAM and RTM, the market clearing price in DAM and RTM was frequently hitting the ceiling price with the volume of buy bids greater than the volume of sell bids.
- The Commission felt the need for a uniform price ceiling in all segments so that there was no shift in supply volume from one segment of the power exchanges to another segment induced by differential ceiling prices in the market segments.
- On May 6, 2022, the Commission directed the power exchanges to revise the ceiling price of all segments to RS12.

**Will price cap work in India where power is generated through various sources — coal, gas, renewables?**

- As per the experts, it will work if done with due diligence, which will depend on the method

being adopted to derive the price as well as the threshold price.

- In India, the uniform price concept is relatively at a nascent stage, so challenges may not be many in the short-term but for the long-term, if this system has to be adopted then the framework has to be properly structured with enough flexibility.
  1. **Identification of parameters:** Identifying the parameters responsible for a trigger in the price rise i.e., the price rise is speculative or because of fuel supply uncertainty or demand-driven.
  2. **Fixing the cap:** Once the trigger is identified, then, based on it a mechanism for fixing the cap can be worked out.
  3. **Fixing the floor price:** It is important to have a floor price in case a cap is being set to ensure that the market is not distorted.

### Conclusion:

- Most of the volume transacted through the exchanges is being transacted in the DAM (including G-DAM), followed by RTM and Term-Ahead Market (TAM).
- While the imposition of a price cap ensures that the market prices remain reasonable and within bounds, the generators with variable costs higher than the price cap tend to go out of the market.
- A price cap is put mostly in an abnormal situation, so before deriving any formula this needs to be considered.
- While the debate and discussion are happening, there is also a need to ensure that there is an inbuilt mechanism of passthrough so that generators and distributors do not take a hit when viewed in terms of their market sale/purchases on annualised basis.

## 2.2. Importance of Agri Exports

### Why In News?

- 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).

### Key Points

- **Growing exports:**
  - India's agriculture exports are growing, and could hit a new high this fiscal.
- **Major export item:**
  - But imports are growing faster, driven in large part by vegetable oils.
  - Even commodities whose exports have been subjected to curbs — wheat, rice and sugar — have shown impressive jumps in shipments.
    - The government had recently banned the export of wheat.
  - According to Commerce Ministry data, **wheat** exports, at 45.90 lakh tonnes (lt) during the April-September period, were nearly twice the 23.76 lt for the same period last year.
  - In May, **sugar** exports were moved from the “free” to “restricted” list.
  - Exports of broken rice were prohibited, and a 20% duty slapped on all other non-parboiled non-basmati shipments.
- **Surpasses 2021 Record:**
  - India's agriculture exports have grown 16.5% year-on-year in April-September.
  - **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.
- **Importance of Surplus:**
  - The surplus in agricultural trade matters because this is one sector, apart from software services, where India has some comparative advantage.
- **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 **spices**, India's exports in recent times have been powered mainly by chilli, mint products, oils & oleoresins, cumin, turmeric, and ginger.
  - In traditional plantation spices such as pepper and cardamom, the country has

become as much an importer as an exporter.

- India has largely turned an importer into cashew.

- **Competition:**
  - India has been out-priced by Vietnam, Sri Lanka, Indonesia, and Brazil in pepper, while it has lost market share to Guatemala in cardamom.
- **Import:**
  - Vegetable oils
    - Almost 60% of India's total agri imports is accounted for by vegetable oils.
    - Vegetable oils are today the country's fifth biggest import item after petroleum, electronics, gold, and coal.

### Challenges in Agri Sector Exports

- **Scrutiny of WTO:**
  - India's agricultural exports are under intense scrutiny in the World Trade Organization (WTO).
  - In 2019, Australia, Brazil, and Guatemala complained to WTO's dispute settlement body that the Central government was implementing several subsidy schemes for promoting sugar exports.
  - The complainants argued that by implementing these subsidy schemes, the government had violated the rules of WTO's Agreement on Agriculture (AoA), which prohibit the use of export subsidies.
- **Subsidies Breaching Threshold:**
  - According to the WTO's Agreement on Agriculture (AoA), subsidies that developing countries like India provide cannot exceed 10% of their value of agricultural production.
  - This implies if India's food subsidies provided through the PDS are taken together with those granted to farmers in the form of MSP and input assistance, its subsidies bill will surely exceed the 10% threshold.
- **Clarifications Regarding Schemes:**
  - During the deliberations in the WTO's Committee on Agriculture, several

countries, including Japan, Russia and the US, have sought clarifications from India as to whether its exports of food grains are in any way linked to the Open Market Sales Scheme of the Food Corporation of India.

### Way Ahead

- A focus on **domestic production and new technologies** can help boost the farm trade surplus.
- A similar approach, aimed at **boosting domestic output and yields**, may be required in cotton.
- As India's food grains exports have increased, so has the scrutiny by other WTO members. The government needs a **well-considered strategy** to meet this challenge.

## 2.3. 6 Years of Demonetisation

### Why In News?

- A recent survey has revealed that even 6 years after demonetisation, **people prefer cash transactions**, especially in real estate deals.

### Key Findings

- **Purpose of Demonetisation:**
  - The process of demonetisation was conducted six years ago in order to curb the circulation of black money.
- **Failed Move:**
  - The step has faltered in the long run, as several surveys reveal that despite the Centre's effort to make a '**cashless**' economy, currency in people's hands have only increased in the past six years.
- **Rise in Cash Transactions:**
  - Digital transactions continue to rise in the economy and yet there is a 44% rise in cash transactions, especially in real estate deals.
  - The survey has further revealed that 76% people use cash to buy groceries, eat out and get food delivery.
  - Other common areas of cash usage include home repairs, beauty services.
  - **Property transactions** emerged as the top area of cash usage from a value per

transaction standpoint in the 2021 survey.

- 44% of those surveyed who bought a property in the last 7 years said cash was part of the transaction.
- One of the other areas where cash use was reported to be high by people in the 2021 survey was for **home repairs, salaries of household staff, and beauty services.**
  - 76% households surveyed also stated that they used cash for groceries, eating out and food delivery transactions in the last 12 months.
- **Testing group:**
  - The survey received over 32,000 responses from citizens located in 342 districts of India. 68% respondents were men while 32% respondents were women. 44% respondents were from tier 1, 34% from tier 2 and 22% respondents were from tier 3, 4 and rural districts.
- **People using UPI:**
  - The overall universe of people using services like the Unified Payments Interface (UPI) is still 250 million or about a fifth of the population.

### Demonetisation

- **About:**
  - On 8th November 2016, the Government of India announced the demonetisation of all ₹500 and ₹1,000 banknotes of the Mahatma Gandhi Series.
  - It also announced the issuance of new ₹500 and ₹2,000 banknotes in exchange for the demonetised banknotes.
  - **There were three main economic objectives behind demonetisation:**
    - Fighting black money,
    - Fake notes and
    - Creating a cashless economy by pushing digital transactions.
- **Outcomes of the exercise:**
  - **Black money:**
    - Among those targets, the biggest one was tackling black money.
    - Black money refers to cash that is not accounted for in the banking system or

cash for which tax has not been paid to the state.

- According to RBI data, almost the entire chunk of money (more than 99 percent) that was invalidated came back into the banking system.
- Of the notes worth Rs 15.41 lakh crore that were invalidated, notes worth Rs 15.31 lakh crore returned.
- Thus, data suggests that demonetisation was a failure in unearthing black money in the system. Meanwhile, instances of black money seizures continue.
- **Fake Notes:**
  - RBI's annual report, submitted that Rs.15.44 lakh crore worth of currency was demonetised.
  - The withdrawn money amounted to 86.4% of the currency in circulation at the time. Only Rs.16,000 crore out of the Rs.15.44 lakh crore was not returned.
  - Only .0027% fake currency was "captured" following demonetisation.
- **Digitisation of economy:**
  - As per RBI report, demonetisation has made India a lesser cash-based economy.
  - In the initial days of trouble conducting business in the face of an acute cash crunch, more and more entities had to shift to digital to do business.
    - After the return of the cash, the growth in digital payment had been modest.
- **Supported in the Pandemic:**
  - The creation of digital infrastructure post-demonetisation helped India in coping with the pandemic.
  - As the tools for faceless transactions were mostly in place, it became easier to move towards contactless transactions.
- **Major Issues associated with the demonetization exercise:**
  - **No separate Acts:**
    - Demonetisation in 1946 and 1978 were implemented through separate Acts debated by Parliament.
    - In 2016, it was done through a mere notification issued under

provisions of the Reserve Bank of India Act, 1934.

- **Central Bank had rejected key justifications:**
  - The Central Board of the RBI gave its approval to the scheme but also rejected, in writing, two of the key justifications — black money and counterfeit notes.
- **Other:**
  - 11 crore people stood in queue to change their own money.
  - Farming community was at a loss. It was sowing season.
  - Wholesale markets shut down. Prices crashed. Retail saw a "calamitous" drop in sales.
  - Industry halted and 15 crore daily labourers were left without work.
  - Some say demonetisation broke the back of the rural economy where cash was dominated and disrupted supply chains.
  - It is estimated that 1.5 million jobs were lost.

### Conclusion

- Many are still to shift or adopt digital payment systems, maybe because it is **more convenient to pay cash** for purchase of fruits, vegetables or a few items of grocery from a store, or due to other reasons including voucher payment.
- While there certainly has been a **discernible uptick in digital payments**, it is doubtful whether the elaborate exercise to unearth black money — the stated and primary goal of demonetisation — was worth it.

## 2.4. Growth of Digital Economy in India

### Why In News?

- G20 offers India a chance to be the architect of a new digital economy.

### About Digital Economy

- Digitalization acquires a critical element in the development of the modern economy, giving birth to an all new term- 'Digital Economy' as it promises to add a lot more within a short span of time.
- Digitalization or the digital transformation of the economy is essentially the **introduction of information and communication technologies** in a sector in order to increase its efficiency, productivity, extents and competitiveness, thereby creating an innovative high-tech digital economy.

### Benefits

- India's digital vision is based on citizen centric services, where **transparency and accountability** are ensured as it envisions a kind of digital transformation that allows everyone – whether in rural or urban areas and irrespective of their economic or social status, to take ample benefits.
- **Digital technologies** are playing the role of a great equaliser by distributing the **fruits of economic developments to all, thereby bringing sociological changes** .
- India's inclusive digital model is narrowing the **digital divide among people** and bringing benefits of technology to all segments of people, as less affluent states leapfrog to catch up with more affluent ones on dimensions such as internet subscriber growth, density of internet infrastructure and common service centres.
- **Digital technologies such as data pooling, Artificial intelligence and others** are now widely used to track and diagnose issues in **agriculture, health, environment, logistics, jobs and skills market, e-governance**, performing daily tasks such as navigating traffic, paying a bill, financial transactions and others.
- **In human development**, technology has always played a revolutionary role, changing the features of the labour force, creating a new face, form, pattern and process of work and bringing about wider economic and societal changes.
- The digital economy has generated new job opportunities as new businesses are springing up.
  - It has also created new job roles spread all over the world.

- The digital economy has increased the transparency of businesses as they can now use technology to share information with their customers.

### Related Initiatives and Their Achievements

- Over the last 75 years, India has executed many citizen-friendly programmes.
  - Through the Digital India Programme, the Government of India is focusing much on creating a strong foundation of digital infrastructure and expanding digital access to all, creating tremendous economic value and empowerment of citizens as new digital applications permeate sector after sector.
  - Today, over 20 platforms support the Digital India initiative, touching over a billion lives and presenting a \$700 billion opportunity for India by 2030.
- Today, over 775 million Indians have access to broadband services, telemedicine has grown 500%, Co-Win enabled over 2 billion vaccination doses, the Aadhaar ecosystem has scaled to 1.3 billion registrations, and Bhim UPI clocked over 6.28 billion transactions as of July 2022.
- **Other initiatives**
  - Digitisation of Post Offices
  - Pradhan Mantri Jan Dhan Yojna
  - DigiLocker
  - BharatNet
  - Smart Cities
  - Digital Rupee

### Issues

- The increased use of technology has also led to an increase in cybercrime.
  - This is because criminals can now use technology to commit crimes like identity theft, fraud, and money laundering.
- The digitisation of businesses requires heavy investments in technology.
  - This is a challenge for small businesses which might not have the resources to invest in technology.

- The increased use of technology in the digital economy has led to an increase in the number of e-waste and heavy carbon footprint.

### Conclusion and Way Ahead

- Digital transformation must be intentionally inclusive and thoughtfully designed and implemented to ensure that all are well taken care of and no one is left behind.
- There is a need for Internet users to train themselves on the best practices of cybersecurity and follow dos and don'ts to ensure a safe digital economy,
  - user awareness would help with digital transformations in future.
- The government could create a financial institution through which loans can be given at zero or very low interest rates to players who are rolling out digital communications infrastructure.
  - We need to bring in changes in our approach to education and training by placing more emphasis on science, technology, engineering, maths, soft skills, resilience, skilling, re-skilling, up-skill of the people in general.

## 2.5. Russian Banks open Vostro Accounts in India

### Why in News?

The **Reserve Bank of India (RBI)** has allowed the opening of nine special vostro accounts in two Indian Banks (UCO Bank and IndusInd Bank) for the settlement of payments in rupee for trade between India and Russia.

- Russia's two largest banks — Sberbank and VTB Bank — are the first foreign lenders to have received approval from the RBI towards settling international trade transactions in rupee.
- A Vostro account is just **another name for a Nostro account**. It is an account held by a bank that **allows the customers to deposit money** on behalf of another bank.

### What is the Background?

- In July 2022, the RBI had unveiled a **mechanism to settle international transactions in rupee** to promote the growth of global trade, with emphasis on exports from India, as well as pushing rupee as an international currency.
- It is also expected to enable trade with sanction-hit nations such as Russia.
- According to the mechanism finalised by the RBI, banks of partner countries can approach authorised dealer banks in India for opening special rupee vostro accounts. The authorised dealer bank will then have to seek approval from the central bank with details of such an arrangement.

### What is a Nostro Account?

- A Nostro account is an account held by a bank in another bank. It allows the customers to deposit money in the bank's account in another bank. It is often used if **a bank has no branches in a foreign country**. Nostro is a Latin word that means "ours".
  - Let's presume bank "A" does not have any branches in the Russia, but bank "B" does. Now, to receive the deposits in the Russia, **"A" will open a Nostro account with "B"**.
  - Now, if any customers in the Russia want to send money to "A", they can deposit it **into A's account in "B"**. "B" will transfer the money to "A".
- The main difference between a deposit account and a Nostro account is that the former is held by individual depositors while **foreign institutions hold the latter**.

### What is a Vostro Account?

- The word Vostro means yours in Latin.
- A Nostro account is a **Vostro account for the bank** that opens the account.
  - In the above example, the account will be **called a Vostro account for bank "B"**. The Vostro account accepts the payments on **behalf of the account holder's bank**.
- If a person deposits money in the Vostro account, it will be **transferred to the account holder's bank**.
- Nostro and Vostro accounts are held in a **foreign denomination**.

- Vostro accounts enable **domestic banks to provide international banking services** to their clients who have global banking needs.
- Vostro account services include executing wire transfers, performing foreign exchange transactions, enabling deposits and withdrawals, and expediting international trade.

### What is Rupee Payment Mechanism?

- **About:**
  - Authorized Dealer Banks in India had been permitted to open **Rupee Vostro Accounts**.
    - Indian importers undertaking imports via this mechanism will make **payment in INR which will be credited into the Special Vostro account of the correspondent bank** of the partner country, against the invoices for the supply of goods or services from the overseas seller.
    - Indian exporters using the mechanism will be paid the export proceeds in INR from the balances in the designated Special Vostro account of the correspondent bank of the partner country.
    - Indian exporters **may receive advance payment against exports from overseas importers in Indian rupees** through the above Rupee Payment Mechanism.
      - Before allowing any such receipt of advance payment against exports, Indian **banks need to ensure that available funds** in these accounts are first used towards payment obligations arising out of already executed export orders/export payments in the pipeline.
      - Balance in Special Vostro Accounts **can be used for: payments for projects and investments, export/ import advance flow management, and investment in Government Treasury Bills, Government securities, etc.**
- **Existing Mechanism:**
  - If a company exports or imports, **transactions are always in a foreign currency** (excluding with countries like Nepal and Bhutan).
  - So, in case of imports, the **Indian company has to pay in a foreign currency** (mainly dollars and could also

include currencies like pounds, Euro, yen etc.).

- The Indian company **gets paid in foreign currency in case of exports and the company converts that foreign currency to rupee** since it needs rupee for its needs, in most of the cases.

### What are the Benefits of this Mechanism?

- **Promote Growth:**
  - It will promote growth of global trade and **will support the increasing interest** of the global trading community in INR.
- **Trade with Sanctioned Countries:**
  - Ever since sanctions were imposed on Russia, trade has been **virtually at standstill with the country due to payment problems**.
    - As a result of the trade facilitation mechanism introduced by the RBI we see the payment issues with Russia easing.
- **Forex Fluctuation:**
  - The move would also reduce the **risk of forex fluctuation**, especially looking at the Euro-Rupee parity.
- **Arrest Fall of Rupee:**
  - Amid ongoing rupee weakness, this mechanism aims at reducing demand for foreign exchange, by promoting rupee settlement of trade flows.

## 2.6. One nation, One ITR Form

### Why In News?

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

### 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 the move

- 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.

## 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**.

- **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 (Administration)
- Member (investigation)
- Member (TPS & system)
- Member (Audit & Judicial)

## 2.7. Problem of Non-performing assets (NPAs)

### Why In News?

- Recently, according to data furnished by the Reserve Bank of India (RBI), the mega write-off exercise has enabled banks to reduce their non-performing assets (NPAs) or defaulted loans by Rs

10,09,510 crore (\$123.86 billion) in the last five years.

- But, banks have been able to recover only 13 percent of it so far.

### About the news

- This huge write-off would have been enough to wipe out 61 per cent of India's estimated gross fiscal deficit of Rs 16.61 lakh crore for 2022-23.
- The banking sector reported a decline in gross NPAs to Rs 7, 29,388 crore, or 5.9 per cent of the total advances as of March 2022.
  - Gross NPAs were 11.2 per cent in 2017-18.
- Once a loan is written off by a bank, it goes out from the asset book of the bank.
  - 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 loss.
- Public sector banks reported the maximum share of write-offs at Rs 734,738 crore accounting for nearly 73 per cent of the exercise.

### What is NPA?

- A loan becomes an NPA when the **principal or interest payment remains overdue for 90 days**.

### Types of NPA

- **Sub Standard:** A sub-standard asset is one that is classified as an NPA for a period not exceeding twelve months.
- **Doubtful:** A doubtful asset is one that has remained as an NPA for a period exceeding twelve months.
- **Loss:** A loss asset is one where loss has already been identified by the bank or an external institution, but it is not yet completely written off, due to its recovery value, however little it may be.

### Causes for Banking NPA

- **Financial crisis**
  - Before the financial crisis of 2008 India's economy was in a boom phase.

- During this period banks lent extensively to corporates in the expectation that the good times will continue in future.
- **Earning of the corporates**
  - Low earnings affected their ability to pay back loans. This is one of the most important reasons behind the increase in NPA of public sector banks.
- **Relaxed lending norms**
  - Another major reason for rising NPA was the relaxed lending norms for corporate houses.
  - Their financial status and credit rating were not analysed properly.
- **Public Sector banks**
  - It provides a major portion of the credit to industries and it is this part of the credit distribution that forms a great portion of NPA.
- **The priority sector lending (PSL) sector**
  - This has contributed substantially to the NPAs. Priority sectors include agriculture, education, housing, MSMEs.
- **Credit default by promoters**
  - There are also cases of credit default by promoters, where the funds have been diverted by over-invoicing imports, sourced via a promoter owned subsidiary abroad or exporting to shell companies and then declaring that they defaulted.

### Issues with NPA

- **Provisioning**
  - The bad loans lead to banks having to save a part of their operating revenue to account for bad loans which is called Provisioning.
  - The technical term used for provisioning is Capital Adequacy Ratio (CAR) or Capital to Risk (weighted) Assets Ratio (CRAR).
- **Less profitable**
  - The banks are required to provision for bad loans out of their operating income.
  - The concerned bank becomes less profitable because it has to use some of its profits from other loans to make up for the loss on the bad loans.
- **Risk-averse**
  - The officials of such banks hesitate from extending loans to business ventures that may remotely appear risky for the fear of

aggravating an already high level of non-performing assets (or NPAs).

- **Downfall in the share markets**
  - Any reduction in the perceived valuation of the banks might lead to loss of share value of the banks, leading to general downfall in the share markets. This could result in wiping out shareholders' wealth from the financial markets.
- **Rising Bad Loans**
  - In spite of various efforts, a substantial amount of NPAs continue on the balance sheets of banks primarily because the stock of bad loans as revealed by the Asset Quality Review is not only large but fragmented across various lenders.

### Way forward

- The writing off NPAs is a **regular exercise carried by banks** to clean up the balance sheet.
- **It is primarily intended at cleansing the balance sheet** and achieving taxation efficiency.
- **In Technically Written Off accounts:** loans are written off from the books at the Head Office, without foregoing the right to recovery.
- **Write-offs are generally carried out against accumulated provisions** made for such loans.
  - Once recovered, the provisions made for those loans **flow back into the profit and loss account of banks.**
- **Steps Taken for NPA**
  - Insolvency and Bankruptcy Code (IBC)
  - Strengthening of Securitization and Reconstruction of Financial Assets and Enforcement of Securities Interest (SARFAESI Act) and Debt Recovery Tribunals
  - Setting up of dedicated Stressed Asset Management Verticals (SAMVs) in banks for large-value NPA accounts etc.
  - Existing ARCs have been helpful in the resolution of stressed assets, especially for smaller value loans.
  - However, considering the large stock of legacy NPAs, additional options/alternatives are needed.

## 2.8. Collapse of FTX Cryptocurrency Exchange

### Why In News?

- A sharp decline in the prices of Bitcoin, the collapse of the Terra Luna network and new crypto-tax regulations in India have compounded miseries for investors and the overall industry.
- However, the sudden market meltdowns turned more intense after the shocking FTX crash.

#### More Details:

- **FTX was one of the largest and fastest-growing crypto exchanges** in the world, largely tapping into the crypto derivatives market.
  - **Before the collapse, it was the second-largest cryptocurrency exchange globally** and, along with Binance, accounted for a majority of global cryptocurrency trades.
- This event **dragged Bitcoin's price to a two-year low**.

#### What's the platform used for?

- **FTX is set up as two verticals:**
  - One can be accessed by **global users**, and the other is **specifically built in compliance with U.S. law**.
  - **FTX.US**, catered to U.S. residents as they could not legally trade on the FTX International platform.
  - FTX claimed to have over **one million customers in 2021**.
- FTX International **offered investors an option to trade in tokenized stocks**, which are **digital coin-based derivatives** of shares of actual companies.

- It also allowed users to bet on **expected valuations of pre-IPO companies**. Such features attracted users to the platforms.

#### Major challenges

- The latest crypto crash affected not just FTX users, but also traders investing in top cryptocurrencies like **Bitcoin and Ether**.
- **Investors holding large reserves of the exchange's own FTT token took a hard hit** as it lost most of its value in just hours.
- About **130 affiliated firms** are now **part of the bankruptcy proceedings**.

#### Way Forward

- **The volatile crypto market from here could face more regulation**, according to some experts.
- **Crypto companies are deeply intertwined:** they invest in one another, buy one another's tokens and lend tokens and capital to one another which means the collapse of FTX could continue to topple others.
- **This fallout makes a strong case for why we need decentralised systems like Defi.** We will see an increase in transparency and widespread adoption of a decentralised system.
- **This crash will force Web3 firms to build better solutions** and develop effective rules for evaluating systematic risk.
- **The incident has brought up the need for regulations in the sector:** The step taken by Binance to launch an **industry recovery fund** to help projects during a liquidity crunch is a positive step in that direction.

## 3. International Relations

### 3.1. Central Asia : The New Battleground for the USA and China

#### Why in News?

- In recent years, foreign-affairs analysts have begun observing what they call the "New Great Game" in Central Asia—characterized by fierce competition between various states all aiming to increase their influence, hegemony, and power over the region.

- In this 'game', the important players are Russia, the USA, European Union (EU), China, Turkey, Iran, and India.

#### Key Highlights:

- The Prime Minister of India hosted the first India-Central Asia Summit in virtual format on 27 January 2022, which was attended by the Presidents of the Republic of Kazakhstan, Kyrgyz the Republic, Republic of Tajikistan, Turkmenistan and the Republic of Uzbekistan.

- The India-Central Asia summit marked 30 years of diplomatic relations.

### Challenges in Central Asia

- **“Secure and Stable”** Central Asia would contribute “directly” to the **USA’s counterterrorism efforts**.
- With the **Ukraine war** continuing, Russia has fewer resources to spare for security situations across Central Asia.
- China does not seem “ready” to provide a **security umbrella** to Central Asia or Afghanistan.
- In June 2021, the **UN Security Council report** documented the presence of 8,000 to 10,000 foreign fighters in Afghanistan, mostly affiliated with the Taliban and hailing from the north Caucasus region of Russia, Pakistan, and China’s Xinjiang province.

### China’s Hegemonist Approach:

- Xinjiang is a province in the northwest part of China that provides a critical link to the country’s BRI.
- It is home to the Uyghurs, one of a number of persecuted Muslim minorities in Xinjiang. Beijing is facing accusations of using hardline methods to suppress the Uyghurs.
- Following their independence, the CARs countries, which are home to an estimated 400,000 Uyghurs, became the hub of anti-China political activities.
- Even generally, since ancient times, the people of Central Asia have had strong cultural and political ties with the indigenous people of Xinjiang.
- Beijing regarded CARs as vital not only for its security but also as a gateway to the markets of Eurasia, Europe and Russia.
- Central Asian countries, rich in hydrocarbon resources, were considered vital for diversifying China’s domestic energy mix, especially considering its disputes in the South China Sea with Japan, Vietnam, Indonesia, and the Philippines

### Way Forward:

- Central and South Asian countries should **pool their resources and cooperate on a multi-pronged approach** to counter the security threats on them.
- **Addressing ethnic and economic divisions** in the Ferghana Valley is essential to preventing ISKP from spreading throughout the region.
- Successfully countering ISKP propaganda will require concerted efforts from South and Central Asian countries.
  - On the government front, countries should first **invest in workshops and training sessions** to equip regional law enforcement agencies and NGOs to develop **targeted digital communications countering violent extremism programs**.
    - These programs would enable communities to identify harmful online rhetoric and prevent them from disseminating among the general populace.
  - Jumpstarting **counter-propaganda campaigns** in communities most susceptible to ISKP communications would form a shield against ISKP and other terrorist recruiting schemes.

### Conclusion:

- Rising anti-Chinese sentiments within the region and security threats from the Taliban allow New Delhi and Central Asia to reimagine their engagement.

## 3.2. India-Russia Bilateral Talks

### Why In News?

- India’s External Affairs Minister recently held wide-ranging talks with his Russian counterpart.

### More about the news

### On the Ukraine conflict:

- Indian Minister stated that the Ukraine conflict was a dominant feature in his discussions with the Russian Foreign Minister.

**Interdependence of economies:**

- He also stated that the global economy is too interdependent not to be impacted by a significant conflict and the Global South is feeling “this pain very acutely”, especially after two years of the pandemic.

**Global South:**

- The Global South refers to the developing and less developed countries in Latin America, Asia, Africa and Oceania.

**Dialogue and diplomacy:**

- India “strongly advocates a return to dialogue and diplomacy” and is on the side of “peace, respect for international law and support for the UN Charter”.
- He even offered help in issues including food grains and fertiliser shipments, and support for any initiative that de-risks the global economy.

**Russian Oil:**

- On buying cheap Russian oil, he made it clear that India will continue with the purchases to cater to the needs of its consumers.

**Trade:**

- Indian Minister expressed concern about the trade imbalance and also urged Russia to address impediments that stand in the way of greater Indian exports.
- They talked about cooperation in the area of logistics and transportation, including the International North-South Transport Corridor, high-tech and nuclear.
- Promotion of inter-regional cooperation has been a key priority for India, particularly with the Russian Far East.

**Defence Cooperation:**

- Both ministers had a detailed discussion on the prospects in military and technical cooperation including joint production of weaponry.

**India-Russia Relations**

- India and Russia have a history of strong strategic, military, economic, and diplomatic relationships.

**Political Relations:**

- The Annual Summit meeting between the Prime Minister of India and the President of the Russian Federation is the highest institutionalized dialogue mechanism in the strategic partnership between India and Russia.
- So far 20 Annual Summit meetings have taken place alternatively in India and Russia.

**Intergovernmental Commissions:**

- There is regular high-level interaction between the two countries.

**The IRIGC (India-Russia Intergovernmental Commission):**

- It is the main body that conducts affairs at the governmental level between both countries. Both countries are members of international bodies including the UN, BRICS, G20 and SCO.

**Two Inter-Governmental Commissions:**

- One on Trade, Economic, Scientific, Technological and Cultural Cooperation (IRIGC-TEC), co-chaired by EAM and the Russian DPM, and
- Another on Military-Technical Cooperation (IRIGC- MTC) co-chaired by Russian and Indian Defence Ministers, meet annually.

**Trade and Economic Relations:**

- Both sides revised targets of increasing bilateral investment to US \$50 billion and bilateral trade to US \$30 billion by 2025.
- India’s merchandise imports from Russia include petroleum oil and other fuel items, fertilizers, coffee and tea, spices, nuclear reactors, and animal and vegetable fats, among others.

**Nuclear Energy:**

- Russia recognizes India as a country with advanced nuclear technology with an impeccable non-proliferation record.
- Kudankulam Nuclear Power Plant (KKNPP) is being built in India with Russian cooperation.

**Space Cooperation:**

- Both sides cooperate in the peaceful uses of outer space, including satellite launches, GLONASS navigation system, remote sensing and other societal applications of outer space.

**Science & Technology:**

- The Working Group on Science and Technology functioning under IRIGC-TEC, the Integrated Long Term Programme (ILTP) and the Basic Science Cooperation Programme are the three main institutional mechanisms for bilateral Science and Technology cooperation.

**Cultural Cooperation:**

- There is a strong tradition of Indian studies in Russia.
- There is strong interest among Russian people in Indian dance, music, yoga and Ayurveda.

**Defence and Security Cooperation:**

- India has longstanding and wide-ranging cooperation with Russia in the field of defence.
- BrahMos Missile System as well as the licensed production in India of SU-30 aircraft and T-90 tanks are examples of such flagship cooperation.
- Both sides concluded agreements on the supply of S-400 air defence systems, construction of frigates under Project 1135.6 and shareholders agreement on the formation of a joint venture to manufacture Ka-226T helicopters in India.
- The two countries also hold exchanges and training exercises between their armed forces annually termed INDRA.

**3.3. The significance of the Bali G-20 summit****Why in News?**

- Seventeenth G20 summit will be held in Bali.

**More Details:**

- The leaders of G-20 countries will gather at the Nusa Dua resort of Bali for the 17th summit. However, the Russian President will not participate in the summit and Russia will be represented by Foreign Minister Sergey Lavrov.
- The summit will focus on post-pandemic recovery and tackling food and energy security that have been severely impacted by the Russian war in Ukraine.

**Background Details about G-20:**

- G-20 was established in 1999 as an acceptable medium between the elitist G-7 (G-8 earlier) and the Organisation for Economic Cooperation and Development (OECD).
- It was perceived to be a more unified group and over the years it has become a more representative and egalitarian organization. It has played a crucial role in the global economy, particularly after the global financial crisis and the banking collapse of 2008.
- G-20 countries comprise 85% of the global GDP, 75% of global trade, and 66% of the global population.
- It should also be noted that in the coming year the "Troika" of G-20 will be made up of emerging economies for the first time with India, Indonesia, and Brazil. This indicates a shift towards Global South in the global economic agenda.

**Agenda of the Seventeenth G-20 summit:**

- The motto for the 17th G-20 summit is: Recover Together, Recover Stronger.
- The representatives of the member countries will engage in discussions over three sessions:
  - Food and Energy Security

- Health Partnership for Global Infrastructure and Investment
- Digital Transformation
- Moreover, Indonesian President Mr. Joko Widodo will lead the guests to Taman Hutan Raya (Indonesian Mangrove), that were restored through a 30-year project covering around 700 acres.
- This is the first G-20 summit after the Russia-Ukraine conflict and consequent western sanctions. Efforts will be made to build a global consensus on the issue.
- This summit is significant for India as Indonesia will hand over the Presidency of G-20 for the upcoming year to India. India will assume Presidency on 1 December 2022.
- Indian Prime Minister Shri Narendra Modi will also spell out the agenda for the upcoming India's G-20 presidency. It is speculated that India will focus on the Global South and the problems it is facing due to geopolitical tensions like food and fuel shortages.
- Furthermore, this would be the second time that Chinese President Xi Jinping will travel abroad after the pandemic.

#### Attendees of the summit:

- The leaders of Argentina, Australia, Canada, China, the European Union, France, Germany, Italy, Japan, Saudi Arabia, South Africa, South Korea, Turkey, the U.K., and the U.S. will attend the summit in Bali, Indonesia.
- Spain is a permanent invitee. The special invitees of the summit are leaders of Cambodia, Fiji, the Netherlands, Rwanda, Senegal, Singapore, Suriname, and UAE. The Ukrainian President will attend the summit virtually.
- Additionally, heads of several international organizations like the UN, the IMF, ASEAN, and the African Union will attend the 2022 summit.
- The President of Russia and leaders of Mexico and Brazil (due to the transition in leadership) will not attend the summit.

### 3.4. China Plus One Strategy

#### Why In News?

- Companies contemplating diversifying their dependence on China is a strategy known as **"China-Plus-One"**.

#### More about the Strategy

- **China as the 'World's factory':**
  - China, known as the 'World's factory' has been the **centre of global supply chains** in the last few decades owing to following
    - Favourable factors of production and
    - A strong business ecosystem.
  - **Beginning:**
    - When large manufacturing entities in the U.S. and Europe moved production to China in the 1990s, they knew they got a low manufacturing-cost base and also access to a big market for a large number of products.
- **Issues during pandemic:**
  - During the pandemic, there were **a lot of disruptions in many of the economies.**
  - When the large economies came out of the pandemic, there was a sudden demand.
  - **China's Zero-COVID Policy** meant that there was industrial lockout and supply chains were not able to supply consistently. There was also the container shortage.
- **Evolution of China+1 strategy:**
  - Zero-COVID policy, supply chain disruption issues, high freight rates and lead times from China – the confluence of all these factors have resulted in a China+1 strategy for many global companies.
  - As the Chinese economy is shutting itself, global companies are exploring other manufacturing locations.
- **Alternative supply chain:**
  - Now many MNCs are adding new operations in other developing Asian countries like India, Vietnam, Thailand, Bangladesh and Malaysia, and are

welcoming new manufacturing opportunities.

- A strategy that is an answer to having efficient supply chain management.

- **Benefits for India:**

- India is likely to be the next best candidate to benefit from this altered situation owing to its competitive advantage in various industries, favourable factors of production, conducive business environment, and incentivising government policies.

### Following are the potential sectors that can benefit from China plus one strategy

- **Textile:**

- Textiles in the second largest employer after agriculture in India.
- It is a labour-intensive sector as India has cheap labour comparatively.
- It contributes 5% to India's GDP, 7% of industrial outputs in value terms, 12% of the country's export earnings. Therefore, it will always be in the focus/priority of the government's industry benefit list.
- **Other benefits:**
  - Abundance of raw material
  - Presence across the entire value chain
  - Second largest manufacturer of textiles and clothing in the world.

- **Metals:**

- India has a **competitive advantage in steel and aluminium** on account of an adequate supply of raw materials and a growing market for finished goods.
- **The PLI scheme for the specialty steel industry** will apply for a 5-yr period from 2023-24 onwards.
  - It is expected to bring in an investment of approximately Rs. 40,000 cr and capacity addition of 25 mn tonnes for specialty steel.

- **Chemicals:**

- With a 35% market share in global exports, **China is slowly losing its**

**momentum** due to changes in trade dynamics and stringent environment norms.

- These changes in China will help India increase its global market share from 3% to 9% as expected in the coming decade.
- The **Indian chemical industry grew** by 11.7% CAGR over CY 2015-20 and is valued at around \$32 bn. It is expected to grow at a CAGR of 12.4% in the next 5 yrs.

- **Pharmaceuticals:**

- Indian Generic medicines has 20% share in global supply by volume.
- China and India are the sources of 75-80% of the APIs imported to the US.

- **Semiconductors:**

- U.S.-China tensions over Taiwan, and the **supply chain blockages** owing to the Russia-Ukraine conflict have led major economies to enter the chip-making sector with a renewed push.
- Indian government also recently announced the **PLI and DLI schemes** as major steps towards **building a semiconductor ecosystem in the country.**

### Suggestions & Way Ahead

- **Establishment of the global supply chain:**

- The establishment of the global supply chain was built over a period of time. The experience of some of these companies in India is relatively less.

- **Understanding the expectations:**

- There are specific expectations of quality in every country. So, a good bit of time has to be spent in understanding these quality expectations of global customers in different geographies.

- **Balancing domestic supply:**

- Also, Indian firms will have to continue to support global companies even if domestic demand goes up.

- It will have to be a long-term separate business that they are committing themselves to.
- **Various initiatives by Indian government:**
  - The government also clenched the situation and took further steps in the same direction by introducing PLI schemes for multiple sectors like textiles, electronics, raising import duties on some products, and so on.
    - The PLI scheme is a big push towards manufacturing locally and localising technology, strengthening our own manufacturing.
  - Before COVID-19 too, the government had taken measures like reducing corporate tax rates, Atmanirbhar Bharat, and others to incentivize domestic production.

### 3.5. 4th India-France Annual Defence Dialogue

#### Why In News?

- Recently, India and France discussed **defence industrial cooperation** with a focus on 'Make in India'.

#### Key Points

- **About:**
  - It was the **4th India-France annual defence dialogue** chaired by Defence Minister Rajnath Singh and his visiting French counterpart Sebastien Lecornu.
- **Background:**
  - It comes in a year that has seen an acceleration of the French and Indian armed forces' endeavours towards even greater **interoperability through joint air, navy, and army exercises, such as IMEX 22** in March, **Varuna in March-April**, and the recently-

concluded **Garuda** in **October-November 2022**.

- **Focus:**
  - Make in India
  - Means to strengthen maritime cooperation and
  - Increase the scope and complexity of bilateral exercises.
- **Minutes and future projects:**
  - Future collaborations and potential co-production opportunities were discussed.
  - The technical groups from both the countries will meet early next year and take the key cooperation issues forward
  - A wide range of bilateral, regional and defence industrial cooperation issues were discussed during the dialogue.
  - Reviewed the ongoing military-to-military cooperation, which has increased substantially in recent years.
  - They recognised their convergences on a number of "strategic and defence issues and shared the commitment to work together on enhancing cooperation in bilateral, regional and multilateral fora, with a **focus on the Indo-Pacific region**.
  - The discussions ranged from enhancing cooperation in areas of mutual interest to the **maritime challenges in the Indian Ocean Region**.
- **France:**
  - France is the current chair of **Indian Ocean Commission (IOC) and Indian Ocean Naval Symposium (IONS)** and both countries cooperate closely in these fora.
  - The French Minister acknowledged India's indigenous potential and self-reliance.

#### India France Relations

- **Strategic Dialogue:**
  - France is the first country with which we initiated a Strategic Dialogue after our 1998 nuclear tests when France refused to impose bilateral sanctions

on us and displayed a far greater understanding of India's security compulsions compared to other countries.

- **Trade between two countries:**

- Bilateral trade with France has witnessed a steady rise in the last decade reaching USD 10.75 billion in 2020. The two sides also recognised the importance of fast tracking the discussions on an India-EU trade and investment agreement.
- Nearly \$16 billion worth of agreements at the business summit were signed. There are nearly 1,000 French companies present while over a hundred Indian businesses have established a presence in France.

- **Brexit:**

- In the past, Indian companies saw the U.K. as the entry point for Europe; now with Brexit approaching, India can also look at France as its entry point for Europe.

- **Defence:**

- An agreement for building six Scorpène submarines in India with French help was signed in 2005.
- Technology sharing and acquisitions of short-range missiles and radar equipment were concluded.
- Joint exercises between the air forces (Garuda series) and the armies (Shakti) were instituted in 2003 and 2011, respectively.
- The government-to-government agreement for 36 Rafale aircrafts has taken place. The ambitious offset target of 50% (nearly Rs.25,000 crore), properly implemented, can help in building up India's budding aerospace industry.

- **Energy Sector:**

- An agreement was signed about a decade ago for building six EPR (European Pressurized Reactors) nuclear power reactors with a total capacity of 9.6 GW for which negotiations have been on-going

between the Nuclear Power Corporation of India (NPCIL) and Areva.

- **On green energy:**

- The International Solar Alliance is set in motion jointly by India and France.
- France offered an extra \$861.5 million by 2022 for solar projects in developing countries.

- **Maritime cooperation:**

- **China's angle:**

- Like India, France has expressed concern about China's growing presence in the Indian Ocean Region.
- French overseas territories in the Indian and the Pacific Oceans provide it with the second-largest exclusive economic zone globally. It has long maintained bases in Reunion Islands and Djibouti and established one in Abu Dhabi in 2009.

- Strengthening cooperation with France, particularly in the western Indian Ocean Region makes eminent strategic sense even as India develops its presence in Oman (Duqm) and Seychelles (Assumption Island).

- More synergy between the two navies in the Gulf area where France has a base (in Abu Dhabi) and better mutual understanding of the implications of a Chinese base in Gwadar is important for India.

- **Space:**

- Earlier France assisted India to set up the Sriharikota launch site.
- Today, it is a relationship of near equals and the 'vision statement' refers to world-class joint missions for space situational awareness, high resolution earth observation missions with applications in meteorology, oceanography and cartography.
- Inter-planetary exploration and space transportation systems are cutting

edge science and technology areas that have also been identified.

- Collaboration for Mission Gaganyaan:
  - Space agencies of India and France inked an agreement for cooperation for the country's first human space mission Gaganyaan.
- **Education:**
  - The most significant agreement was the focus on youth and student exchanges.
  - Currently, about 2,500 Indians go to France annually to pursue higher education, compared to more than 250,000 from China.
  - The agreement on mutual recognition of academic degrees and the follow-on Knowledge Summit, where 14 MoUs between educational and scientific institutions were signed.
- **Tourism:**
  - While there are only about 20 flights a week between India and France, there are four times as many to Germany and 10 times as many to the U.K. So the number of flights between India and France have to be increased.
- **Post-COVID Agenda:**
  - India and France will advance their shared post-COVID agenda through "close collaboration".
  - There are immense opportunities for greater collaboration in diverse sectors such as trade and investments, defence and security, health, education, research and innovation, energy and climate change.
- **Environment:**
  - India and France had launched the Indo-French Year of the Environment in January 2021 to strengthen cooperation on these issues and ensure coordination ahead of these multilateral events.
    - **Objective:** To strengthen Indo-French cooperation in sustainable development, increase the effectiveness of actions in favour of global environment protection and give them greater visibility.

- The Indo-French Year of the Environment over the period 2021-2022 would be based on five main themes:

- Environmental protection;
- Climate change;
- Biodiversity conservation
- Sustainable urban development;
- Development of renewable energies and energy efficiency.

- It is also a platform for engaging in discussions on critical areas of collaboration relating to the environment and allied areas.

### Conclusion

- This visit reaffirms France's engagement in the Indo-Pacific and India's centrality in the French strategy for the region.

### 3.6. Blue Diamond Affair

#### Why In News?

Recently, Saudi Crown Prince Mohammed bin Salman and Thailand's prime minister signed agreements to expand diplomatic relations between the two countries.

- The relations were restored only earlier this year, three decades after a high-profile jewelry theft, also known as the **Blue Diamond Affair**.

#### About Blue Diamond Affair

- Saudi Arabia downgraded its diplomatic relations with Thailand over the theft that led to a string of mysterious killings and became known as the Blue Diamond affair.
  - It all started with the theft of jewelry and other valuable gems from the palace of Prince Faisal bin Fahd, the eldest son of King Fahd of Saudi Arabia, in 1989.
  - A Thai worker employed as a servant at the palace, stole precious gems worth \$20 million from Prince Faisal's home,

which also included a rare 50-carat blue diamond, which is still missing.

- The ensuing diplomatic repercussion was thus named after the gem.
- **Impacts:**
  - It resulted in loss of jobs for thousands of Thai migrant workers.
  - Saudi Arabia stopped issuing work visas for Thais and discouraged its own citizens from visiting Bangkok.
- **Present Saudi-Thailand relations:** Recent The high-level meeting also saw the two leaders agreeing on the appointment of ambassadors “in the near future” and to strengthen economic and trade relations
  - As the two countries turned a new page in their relationship, Saudi restarted direct flights to Thailand in February.
  - Since January 2022, many friendly exchanges have taken place between the two countries — one being an agreement between state-owned energy firms Saudi Aramco and Thailand’s PTT for cooperation in carbon capture and crude oil sourcing.
- **Recent Developments:** In October 2022, Thailand hosted the controversial Saudi-backed circuit, LIV Golf Invitational.
  - In November 2022, Saudi Investment Minister Khalid al-Falih attended a business forum in Bangkok meeting agriculture firms.
- **Relevance:** Restoration of ties has benefits for both countries, as the two leaders inked agreements pledging to increase trade and investment.

### 3.7. India-ASEAN Defence Ministers' Meeting

#### Why In News?

- The maiden **India-ASEAN Defence Ministers' Meeting** was recently held at **Siem Reap in Cambodia to commemorate the 30th Anniversary of India-ASEAN relations.**

#### More about the meet

- **India’s proposals:**
  - The Defence Minister of India made two proposals for **expanding the scope and the depth of the India-ASEAN** (Association of SouthEast Asian Nations) defence relations. These include:
    - An **initiative for women in United Nations Peacekeeping (UNPK)** operations and,
    - Initiative on **marine plastic pollution.**
  - **India-ASEAN Initiative for women in UNPK operations:**
    - It includes the conduct of **tailor-made courses for women peacekeepers of ASEAN member states** at the Centre for United Nations Peacekeeping in India.
    - It also includes the conduct of a **‘Table top Exercise’ in India for women officers** from ASEAN incorporating facets of UNPK challenges.
  - **Initiative on marine plastic pollution:**
    - **About:**
      - It includes channelising of the energy of the youth towards addressing the critical issue of marine pollution.
    - **Role of India’s National Cadet Corps (NCC):**
      - Minister informed the ASEAN members of the significant work done by the NCC in the cleaning of Indian beaches and raising awareness about plastic pollution in the coastal community.
    - **Coordination with NCC:**
      - He suggested coordination between the NCC and the equivalent youth organisations of ASEAN countries for a collective effort in this direction in the region.
    - **India-ASEAN marine pollution response centre:**
      - The minister proposed the establishment of an **India-ASEAN marine pollution response centre at Chennai** by the **Indian Coast Guard** to address and supplement **regional efforts to deal with marine pollution incidents.**
- **India’s Act East Policy:**

- The minister also emphasised that the **centrality of ASEAN** in the Indo-Pacific region is the cornerstone of India's Act East Policy.

### Significance of ASEAN for India

- **India-ASEAN strategic partnership:**
  - The India-ASEAN strategic partnership has been strengthened by virtue of flourishing **cultural and civilisational links** and enhanced **people-to-people cooperation**.
- **ASEAN led Mechanisms:**
  - India shares a deep connection with ASEAN and has continued its active engagement in many areas contributing to **regional peace and stability**, particularly through **ASEAN led mechanisms**, such as:
    - **East Asia Summit.**
    - **ASEAN Regional Forum.**
    - **ADMM-Plus.**
      - The ADMM Plus is an annual meeting of Defence Ministers of 10 ASEAN (Association of Southeast Asian Nations) countries and eight dialogue partner countries - Australia, China, India, Japan, New Zealand, Republic of Korea, Russia and the United States.
- **Maritime Connectivity & Security:**
  - India is surrounded by the Indian Ocean and ASEAN Countries have borders with Indo-Pacific waters.
    - This opens up plenty of opportunities for India and other countries to work on maritime security, trade, and better supply chain networks.
  - India is consciously working with ASEAN towards a **vision of an open and inclusive Indo-Pacific** in tandem with initiatives such as
    - The **Indo-Pacific Oceans Initiative (IPOI)**,
    - To ensure **Security and Growth for All in the Region (SAGAR)**.
  - India and some of the ASEAN countries are also members of the recently

launched **Indo-Pacific Economic Framework (IPEF)**.

- **Checks Chinese Dominance:**
  - Maritime cooperation in terms of connectivity, safety and security has gained high attention in the **backdrop of China's advancements in the South China Sea**.
  - India will gain better positioning against China's increasing dominating presence in the area.
- **Act East Policy & Indo-Pacific:**
  - Indo-Pacific is an interconnected geography where ASEAN is at its core.
  - Both ASEAN and India believe that **openness, inclusiveness, rules-based order, freedom of navigation and peaceful settlement of disputes** lie at the very core of the Indo-Pacific.

### 3.8. AI-ECTA

#### Why in News?

- The Australian Parliament recently approved the free trade agreement inked with India paving the way for the rollout of the pact from January 2023.
- The agreement is likely to push the bilateral trade to USD 45-50 billion in the next five-six years from the present USD 31 billion.

#### More in news

- This was the third such agreement signed by this government, after the Mauritius and UAE trade pacts.
- The India-Australia Economic Cooperation and Trade Agreement (ECTA) needed ratification by the Australian Parliament before its implementation.
  - In India, such pacts are approved by the Union Cabinet.
  - This is the first agreement with a developed country after a decade.

#### Major highlights on AI-ECTA

- **Data on trade:**

- India's goods exports to Australia stood at USD 8.3 billion and imports from the country aggregated to USD 16.75 billion in 2021-22.
- **Duty-free access:**
  - It would provide duty-free access to Indian exporters of over 6,000 broad sectors including textiles, leather, furniture, jewellery and machinery in the Australian market.
  - Australia will open 100 per cent of their lines (products) with no restriction on even quota. This is the first time Australia has done this for any country.
  - Australia is offering zero-duty access to India for about 96.4 per cent of exports (by value) from day one. This covers many products that currently attract 4-5 per cent customs duty in Australia.
- **Double Taxation Avoidance Agreement (DTAA):**
  - The Australian Parliament has also approved an amendment to the Double Taxation Avoidance Agreement (DTAA), a move which would **help the Indian IT sector** in operating in that market.
  - It would **stop the taxation on the offshore income** of Indian firms providing technical support in Australia.

### Significance of the pact

- **Labour-intensive sectors:**
  - They would gain immensely from textiles and apparel, few agricultural and fish products, leather, footwear, furniture, sports goods, jewellery, machinery, and electrical goods.
- **Job opportunities:**
  - It will be a great job opportunity for Indians when Australian investment comes here.
- **More visas:**
  - India has got visas for Indian chefs and yoga instructors and also got a

commitment that every child going to study in Australia will get an opportunity to work there depending on the level of education.

- **Beneficial for farmers:**
  - The pact will help farmers **growing grapes** for making wine to explore more business opportunities in Australia.
  - There are 6,000 grape farmers in India who grow grapes for wine purposes. It will help attract investments, and new farmers can also come into the sector.
- **Increased Exports:**
  - The agreement has opened vistas of opportunities for domestic exports as over 98 per cent of the tariff lines will have tariff advantage from day one.
- **Duty-free imports:**
  - We will also get duty-free imports of critical raw materials like coal, alumina, manganese, copper, nickel, wool, hides and skin. It will impart further competitiveness to our manufacturing and exports.
- **Indian IT sector is the biggest gainer of that amendment:**
  - The move may lead to savings of about USD 200 million each year for over 100 Indian IT firms operating in Australia.

### Way Forward

- **The FTA is a win-win for both.** On one hand it would open up the Indian market for quality Australian wines, and on the other it would help the Indian wine industry evolve further benefiting from the expertise and investment from their Australian counterparts.

## 3.9. India- UAE Relations

### Why In News?

- Recently, the External Affairs Minister of India met with his UAE counterpart and noted that bilateral trade has **shown appreciable growth** under the **Comprehensive Economic Partnership Agreement (CEPA)**.

## Key Highlights

- **Minutes:**

- Cooperation in the areas of energy, food security, trade and defence.
- Reviewed the continuous progress in bilateral relations across different domains, since the 14th Joint Commission meeting held by them in September 2022.
- Appreciated the progress in bilateral relationship, especially in trade, investment, consular matters, education and food security.
  - Trade has shown appreciable growth under the CEPA.
- Exchanged views on the global situation and various regional hotspots.

- **Exports and Imports:**

- India's exports to the UAE between April and September this year were about \$16 billion, an **increase of 24 per cent year-on-year**, while India's imports increased 38 per cent to reach \$28.4 billion in the same period.

## India- UAE Relations

- **Diplomatic:**

- India and the United Arab Emirates (UAE) established diplomatic relations in 1972.
- UAE opened its Embassy in Delhi in 1972 & India opened its Embassy in Abu Dhabi in 1973.
- The traditionally strong bilateral relations enjoyed by India & UAE received impetus with the visit of PM Modi to UAE on 16-17 August 2015 that marked the beginning of a new strategic partnership between the two countries.
- Modi's last visit to the UAE was in August 2019, when he received the UAE's highest award, 'Order of Zayed'.

- **Economic & Commercial Relations:**

- India and UAE have shared trade links through the centuries.

- Trade, which was dominated by traditional items such as dates, pearls and fishes, underwent a sharp change after the discovery of oil in the UAE (oil exports began from Abu Dhabi in 1962).
- The real impetus, however, started after Dubai positioned itself as a regional trading hub by the early 1990s and about the same time, the economic liberalisation process started in India.
- Bilateral trade in FY 2021-22 was about US\$ 72 billion. UAE is India's third largest trade partner and second largest export destination.
- UAE's FDI in India has increased over the past few years and currently stands at over \$12 billion.

- **Cultural Relations:**

- The importance given to Indian culture by the UAE was further highlighted in April, 2019 when India participated as the Guest of Honour Country in Abu Dhabi International Book Fair 2019.
- Indian cinema/ TV / radio channels are easily available and have good viewership; major theatres/cinema halls in the UAE screen commercial Hindi, Malayalam and Tamil films.
- The Emirati community also participates in our annual International Day of Yoga events and various schools of yoga & meditation centres are running successfully in the UAE.

- **Technology partnerships:**

- India and the UAE have signed a number of digital innovation, technology partnerships, and also plans for ISRO and UAESA to cooperate on missions like the Red Moon mission.
- The Emirates has offered "golden visa" residency permits for doctors, engineers, PhD scholars and specialists in high-end technology fields such as artificial intelligence (AI), Big Data, virology and epidemiology, and brought over the former ISRO chief K. Radhakrishnan to their space agency.

- **Defence and Security Cooperation:**
  - Bilateral Defence Interaction between India and UAE has been steadily growing in accordance with other aspects of the bilateral relationship.
  - There have been regular high level & functional level exchanges between the two countries.
  - The ships of the Navies of both countries have regularly made port calls enhancing bilateral defence co-operation.
  - India and UAE signed a comprehensive strategic partnership in 2017, and hold annual defence dialogues.
  - More recently, UAE is a key part of the Indian Ocean Region dialogue.
  - Both sides take part in military exercises with each other and there have been several Military chiefs visits.
- **Mediation:**
  - An interesting aside is the role the UAE says it has played in mediation between India and Pakistan, and over the past 3 years, Dubai has facilitated meetings between interlocutors including NSA Doval and Pakistan military officials.
- **Indian Community:**
  - The Indian expatriate community of approximately 3.4 million is the largest ethnic community in UAE constituting roughly about 35% of the country's population.

### Issues /Challenges in the Ties

- **Recent Turbulence in relations:**
  - It is caused by the comments on Prophet Mohammed by Nupur Sharma and Naveen Kumar Jindal
- **Balancing geopolitics:**
  - India with Iran (also played out over Yemen) and UAE with China.
- **Energy pricing:**
  - As an OPEC country UAE is on the side of the debate, where India as a major oil consumer is arguing for a cap on

prices- this has seen some heated words between oil ministers in the past

- **India and UAE are yet to renegotiate their air services agreement**, which has become a thorn in ties, because the UAE wants to increase the number of flights to India and the number of destinations, but India continues to cap these to protect Indian airlines.
- **Treatment of Indian labour:**
  - This frequently flares up as Indians aren't granted citizenship in the UAE, and conditions at Indian labour camps become a matter of concern.
  - During the pandemic much of the labour to the gulf has had to return, and remittances are likely to be slashed in the next few years
- **Treatment of minorities in India is becoming a big issue:**
  - After the CAA protests, social media controversies, now the Hijab Ban has raised concerns in Gulf countries, and the OIC issued a very strong statement. And conversely, although very few, less than 100 Indians based in the Gulf joined ISIS, or earlier Al Qaeda, the export of radicalisation is always a concern
- **Legal Issues:**
  - Legal problems have in the past dampened foreign investments from coming to India.
  - Checks and regulations are needed, better streamlining of the procedures and processes help in avoiding such problems.

### India-UAE CEPA trade deal

- The new strategic economic agreement will increase bilateral trade in goods to \$100 billion in five years (2022-27) of the signed agreement and increase trade in services to \$15 billion.
- CEPA is a kind of free trade pact that covers negotiation on the trade in services and

investment, and other areas of economic partnership.

- **The Agreement is a comprehensive agreement which will cover:**
  - Trade in Goods, Rules of Origin,
  - Trade in Services,
  - Technical Barriers to Trade (TBT),
  - Sanitary and Phytosanitary (SPS) measures,
  - Dispute Settlement,
  - Movement of Natural Persons,
  - Telecom,
  - Customs Procedures,
  - Pharmaceutical products,
  - Government Procurement,
  - IPR, Investment,
  - Digital Trade and Cooperation in other Areas.
- It will include a digital trade element, which is a first of its kind for both countries.
- The United Arab Emirates is India's third largest trading partner and second largest export destination.
  - The UAE is also the eight largest investor in India with an estimated investment of US\$ 18 billion.

### Significance of the deal

- **Enhanced market access:** The agreement will provide significant benefits to Indian and UAE businesses, including enhanced market access and reduced tariffs.
- **The CEPA will boost bilateral trade** from the current \$60 billion to \$100 billion in the next 5 years.
- India welcomed investment from the Gulf country into Jammu and Kashmir that would open new routes for regional trade and connectivity and advance the collective interests of India, Israel, the UAE and the United States.
- The **deepening of the relationship** with the UAE would also help Indian exporters gain access to other West Asian countries, Africa and some parts of Europe.
- **Digital trade:** Early harvest agreement would likely include a chapter on digital trade which would be aimed at enhancing cooperation

between the two countries on digital trade in the future.

- Digital trade is likely to include frameworks on paperless trading, digital payments and online consumer protection, as well as address issues such as intellectual property rights in digital trade, and challenges to small and medium enterprises.
- The UAE hopes to get **enhanced market access** in India for its petrochemicals, metals and dates.
- Indian goods will flow to the other GCC countries as the UAE has no customs barriers.
- **Energy ties:** UAE is India's third largest supplier of crude oil and second largest supplier of LPG and LNG. Renewable energy is the next step for bilateral energy ties.
- It may also give a **boost to India's jewellery exports**.
- It is expected to create **new jobs**, raise living standards, and provide wider social and economic opportunities in both nations.

### Issues/ Challenges of Trade Deal

- **Lack of negotiations:**
  - A free trade agreement with the GCC comprising Saudi Arabia, Kuwait, UAE, Oman, Qatar and Bahrain as its members was first envisaged in 2007, but got stuck after a couple of rounds of negotiations.
- **Lacking Global Giant Experience:**
  - Despite being a US \$2.5 trillion economy, Indian businesses are small in size. In fact, none of the Indian business giants come close to the big global conglomerates that have the capacity, infrastructure and experience to handle huge investments.
- **Procedural Issues:**
  - Including lack of planning, lack of complete information, bureaucratic bottlenecks continue to remain a challenge for foreign investors despite significant efforts by the government in this direction to make investments easy and convenient.
- **Legal Issues:**

- Legal problems have in the past dampened foreign investments from coming to India. For example, the investments from UAE's Etisalat and Etihad had got stuck in legal problems, thus dampening investor enthusiasm. While checks and regulations are needed, better streamlining of the procedures and processes help in avoiding such problems.
- **Political Will:**
  - There are challenges pertaining to political diversions, especially when an election year is approaching.
  - India has a tendency to become focused inward and in the process, ignore foreign policy.

- The UAE with an appetite for large-scale investments needs to be continuously engaged.

### Conclusion

- The UAE today is India's closest partner in the Arab world and fortunately, there is enough resilience in bilateral ties to withstand the recent convulsions.
- India and UAE continue to forge closer partnership in these areas, building on their close and friendly relations and historical people-to-people connect. India-UAE has a strong energy partnership which is now acquiring a new focus on renewable energy.
- It will take a sustained public diplomacy effort to further improve the relations.

## 4. Science & Technology

### 4.1. Curcumin Compound to Treat Infection in Cattles

#### Context

- In a major breakthrough in creating immunity in cattle against **infectious diseases including mastitis**, researchers have successfully validated the immunomodulation ability of a natural phytochemical compound with **curcumin as the active ingredient**.
  - Mastitis is an **infectious disease condition resulting in an inflammatory** reaction in the mammary gland of the cow.

#### What is Curcumin?

- It is a **yellow pigment found primarily in turmeric**. It is a **polyphenol** with **anti-inflammatory properties** and the ability to increase the amount of antioxidants that the body produces.
- Research revealed that **Curcumin offers immunity in dairy cattle against infectious**

**diseases including mastitis** by increasing complementary protein, Interferon, Immunoglobulin (IgM), lymphocytes and monocytes.

- The compound will create appropriate immunity and facilitate **increased milk production by 10 percent**.

#### Significance

- The **economic loss** due to mastitis in India exceeds ₹13,000 crore annually.
- **No vaccination** is available against mastitis.
- Antibiotics have been used to manage various infections in cattle. However, it has been noticed that the uncontrolled use of antibiotics results in increased antibiotic resistance.
- The **irrational use of antibiotics for treating mastitis** resulted in inter-species and inter-genus transfer of antibiotic resistance and creation of various multi-drug resistant microorganisms in the environment, which affects immunity of livestock and human health.

## 4.2. OneWeb Satellites

### In News

- The Indian Space Research Organisation (ISRO) has successfully conducted an acceptance hottest of the CE-20 engine that will be used to launch the next batch of **36 OneWeb satellites into Low Earth Orbit**

### About OneWeb

- It is a global communications network, powered from space, enabling connectivity for governments, businesses, and communities.
- OneWeb has teamed up with **NewSpace India Limited (NSIL)**, the commercial arm of national space agency Indian Space Research Organisation (ISRO) to facilitate the launch.
- **OneWeb Constellation Summary:** OneWeb Constellation operates in a LEO Polar Orbit
  - Satellites are arranged in 12 rings (Orbital planes) with 49 satellites in each plane.
  - Each satellite completes a full trip around the earth every 109 minutes.
  - The earth is rotating underneath satellites, so they will always be flying over new locations on the ground.

## 4.3. Cordy Gold Nanoparticles (Cor-AuNPs)

### Why In News?

- Recently, a collaborative experiment by scientists from four Indian institutions has earned an **international patent from Germany** for developing **Cordy Gold Nanoparticles (Cor-AuNPs)**, which can make drug delivery in the human body faster and surer.

### About Cordy Gold Nanoparticles (Cor-AuNPs)

- These nanoparticles, derived from the synthesis of the extracts of Cordyceps militaris and gold salts, could make drug delivery in the **human body faster and safer**.

- Cordyceps militaris is a high value **parasitic fungus**. **Gold salts are ionic chemical** compounds of gold generally used in medicine.
- Wild **Cordyceps mushrooms are found in the eastern Himalayan belt**.

### Significance

- **Biosynthesised nanogold particles** indicate a new application of **nanoparticles in the development of therapeutic drugs** which can be delivered as ointments, tablets, capsules, and in other forms.

## 4.4. PSLV-C54

### Why in News?

- Recently, the **Indian Space Research Organisation (ISRO)** has successfully launched the **Polar Satellite Launch Vehicle (PSLV) C54** from the Satish Dhawan Space Centre in Sriharikota, Andhra Pradesh.
- This was the 56th flight of PSLV, which marks the final mission for the year for PSLV-C54 rocket.

### What are the Satellites Launched?

#### Nano Satellite-2 for Bhutan (INS-2B):

##### About:

- INS-2B satellite is a collaborative mission between India and Bhutan with two payloads.
- NanoMx, a multispectral optical imaging payload developed by Space Applications Centre (SAC)
- APRS-Digipeater which is jointly developed by DITT-Bhutan and URSC was successfully deployed.

### Significance of INS-2B:

- It will provide high-resolution images to Bhutan for the management of the country's natural resources.
- The launch of the new satellite is part of India's efforts to back Bhutanese King Jigme Khesar Namgyel Wangchuck's plans to use advanced technology, including ICT and space technology, for the development of Bhutan.

- The collaboration also fits in with India's "neighbourhood first" policy.

#### Anand:

- The Anand three axis stabilized Nano satellite is a technology demonstrator for miniaturized electro-optical payload and all other sub-systems like TTC, power, onboard computer and ADCS from Pixxel, India was also placed in the orbit successfully.

#### Astrocast:

- Astrocast, a 3U spacecraft, is a technology demonstrator satellite for the Internet of Things (IoT) as the payload. There are 4 nos. of Astrocast Satellites in this mission. These spacecrafts are housed within an ISISpace QuadPack dispenser.
- The dispenser protects the satellite from contamination.

#### Thybolt Satellites:

- The 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 1 year.

#### EOS-6:

- Earth Observation Satellite-06 (EOS-06) is the Oceansat series' 3rd-generation satellite 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 zones using chlorophyll, Sea Surface Temperature (SST) and wind speed and land based geophysical parameters.

### 4.5. Agni-3 nuclear-capable ballistic missile

#### Why In News?

- Recently, India carried out a successful launch of Agni-3 Intermediate Range Ballistic Missile from A.P.J. Abdul Kalam Island in Odisha.

#### About Agni-3

- The test of Agni-3 was a part of routine user training launches which are performed under the aegis of the Strategic Forces Command.
- **Agni-3** was first tested on 9 July **2006**. However, it was not a successful launch.
- The missile test-fired successfully on its second flight which took place in **2007**.
- The missile also performed as per the standards in its third consecutive launch which took place in **2008**.
- The 16-meter-long missile, weighing more than 48 tonnes, has a range of over 3000 kilometers and is capable of carrying a payload of over 1.5 tonnes.
- **Capability:** Due to its high range of circular error probable(CEP), the Agni-3 missile is known as the world's most accurate strategic ballistic missile of its range class.
  - With a high range of efficiency in its target, the warhead can be a lethal weapon for the enemy.
  - The accuracy of the nuclear warhead also provides an opportunity of deploying a larger number of nuclear forces using less fusion material.
- **Significance:** Agni series of missiles **constitute the backbone of India's nuclear weapons delivery** which also includes the **Prithvi short-range ballistic missiles and fighter aircraft**.

### 4.6. ISRO's RISAT-2 Satellite

#### Why In News?

- ISRO's RISAT-2 satellite has made an **uncontrolled re-entry** into the Earth's atmosphere in the **Indian Ocean near Jakarta**.

#### About ISRO's RISAT-2 satellite

- **Background**

- RISAT-2 was launched by the **PSLV-C12 launch vehicle in 2009**.
- The initial designed life of the satellite was **four years**.
- **Functions**
  - It was a **radar-imaging satellite** that was **India's first "eye in the sky"** to keep **surveillance on the country's borders** as part of anti-infiltration and anti-terrorist operations.
  - It possessed **day-night as well as all weather monitoring capability**.
- **Need?**
  - Risat-2 was built at an accelerated pace following the **2008 Mumbai terror attacks** due to delay with the indigenously developed C-band for Risat-1 satellite.

#### 4.7. Hwasong-17

##### Why In News?

- Recently, North Korea test fired its massive new Hwasong-17 intercontinental ballistic missile (ICBM).

##### About Hwasong-17

- The Hwasong-17 is nuclear-armed North Korea's biggest missile yet, and is the largest road-mobile, liquid-fuelled ICBM in the world.
- Its diameter is estimated to be between 2.4 and 2.5 metres.
- It is launched directly from a transporter, erector, and launcher (TEL) vehicle.
- The weapon could travel as far as 15,000 km.

##### What is 38 North?

- It is a U.S.-based programme that monitors North Korea.
- Its name refers to the 38th parallel north which passes through the Korean peninsula and from 1945 until the start of the Korean

War in 1950 divided the peninsula into North and South Korea.

##### What is an Intercontinental ballistic missile?

- ICBM is a ballistic missile with a range greater than 5,500 kilometres.
- It is primarily designed for nuclear weapons delivery.
- ICBMs are differentiated by having greater range and speed than other ballistic missiles:
  - Intermediate-range ballistic missiles (IRBMs)
  - Medium-range ballistic missiles (MRBMs)
  - Short-range ballistic missiles (SRBMs)
  - Tactical ballistic missiles (TBMs).
    - Short and medium-range ballistic missiles are known collectively as the theatre ballistic missiles.
- Russia, the United States, China, France, India, the United Kingdom, and North Korea are the only countries known to have operational ICBMs.



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## 5. Social Issues & Justice

## 5.1. What are the hurdles to building schools for tribals?

### Context:

- The Government of India (GoI) is pushing to establish nearly **740 Eklavya Model Residential Schools (EMRS) for tribal students**. One school would be established in every sub-district that has a tribal population of at least 20,000-odd and should comprise a **50% share of the total population in that area**.
- The government is pursuing the mission despite the fact that the **Parliamentary Standing Committee on Social Justice and Ministry** objected to the **population** criteria. The committee termed this approach as **“impractical”** and in need of an **“immediate review”**.

### Background Details:

- The EMRS model was first introduced in the year **1997-98** to ensure **quality education to tribal students** with residential facilities in remote corners of the country.
- The major objective behind EMRS was to **build schools** at par with the Jawahar **Navoday Vidyalayas and Kendriya Vidyalayas**.
- The scheme was under the ambit of the **Ministry of Tribal Affairs** with major control of identifying new schools, recruiting, management, and admissions lying with State governments till 2018-19. The funds for these schools were to be granted under **Article 275(1)**.
- It was clearly stated in the guidelines that unless States finished constructing the already sanctioned schools, the funds for constructing new schools would not be given. The scheme also contained a provision for infrastructural requirements of **20-acre plots for each EMRS**.

### Revamped EMRS scheme:

- In 2018-19, the Union cabinet revamped the scheme giving more powers to the Union government for sanctioning and managing these schools. A **National Education Society for Tribal Students (NESTS)** was established and entrusted with the management of the **State Education Society for Tribal Students (SESTS)**. The SESTS was made responsible to run the EMRS on the ground.
- **New Guidelines:**
  - An EMRS should be set up in every tribal sub-district on the basis of **population**.
  - The minimum land requirement is reduced from 20 acres to 15 acres.
- After the launch of the revamped scheme, 332 of the targeted 452 schools have been sanctioned by the Ministry of Tribal Affairs till 2021-22.
- However, the Standing Committee highlighted in its report that a large number of schools were being delayed because of the area (15 acres) requirement and the population criteria. It has made the identification and acquisition of land **“more cumbersome”**, particularly in hilly areas, leftwing extremism-affected areas, and northeast India.
- It was also observed that despite the relaxations provided in the new guidelines issues like land acquisition continue to persist.
- The Standing Committee stated that the population criteria have the risk of depriving a **“scattered tribal population”** of the benefit of EMRS.

### Present status of EMRS scheme:

- According to an official declaration, around 688 schools have been sanctioned out of which 392 are functional.
- Out of these total 688 schools construction is completed in 230 and 234 are still under construction. And nearly 32 schools are stuck in land acquisition issues.

## 5.2. Decline in Child Marriage in India

### Why In News?

- According to the United Nations Population Fund (UNFPA), India has seen a **steady decline in the prevalence of child marriage** from 47.4% in 2005 to 23.3% in 2021.

### Key Points

- **India:**
  - **India** has seen a **steady decline** in the prevalence of the practice from 47.4% in 2005 to 23.3% in 2021.
  - Eight States have a higher prevalence of child marriage than the national average:
    - West Bengal, Bihar and Tripura top the list with more than 40% of women aged 20-24 years married below 18
- The United Nations Population Fund (UNFPA) has warned that **pandemic-induced economic hardship** could roll back the gains made so far.
  - Financial distress triggered by the closure of businesses and loss of employment during lockdowns imposed to check the spread of COVID-19 over the past two years has resulted in child marriage rearing its ugly head in Rajasthan, where the social malaise is culturally endemic.
- **Indian States:**
  - Among the bigger States, West Bengal and Bihar have the highest prevalence of girl child marriage.
  - States with a large population of tribal poor have a higher prevalence of child marriage.
  - In Jharkhand, 32.2% of women in the age bracket 20-24 got married before 18, infant mortality stood at 37.9%, and 65.8% of women in the 15-19 age bracket are anaemic.
  - Assam too has a high prevalence of child marriage (31.8% in 2019-20 from 30.8% in 2015-16).
  - Some States have shown a reduction in child marriages, like
    - Madhya Pradesh (23.1% in 2020-21 from 32.4% in 2015-16),
    - Rajasthan (25.4% from 35.4%) and

- Haryana.
- States with high literacy levels and better health and social indices have fared much better on this score.
  - In Kerala, women who got married before the age of 18 stood at 6.3% in 2019-20, from 7.6% in 2015-16.
  - Tamil Nadu too has shown improved figures with 12.8% of women in the age group 20-24 years getting married before 18 compared to 16.3% in 2015-16.
- **Rajasthan:**
  - **Rajasthan** has witnessed 1,216 child marriages since 2018-19.
  - National Commission for Women and the National Commission for Protection of Child Rights (NCPCR) launched a probe into child trafficking and prostitution in rural Rajasthan following media reports about girls being sold on stamp paper to settle debts based on the orders of a khap panchayat in Pander village in Bhilwara district.

### Primary Reasons for Child Marriage

- **Poverty:** If a family is struggling financially, marrying off one of their daughters can mean one less mouth to feed and one less child to educate.
- **Safety:** For families living in dangerous environments, like a refugee camp or war zone, child marriage can actually seem like a safer option.
- **Tradition:** Child marriage is deeply imbedded in some cultural traditions, where it is viewed as a normal and reasonable practice.
- **Social Insecurity:** Many people have this perception that a married woman is much safer from societal offences than an unmarried woman. Unmarried women are viewed with malafide intentions that lead to crimes against them.
- **Avoiding share in Ancestral Property:** Generally in rural areas parents

think that all their ancestral property belongs to their sons and if they marry their daughters at an early age then they will be out of the share.

- **Avoiding expenditure on Female Education:** Usually families discriminate between boys and girls. Female children are considered a burden as they do not need to work and have to look after the household chores before and after marriage.

### Impacts of Child Marriage

- **Human rights violation:** Child marriage is a violation of human rights and dignity, which unfortunately still has social acceptance.
- **Harmful impacts:** It has a serious impact on the education, health, and safety of the children.
- **Reduces Education Rates For Girls:** Child marriage typically marks the end of a girl's education. Once she's married, she's expected to take care of her husband and start having children, leaving little time for school or a career.
- **Traps families in a cycle of poverty:** Child marriage might seem to make financial sense in the short term for struggling parents, but it can actually trap families in a cycle of poverty.
- **Contributes to higher fertility rates:** Younger brides are more likely to have larger families because they have more child-bearing years during married life. They also usually face a greater inequality with their husbands, resulting in the wife having little to no say in when or how many children to have.
- **Inabilities to Plan or Manage Families:** Young girls exercise less influence and control over their children and have less ability to make decisions about their nutrition, health care and household management.
- **Desire for Male Child:** Due to desire for a male child, young girls and women are forced to conceive as many times as she can till she gives birth to a male child.

### Laws and Policies

- **The Child Marriage Restraint Act of 1929:** It is also known as the Sarda Act. It was a law

enacted to restrain the practices of Child Marriage.

- Its main goal was to eliminate the evils placed on young girls who could not handle the stress of married life and to avoid early deaths.
- This act defined a male child as 21 years or younger and a female child as 18 years or younger.
- **The Prohibition of Child Marriage Act of 2006:** Under this act, the marriageable age for a male is prescribed as 21 years and that of a female is 18 years.
  - Child Marriage is prohibited in India as per the Prohibition of Child Marriage Act, 2006.
- **Hindu Marriage Act, 1956:** Under Hindu Marriage Act, there are no certain provisions for punishing the parents or people who solemnized the marriage.
  - A girl can get the marriage annulled only if she wants to get married before attaining the age of fifteen years and she challenges the marriage before turning eighteen.
- **Muslim Personal Law:** Under the Muslim Laws, there is no bar to child marriage. The couple after marriage has an "option of puberty" known as Khayar-ul-bulugh in which they can repudiate the marriage after attaining the age of puberty.
- **The Protection of Children from Sexual Offences Act, 2012:** which aim at protecting children from violation of human and other rights.
- **A parliamentary standing committee** is weighing the pros and cons of raising the age of marriage for women to 21, which has been cleared by the Union Cabinet.

### Issues

- Consequences of child marriage are dire, not only because it violates children's rights, but also because it results in more infant and maternal deaths.
  - Children born to adolescent mothers have a greater possibility of seeing stunted growth as they have low weight at birth. According to NFHS-5,

the prevalence of child stunting is 35.5% in 2019-21.

- Data shows that child marriage is a key determinant of high fertility, poor maternal and child health, and lower social status of women.
- Centralised schemes like the Beti Bachao Beti Padhao, need better implementation on the ground.
- There is so much social acceptance of age-old customs that most people, including the administration, look the other way
- Practices like marrying off all daughters of a family to the sons of another family. In such marriages, the elder sister is usually above 18 years and the ceremony is announced and wedding cards are printed in her name. The underage girls are married off a day earlier or separately the same day.

### Way Ahead

- **Multi pronged strategy needed:**
  - Eradication of poverty, better education and public infrastructure facilities for children,
  - Raising social awareness on health, nutrition,
  - Regressive social norms and inequalities.
  - Strong laws, strict enforcement,
  - Preparing an ideal situation on the ground to ensure that the girl child — girls with either or below primary level education have experienced higher levels of child marriage.
  - Girl child gets an education and preferably vocational training as well so that she can be financially independent.
- **State's Efforts:**
  - States have launched many initiatives to improve the factors linked to child marriage, from education to health care and awareness programmes.
  - For instance, West Bengal's Kanyashree scheme offers financial aid

to girls wanting to pursue higher studies.

- Bihar and other States have been implementing a cycle scheme to ensure girls reach safely to school;
- U.P. has a scheme to encourage girls to go back to school.
- **Empowering Girl Child:**
  - The solution lies in empowering girls, creating proper public infrastructure and addressing societal norms.
  - Getting down to the gram panchayat level, ensuring that Child Protection Committees and Child Marriage Prohibition officers are doing the job and activating community support groups.
  - Such efforts can lead to Child Marriage Free Villages like in Odisha which now has over 12,000 such villages.
- **Implementing Committee guidelines:**
  - A series of such interventions — and recommendations of the Shivraj Patil Committee report in 2011 — have helped bring down the percentage of child marriages in Karnataka (from 42%

in 2005-06 to 21.3% in 2019-20).

# 6. Health

## 6.1. Mumbai Measles Outbreak

### Why In News?

- Recently, **Mumbai** has seen a surge in **measles cases**.
- As per WHO data nearly 40 million children globally had **missed a measles vaccine dose in 2021**. As a result, there were an estimated nine million measles cases and 1, 28,000 deaths.

### Why has Mumbai seen a surge in measles-related cases?

- Poverty, poor hygiene practices, poor quality of nutrition and lack of vaccination** in children have all contributed to the spiralling cases.
- Some families didn't immunise their children because of **religious and cultural backgrounds**.

### Measles

- Viral Infection:**
  - Infection with the **rubeola virus** causes measles.
  - The **virus infects the respiratory tract** and then spreads throughout the body.
  - Measles is a **human disease and is not known to occur in animals**.
- Spread:**
  - Measles is one of the **world's most contagious diseases**.
  - It is spread by **coughing and sneezing, close personal contact or direct contact** with infected nasal or throat secretions.
- Symptoms:**
  - Some initial common signs include **cough, cold, runny nose, sore throat, loss of appetite, high-grade fever and body aches**.
- Vulnerable age group:**
  - Children below the age of five** are the most vulnerable, especially those below the age of two.

- Prevention:**

- Vaccination** is considered the key strategy in limiting the spread of measles during outbreaks.

## 6.2. 3rd Global High-level Ministerial Conference on AMR

### Why In News?

- The World Antimicrobial Awareness Week 2022 concluded recently with the **Muscat Ministerial Manifesto on AMR** being agreed upon at the Third Global High-level Ministerial Conference on Antimicrobial Resistance (AMR).

### Key Highlights

- Background:**
  - This Conference is a follow up of two earlier high level conferences held in the Netherlands in 2014 and 2019.
- Theme of the Conference:**
  - The AMR Pandemic: From Policy to One Health Action.
- Three Global Targets:**
  - Reducing** the total amount of antimicrobials used in agrifood systems by at least 30 per cent-50 per cent by 2030.
  - Preserving** critically important antimicrobials for human medicine and ending the use of medically important antimicrobials for growth promotion in animals.
  - Ensuring** that 'Access' group antibiotics (a category of antibiotics that are affordable, safe and have a low AMR risk) represent at least 60 percent of overall antibiotic consumption in humans by 2030.
- Countries endorsing the manifesto:**
  - The Manifesto has been endorsed by 34 of the 45 countries that participated at the conference.

## What is Antimicrobial Resistance (AMR)?

- 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.
- **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 healthcare facilities and farms,
    - Poor access to quality,
    - Affordable medicines, vaccines and diagnostics,
    - Lack of awareness and knowledge, and
    - Lack of enforcement of legislation.

## Factors Causing AMR in India

- **Inappropriate consumption** of broad-spectrum (last resort) antibiotics is high because of changing prescription practice in the healthcare system due to the non-availability of a narrow spectrum of antibiotics.
- **Inappropriate antibiotic use** among the general public like Self-medication to avoid the financial burden.
- The **large proportion of sewage is disposed of untreated** into receiving water bodies, leading to gross contamination of rivers with antibiotic residues, antibiotic-resistant organisms.

## • What are Antimicrobials?

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

## Challenges Posed by AMR

- Antibiotic resistance is emerging as the threat to successful treatment of infectious diseases, organ transplantation, cancer chemotherapy and major surgeries.
- The issue of AMR causes out of pocket expenditure on health care, especially on medicines. The use of high order drugs or second-line expensive antibiotics pushing treatment cost high.
- Neonates and elderly both are prone to infections and are vulnerable.

## Various Initiatives Adopted In This Aspect

- **Global Efforts:**
  - **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.
  - **Tripartite Joint Secretariat on Antimicrobial Resistance:** Tripartite joint secretariat (FAO, OIE and WHO) has been established and is hosted by WHO to drive multi-stakeholder engagement in AMR.
  - **Interagency Coordination Group (IACG) on AMR:** It was convened by the Secretary-General of the United Nations after the UN High-Level Meeting on Antimicrobial Resistance in 2016.
    - The IACG brought together partners across the UN,

- international organizations and individuals with expertise across human, animal and plant health, as well as the food, animal feed, trade to formulate a plan for the fight against antimicrobial resistance.
- **World Antimicrobial Awareness Week (WAAW):** WAAW was previously called the World Antibiotic Awareness Week. From 2020, it will be called the World Antimicrobial Awareness Week.
    - It is a global campaign that aims to raise awareness of antimicrobial resistance worldwide.
  - **Global Antimicrobial Resistance and Use Surveillance System (GLASS):** WHO launched it in 2015 to continue filling knowledge gaps and to inform strategies at all levels.
    - GLASS has been conceived to progressively incorporate data from surveillance of AMR in humans, surveillance of the use of antimicrobial medicines, AMR in the food chain and the environment.
  - **Global Antibiotic Research and Development Partnership (GARDP):** A joint initiative of WHO and the Drugs for Neglected Diseases Initiative (DNDi), GARDP encourages research and development through public-private partnerships.
    - By 2025, the partnership aims to develop and deliver five new treatments that target drug-resistant bacteria identified by WHO as posing the greatest threat.
  - **Country wise initiatives:** A multi-sectoral \$1 billion AMR Action Fund was launched in 2020 to support the development of new antibiotics, and the U.K. is trialling a subscription-based model for paying for new antimicrobials towards ensuring their commercial viability.
    - Peru's efforts on patient education to reduce unnecessary antibiotic prescriptions.
    - Australian regulatory reforms to influence prescriber behaviour, and initiatives to increase the use of point-of-care diagnostics, such as the EU-supported VALUE-Dx programme.
    - Denmark's reforms to prevent the use of antibiotics in livestock have not only led to a significant reduction in the prevalence of resistant microbes in animals, but also improved the efficiency of farming.
  - **India's initiative:**
    - To prevent the Over the counter sales of antibiotics, the central drug standard control organization(CDSO) prohibits medical stores from selling 24 key antibiotics without a doctor's prescription.
    - India's Red Line campaign: Which demands that prescription-only antibiotics be marked with a red line, to discourage the over-the-counter sale of antibiotics– is a step forward.
    - National Health Policy, 2017, terms antimicrobial resistance as one of the key healthcare issues and prioritizes the development of guidelines regarding antibiotic use and check on restricting the growth of antibiotics.
    - The National Action Plan on Antimicrobial Resistance (NAP-

AMR) 2017 has assigned coordinated tasks to multiple government agencies involving health, education, environment, and livestock to change prescription practices and consumer behaviour and to scale up infection control and antimicrobial surveillance.

- FSSAI has set certain guidelines limiting the antibiotics in food products such as fish and honey.

### Way Ahead

- Countries should **Revise and effectively implement** National Action Plans (NAP) for AMR
- Countries should Strengthen their surveillance systems.
- The Quadripartite organisations **provide guidance and technical support** for implementation of the targets.
- **Different stakeholders** in human health, animal health, environment sectors come **together** to be able to implement AMR NAPs, through appropriate engagement of civil society, private sector, and public and private partnerships.
- There is a need for mobilisation of **financial resources** from public and private financing institutions for NAP-AMR implementation. This is to be done to:
  - Enable improved access to innovations (new antimicrobials, vaccines, diagnostics, waste management tools, alternatives to antimicrobials) and
  - For the development and implementation of innovative and safe infection prevention and control practices.
- AMR is a silent and invisible pandemic that cannot be overshadowed by other competing public health priorities so should be made a priority.

- It is important to have political support and collaboration at the international, national and sub-national levels to tackle the challenge posed by AMR.

## 6.3. National List of Essential Medicines (NLEM)

### In News

- The new **National List of Essential Medicines (NLEM)** has now been brought under the Drug Prices Control Order, which fixes ceiling prices for these essential formulations based on average cost to retailers.

### About National List of Essential Medicines (NLEM)

- It is one of the key instruments in a balanced healthcare delivery system of a country which inter alia includes accessible, affordable quality medicine at all the primary, secondary, tertiary levels of healthcare.
- The first National List of Essential Medicines of India was prepared and released in 1996.
- It focuses on three aspects - cost, safety and efficacy.
  - It comprised 384 drugs across 27 categories.
- **Purpose** : The primary purpose of NLEM is to promote rational use of medicines considering the three important aspects i.e., cost, safety and efficacy.
  - It also helps in optimum utilisation of healthcare resources and budget; drug procurement policies, health insurance; improving prescribing habits; medical education and training for UG/PG; and drafting pharmaceutical policies.

# 7.education

## 7.1. Higher Education Needs Relief from its Resource Crunch

### Why in News?

- Public-funded higher educational institutions seem to be in a crisis situation due to chronic underinvestment.
- Central universities and other centrally-funded institutions of higher education were thought to be better funded, but it is not true anymore.

### Indian Higher Education System

- India has one of the largest higher education systems in the world that stands second in terms of the higher education network.
- The term 'higher education' with respect to India denotes the tertiary level education that is imparted after 12 years of schooling (10 years of primary education and 2 years of secondary education).
- The entire higher education ecosystem in India comprises around 1000+ universities and 42,000+ colleges imparting exceptional education.
- All these institutions fall under the purview of the **Ministry of Education**.

### Types of Universities

- On the basis of management the universities are classified as:
  - **Central Universities:** These are set up through an Act in Parliament. The establishment and operation are funded by the Union Government.
  - **State Universities:** These are set up through an Act in the State Legislature. The state universities are primarily funded and operated by the State Government.
  - **Private Universities:** Private universities and private colleges are institutions of higher education, not

operated, owned, or institutionally funded by governments. They may (and often do) receive from governments tax breaks, public student loans, and grants. Depending on their location, private universities may be **subject to government regulations**.

- **Deemed Universities:** These are well-performing institutes that are declared to be of equal standing as the universities by the Central Government on the advice of the Union Grants Commission (UGC).
- **Institutes of National Importance (INI):** These are eminent institutions of India that are known to develop highly skilled individuals. They are funded by the Government of India and include all the IITs, NITs and AIIMs institutes.

### The Regulatory Structure

- The entire ecosystem of higher education in India is primarily overseen by the following authorities.

#### University Grants Commission (UGC)

- The main regulatory body that performs a range of tasks such as providing funds to the universities, establishing education standards for the universities and analysing the growth of the various higher education institutions.
- It is crucial for universities to meet the criteria set by UGC so as to enjoy degree-awarding authority.

#### All India Council for Technical Education (AICTE)

- The regulatory body that coordinates, plans and develops technical education in the country.
- Finally, the accreditation of the universities and colleges is overseen by the NAAC and NIRF.

## Challenges in India's Higher Education:

### 1. Teaching Quality

- The first issue that higher education in India is facing is decreasing teaching quality.
- Teachers are not well trained and qualified for the job they are assigned to some colleges recruit young graduates as professors who have no experience or knowledge. So this is a big problem.

### 2. Poor Women's Education

- Women have a much lower literacy rate than men. Conservative cultural attitudes prevent girls from attending schools.

### 3. Political Factor

- Political influence is also a bad thing and an issue with higher education.
- The dominant political leaders, now play key role in governing bodies of the Universities, as they own most of the Institutions, imparting education (Aided-non-aided).

### 4. Corruption in Education

- Corruption in Indian education system has been eroding the quality of education. It is one of the major contributors to domestic black money.

### 5. Curriculum issues

- There are many different curriculum systems that confuse the students who wish to achieve the same objective such as Engineering, Medical and Business Administration.

### 6. Lack of proper disbursement of Grants:

- The University Grants Commission (UGC) claims that grants have increased by many thousand folds.
- In 2020-21, for example, it was 4,781 times the figure of 1955-56. Even as a proportion of GDP at factor cost, UGC funding went up from 0.02% in 1955-56 to 0.05% in 2020-21.
- However, this ignores the **growth in our higher education system**.
- Universities have surged from 38 to 1,050, colleges from 1,025 to 40,000, and enrolment from 295,000 to 38.5 million.

- Discounting inflation and capacity growth, grants may have declined in real terms.

## Way Forward:

### • Give Importance to Technology in Education:

- India has to embrace computer and high speed internet technology. Our educational delivery mechanisms should take the wealth of human capital to the masses.
- The Governments should invest more in technological infrastructure that will ease the knowledge accessibility.

### • Encourage Innovation and Creativity:

- The system should reward those who deserves highest academic honor.
- Our testing and marking systems need to be built to recognize original contributions, creativity, problem solving and innovation. Ranks should be awarded accordingly.

### • Personalize the Education:

- Indian education system is built on the assumption that if a thing is good for one child, it is good for all. But, one massive education system cannot be suitable to all. Some people are visual learners, others are auditory learners.
- Some kids learn faster, some do slow. The syllabus should be designed in such a way that every learner's latent ability is identified and motivated.

### • Train the Trainers Continuously:

- A teacher is an entrepreneur and creator. The performance of a teacher should not be restricted to classroom.
- It needs to be opened up for the world to see with internet.
- There has to be leaders in teaching positions, not salaried people holding their mantle. Hence, regular training is a necessity.

## Conclusion:

- The overall culture, tradition, heritage, spirit, and inclination towards creativity and innovation make India a great study destination for higher education.

- However, expensive education leaves students with no option but to take student loans, many of which are fast turning non-performing.
- It is time to recall the proven wisdom that a grant-in-aid system is the cheapest mode of public funding for higher education.
- Other methods are not only cumbersome, but also more costly to the public exchequer.

## 7.2. National Credit Framework

### Why in News?

- The Ministry of Education recently unveiled a draft 'National Credit Framework' (NCrF) which aims to bring the entire education system, from school to university, into the academic 'credit' regime and has sought public view.

### What is the National Credit Framework (NCrF)?

- **About:** The new framework is a part of the National Education Policy.
- According to the framework, an academic year will be defined by the number of hours a student puts in. Credits will be provided to them accordingly at the end of each academic year.
- The framework has been formulated under the University Grants Commission (Establishment and Operation of Academic Bank of Credits in Higher Education) Regulations, notified in July 2021.
- **Credit System:** The report of the high-level committee on the NCrF, put out in public domain, proposes credit levels from class 5 onward itself - which will be credit level 1, going up to credit level 7 and 8 with post-graduation and a doctorate, respectively.
- Credit levels will increase by 0.5 for every year of learning.
- **Earning Credit:** The total 'Notional Learning hours in a year' for assignment of Credits will be 1200 hours. A minimum of 40 credits may be earned for 1200 hours of learning every year with 20 credits per semester of six months. Each Credit will come with 30 hours of learning- 30 hours per credit.
- Notion learning hours in the context of NCrF means time spent not just in classroom

teaching, but also in a range of co-curricular and extracurricular activities. The list of such activities includes sports, yoga, performing arts, music, social work, NCC, vocational education, as well as on-the-job training, internships or apprenticeships.

- **Easy Entry and Exit:** The credit transfer mechanism will also enable a student/ learner to enter and exit the educational ecosystem, both general and vocational, at any point of time. In such cases due weightage is given to work experience gained or any other training undertaken by the learner.
- **Due Attention to Co-Curricular Activities:** The new credit framework will not have any hard separation between Curricular and Co-Curricular, or various discipline and will count in performance on -classroom teaching/learning/laboratory work/class projects; Sports and games, etc.
- **Aadhaar-enabled student registration:** An Aadhaar-enabled student registration will take place. After student registration, an Academic Bank of Credit (ABC) account will be opened. The deposit of degree and credits will take place in those accounts. There will be a knowledge locker along the lines of DigiLocker.
- **Academic Bank of Credit:** The recently introduced Academic Bank of Credit (ABC) for higher education will be expanded to allow for end-to-end management of credits earned from school education onwards and will also include vocational education and trainings, it is envisaged.

### Significance:

- It would work as 'an umbrella framework for skilling, re-skilling, up-skilling, accreditation & evaluation' encompassing educational & skilling institutions and workforce.
- The credits for knowledge acquisition, hands-on training, and positive social outcomes will be a key step for achieving 100% literacy in the next 2-3 years and go towards making India a \$5 trillion economy.

# 8. Agriculture

## 8.1. Drones : Giving Farmers the Wings To Fly

### Why in News?

- During the PM Kisan Samman Sammelan recently held in October, 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.
- Drones are another such revolutionary technology to add to farmers' prosperity and dignity.

### Key Highlights:

- 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.

### What is a 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.

### How drones can help in revolutionising Indian agriculture?

- **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.

### Initiatives to promote its inclusion:

- 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 centers (CHCs) are given 40 percent assistance.**
- The Center is providing **₹6,000 per hectare as a contingency fund** to farmers to hire drones from CHCs.

### Challenges:

- 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 centers 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.

### What should be done?

- 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.

### Conclusion:

- 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 thus, help the Indian agriculture sector make a huge leap.

## 8.2. Agricultural Education in India & the role of ICAR

### Why in News?

- Recently, the Kerala High Court set aside the appointment of the Vice-Chancellor of the Kerala University of Fisheries and Ocean Studies (KUFOS).

### More about the News

- **The court as listed two specific violations for not accepting the appointment:**
  - The search committee recommended a single name and not a panel of three names; and
  - In the search committee, the State government included the Director-General of the Indian Council of Agricultural Research (ICAR) instead of a nominee of the UGC.
- **Issue:**
  - **Breaking the equilibrium:**
    - Over the past five decades, the ICAR was successful in facilitating agricultural education as a national expert body and without overstepping into the constitutional jurisdiction of the State governments.
    - The Kerala High Court's judgment threatens to disrupt this delicate equilibrium maintained over the past five decades.
  - **Jeopardising the uniformity in agricultural education:**
    - The judgment also threatens to jeopardise the ICAR's ongoing efforts to ensure a minimum level of uniformity in agricultural education in the country, including in the appointment of Vice-Chancellors.
  - **Substituting the role of the ICAR:**
    - ICAR's Model Act stipulates the constitution of the search committee for Vice-Chancellors with three members:

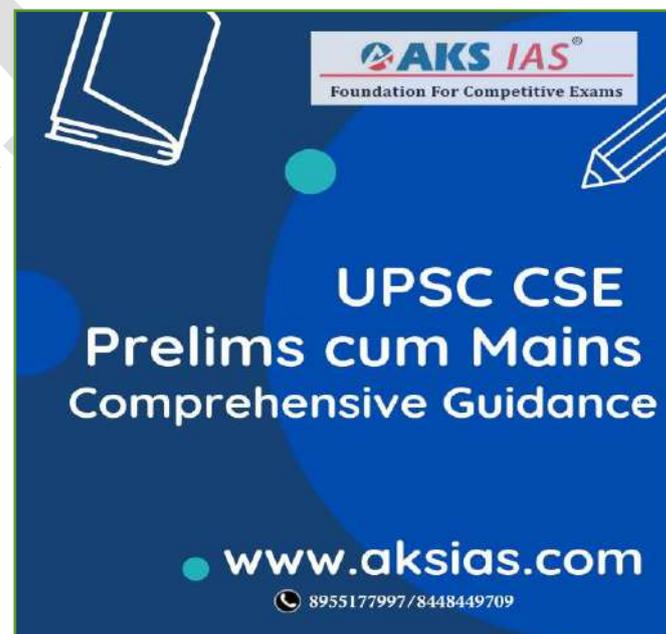
- The Director-General of ICAR;
- One nominee of the government; and
- One nominee of the Chancellor.
- But the Kerala High Court judgment has made the presence of an ICAR representative invalid and necessitates its replacement with a UGC representative.
  - Essentially, the court has sought to substitute the role of the ICAR with the UGC's regulations.
  - What is at stake is not just the spirit of federalism but also the unique status conferred to agricultural education by the Constitution.

### Evolution of agricultural education in India

- **Opinions of constituent assembly:**
  - Few members in the constituent assembly suggested that the Union government must play a central role in agriculture.
  - But, T.T. Krishnamachari suggested that “beyond taking certain powers for the purpose of co-ordination, Centre is not capable of handling this vast problem [of agriculture]”.
- **Agricultural Education as a part of State List:**
  - Thus, agriculture was included in the List II (State List) in the Seventh Schedule of the Constitution.
  - More importantly, agricultural education was detached from the other streams of higher education and attached to the occupied field of agriculture in List II.
    - Education was included in List III (Concurrent List).
  - **Implications of the move:**
    - The legal implication of the exclusion of agricultural education from Concurrent List is that agricultural universities have historically been facilitated by the ICAR.
  - **DARE:**
    - After independence, the **Department of Agricultural Research and Education**

(DARE) was set up in **1973** in the **Ministry of Agriculture**.

- The major functions of DARE were to facilitate **agricultural research and education, coordinate between the Centre and the States**, and attend to matters related to the ICAR.
- **Yashpal Committee recommendations:**
  - The committee to Advise on **Renovation and Rejuvenation of Higher Education** (Yashpal Committee, 2009) has recommended setting up of a constitutional body – the **National Commission for Higher Education and Research**.
    - It would be a unified supreme body to regulate all branches of higher education including agricultural education.
  - **Presently, regulation of agricultural education is the mandate of**
    - ICAR,
    - Veterinary Council of India (Veterinary sub-discipline) and
    - Indian Council of Forestry Research and Education (Forestry sub-discipline).



# 9. Environment

## 9.1. Air Pollution is Not Just About PM10 and PM2.5

### Why in News?

- As the winter approaches the public discourse in India shifts towards air pollution in Indian metros, with a focus on Delhi.
- Various studies estimate that a significant chunk of Indians would die early due to air pollution and many will have to set aside a large part of their health budget to take care of diseases arising due to air pollution.

### What is Air Pollution?

- **Air pollution is the presence of substances** in the atmosphere that **are harmful** to the health of humans and other living beings, or cause damage to the climate or materials.
- **Different types of air pollutants include-**
  - **Gases:** such as ammonia, carbon monoxide, sulfur dioxide, nitrous oxides, methane, carbon dioxide and chlorofluorocarbons.
  - **Particulates:** both organic and inorganic.
  - **Biological molecules.**
- **Impact of Air Pollution**
  - It may cause diseases, allergies and even death in humans.
  - It can cause harm to other living organisms such as animals and food crops.
  - Can lead to climate change and may damage the natural environment
    - Ozone depletion or habitat degradation
    - Built hazardous environments (for example, acid rain).
  - **Productivity losses and degraded quality of life** caused by air pollution are estimated to cost the **world economy \$5 trillion per year.**

### Air Pollution impact on government expenditure

- The rising impact of air pollution leads to **increased government health expenditure** in two ways-
  - **Reimbursement of costs** incurred by people with insurance cover under Ayushman Bharat.
  - **Expenditure** occurred in **government/public hospitals** for treatment of diseases due to air pollution.

### Nanoparticles as pollutants

- There are pollutants which are more harmful than PM10/PM2.5 in the case of air pollution which are not talked about much.
- The common discourse about air pollution in India centres on mean concentration of particulate matter PM10 and PM2.5.
  - This is because the **Central Pollution Control Board has the facility to monitor only PM2.5/PM10** pollutants in Delhi or elsewhere.
  - As a result it is evident that we are **underestimating the deleterious effects** of air pollution by a big margin.

### The gravity of Nanoparticle pollution is huge

- **Inhalation is the most common route** through which people get exposed to nanoparticles.
  - **Ingestions and dermal contact** of engineered nanoparticles are also popular transmission mechanisms.
- **Inhaled particles can enter the blood circulation** from where they can be carried to different organs such as the heart, kidney and liver.
- **Occupational exposure to these toxic elements** can increase the risk of lung cancer.
- **Suggestive evidence shows** that nanoparticles accumulated in the vascular sites can **clot blood vessels**, increasing the likelihood of heart attack and stroke.

- For patients with **pre-existing heart or pulmonary conditions**, the situation can get **worse** when exposed to elevated particle concentrations.
- **Infant mortality, neonatal complications, and birth defects** are also likely to increase with ever-increasing concentrations of matters smaller than 10  $\mu\text{m}$ .

#### Measures needed to improve air quality

- **Improving public transport and limiting** the number of polluting vehicles on the road.
- **Introducing less polluting fuel and strict emission regulations.**
- **Improved efficiency** for thermal power plants and industries.
- **Increased use of clean renewable energy** and moving from diesel generators to rooftop solar.
- **Promote electric vehicles** and invest in electric vehicle infrastructure.
- **Removing dust from roads** and regulating construction activities need to be stressed.
- **Stopping biomass burning** and using biomass from agriculture to generate Biogas etc.

#### Incentives by various stakeholders counter Air pollution

- **WHO's 4 Pillar Strategy**
  - WHO adopted a resolution (2015) to address the adverse health effects of air pollution.
  - This **4-pillar strategy calls for an enhanced global response** to the adverse health effects of air pollution. Those four pillars are:
    - Expanding the knowledge base
    - Monitoring and reporting
    - Global leadership and coordination
    - Institutional capacity strengthening
- **Government of India and state government's initiatives**
  - **Constitution of Commission for Air Quality Management (CAQM)** in National Capital Region (NCR) and adjoining areas.
  - **The introduction of BS-VI vehicles** and push for electric vehicles (EVs).

- **Subsidy to farmers for buying Turbo Happy Seeder (THS)** which is a machine mounted on a tractor that cuts and uproots the stubble, in order to reduce stubble burning.
- **Implementation of the Graded Response Action Plan (GRAP)**
  - It is a set of curbs triggered in phases as the air quality deteriorates, which is typical of the October-November period.
- **Development of the National Air Quality Index (AQI)** for public information under the aegis of the Central Pollution Control Board (CPCB).
- **Construction of the Eastern and Western Peripheral Expressways** to reduce vehicular pollution.

#### Way ahead

- Immediate need for **extensive research related to the toxic effects** of nanoparticles on human health.
- Include protection against the nanoparticles in addition to PM10/PM2.5 in face masks.
- There should be a **mechanism in place to record the extent of air pollution** arising from nanoparticles and the risk arising from the same.
- There is a need for the **government to raise awareness on the dangers of nanoparticles.**
- Monitoring stations should make an **effort to measure the nanoparticles**; without quantifiable statistics, we cannot highlight the dangers involved.

#### Conclusion:

- Nanoparticles are **more deleterious pollutants** than the recognized pollutants and the chemically reactive nature of nanoparticles makes the risk assessment highly uncertain.
- Therefore this **calls for an interdisciplinary research team of scientists, health professionals, and epidemiological researchers** to be convinced of the scientific composition, transmission and exclusive effects of nanoparticles on human health.

## 9.2. Green Cess Needs a Makeover

### Why in News?

- The government of India has made a **climate pledge** to reduce emissions to GDP ratio (emissions intensity) by **45 per cent by 2030** compared to 2005 levels under the Paris Agreement.

### Background

- The **Clean Environment Cess (CEC)** was a tax introduced in 2010 as a fiscal tool to reduce the use of coal and associated carbon emissions.
  - The revenues were **earmarked for financing and promoting clean environment initiatives**.
  - It was levied on the **total sales of all types of coal in India**.
- To manage the funds accrued under the CEC, the **National Clean Energy & Environment Fund (NCEEF)** was created in 2010.
- The funds were hypothecated for environmental goals such as rejuvenation of rivers, afforestation, and promotion of renewable energy generation through research and development.
- Despite these intentions of levying the cess, **its design and implementation have been inadequate**.

### The issues associated with the implementation of the CEC

- The grade factor**
  - The design of the CEC, which levies the cess in proportion to **only the quantum of coal** (at ₹400/tonne), without differentiating by its grade.
  - It does not give an **incentive to switch to higher quality coal** with lower levels of pollution.
- Diversion of funds**
  - This cess was **subsumed into the Goods and Services Tax (GST) compensation cess** in 2017.
    - The revenues, which were originally earmarked for environmental conservation, were instead used

for compensating States for their loss of revenues.

- Funds designated for clean energy and environment initiatives are **now at the discretion of the States** to determine where their revenues from the GST compensation cess are being spent.
- This calls for an **immediate review and also highlights the inefficiencies** of the government's fiscal operations and the reduced attention given to promoting clean environment schemes.

### Under spent funds for intended purpose

- The data on revenue utilisation indicate that **only 18 per cent of the aggregated revenue** collected between 2010-11 and 2017-18 was **used for its intended purpose**.
- This again points out the **inefficiency of the government** in using the revenue of a cess for its earmarked purposes.

### Inadequacy in collection of revenues

- There is an **inadequacy by the government** in collecting the revenues owed from the CEC.
- The difference between the prescribed rate and the actual rate of collection **has widened since 2013-14 (see graph)**.
- While the rate of this cess was ₹200/tonne and ₹400/tonne in 2015-16 and 2016-17, the actual collection rate per tonne of coal was only ₹144 and ₹324, correspondingly.
- The gap of ₹56 and ₹76 per tonne of coal sold in India led to an **estimated revenue loss of around ₹4,900 crore and ₹6,700 crore, respectively**.

### The effect on the emissions reduction is meagre.

- Despite the doubling of the rate of CEC** from ₹200 to ₹400/tonne in 2016-17, the modelling experiment showed that the effect on the **emissions reduction was meagre**.
- The emissions from the burning of the coal and petroleum products in various industries decreased **by only 0.90 per cent in total**.
- Also, doubling of the cess had a **marginal impact on the GDP, with a reduction of 0.09 per cent**.
- The emissions intensity of the economy thus **reduced by just 0.81 per cent**, compared to the effective 20 per cent tax imposed on the price of coal.

- This shows that the cess **was not very useful in reducing the emissions intensity** in India vis-à-vis its high tax rate.

### The way forward

- The government **cannot rely on a fiscal tool such as the poorly-designed CEC.**
- The government **must introduce a graded form of an ecological tax** that is levied on the **value of outputs of sectors such as coal, electricity, fertilisers, iron and steel, non-ferrous basic metals, paper products, and textile industries.**
- It will help **broaden the tax because in contrast to the CEC,** which was levied on the sale of coal, and coal is not as polluting as these sectors.
- The **proceeds from such taxes must be used in an ecological sensitive manner** by sticking to the desired objectives of promoting clean environment projects and meeting the country's climate change mitigation targets.

### Conclusion

- There are industries other than coal which are more polluting, which not only release air pollution, but also have **adverse impacts of water pollution and land degradation.**
- Thus, **a tax on the industrial outputs, and not necessarily on their emissions may help India** provide industries a proper incentive to move away from polluting forms of production to cleaner mechanisms.

## 9.3. Mangrove Alliance for Climate (MAC)

### Why In News?

- Recently, the **UAE and Indonesia** launched the **“Mangrove Alliance for Climate”** on the sidelines of the UN climate summit COP27, being held in Sharm El Sheikh in **Egypt.**

### About the Alliance

- As part of this alliance, an international mangrove research centre will be established in Indonesia which will conduct **studies on mangrove ecosystem services** such as carbon sequestration and ecotourism.
- **Aim:**

- To strengthen conservation and restoration of mangrove ecosystems worldwide.
- The alliance will raise awareness about the role of mangroves as a “nature-based solution to climate change”.

### Partners:

- Spearheaded by the United Arab Emirates (UAE) in partnership with Indonesia
- India, Australia, Japan, Spain and Sri Lanka have joined it as partners.

### Mangroves

#### About:

- Mangroves are small trees and shrubs which grow along the coastlines.
- These trees thrive in salty water and form unique forests on the edge of land and the sea.
- They also grow in swamps.
- Mangrove forests can survive extreme weather conditions and require low oxygen levels to survive.

#### Features:

- These forests have the ability to store up to 10 times more carbon per hectare than the terrestrial forests.
- They can store carbon up to 400 per cent faster than land-based tropical rainforests.
- They cover less than 1 percent of earth's surface and act as natural barriers against sea's wrath.
- They also provide breeding grounds for marine biodiversity and 80 percent of global fish populations depend on healthy mangrove ecosystems.

#### Distribution:

- Mangroves are distributed in the tropical and subtropical region of the world and are found in 123 countries.

### India and the Mangroves

- India contributes to **nearly half of the total mangrove cover** in South Asia.
- **West Bengal** has the **highest percentage** of mangrove cover in India. **Sundarbans** in West Bengal is the largest mangrove forest in the world.

- It is followed by Gujarat and Andaman, and Nicobar islands.
- Maharashtra, Odisha, Andhra Pradesh, Tamil Nadu, Goa and Kerala too have mangrove.
- **Increase in Mangrove Cover:**
  - As per the **India State of Forest Report (ISFR) 2021**, mangroves cover in the country is 4,992 square km, which is 0.15 percent of the country's total geographical area.
  - The mangrove cover in the country has increased by only 17 sq. km. in 2021 as compared to the mangrove cover assessed in 2019.

### Significance of Mangrove

- **Natural Armed Forces:**
  - With notable adaptive features, mangroves are natural armed forces of tropical and subtropical nations.
  - Mangrove thickets maintain water quality by filtering pollutants and trapping sediments originating from land.
- **Checking Global Temperature:** Mangrove's unique ability to capture and store carbon is increasingly catching the attention of the world, which is desperately looking for ways to keep global temperature in check.
- **Fighting against Climate Change:** They are the best option to fight against consequences of climate change such as sea level rise and increasing frequency of natural calamities like cyclones and storm surges.

### Challenges

- **Coastal development**, including the construction of shrimp farms, hotels, and other structures, is the primary threat to mangroves.
- Mangrove forests are **cleared to make room** for agricultural land and human settlements.
- **Overfishing, pollution, and rising sea levels** are the other threats to mangrove forests and their ecosystem.
- Mangrove trees are used for firewood, construction wood, charcoal production, and animal fodder. In some parts of the world,

there has been **overharvesting** which is no longer sustainable.

### Government's Efforts to Protect Mangroves

- The **promotional measures** are being implemented through a Central Sector Scheme under **National Coastal Mission Programme on 'Conservation and Management of Mangroves and Coral Reefs'**.
  - Under this programme, annual **Management Action Plan (MAP)** for conservation and management of mangroves are formulated and implemented in all the coastal States and Union Territories.
- **Regulatory measures** are implemented through Coastal Regulation Zone (CRZ) Notification (2019) under the Environment (Protection) Act, 1986; the Wild Life (Protection) Act, 1972; the Indian Forest Act, 1927; the Biological Diversity Act, 2002; and rules under these acts as amended from time to time.
- **Magical Mangroves campaign:**
  - As per information provided by the World Wide Fund for Nature, (WWF), India, the WWF India has enjoined citizens in nine states, which include Maharashtra, Goa, Gujarat, Andhra Pradesh, Tamil Nadu, Kerala, Odisha, West Bengal and Karnataka on mangrove conservation through the Magical Mangroves campaign.
- **Scheme for Conservation & Management of Mangroves:**
  - The Government under Centrally sponsored scheme for conservation & Management of Mangroves, extends assistance to Coastal State/UTs for implementation of action plans including survey and demarcation, alternation and supplementary livelihood, protection measures and education and awareness activities.
- **Integrated Coastal Zone management Project:**
  - The Ministry piloted an Integrated Coastal Zone management Project in Coastal stretches of 3 states namely Gujarat, Odisha and West Bengal, with the objective of Conservation and

Protection of Coastal resources which included plantation of mangroves as one of the major activities.

### Way Ahead

- The **integration of mangroves** into the national programmes for reducing emissions from deforestation and forest degradation is the need of the hour.
- Creating a **new carbon sink from mangrove afforestation** and **reducing emissions from mangrove deforestation** are two possible ways for countries to meet their NDC targets and achieve carbon neutrality.
- Mangroves are the **economic foundations** of many tropical coastal regions. To sustain the blue economy, it is imperative to **ensure the sustainability of coastal habitats**, particularly mangroves for tropical nations, at the local, regional, and international levels.

## 9.4. Atomic energy, hydrogen power India's net zero plan

### Why in News?

- India announced its long-term strategy at COP27.

### More Details:

- India announced its long-term strategy to transition into a "low-emission" track at COP27 in Sharm el-Sheikh, Egypt. This approach is premised on increasing its nuclear power capacity by at least threefold in the next decade, becoming an international hub for green hydrogen production and raising the proportion of ethanol in petrol.
- This approach is in line with India's "five-decade journey" to net zero emissions or becoming carbon neutral by 2070 as proposed by India in COP26.
- All 195 countries that are signatories to UN climate agreements are obliged to submit the long-term documents by 2022. However, only 57 countries have done it so far.
- India's Long Term-Low Emission Development Strategy (LT-LEDS) has been formulated aligned with India's right to an equitable and fair share of the global carbon budget. It has

been ensured that the strategy emphasizes energy security, energy accessibility, and employment while focussing on the vision of Atmanirbhar Bharat.

- The LT-LEDS are qualitative approaches and emanated as a requirement from the 2015 Paris Agreement. The countries are mandated to explain their strategy of transitioning their economies beyond achieving near-term NDC targets and working towards the climate objective of reducing emissions by 45% by 2030 and achieving a net zero target by 2050.
- It has been reiterated that India's vision in the journey to net zero is flexible and evolutionary that accommodates technological developments as well as developments in the global economy and cooperation.
- The document also noted that the transition will entail "trillion dollars" costs (as inferred from various estimates) as it would require the development of new technologies, infrastructure, and other transaction costs. Climate finance can play a significant role in ensuring scale, scope, and speed in achieving the set principles of the UNFCCC.

### Detailed Strategy of India:

- India aims to maximize electric vehicle usage and a stronger shift toward public transport for both passenger and freight traffic.
- It is also aspiring to increase the ethanol blending from currently 10% to 20% by 2025.
- India also desires to increase its nuclear capacity by at least threefold by 2032.
- To improve energy efficiency, it is also focusing on Perform, Achieve, and Trade (PAT) scheme, increasing electrification, the National Hydrogen Mission, and recycling to reduce emissions.
- The document also highlights that India is on track to fulfilling its Nationally Determined Contributions (NDC) commitment of 2.5 to 3 billion tonnes of additional carbon sequestration in forest and tree cover by 2030.
  - It should be noted that India's forest and tree cover is a net carbon sink absorbing 15% of carbon dioxide emissions in 2016.

## 9.5. Snapshot of India's Groundwater Situation

### Why In News?

Recently, The Union Minister of Jal Shakti released the Dynamic Ground Water Resource Assessment Report for the entire country for the year 2022.

### About the assessment

- The assessment was carried out jointly by Central Ground Water Board (CGWB) and States/UTs, which can be used for taking suitable interventions by various stakeholders.
- As per the 2022 assessment report, the **total annual ground water recharge** for the entire country is 437.60 billion cubic meters (BCM) and annual ground water extraction for the entire country is 239.16 BCM.
  - Further, out of the total 7089 assessment units in the country, 1006 units have been categorized as 'Over-exploited'.
- The 2022 assessment suggests that groundwater extraction is the lowest since 2004,

### About Importance of Groundwater

- Water is a fundamental resource for life. Ground water has become an increasingly **important natural resource** catering to the **fresh water requirements of various sectors in India**.
- Ground water has steadily emerged as the backbone of India's agriculture and drinking water security.
- Groundwater is the principal water source for a **fourth of the world's population**. India is the world's largest groundwater user; nearly 250 cubic kilometres was taken out in 2017.
  - About 90% of this was used for irrigation, the rest went to towns and villages.

### Reasons for overexploitation

- The problem of groundwater exploitation did not exist in India before the Green Revolution. But that changed completely since the 1970s

mainly due to the need for assured irrigation for crop cultivation.

- The rapid development of borehole technology in the 1980s accentuated the problem.
- The exploitation also increased because of **faulty minimum support price** policies, which did not consider the issue of water consumption of the crops for fixing their prices
  - Due to this, farmers have been forced to cultivate more water-guzzling crops like paddy, wheat, sugarcane, etc.
- The demand for water has **increased manifold since 1990-91** due to **rapid urban agglomeration and industrial development**.
  - But the supply of water from surface sources like canals, tanks and other small water bodies could not be increased in consonance with the demand therefore the country became **over-dependent on groundwater** for various purposes since early the 1990s.

### Impacts and Challenges

- The **over-exploitation** has **reduced the level of groundwater**, creating economic hardships for the farmers.
- The reduced water level also shortens the lifespan of the wells.
- The increased groundwater exploitation also leads to **seawater intrusion** into coastal districts, which will **cause irreversible damage to the quality of groundwater**.
- With the **declining groundwater level**, electric motors have to be run for long hours to irrigate the crops, which increases electricity consumption.
  - As many States are providing free electricity to farmers, the subsidy cost on electricity will increase due to falling water levels.
- Falling groundwater tables will also result in the **escalation of irrigation costs** for farmers and, thereby, raise the cost of cultivation.
- The rapid extraction of groundwater could cause irreparable damage to the environment.

## Initiatives

- National Water Policy, 2012 has laid emphasis on periodic assessment of groundwater resources on a scientific basis.
- **Atal Bhujal Yojana:** The focus of the scheme is on community participation and demand side intervention for sustainable groundwater management in identified water stressed areas.
- **Jal Jeevan Mission :**Provisions have been made for source recharging like dedicated bore well recharge structures, rain water recharge, rejuvenation of existing water bodies, etc.
- **Pradhan Mantri Krishi Sinchayee Yojana:** It aim to enhance physical access of water on farm and for expanding cultivable area under assured irrigation, improve on-farm water use efficiency, introducing sustainable water conservation practices, etc.
- **Per Drop More Crop:** It mainly focuses on water use efficiency at farm level through micro irrigation (drip and sprinkler irrigation system).
- **Rejuvenation of Dry Ponds, puddles and wells**
  - Water being a State subject, it is for the State Governments to take up rejuvenation of water bodies like formulation of action plan for rejuvenation of dry ponds, puddles and wells in their jurisdiction.
- **National Aquifer Mapping and Management program (NAQUIM)** is being implemented by the Central Ground Water Board (CGWB) as part of Ground Water Management and Regulation (GWM&R) Scheme, a central sector scheme.

## Suggestions and Way Ahead

- The groundwater conservation fee (2019) notified by the Ministry of Water Resources to regulate groundwater exploitation needs to be implemented expeditiously without any compromise.
- In particular, the exploitation and sale of groundwater by large corporations should be monitored on a continuous basis.
- Both Central and State governments must take continuous steps to store rainwater in all possible ways to increase recharge.

- **Rainwater harvesting system** must be made mandatory in every household, particularly in big cities where groundwater has been declining alarmingly.
- Considering the groundwater balance, MSPs for crops should be fixed according to the consumption of water; higher prices for crops that require less water and vice-versa.
- **Micro-irrigation (drip and sprinkler),** which can save about 50 per cent of water in the cultivation of different crops, should be promoted in the over-exploited blocks to reduce the exploitation of groundwater.
- People from all walks of life must continue to be made aware of water literacy and on the hazardous effects of rapidly declining groundwater.

## 9.6. Nagoya Protocol

### In Context

- Mexican indigenous groups are yet to **benefit under Nagoya Protocol.**

### About Nagoya Protocol

- The **Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits** Arising from their Utilization (ABS) is a supplementary agreement to the UN Convention on Biological Diversity (CBD).
- It provides a transparent **legal framework for the effective implementation** of one of the **three objectives of the CBD:** the fair and equitable sharing of benefits arising out of the utilization of genetic resources.
- The **Nagoya Protocol on ABS was adopted on 29 October 2010 in Nagoya, Japan** and entered into force on 12 October 2014, 90 days after the deposit of the fiftieth instrument of ratification.
- It is supplementary to the **United Nations Convention on Biological Diversity (UNCBD).**

### Coverage

- The Nagoya Protocol applies to genetic resources that are covered by the CBD, and to the benefits arising from their utilization.
- The Nagoya Protocol also covers traditional knowledge (TK) associated with genetic

resources that are covered by the CBD and the benefits arising from its utilization.

### Importance

- The Nagoya Protocol will create greater legal certainty and transparency for both providers and users of genetic resources by:
  - Establishing more predictable conditions for access to genetic resources.
  - Helping to ensure benefit-sharing when genetic resources leave the country providing the genetic resources
  - By helping to ensure benefit-sharing, the Nagoya Protocol creates incentives to conserve and sustainably use genetic resources, and therefore enhances the contribution of biodiversity to development and human well-being.

### India Signatory to Protocol

- India signed the **Nagoya Protocol in 2011** and ratified it in October 2012.
- The ratification by India was done at the **11th Conference of Parties (COP)** to the CBD, which was conducted in Hyderabad.

## 9.7. India's Long-term Climate Action Strategy

### Why In News?

- Recently, India submitted its **long-term climate action strategy** to the United Nations Framework Convention on Climate Change (UNFCCC) at the UN Climate Conference (COP27).

### Background

- The Paris Agreement of 2015 **required countries to submit a plan** demonstrating how they would switch their economies from being reliant on fossil fuel to clean energy sources.
- This was to include measures to be taken to keep temperatures from rising beyond 2°C, and preferably keep it at 1.5°C by the end of

the century and becoming carbon neutral or achieving net zero.

- India has committed to being **net zero by 2070**. The deadline to make a commitment was 2020 but the pandemic meant deadlines were extended.
- India is now in a group of about 60 countries — the Paris Agreement has over 190 signatories — to have **submitted a strategy document to the UN**.

### CoP 27

- COP27 was labelled as an **“implementation” conference**, in the sense that countries were determined to solve outstanding questions on climate finance.
- This refers to money that developed countries had committed to developing countries to help them turn their economies away from fossil fuels, build infrastructure resilient to climate shocks and access technologies to enable widespread use of renewable energy.
- **Conference of Parties(COP):**
  - It is the supreme decision-making body of the UNFCCC.
  - **Aim:** The agreement seeks to limit global warming to well below 2°C, preferably to 1.5°C, compared to pre-industry levels.
  - **Nationally Determined Contributions (NDCs):** To achieve the targets under the agreement, the member countries have to submit the targets themselves, which they believe would lead to substantial progress towards reaching the Paris temperature goal.
    - Initially, these targets are called Intended Nationally Determined Contributions (INDCs).
    - They are converted to NDCs when the country ratifies the agreement.

### The elements of India's low emissions strategy

- India's strategy underlines the **use of nuclear power and hydrogen** as critical to transition India into a carbon-neutral economy.
- The **Long-Term Low-Carbon Development Strategy** underlines India's right to an equitable and fair share of the global carbon budget.

- The remaining budget for a 50% likelihood to limit global warming to 1.5°C, 1.7°C and 2°C is 380 GtCO<sub>2</sub> (nine years at 2022 emissions levels), 730 GtCO<sub>2</sub> (18 years) and 1,230 GtCO<sub>2</sub> (30 years).
  - One gigatonne (Gt) CO<sub>2</sub> is a billion tonnes of carbon dioxide.
- The **journey to net zero is a five decade long** one and India's vision is therefore evolutionary and flexible, accommodating new technological developments and developments in the global economy and international cooperation.
- India's plan is to **maximise the use of electric vehicles**: Ensure that by 2025 the percentage of ethanol blended with petrol increases to 20% from the existing 10% and make a 'strong shift' of passenger and freight vehicles to public transport.
- India will also focus on **improving energy efficiency**: By the Perform, Achieve and Trade (PAT) scheme, expand the National Hydrogen Mission, increase electrification, and enhance material efficiency and recycling.
  - The PAT scheme refers to an emissions trading scheme where industries such as aluminium, fertilizer, iron and steel, that are extremely carbon intensive, have to reduce their emissions by a fixed amount or buy energy saving certificates from firms that have exceeded reduction targets.
  - This scheme has been on since 2012 and has so far prevented 60 million tonnes of CO<sub>2</sub> from being emitted.

### NDCs and these Commitments

- The NDCs, which India must periodically update, are voluntary commitments by countries to reduce emissions by a fixed number relative to a date in the past to achieve the long-term goal of climate agreements of preventing global temperature rising beyond 1.5°C or 2°C by the end of the century.
- Thus, India's most updated NDC commits to ensuring that half its electricity is derived from non-fossil fuel sources by 2030 and reducing the emissions intensity by 45% below 2005 levels by 2030.

- They are concrete targets unlike the low-carbon strategy which is qualitative and describes a pathway.

### Issues

- **Funding:**
  - Of nearly **\$100 billion annually committed** in 2009, which was to have been arranged for by 2020, less than a third has come in.
  - Much of this, and this has been pointed out by several countries including India, is in the form of loans or come with conditions that increase the economic burden on developing countries.
- **Clear delivery:**
  - There is a demand that developed countries must come up with a new target, described in negotiations as a **New Collective Quantified Goal**, with a clear path of delivery and a higher amount, to the tune of "trillions of dollars" to account for increased costs of energy transition.
- **Loss and Damage:**
  - This is a proposal to compensate the most vulnerable countries and developing countries who are facing the brunt of climate change for the damage that has already incurred.
  - The European Union was resistant to announcing a fund this year, on the grounds that it would take years to materialise and there were other options to get money flowing where it was most needed.
- **Action plans falling short:**
  - It's been at least two-and-a-half decades since the world decided to restrain its greenhouse gas emissions.
    - Latest assessments suggest that current action plans of countries to meet climate goals are falling woefully short.
- **Rising emissions:**
  - In absolute terms, the annual global emissions are still rising, now touching almost 50 billion tonnes of carbon dioxide equivalent.

- In the decade between 2010 and 2019, the global emissions grew by over one percent on average.
  - This is significantly slower than the growth in the previous decade, of about 2.6 percent, but for meeting climate targets, it is not good enough.
- **Global issues:**
  - **Economic:**
    - Amid a deepening energy crisis and prevailing economic gloom, there is little appetite among countries to scale up climate action.
  - **Ukraine war:**
    - The energy and economic crisis caused by the Ukraine war is threatening to undo even the small gains made.
- **Possibility of increase:**
  - Moreover, even if the growth in emissions is halted immediately, or is made to decline, it does not solve the problem.
  - This is because the warming of the planet is the result of accumulated emissions in the atmosphere and not the current emissions.
    - Carbon dioxide, the main greenhouse gas, remains in the atmosphere for about 100 years, so the effect of any immediate decline in emissions would have an impact only after several decades.
  - As a result, the average global temperatures have risen faster in the last one decade than any time earlier.
- **Inadequate & unfair response:**
  - The response in terms of emission cuts has been inadequate.
  - **The rich and industrialised countries:**
    - These were the main polluters and hence mainly responsible to bring down emissions, have not met their collective targets.

- **Developing countries:**
  - Countries like China or India, which were not major emitters till sometime back, have seen their emissions rise steeply.

### Global picture

- **EU:**
  - As a bloc, the European Union has done relatively better on climate goals, with the United Kingdom, which is struggling with an economic downturn right now, halving its emissions from 1990 levels, UN data shows.
- **USA:**
  - The United States, the world's leading emitter until it was overtaken by China in the mid 2000s, has been a major laggard, cutting its emissions by only about 7 percent from 1990 levels.
- **India & China:**
  - China's emissions have risen by almost four times, and India's by about three times, during this period.

### Way Ahead

- **Approaching the action plans:**
  - First, climate change is a global problem and it requires **cooperation** between all nations.
  - Second, it needs rules that are **fair and just**, for the poor and the rich alike.
  - Third, science is clear that **humans are responsible** for the global temperature rise and that this increase will lead to more and more variable and extreme weather events, much like what we are seeing now.
  - Four, it is possible to estimate each country's responsibility for the **stock of emissions** already in the atmosphere — the historical cumulative emissions that have “forced” climate change impacts.

- And fifth, countries that have not yet contributed to the emissions will do so in the future, simply because the world has reneged on the need to make global rules that would apply fairly to all.
- **Suggestion by Emissions Gap Report:**
  - For a realistic chance to keep global warming within 1.5 degree Celsius, annual emissions would need to drop from the current level of about 50 billion tonnes of CO2 equivalent to about 33 billion tonnes by 2030 and 8 billion tonnes by 2050, according to the newest Emissions Gap Report.
  - Even for meet the 2-degree target, emissions have to come down to about 41 billion tonnes by 2030 and 20 billion tonnes by 2050.
  - This would require drastic action from all the major emitters.

- **Meaning**
  - AQI is a number, which is a **measure of air quality**.
  - The **higher the AQI, the worse the air**.
- **Pollutants**
  - The pollutants measured include **PM 10, PM 2.5, Nitrogen Dioxide, Ozone, Carbon, etc.**
- **There are six categories of AQI:**
  - Good (0-50)
  - Satisfactory (50-100)
  - Moderately polluted (100-200)
  - Poor (200-300)
  - Very Poor (300-400)
  - Severe (400-500)
- **The colour-coded AQI index** was launched in India in 2014, and it helps the public and the government understand the condition of the air and what subsequent measures are to be taken to combat the situation, based on its severity.

## 9.8. Air Quality Index (AQI)

### Why In News?

- Recently, **the AQI in NCR** dipped to the 'severe' category.

### About Air Quality Index (AQI)

- **Background**
  - It was launched by the **central government in 2014** as part of the **Swachh Bharat campaign**.
  - **IIT Kanpur** and the **Expert Group** recommended an AQI scheme.

### What is GRAP?

- It was **first implemented in 2017**.
- The GRAP is a **set of anti-air pollution measures** followed in the capital and its vicinity according to the severity of the situation.
- **It classifies the air quality in the Delhi-NCR under four different stages:**
  - Stage 1 - "poor" (AQI 201-300)
  - Stage 2 - "very poor" (AQI 301-400)
  - Stage 3 - "severe" (AQI 401-450)
  - Stage 4 - "severe plus" (AQI above 450)

# 10. Internal Security

## 10.1. Projects to Track Small Fishing Vessels

### Why in News?

- Recently, it has been reported that projects launched to track small fishing vessels along India's coast are making progress.

- The third edition of the 'pan-India' coastal defence Exercise Sea Vigil-22 is also scheduled to be held on 15th-16th November to test coastal security.

### What are Different Projects to Track Small Fishing Vessels?

#### Automatic Identification System:

- An Automatic Identification System (AIS) was made compulsory for all vessels above 20 metres after the 2008 terrorist attacks in Mumbai.
- The decision was taken by the National Committee on Strengthening Maritime and Coastal Security, set up to look into issues related to coastal security.
- However, for vessels under 20 metres, the process has been delayed for several reasons.

#### **Vehicle Management System:**

- The Vehicle Management System (VMS) has advanced features and enables two-way communication. The technology has been handed over to four companies for commercial production.
- Trials were conducted in association with the Indian Space Research Organisation on one of their communication satellites last year along the coasts of Gujarat and Tamil Nadu.

#### **ReALCraft:**

- Verification and monitoring of a large number of fishing vessels in India has been greatly eased by the creation of the online ReALCraft (Registration and Licensing of Fishing Craft).

#### **Biometric Identity Cards:**

- Issuance of biometric identity cards to the majority of fishermen and composite card readers to the maritime security agencies has been done to enable biometric verification of the identity of fishing vessel crews at sea.

#### **Indo-Pacific Maritime Domain Awareness (IPMDA):**

- As part of overall efforts for Maritime Domain Awareness (MDA) on the high seas, the Quad grouping, at the Tokyo summit 2022 announced an ambitious Indo-Pacific Maritime Domain Awareness (IPMDA) initiative to track “dark shipping” and build a “faster, wider, and more accurate maritime picture of near-real-time activities in partners’ waters” integrating three critical regions in the Indo-Pacific - the Pacific Islands, Southeast Asia, and Indian Ocean Region (IOR).

#### **What is Exercise Sea Vigil?**

##### **About:**

- The inaugural edition of the exercise was conducted in January 2019.
- It is billed as India's largest coastal defence drill.
- The exercise is a build up towards the major Theatre Level Readiness Operational Exercise (TROPEX), which the Indian Navy conducts every two years.

##### **2022 Edition:**

- Exercise Sea Vigil-22 will provide realistic assessment of India's strengths and weaknesses and thus will help in further strengthening maritime and national security.
- The exercise will see activation of the coastal security apparatus across India and is being conducted by the Indian Navy in coordination with Coast Guard and other Ministries entrusted with the task of maritime activities.
- The exercise will be undertaken along the entire 7,516 km coastline and Exclusive Economic Zone of India and will involve all the Coastal States and Union territories along with other maritime stakeholders, including the fishing and coastal communities.

##### **Significance:**

- Sea Vigil and TROPEX together will cover the entire spectrum of maritime security challenges, including transition from peace to conflict.
- It provides opportunity, at the apex level, to assess the country's preparedness in the domain of maritime security and coastal defence.

## **10.2. New Products in Make-II Project**

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

- Recently, the Indian Army has approved five Project Sanction Orders (PSOs) for the development of niche technology by the

Indian industry under the Make-II route of defence procurement.

### What is the Make-II Project?

#### About:

- Make II projects are essentially industry funded projects involving design, development and innovative solutions by Indian vendors for development of prototypes.
- 22 out of 43 projects are now in prototype development stage, which is 66% of projects by cost, ₹18,000 crore out of ₹27,000 crore.

#### New Additions under the Project:

- **High Frequency Man Packed Software Defined Radios (HFSDR):**
  - These radio sets will replace the existing High Frequency radio sets in the inventory, which have limited data handling capability and obsolete technology.
  - Light weight HFSDR will provide long distance radio communication through enhanced data capability and band width coupled with enhanced security.
- **Drone Kill Systems:**
  - Drone kill system is a hard kill anti-drone system against low Radio Cross Section drones.
  - It is being developed to function in all types of terrains, both during day and night.
- **Infantry Training Weapon Simulator (IWTS):**
  - It is the first triservice Make-II project with the Army as the lead service.
- **Medium Range Precision Kill Systems (MRPKS):**
  - The MRPKS, once launched can 'Loiter' in the air for upto two hours and can acquire, designate and engage real time high value targets upto 40 km.
- **155 mm Terminally Guided Munitions (TGM)**

What is the 'Make' Category of Capital Acquisition?

- The 'Make' category of capital acquisition is the cornerstone of the Make in India initiative that seeks to build indigenous capabilities through the involvement of both public and private sector.
- 'Make-I' refers to government-funded projects while 'Make-II' covers industry-funded programmes.
- Make-I is involved in development of big-ticket platforms such as light tank and communication equipment with Indian security protocols.
- Make-II category involves prototype development of military hardware or its upgrade for import substitution for which no government funding is provided.
- Another sub-category under 'Make' is 'Make-III' that covers military hardware that may not be designed and developed indigenously, but can be manufactured in the country for import substitution, and Indian firms may manufacture these in collaboration with foreign partners.

### What are the other Initiatives to Boost Domestic Production of Defence Equipment?

- Defence Industrial Corridors
- Corporatization of the Ordnance Factory Boards
- Defence India Startup Challenge
- Draft Defence Production and Export Promotion Policy 2020
- Innovations for Defence Excellence (iDEX)
- Mission Raksha Gyan Shakti

## 10.3. Iron Dome

### Why In News?

- Recently, according to data from Israeli military diplomats, the **Iron Dome air defense system** has intercepted over 3,000 projectiles in the last 10 years.

### What is the Iron Dome?

- **Background:**
  - The genesis of the Iron Dome goes back to the **2006 Israeli-Lebanon war**, when

Hezbollah fired thousands of rockets into Israel.

- The Iron Dome was **deployed in 2011**.
- **Development:**
  - It is developed by **Israel Aerospace Industries** and **Rafael Advanced Defense Systems**.
- **Features:**
  - It is a **short-range, ground-to-air, air defence system** that includes a radar and Tamir interceptor missiles that track and neutralise any rockets or missiles.
  - It is used for **countering rockets, artillery & mortars (C-RAM)** as well as **aircraft, helicopters and unmanned aerial vehicles**.
  - It is capable of being used in **all weather conditions**, including during the **day and night**.

#### What makes it so effective?

- The Iron Dome has **three main systems** that work together to **provide a shield** over the area where it is deployed, handling multiple threats.
- It has a **detection and tracking radar** to spot any incoming threats, a **battle management and weapon control system (BMC)**, and a missile firing unit.

#### Other Air Defence Systems

- **S-400 missile system:**
  - Missile defence system developed by Russia.
  - Capable of intercepting all missiles (long, medium & short range).
  - Can intercept 5<sup>th</sup> generation fighter aircrafts, drones, cruise & ballistic missiles.
  - **Range:** 300-400 kms.
  - India has S-400 which also **caters to the three threats (rockets, missiles and cruise missiles)**.
- **Terminal High Altitude Area Defense (THAAD):**
  - American anti-ballistic missile defense system.
  - Designed to shoot down short, medium & intermediate-range ballistic missiles.
  - **Range:** Greater than 200 km.

## 10.4. Make II Projects

### Why In News?

- The Army has approved five **Project Sanction Orders (PSOs)** for development of niche technology by the Indian industry under **Make-II route of defence procurement**.
  - The projects include High Frequency Man Packed Software Defined Radios (HFSDR), drone kill systems, Infantry Training Weapon Simulator (IWTS), Medium Range Precision Kill Systems (MRPKS) and 155mm Terminally Guided Munitions (TGM).

### About

- The provision of '**Make**' category of capital acquisition in **Defence Procurement Procedure (DPP)** is a **vital pillar** for realising the **vision behind the 'Make in India' initiative of the Government**, by fostering indigenous capabilities through design & development of required defence equipment/product/systems or upgrades/ sub-systems/components /parts by both public and private sector industry/organisation in a faster time frame.
- '**Make**' Procedure has following two sub-categories:
  - **Make-I (Government Funded):** Projects under 'Make-I' sub-category will involve Government funding of 90%, released in a phased manner and based on the progress of the scheme, as per terms agreed between MoD and the vendor.
  - **Make-II (Industry Funded):** Projects under 'Make-II' category will involve prototype development of equipment/ system/ platform or their upgrades or their subsystems/ sub-assembly/assemblies/ components, primarily for import substitution/innovative solutions, for which no Government funding will be

provided for prototype development purposes.

# 11. Geography & Disaster Management

## 11.1. The Technology, Water and Security Nexus

### Why in News?

- With increasing urbanisation and dwindling of natural resources, it has become very important to increase the water sector's sustainability and resilience i.e., being water smart, creating more with what we have, and wasting less.
- Innovation and emerging technology in all spheres must be utilised for ensuring water efficiency, safety, quality, and access.

### Water Insecurity As A Real Challenge To Human And Environmental Security:

- Although access to clean water is one of the largest hurdles, insecurity also stems from a range of issues, including dwindling groundwater, stress on water bodies, unsustainable development and theft, amongst others.
- Changes in the climate and ecosystems are added causes and effects of water insecurity.
- About a third of the global population lives without access to clean water and the United Nations' Sustainable Development Goals for 2030 set a high bar to ensure safe and affordable drinking water for all by the end of the decade.
- It will not be easy, especially in Asia, where approximately 300 million people in the region do not have access to safe drinking water, and close to 80 percent of wastewater generated by cities is discharged untreated into water bodies.
- These goals can be met through a better understanding of how water plays a pivotal role not only in human, food, and health security, but also in protecting ecosystems, growth ambitions, energy needs, and mitigating climate change.

### Will the Emerging Technology And the Evolution Of The Fourth Industrial Revolution aid the Growing Water Insecurity In India And Globally?

- The emerging technology and the evolution of the fourth industrial revolution can aid the growing water insecurity if the world is cognizant of following two key aspects:
  - Overdependence on technology cannot and should not replace human responsibility on how water is seen, understood and used as there is no substitute for education to ensure that the world is no longer wasteful.
  - Ensuring any emerging technology, innovation, and science is used mindfully with **smart policies** and **global governance systems** in place that provides security as well as safeguarding the water itself.

### How can technology aid in achieving water security?

- Emerging technology can be effectively utilised and optimised to make access to water and managing water systems more efficiently while aiding in **smarter predictions and forecasting**.
- There are numerous ways to harness technology, innovation, and the drive to create and aid water solutions that can ultimately also prevent conflict over shared resources.
- From space to smart infra, science has proven that efficiency is possible.
- From **low-cost desalination to hand-held purifying filters**, technology has revolutionised access to clean drinking water and improved livelihoods across the globe.
- Technology has also aided in enabling better infrastructure, reducing loss, and creating a more secure environment.
- **AI and machine learning can map and predict potential risks, and early warning tools** can aid in tracking water supplies, the effects of

changes in the weather patterns, and potential disruptions that can occur.

#### Fourth industrial revolution and management of water resources:

- The emerging fourth industrial revolution offers untapped possibilities on understanding water.
- In 2021, a joint satellite mission between NASA and France, **the Surface Ocean Topography Mission**, was launched to use radar technology to provide a global survey of Earth's water.
- The satellite will study lakes, rivers, reservoirs, and the oceans, potentially adding a wealth of knowledge to previously unknown data to understand, measure, and manage our water resources.
- Such knowledge is not only about understanding the waters better, but it is also incredibly useful in understanding the effects of development on resources and the more nuanced effects of changes in weather and climate, ultimately feeding into better policy making.

#### From the Big Picture to Small Ideas:

- As space tech allows to map and gather more data and knowledge, there are numerous smaller ideas that are revolutionising the manner in which water is used and that have the potential to be scaled up.

#### Case Study of Smart Metering:

- It uses IoT sensors installed at critical junctures along infrastructure to **alert users on water levels, quality, theft, and leakages**.
- Primarily used in large scale systems, these can be introduced at the household and community level, including new housing complexes that are being built in growing cities across India.
- Not only can such a system create **better awareness and understanding on domestic use patterns** to allow for better policy making, it also ensures that the citizen has a role and responsibility in the sustainability of water cycles.

- Such sensors can also improve water quality, as unexpected or dangerous chemical levels can be spotted and dealt with immediately.
- The data collected by these devices can subsequently be analysed by AI algorithms to predict seasons when there might be chemical spikes that can be pre-emptively treated, especially in communities that share water bodies and water systems with industry.

#### Management of water resources with cutting edge innovations:

- Innovation in this space is countless, from **water ATMs to fit-for-purpose wastewater solutions to underwater drones with sensors for pipes and drains**.
- In Bhubaneswar, researchers at the Council of Scientific and Industrial Research are using burnt red clay to treat raw water and make it potable; and in central India, low cost fit-for-purpose wastewater solutions developed by ECOSOFTT are being used to treat pollution in the Narmada River.

#### Challenges:

- There are limitations and challenges to the extensive use of technology including:
  - regulatory frameworks
  - lack of skill
  - the inability of existing infrastructure to support such innovation
  - financial obstacles
  - high energy consumption
- New environmental and water-related technology and the use of AI or machines are met with suspicion and are seen as a **challenge to cultural traditions**, especially if local communities are not suitably sensitised.
- There are added risks that come with the use of technology, such as **cyberattacks** that are used as **threats on critical infrastructure, utilities and businesses**, affecting consumers and causing significant financial loss.
- **'Hacktivism'** is a growing concern and interconnected grids, dams, treatment plants, and other infrastructures all become vulnerable.

#### Way Forward:

- As the **dangerous trio of climate change, unsustainable development, and dwindling water resources** hinder human and environmental security, the trio of **science, emerging technology, and innovation** need to be brought closer together in the water sector.
- Better **public-private partnerships** with substantial investment allows for targeted forecasting and tools that can predict potential conflict zones.
- A **transformation in thought, analysis, and implementation is necessary** to be able to counter known and, more importantly, some of the unknown risks and effects of a warming planet.
- A wider approach is needed with **upgraded infrastructure, a range of new technical skills, new governance frameworks, education, and effective management**.
- These are not insurmountable challenges and can be overcome through **political will, forward-looking institutions and policies**, and significant public-private partnerships.

#### Conclusion:

- Working with companies and people that bring the best of innovation in technology, artificial intelligence (AI), the internet of things (IoT), robotics, and new frontiers in computing can help in better management of the growing water insecurity.
- However, with the merging and blurring of these two spaces, the extent of the world's dependency on technology should not distract from behaviour and patterns of use.
- And, above all, as with many other spaces of innovation and science, it needs to be ensured that any over dependence on technology and systems does not become a security threat.

## 11.2. Harvest rainwater for water security

#### Why in News?

- The NITI Aayog report (2018) says that India's water demand will exceed water supply by a factor of two by 2030.
- The major source of water supply is groundwater for most regions in India and rapidly depleting groundwater levels call for

urgent attention for ensuring water security in the coming years.

#### Declining groundwater is a concern

- According to the World Water Development Report 2015 (UNESCO), India is a frontrunner in groundwater extraction.
- The water table is going down in several areas and there are many reasons for this decline
  - Overexploitation of shared water resources.
  - Mismanagement of water resources.
  - Climate change impact.
- Several metropolitan cities are already facing difficulties meeting water demand due to high population density and limited water resources.
  - For example, Delhi has a water supply of approximately 930 million gallons a day (mgd) while its demand is 1,380 mgd.
  - The Delhi Jal Board (DJB) plans to meet this growing demand through groundwater sources which will lead to over-exploitation of groundwater sources.

#### Government efforts to reduce groundwater depletion

- For improving access to water, the government has given special focus to implementing "source sustainability measures" such as
  - Recharge and reuse through grey water management.
  - Water conservation.
  - Rainwater harvesting (RWH)
- A campaign to "Catch the rain, where it falls, when it falls", has been launched which aims to create appropriate rainwater harvesting structures.
- Several government schemes such as Atal Bhujal Scheme are focusing on aquifer mapping to construct artificial reservoirs and rainwater harvesting structures.
  - These mapping techniques take into account hydrogeology and source water availability.

#### The many benefits of artificial recharge

- Artificial recharge structures **augment the water supply** and thus improves the groundwater resource availability.
- **No land is wasted for storage purposes and no population displacement** like dams etc.
- Sub surface water harvesting is cost effective than Surface water storage (dams)
- **Ground water is not directly exposed** to evaporation and pollution.
- It **increases the productivity of aquifers** which may serve as a distribution system also.
- Storing water underground is **environmentally friendly, reduces flood hazards**.
- It affects the **rise in groundwater levels** and helps in **mitigating droughts, soil erosion** etc.

### Significance of rain water harvesting

- **Ensuring Food Security:**
  - Modern hybrid crops & fertilizer depend on **continuous supply of irrigation water**.
  - More than **60% of net sown area in India is rainfed** and to address the rising cases of drought in the dry belt of India and ensure food security RWH is essential.
- **More than 3/4th of the precipitation** In India occurs during 4 months of monsoon season and significant part of which is lost in **runoff and evaporation**, this can be **controlled by rain water harvesting**.
- **Rapid urbanization and Industrial development demands huge water** hence severe water crunch can be addressed by water harvesting.
- In dry and hilly areas **women face hardship in fetching water** and in such remote areas RWH can provide a decentralized source of water which would reduce their hardships.

### Way ahead

- There is a **need to enhance efforts to reduce dependency on groundwater** with a focus on
  - Enhancing water security.
  - **Rejuvenation and recharge of natural and constructed water bodies**.
  - Increased reuse of treated wastewater through local sewage treatment plants.
  - Build well-designed rainwater harvesting systems across residential and commercial areas.
- These efforts must be facilitated by **cooperation of Central and State governments**.

- There is a need for **stringent policy initiatives for long-term and sustainable solutions**.
- An **integrated water management plan** must be brought up by local bodies and implemented at the local level.

### Conclusion:

- Rain water harvesting not only provides the most **sustainable and efficient way of water management** but also opens the vista of several other economic activities leading to Empowerment of people at grass root.
- Therefore the need of the hour is to **promote rainwater harvesting using a mix of traditional ecologically safe, viable and cost-effective systems with modern rainwater saving techniques**, such as percolation tanks, injection wells and subsurface barriers to rejuvenate India's depleted water resources. But using only traditional methods is not enough. Productively combining these structures could be the answer to India's perennial water woes.

## 11.3. International Drought Resilience Alliance (IDRA)

### Why In News?

- **Spain and Senegal** led 30 countries and 20 organisations to launch the International Drought Resilience Alliance (IDRA) at the **COP27** to the **UNFCCC** at **Sharm El-Sheikh**.

### About IDRA

- The IDRA was **first announced by Spain** at the **77th session of the UN General Assembly**.
- The alliance will help each other to be **better prepared for future droughts**.
- The group also pledged to drive change in how the world tackles the growing drought risks: Moving 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**.

### Challenges

- Drought represents the **most serious hazard to livestock and crops** in nearly every part of the world.
- **Climate change** is expected to cause more severe droughts in the future.

### Significance

- The alliance is significant as **there is no global convention for land, other than UNCCD**, which mostly focuses on desertification.

- 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.

## 12. History- Art & Culture

### 12.1. Pashmina and Shahtoosh

#### Why In News?

- Traders of **Pashmina shawls** are complaining that “obsolete testing methods” have resulted in many of their export consignments being flagged for presence of ‘**Shahtoosh**’ guard hair.

#### About

- **Pashmina**: It is obtained from breeds of **mountain goats ( capra hircus)** found in the **Changthang Plateau in Tibet and parts of Ladakh, in the Himalayan region of India**.
  - **India contributes only about 1% of the world’s Pashmina**, but the **Pashmina produced in India** is considered the **best of the lot and occupies a unique position**.
  - Manufacture of Pashmina is a largely unorganised cottage/handicraft industry providing **employment and livelihood to approximately 6 lakh people**, most notably to local skilled villagers and artisans in Kashmir.
  - In 2019, the Bureau of Indian Standards (BIS) published an Indian Standard for identification, marking and labelling of Pashmina products to certify their purity.

- In 2021, the BIS released a revised report titled ‘Identification, Labelling and Marking of Pashmina Products’ that mandated directions for incorporating qualitative and quantitative identification of Shahtoosh guard hair.

- **Shahtoosh**: It is the fine undercoat fibre obtained from the Tibetan Antelope, known locally as ‘Chiru’, a species living mainly in the northern parts of the Changthang Plateau in Tibet.

- As they offer high levels of smoothness and warmth, Shahtoosh shawls became a highly expensive commodity.
  - Unfortunately, due to commercial poaching of the animal, their population declined dramatically.
  - **CITES (Convention on International Trade in Endangered Species of Wild Fauna & Flora)** included the Tibetan Antelope in 1979 leading to prohibition in sale and trade of Shahtoosh shawls and scarves.

### 12.2. Nationalism of Vinayak Damodar Savarkar

#### Why In News?

- Recently, the Nationalism of Vinayak Damodar Savarkar was compared to other prominent leaders.

### About Vinayak Damodar Savarkar

- Veer Savarkar was a multidimensional personality - a freedom fighter, social reformer, writer, poet, historian, political leader and philosopher - all combined into one
- He named the 1857 rebellion as the first war of independence.
- He was one of the most important figures of the Hindu Mahasabha ("Great Society of Hindus"), a Hindu nationalist organisation and political party.

### Ideology

- According to him the rigid caste system deserves to be thrown into the dustbins of history".
  - He wanted to break away from the taboo on inter-caste dining.
- He wanted to **popularise Vedic literature to everyone**, not only to a particular caste.
- He believed in global mobility and the need for Indians to venture out into foreign lands so as to "bring back the best of the world and carry the fragrance of India and her culture to every corner of the globe."
- He was in support of promotion of inter-caste marriage.

### Views on Nationalism:

- He retained the image of a nationalist because of the revolutionary commitment he developed as a young man, which resulted in his arrest in 1910.
  - By 1941, his main motto was "Hinduise all politics and militarise Hindudom", which implied some collaboration with the British.
    - He was in favour of "extending military cooperation with the British government to secure permanently a dominant position for the Hindus in the Indian army, navy and air-force.

- **His priority was not independence**, it was the **fight against Muslims** for which Hindus would need to occupy as many posts as they could in the army and in the state machinery.

## 12.3. Sufism

### Why In News?

- In 'In Search of the Divine: Living Histories of Sufism in India', Rana Safvi weaves together a narrative that combines history and geography, myth and **contemporary practices of Sufism**.

### Key Points From the Book

- **Shrines being brought to life with writing:**
  - Rana Safvi has attempted the daunting task of mapping out the Sufi traditions in the subcontinent.
  - Intertwining personal testimony with a taxonomy of the different **silsilahs of Sufism**, Safvi weaves together a narrative that combines history and geography, myth and contemporary practice.
  - The description of the **Sarkhej Roza**, a shrine in Gujarat: "These square panels were patterned in three ways: geometric, curvilinear, or a combination of both. Floral motifs were also used to heighten the sense of being in a garden — as that is how paradise is also described.
  - In the tomb of **Sheikh Ghaus Gwaliori**, there are over a hundred panels with one screen consisting of both geometrical and stylized designs."
- **Orders:**
  - The book offers valuable source material on the history of Sufism in India, its various orders:
    - Chishti,
    - Qadiriyya,
    - Suhrawardiyya,
    - Naqshbandi.

- **Pan India presence:**
  - The shrine of **Baba Fariduddin Ganjshakar** (1188-1266) in Pakpattan,
  - **Khwaja Moinuddin Chishti's** (1143-1236) resting place in Ajmer,
  - The mausoleum of **Hazrat Nizamuddin Auliya** (1238-1325) in Delhi, and even as far south as Nagore in present day Tamil Nadu, where **Hazrat Syed Shahul Hameed** (d. 1570) was welcomed by the king of Thanjavur with a land grant to build a **khanqah**, or seminary.
  - The last named saint is revered as "Nagore Andavar" by locals and is one among thousands of examples where **Hindus and Muslims continue to share sacred spaces** in India.

### Sufism

- **Meaning of Sufi:**
  - It literally refers to "the act of wearing wool," perhaps referring to the shawls worn by the itinerant preachers who traveled the length and breadth of the Middle East, Central Asia and South Asia.
- **Practice:**
  - The philosophy of Sufism believes in one God and regards every individual and everything else as part of Him.
  - The Sufi saints preached that '**God is one**', **all is in God**', 'nothing is beyond outside Him' and 'one can find God by renouncing everything except loving devotion to God.'
- **Sufism in the Indian Subcontinent:**
  - The Sufi movement **started in Persia** and evolved into a well developed movement by the **11th century**.
  - Sufism found its way into India during the eleventh and twelfth centuries when many Sufi saints came to India particularly in Multan and Lahore of the Indian subcontinent.
- **Bifurcated into Orders:**
  - During this time, the Sufis were organized in **orders (silsilahs)**.
  - The orders were generally led by a prominent mystic who lived

in **Khanqah (hospice)** along with his disciples.

- The connection between the Pir (teacher) and his murids (disciples) was a vital part of the Sufi system.
- Every Pir nominated a successor or wali to carry on his work.
- **The Sufi orders are divided into two groups:**
  - **Ba-shara**, which followed the Islamic Law (shara) and
  - **Be-shara**, which was not bound by it (shara).
  - Both types of orders prevailed in India, the latter being followed more by wandering saints and qalandars.

## 12.4. Rani Lakshmibai

### Why In News?

- The Prime Minister, Shri Narendra Modi has remembered Rani Lakshmibai on her Jayanti. Shri Modi said that her courage and monumental contribution to our nation can never be forgotten.

### About Rani Lakshmibai

- **Early Life:** She was born on 19 November 1828 in Kashi.
  - Lakshmibai's childhood name was 'Manikarnika'. She was affectionately addressed as 'Manu'.
  - Manu's father used to work with Peshwa Sahib of Bithur.
  - From childhood, Manu started learning about using weapons.
  - She became proficient in horse riding and fencing under the guidance of Nana Saheb and Tatya Tope.
- **Married Life:** In the year 1842, Manu got married to the King of Jhansi, Gangadhar Rao and after marriage, she got the name 'Lakshmibai'. she gave birth to a son.
  - Her son lived for a few months and then passed away.

- After some time, the king of Jhansi died, and state management's responsibility fell to Rani Lakshmbai, which she managed efficiently.
- **Conflict with the British:** The British, under the **doctrine of Lapse**, ordered the merger of Jhansi into the British Empire and assured the queen of pension.
  - Rani Laxmibai did not agree to this contract in any way.
  - She made it clear to the Britishers that she will never surrender Jhansi to them. She took this pledge.
  - The brave queen guarded the pride of Jhansi until her last breath
- **Legacy :** The devotion of the queen towards the motherland, awakened the spirit of freedom among thousands of people. She inspired many women to participate in the freedom movement. She sacrificed her life for the dignity and freedom of her people. No doubt, She was a true queen and a brave fighter.

## 12.5. Nicobari Hodi Craft

### Why In News?

The Geographical Indications Registry has received an application from the Tribal Development Council, Andaman & Nicobar Islands, seeking the **Geographical Indication (GI) tag** for the **Nicobari hodi craft**.

- This is the first application from the Union Territory seeking a tag for one of its products.

### About Nicobari Hodi Craft

- The hodi is the **Nicobari tribe's traditional craft**. It is an outrigger canoe, very commonly operated in the Nicobar group of islands.
- The **technical skills for building a hodi** are based on **indigenous knowledge** inherited by the **Nicobarese from their forefathers**.
- The hodi is built using either locally available trees or from nearby islands, and its design varies slightly from island to island.
- The tuhet, a group of families under a headman, consider the hodi an asset. Hodi races are held between islands and villages.

## 13. Awards

### 13.1. Gandhi Mandela Award

#### Why In News?

- The **14th Dalai Lama** was recently conferred the **Gandhi Mandela Award 2022** at **Thekchen Choeling in Dharamshala's McLeodGanj** by Himachal Pradesh Governor.
  - He has been conferred with the **peace prize** for the qualities of non-violence and compassion and he has been called a **"universal ambassador of peace"**.

#### What is the Gandhi Mandela Award?

- The Gandhi Mandela Foundation is a **non-profit organization** registered as a **government of India Trust**.
- It was formed with the **motive to promote Mahatma Gandhi's and former President of South Africa Nelson Mandela's values of non-violence**.
  - It has constituted an **international prize**, the Gandhi Mandela Award.
- The foundation instituted the award on the **150th birth anniversary of the Father of the Nation, MK Gandhi**.

#### Who gets the award and how are they selected?

- The award is given to personalities who have carried forward the legacies of Gandhi and

Mandela by making significant contributions in the fields of **Peace, Social Welfare, Culture, Environment, Education, Healthcare, Sports, and Innovation.**

**Which other peace prize the Dalai Lama received?**

- He is the recipient of the **1989 Nobel Peace Prize**. The Dalai Lama has developed his philosophy of peace from a great reverence for all things living and upon the concept of universal responsibility embracing all mankind as well as nature.

### 13.2. UN's Champions of the Earth Award

**Why In News?**

- Indian wildlife biologist **Dr. Purnima Devi Barman** is among the honourees of this year's **Champions of the Earth award**.
  - Earlier, Prime Minister Narendra Modi was conferred with **United Nation's Champions of the Earth Award 2018**.
  - PM Modi is the third Indian to receive this award after **Tulsi Tanti**, Chairman of the Suzlon Group, and **Afroz Alam**, a lawyer who led the clean-up at Mumbai's Versova beach.

**About Champions of the Earth award**

- **UNEP's Champions of the Earth** honours individuals, groups, and organizations whose actions have a transformative impact on the environment.

- The annual Champions of the Earth award is the **UN's highest environmental honour**.
- It recognizes outstanding leaders from government, civil society, and the private sector.
- Since its **inception in 2005**, the annual Champions of the Earth award has been awarded to trailblazers at the forefront of efforts to protect our natural world.
- The Champions of the Earth award will celebrate visionaries in three categories:
  - Inspiration and action
  - Entrepreneurial vision
  - Science and innovation

### 13.3. National Florence Nightingale Awards 2021

**Why In News?**

- Recently, the President of India presented the National Florence Nightingale Awards for the year 2021 to the Nursing professionals.

**About the Award**

- The National Florence Nightingale Awards were **instituted in the year 1973** by the Ministry of Health and Family Welfare, Government of India .
- The award is given to **outstanding Nursing personnel employed** in Central, State/UTs, Private, Missionary and Voluntary Organizations.
- The award consists of a Cash Award of Rs. 50000/-, a certificate and a medal.

## 14. Government Initiatives

### 14.1. Pradhan Mantri Awas Yojna-Gramin (PMAY-G)

**Why In News?**

- Recently, the Union Ministry of Finance has **approved an advance of Rs. 13,000 crore** for the **Pradhan Mantri Awas Yojna-**

**Gramin (PMAY-G) scheme** from the **Contingency Fund of India**.

**Key Points**

- **Total Outlay:**
  - The Rs 13,000-crore tranche is over and above the outlay of Rs 20,000 crore

provided for PMAY-G in the Union Budget 2022-23.

- **Top spender in Rural Development**
  - In the first seven months (April-October 2022), the MoRD has utilised Rs 16,785 crore – about 84 per cent – of the Rs 20,000 crore under the PMAY-G scheme.
  - The PM Awas Yojana has been the top spender —**better than even the job guarantee scheme, NREGS** — in the rural development ministry in the first seven months this year.
- **Demand for Additional Funds:**
  - With several states demanding extra funds for construction of rural houses, the Ministry of Rural Development (MoRD) had approached the Ministry of Finance way back in June for additional allocation.

#### Pradhan Mantri Awaas Yojana – Gramin (PMAY-G)

- **Background:** Restructured the erstwhile rural housing scheme IAY (Indira Awaas Yojna) and launched the PMAY-G with effect from April 1, 2016
- **Launched by:** the Ministry of Rural Development (MoRD)
- **Aim:** Providing “Housing for All” by 2022.
- **Features:**
  - It is a social welfare program through which the Government provides **financial assistance** to houseless beneficiaries identified using SECC 2011 data to help them construct a house of respectable quality for their personal living.
  - Under the PMAY-G, a financial assistance of **Rs 1.20 lakh** in plain areas and **Rs 1.30 lakh** in hilly states is provided to a beneficiary.
  - Provision of assistance for construction of toilets amounting to Rs. 12,000/- through SBM-G, MGNREGS or any other dedicated source of funding.
- **Targets:**
  - A target of construction of **2.95 crore PMAY-G houses** by March 2024 has

been set, of which 2.07 crore rural houses have been built.

- To meet the March 2024 target, 52.78 lakh houses in 2022-23 and 57.34 lakh houses in financial year 2023-24 must be constructed.
- **Funding:**
  - The financial burden of implementation of the scheme is shared by the Centre and state in a ratio of **60:40 in plain areas** and **90:10** for hilly states (special category states which includes 8 North Eastern States, Himachal Pradesh, Uttarakhand and J&K).
  - In the UTs, including Ladakh, the Centre bears **100 percent** of the expenditure on the implementation of the rural housing scheme.

#### Challenges

- Covid-19 pandemic induced nationwide lockdown has **retarded the pace of construction** of rural houses under the Pradhan Mantri Awas Yojana-Gramin.
- The delays are also due to **cases of the unwillingness of beneficiaries, migration, death of beneficiaries** without a legal heir, delay in allotment of land to landless beneficiaries by the states/UTs .
- Implementation was also “affected at the ground level due to **unavailability of construction materials, labour**, delay in the inspection of stages of house construction etc.

#### Government’s Initiatives

- **Regular review** of progress at the level of the Ministry to ensure timely completion of targeted houses.
- **Daily monitoring** on various parameters like Gaps in sanction of houses, cleaning of Permanent Wait List (PWL) of PMAY-G and release of Central Share/State Matching Share from the treasury to Single Nodal Account (SNA).
- **Timely allocation of targets** to the States/UTs and release of adequate funds at the level of the Ministry.

- **Regular follow-ups with the State** to ensure the provision of land to landless beneficiaries in rural areas.
- Promotion of **eco-friendly & innovative technologies** for house construction and monitoring
  - AwaasSoft and AwaasApp
  - E-Ticketing system
  - Aadhaar Based Payment System –ABPS

## 14.2. PM-KISAN Scheme

### Why In News?

- The number of farmers who received funds under the Union government's Prime Minister Kisan Samman Nidhi (PM-KISAN) scheme fell by two-thirds from the scheme's launch in 2019 till now.

### About PM-KISAN scheme

- **Objective:**
  - Under the scheme an income support of 6,000/- per year in three equal installments will be provided to all land holding farmer families. The family includes husband, wife and minor children.
  - The fund will be directly transferred to the bank accounts of the beneficiaries.
- **Funding:**
  - It is a **Central Sector scheme** with 100% funding from Government of India. It is being implemented by the **Ministry of Agriculture and Farmers Welfare**.
- **Identification of beneficiaries**
  - State Government and UT administration will identify the farmer families which are eligible for support as per scheme guidelines.
- **Eligibility:**

- Small and marginal farmers are eligible for PMKSNY.
- Farmer families that hold cultivable land can apply for the benefits of this plan.
- A beneficiary should be an Indian citizen.
- Farmers from both rural and urban regions can be enlisted.
- **Exclusion Categories:** The following categories of beneficiaries of higher economic status **shall not be eligible for benefit under the scheme:**
  - All Institutional Landholders.
  - Farmer families in which one or more of its members belong to the following categories
  - Former and present holders of constitutional posts
  - Former and present Ministers/ State Ministers and former/present Members of Lok Sabha/ Rajya Sabha/ State Legislative Assemblies/ State Legislative Councils, former and present Mayors of Municipal Corporations, former and present Chairpersons of District Panchayats.
  - All serving or retired officers and employees of Central/ State Government Ministries /Offices/Departments and its field units Central or State PSEs and Attached offices /Autonomous Institutions under Government as well as regular employees of the Local Bodies (Excluding Multi Tasking Staff /Class IV/Group D employees)
  - All superannuated/retired pensioners whose monthly pension is Rs.10,000/- or more (Excluding Multi Tasking Staff / Class IV/Group D employees) of above category
  - All Persons who paid Income Tax in last assessment year
  - Professionals like Doctors, Engineers, Lawyers, Chartered Accountants, and Architects registered with Professional bodies and carrying out their profession by undertaking practices.

### 14.3. India Infrastructure Project Development Fund Scheme

#### Why In News?

- Recently, the **Department of Economic Affairs (DEA)** has notified India Infrastructure Project Development Fund Scheme.

#### About IIPDF Scheme

- Aim**
  - It aims for **financial Support** for Project Development Expenses of **PPP Projects**.
  - It will provide necessary support to the PSAs, both in the **Central and State Governments**, by extending financial assistance in meeting the cost of

transaction advisors and consultants engaged in the development of PPP projects.

- Funding**
  - It is a **Central Sector Scheme**. Central Sector Schemes are those that are implemented by a central agency and 100% funded by the center on subjects within the union list.

#### Significance

- It will **improve the quality and pace of infrastructure development** in the country by **encouraging private sector participation** in the infrastructure sector.
- It aims at **achieving the vision of modern infrastructure** for the country.

## 15. Persons & Appointments

### 15.1. Rajeeva Laxman Karandikar

- Government of India had appointed Rajeeva Laxman Karandikar, Professor Emeritus at Chennai Mathematical Institute (CMI), as the part-time chairperson of the National Statistical Commission (NSC) of India for a period of three years.
- NSC is an autonomous body formed in June 2005 under the recommendation of the Dr. C Rangarajan commission.
- The objective of its constitution was to reduce the problems faced by statistical agencies in the country with respect to the collection of data, and strengthen public trust in the numbers released by the Government of India.
- The chairperson of the Commission enjoys the status of a Minister of State, Government of India.

### 15.2. PT Usha

- PT Usha was elected to become the president of the Indian Olympics Association (IOA).

- PT Usha becomes the first woman president of the IOA.
- PT Usha is one of the most accomplished athletes in India.
- She has won 11 medals including four gold at the Asian Games between 1982 and 1994.
- She also won four gold medals at the Seoul Asan Games in 1986.
- She has participated in 200m, 400m hurdles, and 4×400 relays.
- Umesh Sinha the returning officer for the IOA elections has reported that the process was underway on 25th November.

### 15.3. Deepa Malik

- Union Health Ministry designated Padma Shri, Khel Ratna Arjuna Awardee and the President of the Paralympic Committee of India, Dr. Deepa Malik as Nikshay Mitra ambassador in New Delhi.
- It is an initiative under Pradhan Mantri TB Mukh Bharat Abhiyaan.

#### About Ni-kshay Mitras initiative:

- The initiative ensures three-pronged support includes: Nutritional, Additional diagnostic, and Vocational support.
- This program was brought in the direction of Pradhan Mantri TB Mukta Bharat Abhiyan with the aim of eradicating TB by 2025.
- India has the world's highest burden of tuberculosis (TB), with an estimated 2.6 million people suffering from the disease and nearly 4 million dying from it every year.

#### 15.4. Subhrakant Panda

- The Federation of Indian Chambers of Commerce and Industry (FICCI) has announced

Mr Subhrakant Panda as its President-Elect. Mr Panda is currently the Senior Vice President of FICCI.

#### 15.5. Arun Goel

- President Droupadi Murmu has appointed retired IAS Arun Goel as the Election Commissioner in the Election Commission with effect from the date he assumes the office.
- A Punjab cadre officer of the 1985 batch, Goel will join Chief Election Commissioner Rajiv Kumar and Election Commissioner Anup Chandra Pandey in the poll panel

## 16. Important Days

#### 16.1. 1st November – Rajyotsava Day (Karnataka Formation Day)

- Rajyotsava Day which is also known as Karnataka Rajyotsava or Kannada Rajyotsava or Kannada Day or Karnataka Day is celebrated on 1st November every year.
- On 1st November 1956, all Kannada language-speaking regions of South India were merged to develop the State of Karnataka.

#### 16.2. 5th November – World Tsunami Awareness Day

- On 5th November, World Tsunami Day is observed and this is to highlight the dangers of tsunami and to focus on the importance of early warning systems to minimize the damage caused due to natural hazards. Traditional Knowledge about Tsunamis are provided by many organizations to make people aware of the situation.

#### 16.3. 6th November

- International Day for Preventing the Exploitation of the Environment in War and Armed Conflict

- On 5th November 2001, the UN General Assembly declared that on 6th November every year the 'International Day for Preventing the Exploitation of the Environment in War and Armed Conflict' will be observed.

#### 16.4. 7th November – Infant Protection Day

- On 7th November every year, Infant Protection day is observed for the purpose of spreading awareness regarding protecting, promoting, and developing infants.
- There is no doubt that if Infants are protected then they will become the future of this world as they are tomorrow's citizens. It is important to protect the future of this world.

#### 16.5. 7th November – National Cancer Awareness Day

- National Cancer Awareness Day is observed on 7 November to spread awareness about cancer and to make it a global health priority.
- During the year of 2014, the National Cancer Awareness Day was established by the former

Union Health Minister Dr. Harsh Vardhan to make people aware of the situation.

### 16.6. 7th November – C.V. Raman Birthday

- Chandrasekhara Venkata Raman or C.V Raman was born on 7th November 1888 in Tiruchirapalli, Tamil Nadu.
- C.V Raman was awarded with the 1930 Nobel Prize in Physics for his discovery of the Raman effect, in which light that passes through a material is scattered and the wavelength of the scattered light is changed because it has caused an energy state transition in the material's molecules.

### 16.7. 8th November- World Radiography Day

- World Radiography Day is celebrated every year on November 8, marking the anniversary of the birth of X-rays. We've all had one done but we all take this marvelous technology for granted.
- It's hard to imagine a world today where x-rays don't exist. They're the foundation of many medical diagnostic tools and help doctors discover a range of problems.

### 16.8. 9th November – World Services Day

- 9th November is observed as World Services Day in India to raise awareness among the people where Legal Literacy is lacking.
- During the year of 1995 the Legal Services Authorities Act was enforced and since then on this day people gets aware about the lack in legal literacy.

### 16.9. 9th November – Uttarakhand Foundation Day

- Uttarakhand was established on 9th November 2000. Uttarakhand is well-known as the Land of Gods or "Dev Bhumi".
- On 19th November, Uttarakhand Foundation Day was celebrated. During the time of its formation, its name was Uttaranchal and on 2007 the name changed to Uttarakhand formally.

### 16.10. 10th November – World Science Day for Peace and Development

- Every year 10th November is observed to focus on the important role of science in society and the need to engage the wider public in debates on emerging scientific issues.
- Main highlight here is the important of Peace and Development of Scientific works.

### 16.11. 11th November – National Education Day

- On 11th November, it is observed to commemorate the birth anniversary of India's first Education Minister Maulana Abul Kalam Azad. The Minister has also served the first education minister of independent India from 1947 to 1958.

### 16.12. 12th November – World Pneumonia Day

- 12th November is observed as World Pneumonia Day which is to raise awareness about Pneumonia and its prevention.
- This is considered to be the world's leading infectious disease and the much impacted age group are children below 5 years of age.

### 16.13. 14th November – Children's Day

- Children's Day is celebrated in India on 14th November every year. This day is also called as Bal Divas. On this day people are made aware

about the rights, care, and education of children.

- This day exists with the birth anniversary of the first Prime Minister of India, Jawaharlal Nehru. The day aims to acknowledge the efforts of Kalam towards education and students.

#### 16.14. 14th November – Jawaharlal Nehru Jayanti

- Jawaharlal Nehru was the first Prime Minister of Independent India and he was born on 14th November 1889 in Allahabad, Uttar Pradesh. Children's Day is celebrated in India to remember this auspicious day of Jawaharlal Nehru's birthday.

#### 16.15. 14th November – World Diabetes Day

- On every 14th November, the World Diabetes Day is observed.
- The main focus of this day is to raise awareness about the impact of diabetes disease, its prevention, and education on diabetes among people.

#### 16.16. 15th November – Jharkhand Foundation Day

- Jharkhand was established on 15th November 2000. This establishment was done by the Bihar Reorganization Act as 28th State of India.

#### 16.17. 16th November – International Day for Tolerance

- International Day for Tolerance is observed on 16 November for the purpose of raising awareness about strengthening tolerance by encouraging mutual understanding among cultures and peoples.
- On 16th November 1966, The UN General Assembly invited the UN Member States to observe the International Day for Tolerance by resolution 51/95.

#### 16.18. 17th November – International Students Day

- International Students Day was established on 17th November 1939 by the Nazi troops. 9 students leaders and the bravery displayed by the students during this incident was exceptional on this day.

#### 16.19. 20th November – Universal Children's Day

- Universal Children's Day is observed on 20th November every year.
- This day mainly focuses to promote the international togetherness, awareness among children worldwide, and improve children's welfare. Universal Children's Day was established on 20th November 1954.

#### 16.20. 25th November

International Day for the Elimination of Violence against Women

- International Day for the Elimination of Violence against Women is observed on 25th November every year.
- This day was established by UN General Assembly during the year of 1993. This day defines the violence against women as an act of gender-based violence that results in physical, sexual, or psychological harm or suffering to women, including threats, etc.

#### 16.21. 26th November – Constitution Day of India

- Constitution Day of India is also known as Law Day or Samwidhan Divas of India and this is observed on 26th November every year.
- The Constituent Assembly of India adopted the Constitution of India on 26th November 1949. This came into effect on 26th January 1950.

# 17. Miscellaneous

## 17.1. Nirav Modi Extradition

### Why In News?

- Recently, the High Court in London rejected the appeal of fugitive diamond merchant Nirav Modi and ordered his extradition to India.

### About Extradition

- Extradition is the formal process whereby a State requests from the requested State the return of a person accused or convicted of a crime to stand trial or serve a sentence in the requesting State.
  - Historically, there was no general duty to extradite.
- Extradition was often based on informal relations between leaders of sovereign States.
  - The increasing numbers of such cases created the need for more formal agreements.
- Article 16 of the Organized Crime Conventions deals with extradition.
- the extradition treaty between India and UK:** India is a designated Part 2 country by virtue of the Extradition Act 2003, which means it is the UK Cabinet minister who has the authority to order a requested person's extradition after all legal issues are dealt with in the courts.

## 17.2. Harlequin frogs

### Why In News?

- Researchers confirmed that many harlequin frogs once believed to be extinct are persisting.
- The harlequin frog genus was hit exceptionally hard by the fungus and over the past four decades, experts believed that upwards of 80 per cent of its species were driven to extinction.

### About Harlequin frogs

- They are typically **small to medium-bodied** and many of them have bright and contrasting warning colours advertising potent skin toxins.
- They are typically **diurnal and many of them occur** in the vicinity of streams all year long, while others are found inside the forest.
- They occur in a **diverse array of habitats**, from **tropical wet forests** along the Pacific coast and the Amazon basin to the montane regions and paramos of the Andes.
- They are particularly **sensitive to habitat modification**, environmental changes, and infectious diseases, potentially making them important sentinel species in the terrestrial and freshwater ecosystems where they occur.
- Their presence is an **indicator of water quality and healthy ecosystems**, and their demise might be an early warning to humans of critical environmental conditions

## 17.3. Ranthambore National Park

### Why In News?

- Recently, the National Green Tribunal (NGT) has ordered that the Ranthambore Festival (musical festival) can be held only if it is permitted by the authorities.

### Ranthambore National Park

- It is a national park in Rajasthan. It was declared one of the **Project Tiger reserves in 1973** and became a **national park on 1 November 1980**.
- It is bounded to the north by the Banas River and to the south by the Chambal River.
- It was established as **Sawai Madhopur Game Sanctuary in 1955**.
- It is named after the **historic Ranthambore Fort**, which lies within the park.
- Vegetation**
- The forest type is mainly tropical dry deciduous with 'dhak' (*Butea monosperma*), a

species of tree capable of withstanding long periods of drought, being the commonest.

## 17.4. Kuki-Chin Refugees

### Why In News?

The Mizoram Cabinet has approved the setting up of temporary shelters and other amenities for Bangladeshi Kuki-Chin refugees.

- Mizoram shares a 318 km-long international border with Bangladesh.
  - Mizoram is already sheltering over 30,000 refugees from Myanmar who sought refuge in the state after a military coup in the Southeast Asian nation in February last year.

### About Kuki-Chin Refugees

- The Kuki-Chin people share ethnic ties with the Mizos and they fled their homes following armed conflicts between the Bangladesh army and an ethnic insurgent group Kuki-Chin National Army (KNA).

### India's stand on refugees

- India is **not a signatory to the 1951 UN Convention** relating to the **Status of Refugees and the 1967 Protocol**.
- All foreign undocumented nationals are governed as per the provisions of The Foreigners Act, of 1946, The Registration of Foreigners Act, of 1939, The Passport (Entry into India) Act, of 1920, and The Citizenship Act, of 1955.

## 17.5. SARAS 3 Telescope

### Why In News?

Recently, SARAS 3 has provided clues to the nature of the Universe's first stars and galaxies.

- Using data from the telescope which has been deployed over the Dandiganahalli Lake and Sharavati backwaters since 2020, astronomers and researchers have been able to determine properties of radio luminous galaxies formed

just 200 million years post the Big Bang, a period known as the Cosmic Dawn.

### About SARAS 3

- The **SARAS 3 radio telescope** was invented and built by the astronomers at **Raman Research Institute (RRI)**.
- It is the **first telescope worldwide** to reach the required sensitivity.
- The signal claimed to have been detected by the ASU/MIT team required exotic and non-standard physics and caused astrophysicists worldwide to invent new theories, which are all now redundant.
- It was a courageous attempt to design, build and deploy in India a precision radio telescope to detect extremely faint radio wave signals from the depths of time, from our "Cosmic Dawn" when the first stars and galaxies formed in the early Universe.

## 17.6. Austra Hind 22

### Why In News?

- The bilateral training exercise "**Austra Hind 22**" was recently held between contingents of the Indian Army and the Australian Army at Mahajan Field Firing Ranges, Rajasthan.
  - This is the first exercise in the series of Austra Hind with participation of all arms and services contingent from both armies.

### Austra Hind 22

- **About:**
  - It will be a yearly event that will be conducted **alternately in India and Australia**.
- **Aim:**
  - To build positive military relations, imbibe each other's best practices and promote the ability to operate together while undertaking multi-domain operations in Semi deserts terrain under a UN peace enforcement mandate.
- **Participation:**
  - **The Australian Army** contingent comprising soldiers from the 13th Brigade of the 2nd Division has arrived at the exercise location.

- **The Indian Army** is represented by troops from the DOGRA Regiment.
- **Other Military Exercises with Australia:**
  - Ex AUSINDEX
  - EX PITCH BLACK

### 17.7. Sukhatal Lake

#### Why In News?

- The **Uttarakhand High Court** recently directed the State to stop all construction activities on the lake bed and posted the matter for further hearing.

#### About Sukhatal Lake

- It is a **freshwater lake located in Nainital**.
- The lake is surrounded by **dense pine and oak forests**.
- These verdant forests are the **home to a number of migratory birds** who visit this place from all over the globe.

#### Why is Sukhatal important?

- It is believed that Sukhatal is a **feeder lake for Naini Lake**, as it acts as upstream storage for Naini Lake during monsoon by **holding the runoff from catchment** of water that would have otherwise flown out, **thereby increasing erosion and silt deposition in Naini Lake**.
- **Encroachment and dumping of construction and other waste** have led to unprecedented deterioration of Sukhatal lakebed and its ability to recharge Naini Lake.

### 17.8. Food Price Index (FPI)

#### Why In News?

- The **UN Food and Agricultural Organisation's Food Price Index (FPI)** averaged 135.9 points in October, marginally lower compared to the previous month's 136 points.
- This marks the seventh successive month of decline in the index, which is a weighted average of world prices of a basket of food commodities over a base period value, taken at 100 for 2014-16.

#### About

- The **FAO Food Price Index (FFPI)** is a measure of the **monthly change in international prices of a basket of food commodities**.
- It consists of the average of five commodity group price indices weighted by the average

export shares of each of the groups over 2014-2016.

### Food and Agriculture Organization

#### ● About:

- It is a specialized agency established by the **United Nations in 1945** that leads international efforts to defeat hunger.
- It is **headquartered in Rome, Italy**.
- It strives to provide information and support sustainable agriculture through legislation and national strategies, with a goal of alleviating hunger.
- It works to achieve food security for all and make sure that people have regular access to enough high-quality food to lead active, healthy lives.

#### ● Major Publications released:

- The State of World Fisheries and Aquaculture (SOFIA).
- The State of the World's Forests (SOFO).
- The State of Food Security and Nutrition in the World (SOFI).

### 17.9. Garuda VII

#### Why in News?

- Indian Air Force (IAF) and French Air and Space Force (FASF) are participating in 'Garuda VII' at Air Force Station Jodhpur.

#### About

- The first, third and fifth editions of Garuda VII were conducted in India in 2003, 2006 and 2014 at Air Force Stations Gwalior, Kalakunda and Jodhpur, respectively.
- The second, fourth and sixth editions were conducted in France in 2005, 2010 and 2019.
- It is being hosted by India for the fourth time so far. Ex Garuda VII is also the **first occasion for the LCA Tejas** and the recently inducted **LCH Prachand** to participate in any international exercise.

#### Significance

- Participation of the IAF and FASF in this exercise will promote professional interaction, exchange of experiences and enhancement of operational knowledge, besides strengthening bilateral relations between the two countries.

# Civils 2021 Toppers

Rank  
**15****C Yaswanth Reddy**Rank  
**62****Tirumani Sri Pooja**Rank  
**155****S Chitharanjan**Rank  
**162****Syed Mustafa Hashmi**Rank  
**175****Amit Ranjan**Rank  
**220****Garima Garg**Rank  
**235****Aswin Mani Deep K**Rank  
**236****K Vishal Dinanath**Rank  
**264****Prassanna Kumar**Rank  
**314****J Sri Jaswanth**Rank  
**328****Rammohan Meena**Rank  
**336****Vidyamari Sridhar**Rank  
**350****Dibbada Ashok**Rank  
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