

Current Affairs MONTHLY



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By
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**For HPAS & Other
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Mains

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GENERAL STUDIES 1.

GEOGRAPHY

UNSEASONAL RAIN AND IMPACTS

Context: Unseasonal rains in India have once again highlighted the vulnerabilities of our agricultural sector. While rain is generally seen as a blessing, unseasonal rains can be a curse for farmers already reeling under the impact of low crop prices, rising input costs, and changing weather patterns. Unseasonal rains can have a cascading effect on the overall inflationary trend. The impact of unseasonal rain is not just limited to the agricultural sector but also extends to other sectors of the economy.

What are the Causes of Unseasonal Rains?

Climate Change:

- Climate change can result in unpredictable weather patterns, including unseasonal rain.
- Global warming, weak western disturbances and strong subtropical jet stream are the causes of recent unseasonal rains.

El Nino:

- El Nino is a weather phenomenon that occurs when warm water from the western Pacific Ocean flows eastward.
- This can result in drought conditions in some regions and unseasonal rain in others.

La Nina:

- La Nina is a weather phenomenon that occurs when cool water from the eastern Pacific Ocean flows westward.
- This can result in excess rainfall in some regions, including unseasonal rain.

Atmospheric Instability: Atmospheric instability can also result in unseasonal rain. When there is a sudden change in atmospheric pressure, it can result in precipitation, even during non-monsoon seasons.

Human Activities:

- Human activities such as deforestation, urbanization, and pollution can also contribute to unseasonal rain.
- Deforestation can disrupt the water cycle, while urbanization and pollution can affect the microclimate, resulting in unseasonal rain.

What is the Impact of Unseasonal Rains?

Agricultural Sector:

- Unseasonal rains can lead to crop loss and impact post-harvest crops, leading to a rise in prices of perishable commodities such as vegetables and fruits.
- Farmers already reeling under the impact of low crop prices, rising input costs, and changing weather patterns are adversely affected.
- **Construction Sector:** Disruption caused by unseasonal rains can lead to a rise in prices of key raw materials such as cement and steel.
- **Consumption Patterns:** The rise in prices of essential commodities can lead to a fall in the overall demand for non-essential goods and services.
- **Social Impact:** Unseasonal rain can have a social impact, especially on the vulnerable sections of society such as small farmers, daily wage laborers, and migrant workers.

Political Impact:

- Unseasonal rain has a significant political impact as well, especially in the context of the upcoming state and national elections.

- The ruling political party often faces criticism from the opposition for not doing enough to address the concerns of farmers.
- Political blame game happens, with each party trying to score points over the other.

What are Government Measures to Protect Farmers?

- The government has launched several initiatives such as the Pradhan Mantri Fasal Bima Yojana(PMFBY), Pradhan Mantri Krishi Sinchai Yojana(PMKSY), and Soil Health Card Scheme(SHC) to address the concerns of farmers.
- **PMFBY:** It is a crop insurance scheme launched by the Government of India in 2016 to provide financial support to farmers in case of crop failure or damage due to natural calamities, pests, or diseases. Under this scheme, farmers have to pay a nominal premium, and the remaining amount is paid by the government. The premium rates are fixed based on the type of crop, location, and the level of coverage chosen by the farmer. The scheme covers all food and oilseed crops and commercial and horticultural crops.

PMKSY:

- It is a flagship scheme of the Government of India that aims to provide water to every field and improve water use efficiency in the country.
- The Pradhan Mantri Krishi Sinchai Yojana aims to boost irrigation infrastructure and promote water-use efficiency.

The scheme has four components:

- **Accelerated Irrigation Benefit Programme:** This component aims to provide financial assistance to states for completing their incomplete irrigation projects
- **Har Khet Ko Pani:** This component aims to provide water to every field by ensuring water conservation and efficient use through micro-irrigation, water harvesting, and other such techniques.
- **Per Drop More Crop:** This component aims to enhance water use efficiency by promoting micro-irrigation techniques like drip and sprinkler irrigation.
- **Watershed Development:** This component aims to conserve rainwater by promoting watershed development activities like afforestation, horticulture, and pasture development.

SHC Scheme:

- Under the Soil Health Card scheme, soil samples are collected from farmers' fields and analyzed in laboratories to assess the soil's nutrient status.
- Based on the analysis, a soil health card is generated for each farmer, which provides information about the soil's nutrient status, as well as recommendations for the application of fertilizers and other soil amendments

What is the Multi-Pronged Approach to Address the Issue?

Short-term Measures:

- Centre and States can provide compensation for crop loss, supply seeds and fertilizers at subsidized rates. Minimum Support Price could be increased.

Long-term Measures:

- Structural reforms in the agricultural sector can make it more resilient to changing weather patterns.
- Promote crop diversification, encourage the use of modern technologies and farming practices, and strengthen the supply chain infrastructure to reduce wastage and post-harvest losses.

Mitigating Climate Change:

- India needs to take a proactive approach towards mitigating its impact. This requires a coordinated effort between the Centre and States, civil society organizations, and the private sector.

Conclusion

- The impact of unseasonal rain is not just limited to the agricultural sector but also extends to other sectors of the economy. A multi-pronged approach involving both short- and long-term measures is needed to address the issue. Mitigating climate change is crucial to ensure the resilience of the agricultural sector. The government has launched several initiatives to address the concerns of farmers, but greater coordination between the central and state governments is needed.

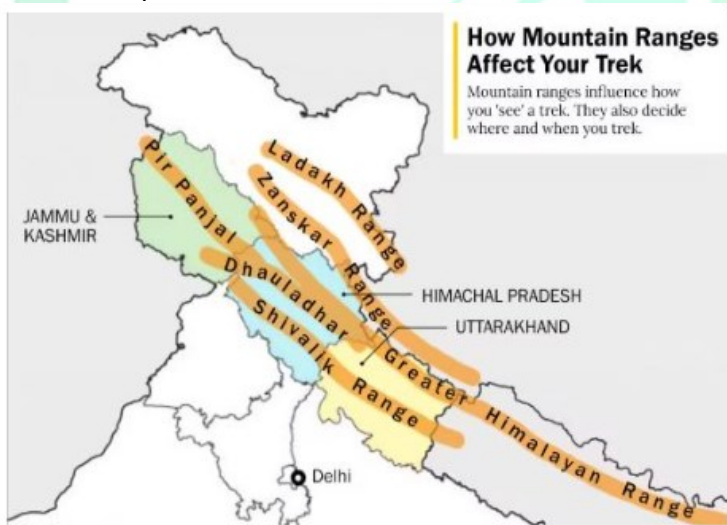
PIR PANJAL VALLEY

Militant activity has claimed more casualties in the Pir Panjal valley than in the Kashmir valley this year.

- Militants are changing tack in the Pir Panjal valley to outsmart the security agencies and survive longer in a region with topography as tough as Afghanistan's mountains.
- The valley comprises the **twin districts of Rajouri and Poonch**, and includes 225 km of the Line of Control (LoC) with Pakistan Occupied Kashmir (PoK).
- The questioning of residents living in and around has thrown a light on the **new modus operandi used by militants after infiltrating into the jungles of the Pir Panjal valley**.
- It is not just the spike in militant activities in Rajouri-Poonch that is a cause of concern among security agencies, but also the **change in strategy, the use of "smarter" sleeper cells, the impenetrable means of communication, the use of technology, and the high level of training that militants are being given to fight and survive in hostile forests**.

Pir Panjal valley

- The Pir Panjal is a **sub-Range of Himalayas** and it runs from the **Neelam River in J&K all the way to the Beas River in Kullu** in Himachal Pradesh extending into Pakistan.
- Near the bank of the Satluj river, it dissociates itself from the Himalayas and forms a divide between the rivers Beas and Ravi on one side and the Chenab on the other.
- On the eastern side of Pir Panjal range is the famous **Rohtang pass** which connects two districts of Himachal Pradesh namely Kullu & Lahaul and Spiti.
 - This pass is a gateway for the people of Lahaul Valley who wants to go to Kullu or other parts of Himachal.
- Easternmost and highest point of this range is **Mt. Indrasan** is located in Manali, Kullu, Himachal Pradesh.
- Highest Pass in Pir Panjal range is **Kugti Pass** which connects Bharmour area of Chamba to Lahaul Valley of Lahaul-Spiti district, Himachal Pradesh.



CULTURE OF INDIA

BUDDHISM, INDIA'S SOFT POWER PROJECTION TOOL

Context: India hosted a two-day **global Buddhist summit in New Delhi** (April 20-21), which was organized by the **Ministry of Culture** in collaboration with the **International Buddhist Confederation**.

Buddhist Summit(Delhi Summit):

- **Key figures from the global Buddhist community**, including the Dalai Lama.
- **The Prime Minister laid emphasis** on the continuing relevance of the Buddha's teachings in today's world.
- **It saw a diverse group of 171 foreign delegates** from South Korea, Thailand, Cambodia, Japan, and Taiwan, along with 150 delegates from Indian Buddhist organizations.
- **Attendance of prominent scholars, sangha leaders, and dharma practitioners.**

India's efforts so far:

- **Promoting tourism** through the development of the "Buddhist tourist circuit".
- **Visit Buddhist sites** by the PM during his **Southeast and East Asian**
- **Against the backdrop of the Russia-Ukraine crisis, the PM said:** "India has not given 'Yuddha' to the world but 'Buddha'."
- **The Delhi summit's theme, "Responses to Contemporary Challenges: Philosophy to Praxis":** It highlights India's attempts to provide an alternative to contested global politics, with morality as the guiding principle.
- **Government's guiding principles for foreign policy, Panchamrit principles** include "**Sanskriti Evam Sabhyata**" which means cultural and civilizational links.
 - It was highlighted during the **Delhi summit**.
 - **India hopes to reinforce its image** as a responsible global power committed to peaceful cooperation and regional stability.
- **By laying an emphasis on cultural and civilisational ties**, India seeks to promote greater understanding and cooperation between nations.
 - **It demonstrates the unique role** it can play in shaping the region's future.
- **India recognises the importance of Buddhism** as a means of conducting public diplomacy and has utilized it to its advantage.

What will be the impact of the summit?

- **The Indian government demonstrates its commitment** to preserving and promoting Buddhist culture and heritage
- **Strengthening ties** with the global Buddhist community.
- **Buddhist diplomacy** has the potential to promote regional cohesion.
 - **Nearly 97%** of the global Buddhist population is based in Asia.
- **During the Cold War**, China effectively used Buddhist diplomacy to engage with its neighboring countries.
 - **It employed this approach** to gain legitimacy for its **Belt and Road Initiative**.
- **India and China compete to dominate the Buddhist heritage as a tool for soft power:** India holds an advantage due to the faith's origins in the country.

Issue:

- **Despite being home to a number of key Buddhist sites**, such as Bodhgaya, Sarnath, and Kushinagar,
 - **India has struggled to attract Buddhist tourists**, who tend to favor sites in **Thailand and Cambodia**.

Way Forward

- **The summit was a significant opportunity for India** to project and connect with the Buddhist population around the world, thereby strengthening the country's soft power.
- **With its strong historical and cultural ties to Buddhism**, India is well-positioned to play a leading role in shaping the discourse around Buddhist issues on the global stage.

- **China is actively seeking to exert control over the appointment of the next Dalai Lama**, which would be a blow to India's efforts to project its soft power through Buddhism.
 - **India must act** to ensure that it remains a key player in the global Buddhist community.
- **To further strengthen its Buddhist diplomacy**, India should continue promoting Buddhism at the highest levels of government.
 - **Organize cultural events** to showcase the country's rich Buddhist history.
 - **The Indian Council for Cultural Relations (ICCR)** could play a significant role in promoting such events within and outside India.
- **India should work to strengthen its ties** with key Buddhist institutions and leaders around the world.
 - **The Delhi summit** was a step in the right direction, providing a valuable opportunity for cultural exchange and the sharing of ideas.
- **India also needs to utilize the reach of Bollywood** in promoting its Buddhist heritage.
 - **China, with its influence over Hollywood**, has completely dominated the narrative around Buddhism through cinema.
- **India's G-20 presidency this year** could be used to promote Buddhist diplomacy on a bigger scale through various cultural meetings.
 - **The Buddhist teachings** align with the motto of India's G-20 presidency, 'One Earth, One Family, One Future'.
- **As Buddha was the first diplomat of peace**, his teachings of peace and cooperation in these tough times can become the guiding light of Indian diplomacy on the world stage.

MOHENJODARO'S DANCING GIRL

Context: On the occasion of **International Museum Day** PM Modi unveiled the **Expos mascot** – a "contemporised" version of the famous **Dancing Girl of Mohenjodaro**. The traditional craft of **Channapatna toys** was used to create this mascot.

Channapatna toys

- Channapatna toys are a particular **form of wooden toys and dolls** that are manufactured in the **town of Channapatna in the Ramanagara district of Karnataka**.
- This traditional craft is protected as a **Geographical Indication (GI)**.
- As a result of the popularity of these toys, Channapatna is known as the **Gombegala Ooru (toy- town) of Karnataka**.
- Traditionally, the work involved lacquering the wood of the *Wrightia tinctoria* tree, colloquially called **Aale mara (ivory-wood)**.

Mohenjo-Daro

- Mohenjo-Daro or the "**Mound of the dead**" lies in **Larkana district of Sindh (Pakistan)**, about 5 km away from the Indus.
- It is one of the largest of the Indus Valley Civilization sites.
- It was discovered by archeologists **Rakhaldas Banerji and Sir John Marshall**.
- The site is famous for its **elaborate town planning** with street grids with brick pavements, developed water supply, drainage, and covered sewerage systems, homes with toilets, and monumental buildings.
- Its excavations revealed findings like the Great Bath, Great Granary, a large assembly hall, temple-like structure, the seal of Pashupati and a bust of a bearded man.
- It is the most **glaring example of town planning** in the Harappan civilization. The city is divided into **citadel and lower city**.
- The civilization went into decline in the middle of the second millennium BC for reasons that are believed to include **catastrophic climate change**.

About the Mohenjo Daro Dancing Girl

- The Dancing Girl was **discovered in 1926**, by British archaeologist **Ernest McKay** in a ruined house in the 'ninth lane' of Mohenjodaro's citadel.
- Even though Mohenjodaro and Harappa became part of Pakistani territory after the Partition, the **Dancing Girl remained in India** as part of an agreement.

- Today, the bronze figurine sits in the **National Museum of India** as an artifact, often referred to as its “star object”.



Why is it called Dancing Girl?

- Over the years, the Dancing Girl has been an object of fascination for archaeologists and historians. Of particular interest has been the **pose the woman strikes and what that means**.
- John Marshall, Director-General of the ASI from 1902 to 1928 who oversaw the initial excavations in Harappa and Mohenjodaro, described the figurine as “a young girl, her hand on her hip in a half-impudent posture, and legs slightly forward as she **beats time to the music with her legs and feet**”.
- As Marshall’s description suggests, it is the pose that the figurine strikes that has led historians to believe that the **woman depicted was a dancer**. However, there is no other evidence to support this claim.
- Recent work on the issue has suggested that the “**dancer**” label came from readings of Indian history from **later dates**, when court and temple dancers were commonplace.

Significance

- The Dancing Girl is evidence of the **civilisation’s knowledge of metal blending and lost-wax casting** – a complicated process by which a duplicate sculpture is cast from an original sculpture to create highly detailed metallic artefacts.
- Moreover, the very existence of a figurine such as the Dancing Girl, indicates the **presence of high art in Harappan society**.
- While art has probably been around since the very beginning of human existence, the **degree of its sophistication** indicates a society’s advancement.
- The Dancing Girl by all appearances is not an object built for some utilitarian purpose – **artists took great time to create an artefact of purely symbolic, aesthetic value**.

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GENERAL STUDIES 2.

POLITY AND CONSTITUTION

MEITEI COMMUNITY

Context: The Meitei community in Manipur has intended to file **contempt proceedings** against the **Hill Areas Committee (HAC)** of the **Manipur Legislative Assembly**.

About the Issue

- The Meitei community has been seeking the **Scheduled Tribe status** for decades. Recently, the Manipur High Court ordered the State government to **recommend the inclusion of the Meitei community in the Scheduled Tribes list**, following which the HAC passed a resolution opposing the high court's order and called for the Union government and the State government to appeal it.

Procedure for Inclusion into the ST List

- As per the procedure for inclusion of a community in the ST list, any such recommendation must **originate with a proposal from the concerned State or UT government**.
- This proposal is then sent by the Ministry of Tribal Affairs to the Office of the **Registrar General of India (RGI)**. Once the Office of the RGI concurs to the inclusion, the National Commission of Scheduled Tribes must also do the same.
- Only then is the proposal sent to the **Cabinet**, following which a Bill needs to be **passed in Parliament** permitting the **President of India to notify the inclusion**.
- HAC is of the opinion that the inclusion of Meitei community into the Scheduled Tribes should be appealed keeping in mind the **sentiments, interests and rights of existing Scheduled Tribes of Manipur**.
- Meitei community has said that the HAC has no jurisdiction to pass such a resolution without the Speaker's permission and this amounts to **criminal contempt**.

About Meitei community

- Manipur's two major tribal communities – **Naga and Kuki** – live in the hill districts, which account for about **90% of the state's area**.
 - But these 10 districts send only **20 legislators to the 60-member legislative assembly** since they are more sparsely populated than the Valley.
- The Meiteis account for **roughly 64.6% of the state's population** and are largely concentrated in the **Imphal Valley**.
- They are currently categorised as **OBCs or SCs**, the Meitei people dominate in more than half the State's Assembly constituencies. A **majority of them identify as Hindu** while about 8% are Muslim.

Article 371C Special provision with respect to the State of Manipur

- **Article 371C** was not a part of the Constitution of India 1950. It was inserted by the Constitution (**Twenty-seventh Amendment**) Act, 1971, following the formation of the new state of Manipur.
- Under Article 371C of the Constitution of India a special provision with respect to the State of Manipur was made providing for:
 - (i) constitution and functions of a committee of the Legislative Assembly of the State consisting of members of that Assembly elected from the Hill Areas of that State,
 - (ii) for the modifications to be made in the rules of business of the Government and
 - (iii) modifications in the rules of procedure of the Legislative Assembly of the State and
 - (iv) for any special responsibility of the Governor in order to secure the proper functioning of such a committee.
- It protects the tribal areas, restricts the people from the Valley or outsiders from buying and acquiring land in the hill districts.

Demand of Meitei Community

- The community argued that they had been listed as one of the tribes of Manipur before it merged with India in 1949 but that they lost this tag when the Constitution (Scheduled Tribes) Order, 1950 was drafted. Claiming that they had thus been **left out of the ST list**, they had persisted with their demands.
- **Manipur's Geography:** The state's geography is divided between a **central valley that accounts for about 10% of the landmass of Manipur and is home primarily to the Meitei and Meitei Pangals who constitute roughly 64.6% of the state's population.**
 - The remaining 90% of the geographical area comprises hills, surrounding the valley, that are home to the recognised tribes, about **35.4% of the population.**
 - The geography, protections extended to the hill areas, and **restrictions on the buying of land** there have been central to the anxieties of the Meity community pressing for this demand.
- **Opposition by ST Communities of Manipur:** The ST communities of Manipur have been consistently opposing the inclusion fearing the **loss of job opportunities** and other affirmative actions granted to STs by the Constitution of India to a **much-advanced community like the Meitei.**
 - Other arguments against the demand have been that the **Manipuri language of the Meiteis** is included in the **Eighth Schedule of the Constitution** and that sections of the predominantly Hindu Meitei community are **already classified as Scheduled Caste (SC) or Other Backward Classes (OBCs)** and have access to the opportunities associated with that.

APPOINTMENT OF JUDGES TO THE SUPREME COURT

Context: The government recently cleared the **appointment of two judges** to the **Supreme Court.**

- The two new apex court judges are **Justice Prashant Kumar Mishra** and **K.V. Viswanathan**, who is a direct appointment from the Supreme Court Bar.

Appointment of Judges

- **Collegium system:**
 - Judges of the **High Courts and the Supreme Court** are appointed by the provisions mentioned in **Articles 124 and 217 of the Constitution of India.**
 - **Articles 124 and 217** state that the President shall appoint judges to the Supreme Court and high courts after consultation with the Chief Justice of India and other judges.
 - **Composition:**
 - The Supreme Court Collegium consists of the CJI and four senior-most judges of the apex court.
 - High Court Collegium consists of the Chief Justice of the High Court and two senior-most judges of that particular court.
 - **Recommendations:**
 - Crucially, recommendations made by the Collegium are binding: while the government can flag concerns and ask the Collegium to reconsider, if the Collegium chooses to reiterate its recommendations, they become binding.
- **Significance of the system:**
 - The collegium system was created to **maintain the basic structure of the Constitution** by keeping the **judiciary independent.**
 - It was also to ensure that the Chief Justice of India does not impose his or her individual opinion regarding the appointment of judges, but rather it is a collective opinion of the entire body.

Issues with the current collegium system

- The collegium system **does not provide any guidelines or criteria** for the appointment of the Supreme Court judges and it increases the ambit of **favouritism.**
- In the collegium system, there are no criteria for testing the candidate or for **doing a background check** to **establish the credibility of the candidate.**
- The **absence of an administrative body** is also a reason for worry because it means that the members of the collegium system are **not answerable for the selection** of any of the judges.

About the National Judicial Commission (NJAC)

- **Significance:**

- The need for the National Judicial Appointment Commission was aroused because many jurists criticised the existing collegium system, stating that **India is the only country where judges appoint themselves** and have the **power of determining their transfers**.
- **Statute for NJAC:**
 - The NJAC was proposed via the **National Judicial Appointments Commission Bill, 2014**.
 - In order to have a more transparent system, the National Judicial Appointment Commission Act was enacted.
 - The commission was established by the **99th Constitutional Amendment Act, 2014**.
 - The Act proposed that the members of NJAC would be composed of members from the legislative, judicial, and civil society.
- **Apex Court's action:**
 - In a collective order, in 2015, the Supreme Court by a majority of 4:1 struck down the NJAC Act, 2014.
 - The NJAC Act was termed unconstitutional citing it as having affected the independence of the judiciary.

Issues with NJAC

- **SC's previous action:**
 - The concept of NJAC has come under consideration of the Supreme Court three times in 1993, 1998 and 2016.
 - All three times, while giving importance to independence of the judiciary, the Supreme Court dismissed the framework of the NJAC.
- **Issue of political influence:**
 - It is cited by critics that the judiciary is the only independent institution left in the country.
 - It is harmful to allow political influence over it.
 - It is also being stated that the collegium system is functioning smoothly.
 - There is scope for improvement, but not for any political interference. The central government should in no manner be allowed to control the appointment of the judiciary.
- **Culture of reciprocity:**
 - The involvement of the legislature in the appointment of judges might lead to the creation of a culture of 'reciprocity.'
 - Meaning that judges might have the feeling of having to pay back the political executive as a consideration for their appointment to the post of judge
- **Constitutional impossibility:**
 - The recent bill was opposed in the Rajya Sabha, calling it a "constitutional impossibility".

Way Ahead

- **Speedy appointment of judges:**
 - There is an urgent need to improve the judge-to-population ratio to reduce the workload of judges.
- **Guidelines by Union government:**
 - Centre had suggested measures like increasing the number of working days of courts, establishment of fast track courts and Indian Courts and Tribunal Services (icts) to increase the productivity of the court system.
- **E-platforms:**
 - Improve judicial infrastructure through the use of e-platforms and setting up of more courts.
 - India has launched the e-Courts National portal ecourts.gov.in of the **ecourts Project**.
- **Strengthen the Alternative Dispute Resolution (ADR) mechanism:**
 - It uses modes like Arbitration, Mediation and Conciliation.
 - It uses a neutral third party who helps the parties to communicate, discuss the differences and resolve the dispute.
 - It offers to resolve all types of matters related to civil disputes, as explicitly provided by the law.
- **Counseling:**
 - Disputes can be settled at the pre-litigation stage through counseling.

GOVERNANCE

INDIA'S SDG PLEDGE GOAL & THE STRATEGY TO APPLY

Context: The Prime Minister recently addressed the first meeting of Finance Ministers and Central Bank Governors under India's G20 Presidency. He expressed concern that “**progress on Sustainable Development Goals (SDG) seems to be slowing down**”.

Sustainable Development Goals

- The United Nations Document “**Transforming Our World: The 2030 Agenda for Sustainable Development**”.
 - This agenda contains 17 goals and 169 targets.
- The agenda is built on the **Millennium Development Goals (MDGs)**, which were adopted in 2000 and were to be achieved by 2015.
- SDGs provide a shared blueprint for peace and prosperity for people and the planet, now and into the future.
- They recognize that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth – all while tackling climate change and working to preserve our oceans and forests.

India's current SDG progress card

- **About:**
 - A recent study assesses **India's progress on 33 welfare indicators**, covering nine SDGs and providing a mixed picture of positive and concerning trends.
- **Improvements:**
 - India is '**On-Target**' to meeting **14 of the 33 SDGs**, including indicators for
 - Neonatal and under-five mortality,
 - Full vaccination, improved sanitation, and
 - Electricity access,
 - All of which have substantially improved in the last five years.
 - **Skewed nature:**
 - Unfortunately, the national 'On-Target' designation does not apply equally across all districts.
 - While neonatal and under-five mortality are currently both 'On-Target' for the country, 286 and 208 districts (out of 707 districts), respectively, are not.
 - Similarly, significant progress on access to improved sanitation excludes 129 districts that are not on course to meet this SDG indicator.
 - Following Indicators have improved across a vast majority of the districts between the years 2016 and 2021. They are:
 - Eliminating adolescent pregnancy,
 - Reducing multidimensional poverty, and
 - Women having bank accounts.
- **Concerns:**
 - Of concern, for 19 of the 33 SDG indicators, the current pace of improvement is not enough to meet SDG targets.
 - Despite a national policy push for clean fuel for cooking, **more than two-thirds (479) of districts remain 'Off-Target'**.
 - Similarly, **some 415 and 278 districts are 'Off-Target'** for improved water and handwashing facilities, respectively.
- **Heightened concern:**
 - Of heightened concern are:
 - SDG indicators for women's well-being and

- Gender inequality.
- **Girl child marriage:**
 - No district in India has yet succeeded in eliminating the practice of girl child marriage before the legal age of 18 years.
 - At the current pace, more than three-fourths (539) of districts will not be able to reduce the prevalence of girl child marriage to the SDG target of 0.5% by 2030.
- **Teenage pregnancy:**
 - Unsurprisingly, other critical and related indicators such as **teenage pregnancy (15-19 years)** and partner violence (physical and sexual) that may be tracked back to child marriage are issues that India needs to escalate as priorities.
- **Mobile phone access for women:**
 - Despite the overall expansion of mobile phone access in India (93% of households), only 56% women report owning a mobile phone, with 567 districts remaining 'Off-Target'.

Strategy to apply

- **Need of policy response:**
 - Designing and implementing a policy response to a pressing issue is best viewed as an “optimisation problem” relying on political will, responsive administration, adequate resources, and sound data.
- **Mission oriented outlook:**
 - **Strong and sustained political leadership** supported by a **responsive administrative structure** at all levels, from national to the district level, is critical for the success.
 - Creating a **mission-oriented ethos** that is assessment-oriented and which provides adequate support for accomplishing India's district-level SDGs is now urgently needed.
- **Learning from COVID strategy:**
 - India's lessons from 'dealing with COVID' strategy that can inform and optimise India's approach to its SDG targets.
 - **Integrated digital platform:**
 - India's success with COVID-19 was largely possible both because of the existing **digital infrastructure**, as well as **new, indigenous initiatives** such as the Co-WIN data platform, and the Aarogya Setu application.
 - Following these examples, India must put in place a **coordinated, public data platform** for population health management, by consolidating its many siloed platforms into an **integrated digital resource** for district administrators, as well as State and national policy makers.
 - **Relief packages:**
 - A targeted SDG strategy delivered at scale must be executed with the same timeliness of India's COVID-19 relief package.

Way ahead

- India needs to **innovate a new policy path** in order to meet the aspirations of its **people in the decade ahead** — there is no historical precedent for a democratic and economically open nation on how to **deliver development to a billion-plus people** in a manner that is healthy and sustainable.
- In successfully **delivering a real-time response to the COVID-19 pandemic**, India has proved that it is **possible to deliver at scale** in such an ambitious and comprehensive manner.
- To succeed in meeting its SDG targets, especially those related to population health and well-being, **basic quality infrastructure, and gender equality, a similar concerted, pioneering, nation-wide effort** would be the need of the hour.

LAUNDROMAT' COUNTRIES

Context: A report by Finland based group cited that India is leader of five countries named as the “**Laundromat**” countries.

- European Countries that imposed crude oil sanctions on Russia oil are using India, others as 'laundromats' for refined products.

- The report accused Indian sellers and European buyers of possibly “**circumventing sanctions**” by selling crude products from a refinery in Gujarat that is co-owned by Russian oil company Rosneft.

What are ‘Laundromat’ Countries?

- The so-called “**laundromat**” countries are countries that buy Russian oil and sell processed products to European countries, thus sidestepping European sanctions against Russian Oil.
- The five countries (India, China, Turkey, UAE and Singapore) are identified as ‘laundromats’ for Western countries by the Centre for Research on Energy and Clean Air (CREA).
- The five countries are responsible for 70 percent of Russia's crude oil exports, the study highlighted.

Process of Circumventing sanctions (White-washing of Russian Oil)

- European countries are simply substituting oil products they previously bought directly from Russia, with the same products now “whitewashed” in third countries and bought from them at a premium.

Price Cap Coalition

- A coalition of G7 countries, the European Union and Australia have agreed to prohibit the import of crude oil and petroleum products of Russian origin, supported by a broad range of companies involved in the transport of oil.
- The G7 Oil Price Cap for crude oil of US\$60 per barrel came into effect 5 December 2022.
- India’s stand is to remain **non-committal** on any such pricing cap arrangement.

SEDITION LAW

Context: Recently, the government in the Supreme Court (SC) has said it has initiated the "Process of Re-examination" of Section 124A (sedition) of the Indian Penal Code (IPC) and consultations are in its "final stage". In May 2022, the court, in an interim order, had suspended the use of Section 124A, stalling pending criminal trials and court proceedings under Section 124A across the country.

What is Sedition Law?

Historical Background:

- Sedition laws were enacted in 17th century England when lawmakers believed that only good opinions of the government should survive, as bad opinions were detrimental to the government and monarchy.
- The law was originally drafted in 1837 by Thomas Macaulay, the British historian-politician, but was inexplicably omitted when the IPC was enacted in 1860.
- Section 124A was inserted to IPC in 1870 by an amendment introduced by Sir James Stephen when it felt the need for a specific section to deal with the offence.
- Today the Sedition is a crime under Section 124A of the IPC.

Current Scenario:

Section 124A IPC:

- It defines sedition as an offence committed when "any person by words, either spoken or written, or by signs, or by visible representation, or otherwise, brings or attempts to bring into hatred or contempt, or excites or attempts to excite disaffection towards the government established by law in India".
- Disaffection includes disloyalty and all feelings of enmity. However, comments without exciting or attempting to excite hatred, contempt or disaffection, will not constitute an offence under this section.
- The SC in Balwant Singh v. State of Punjab (1995), reiterated that the real intent of the speech must be taken into account before labelling it seditious.

Punishment:

- It is a Non-Bailable Offence. Punishment under Section 124A ranges from imprisonment up to three years to a life term, to which a fine may be added.
- A person charged under this law is barred from a government job.
- They have to live without their passport and must produce themselves in the court at all times as and when required.

What is the Significance of Sedition Law?

Reasonable Restrictions:

- The Constitution of India guarantees the freedom of speech and expression to its citizens.

- However, this right is not absolute, and the government can restrict it under certain circumstances to ensure that it is not abused.
- These restrictions are considered reasonable and are laid out in Article 19(2) of the Constitution.

Maintaining Unity & Integrity:

- Sedition law helps the government in combating anti-national, secessionist and terrorist elements.
- Maintaining Stability of State:
 - It helps in protecting the elected government from attempts to overthrow the government with violence and illegal means.
 - The continued existence of the government established by law is an essential condition of the stability of the State.

What are the Issues?**Reminiscence of Colonial Era:**

- During British rule in India, sedition laws were used to imprison people who criticized British policies.
- Many leaders of the Indian freedom movement, such as Lokmanya Tilak, Mahatma Gandhi, Jawaharlal Nehru, Bhagat Singh, etc were convicted and imprisoned for their speeches, writings, and activities.

Stand of Constituent Assembly:

- The Constituent Assembly did not agree to include sedition in the Constitution as the members felt it would curtail freedom of speech and expression.
- They argued that the sedition law can be turned into a weapon to suppress people's legitimate and constitutionally guaranteed right to protest.

Repressing Democratic Values:

Increasingly, India is being described as an elected autocracy primarily because of the callous and calculated use of sedition law.

What are the Previous SC Rulings regarding Sedition?

- As early as 1950, the SC in *Romesh Thapar v State of Madras* held that "criticism of the government exciting disaffection or bad feelings towards it, is not to be regarded as a justifying ground for restricting the freedom of expression and of the press, unless it is such as to undermine the security of or tend to overthrow the state."
- Subsequently, two high courts — the Punjab and Haryana High Court in *Tara Singh Gopi Chand v. The State* (1951), and the Allahabad High Court in *Ram Nandan v. State of Uttar Pradesh* (1959) — declared that Section 124A of the IPC was primarily a tool for colonial masters to quell discontent in the country and declared the provision unconstitutional.
- In the *Kedarnath Singh v State of Bihar* (1962) ruling on sedition the SC overruled the earlier rulings of the high courts and upheld the constitutional validity of IPC Section 124A. However, the court attempted to restrict its scope for misuse.

What are Recent Developments?

- In February 2021, the Supreme Court protected a political leader and six senior journalists from arrest, for allegedly tweeting and sharing unverified news, in multiple sedition FIRs registered against them.
- In June 2021, the SC while protecting two Telugu (language) news channels from coercive action by the Andhra Pradesh government emphasized on defining the limits of sedition.
- In July 2021, a petition was filed in the SC, that sought a relook into the Sedition Law,
- The Court ruled that a law that criminalizes speech based on vague and unconstitutional definitions of terms like 'disaffection towards Government' is not a reasonable restriction on the fundamental right to free expression guaranteed under Article 19(1)(a).
- Such a law creates a chilling effect on speech, that means people will self-censor or refrain from expressing their opinions out of fear of being punished by the government.

Way Forward

- The court's intervention is crucial because in case it strikes down the provision, it will have to overrule the Kedar Nath ruling and uphold the earlier rulings that were liberal on free speech.
- However, if the government decides to review the law, either by diluting the language or repealing it, it could still bring back the provision in a different form.

- The higher judiciary should use its supervisory powers to sensitize the magistracy and police to the constitutional provisions protecting free speech.
- The definition of sedition should be narrowed down, to include only the issues pertaining to the territorial integrity of India and sovereignty of the country.

REVERSAL OF OPS: GUARANTEED PENSION IS NOT BAD ECONOMICS

Context: Many State governments are announcing reversion to the old pension scheme (OPS) and some are speculating to do the same. Many economists have said that this is a bad economics. But that is not correct.

Why do many economists think the reversal of OPS is bad economics?

This is because a) the State has to bear the full burden of pensions, b) the scheme will become fiscally unsustainable in the medium to long run, and c) the unsustainable rise in pension allocation can only come at the cost of essential welfare expenditures allocated to the poor and marginalised sections.

What are the concerns associated with continuing NPS?

Those who defend the NPS say that a) The returns in the market do not stay the same, and it may actually be higher and better than the OPS, b) NPS is inflation-covered because, under normal circumstances, the returns are higher than the inflation.

But they failed to understand that the NPS puts the entire burden of uncertainty on employees alone and not on the employers.

What can be done to provide OPS without any fiscal constraints?

- The government should rationalize taxes as these are either negligible or non-existent in India. This can be done by implementing inheritance and wealth taxes.
- Instead of OPS, the government can implement a contributory guaranteed pension scheme (CGPS).

How a CGPS can be implemented without any fiscal constraints?

- Let's assume that the employee contribution of CGPS is 10% like NPS and the return is 50% of the last drawn salary like OPS.
- The State pays an additional balance of the difference between the 50% guaranteed pension and the market-determined pension amount. If the market returns are higher, then the State governments might get revenue.
- Based on the chart, one can derive that, a) When the market return is 9%, the State ends up paying the gap, i.e. 28, but when the return is 12%, it gets to pocket the extra 58%, b) Under the CGPS, the burden is only the employer's contribution part.
- So, it is safe to assume that the CGPS gives guaranteed pensions to the employees without putting the exchequer under additional burden necessarily.

PREVENTION OF SEXUAL HARASSMENT (POSH) ACT, 2013

Context: A recent investigation revealed that more than half of India's 30 national sports federations do not have an **Internal Complaints Committee (ICC)** which is a legal requirement under the **Prevention of Sexual Harassment (PoSH) Act, 2013**.

About Prevention of Sexual Harassment (PoSH) Act, 2013

- The Government of India has enacted 'the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013' (POSH Act) with the aim to **provide a safe and secure work environment** to women.
- It broadened and gave legislative backing to what is known as the **Vishaka Guidelines**, which were laid down by the Supreme Court in a judgment passed in 1997.
 - The **Vishaka Guidelines** defined sexual harassment and imposed three key obligations on institutions — prohibition, prevention, and redress.
 - The Supreme Court directed that they should establish a **Complaints Committee**, which would look into matters of sexual harassment of women in the workplace.

- The court made the **guidelines legally binding**.

Features

- It mandated that every **employer must constitute an Internal Complaints Committee (ICC) at each office or branch with 10 or more employees**.
- It **lay down procedures and defined various aspects** of sexual harassment, **including the aggrieved victim**, who could be a woman “of any age whether employed or not”, who “alleges to have been subjected to any act of sexual harassment”.
 - The **aggrieved victim** under the Act can be a woman “of any age whether employed [at the workplace] or not”, who “alleges to have been subjected to any act of sexual harassment”.
 - In effect, the Act protects the rights of all women who are working or visiting any workplace, in any capacity.
- The **Act in its Section 2n, defines sexual harassment**. Sexual harassment includes any one or more of the following unwelcome acts or behaviour (whether directly or by implication), namely
 - Physical contact and advances, or
 - A demand or request for sexual favours, or
 - Making sexually coloured remarks, or
 - Showing pornography, or
 - Any other unwelcome physical, verbal, non verbal conduct of sexual nature
- **Section 3 (2) of the Act** further elaborates that if any of the following circumstances occurs or is present in relation to or connected with any act or behavior of sexual harassment among other circumstances, it may amount to sexual harassment-
 - Implied or explicit promise of preferential treatment in her employment, or
 - Implied or explicit threat of detrimental treatment in her employment, or
 - Implied or explicit threat about her present or future employment status, or
 - Interference with her work or creating an intimidating or offensive or hostile work environment for her, or
 - Humiliating treatment likely to affect her health or safety
- **Procedure for complaint:** It is not compulsory for the aggrieved victim to file a complaint for the ICC to take action.
 - she “may” do so — and if she cannot, any member of the ICC “shall” render “all reasonable assistance” to her to complain in writing.
 - The complaint must be made “within three months from the date of the incident”.
- **After the ICC has filed its report:** If the allegations of sexual harassment are proven, the ICC will recommend to the employer to take action “in accordance with the provisions of the service rules” of the company. These may vary from company to company.
 - The ICC may also recommend that the company deduct the salary of the person found guilty, “as it may consider appropriate”.

Issues and Concerns

- **Sexual harassment** at the workplace is becoming one of the most pressing issues affecting women across the globe.
- The Posh Act, 2013 does not satisfactorily address accountability. Notably, it does not specify who is in charge of ensuring that workplaces comply with the Act, and who can be held responsible if its provisions are not followed.
- Awareness about the Posh Act, 2013 is still low in certain areas, making it difficult for victims to report cases.

Suggestions

- The State Women Commissions should monitor the constitution of Internal Complaint Committees and Local Complaint Committees at district level in their respective States.
- The State Women Commissions should regularly hold programmes to disseminate information about provisions of Act and rules thereto in their respective States for its better implementation.
- Educate all staff on the various aspects of sexual harassment and the necessary steps to be taken if a complaint is made.
- Establish a formal complaint procedure and ensure all complaints are addressed promptly and fairly.

- Ensure all employees know their rights and the procedure for making a complaint.
- Take disciplinary action against those found guilty of sexual harassment.
- Provide counselling services to both the complainant and the accused.

MANIPUR UNREST AND ITS IMPACT ON REGIONAL SECURITY

Context: Manipur has been grappling with unrest and violent protests, recently witnessing the first direct clashes between the Kuki-Zomi tribals and the Meiteis in three decades. With a complex cultural geography divided into 'valley' and 'hill' districts, the state has experienced longstanding ethnic tensions. The Manipur unrest poses significant challenges to regional security, potentially destabilizing the fragile peace and affecting the broader geopolitical landscape of the region.

What are the reasons behind the unrest in Manipur?

External factors

- **Myanmar crisis:** The military coup in Myanmar in 2021 and subsequent unrest have led to a continuous influx of Burmese refugees into Manipur. Thus, complicating the ethnic balance in the state. Many of the refugees share kinship ties with Manipur's Kuki tribe.
- **Drug trafficking and cross-border crime:** The proximity to the Golden Triangle and porous international borders make Manipur vulnerable to drug trafficking and other cross-border criminal activities. These illegal activities can fuel violence and social unrest in the region.

Internal Factors

- **Demand for Scheduled Tribe status:** The Manipur high court recently asked the state government to send a recommendation to the Centre on the Meiteis' demand for Scheduled Tribe status, which has triggered protests by tribal groups fearing a loss of reservation benefits.
- **Land issues:** The Meitei community, which is numerically in the majority, mainly inhabits the Imphal Valley, accounting for just a tenth of the state's total land area. The competition for land and resources has intensified tensions between the Meiteis and hill tribes.
- **Historic tensions:** Longstanding tensions between hill tribes and Meiteis in Manipur have contributed to the unrest, as both communities vie for political representation, resources, and cultural recognition.
- **Lack of economic development:** Economic underdevelopment in the region has exacerbated inter-ethnic tensions, as communities compete for scarce resources and opportunities.
- **Governance issues:** The government's handling of the situation, such as the suspension of mobile internet and the application of the Armed Forces (Special Powers) Act (AFSPA), has been disruptive and has not effectively addressed the root causes of the unrest.

What will be the impact of Manipur unrest on regional security?

- **Border vulnerability:** The unrest in Manipur could lead to increased cross-border criminal activities such as smuggling, drug trafficking, and illegal arms trading. This could make the region's borders more vulnerable and affect overall security.
- **Growth of militancy:** Prolonged unrest could provide fertile ground for militant groups to expand their influence and recruit more people, leading to a rise in extremist activities and further destabilizing the region.
- **Strained relations with neighbouring countries:** The unrest in Manipur could have implications for India's relations with neighbouring countries like Myanmar, Bangladesh, and China. Increased refugee flows and cross-border crimes can strain relations and hinder diplomatic efforts in the region.
- **Hindrance to economic development:** Persistent unrest could deter investment and hinder economic development in the region, leading to increased unemployment and poverty, which in turn could feed into more instability and security challenges.
- **Challenges to India's Act East Policy:** The unrest in Manipur could impact India's Act East Policy, which aims to boost economic and strategic ties with Southeast Asia. Ensuring peace and stability in the Northeast region is essential for the success of this policy and for India's broader strategic interests.

- **Internal displacement:** Unrest in Manipur may lead to the large-scale internal displacement of people, putting pressure on neighbouring states and resources. This could create additional tensions between various ethnic groups and communities, further complicating regional security.
- **Human rights violations:** Prolonged unrest may result in human rights violations, attracting international attention and criticism. This could affect India's image and its ability to advocate for human rights and democratic values in the region and beyond.
- **Impact on social cohesion:** The unrest in Manipur can deepen ethnic, religious, and social divisions, weakening social cohesion and harmony. This may lead to long-term challenges for regional security and peacebuilding efforts.

What are the government initiatives to overcome Manipur unrest?

- **Political dialogue:** The government has initiated political dialogues with various ethnic groups and stakeholders to address their grievances and demands, aiming to build trust and find common ground for lasting peace.
- For example, the Manipur government held peace talks with several insurgent groups like the United National Liberation Front and Kangleipak Communist Party. These peace talks aim to find a lasting political solution to the ongoing conflict in the state and create a more stable environment.
- **Suspension of Operations (SoO) Pact:** The Manipur government has decided to withdraw from the Suspension of Operations (SoO) arrangement with two militant organisations, the Kuki National Army (KNA) and the Zomi Revolutionary Army (ZRA), amid allegations of instigating discontent among forest encroachers.
- **Development initiatives:** The government has been promoting development initiatives in Manipur, focusing on infrastructure, education, and healthcare to improve living standards and economic opportunities for local communities. Like, the government has launched the Northeast Special Infrastructure Development Scheme (NESIDS) to improve infrastructure in the region, including Manipur.
- **Act East Policy:** India's Act East Policy aims to strengthen economic and cultural ties with Southeast Asian countries, potentially benefiting Manipur and the Northeast region by increasing trade, investment, and connectivity. For instance, the India-Myanmar-Thailand Trilateral Highway project has been advancing, which will improve connectivity between Manipur and Southeast Asia, promoting trade and economic opportunities.
- **Skill development programs:** The government has introduced skill development programs to provide better employment opportunities for the youth in Manipur, addressing some of the root causes of unrest. For example, the National Skill Development Corporation (NSDC) partnered with the Manipur State Rural Livelihoods Mission to train and provide employment opportunities to 5,000 youths from the state.
- **Security measures:** The government has deployed additional security forces to maintain law and order and protect citizens from violence during periods of unrest.
- **Counter-narcotics operations:** In recent years, the government of Manipur has intensified its efforts to combat drug trafficking and cultivation, which has been fueling instability in the region.
- For example, Manipur police destroyed illegal poppy plantations spread over 90 acres in the Tengnoupal district. Such operations aim to reduce the influence of criminal organizations and improve security in the region.

What are the challenges associated with resolving unrest in Manipur?

- **Complex ethnic dynamics:** Manipur's diverse ethnic landscape, with multiple tribes and communities, makes it difficult to address the grievances of all parties. The ongoing tensions between Meiteis, Nagas, Kukis, and other tribes make it challenging to find a solution that satisfies everyone.
- **Presence of armed groups:** Numerous armed groups operate in Manipur, each with its own objectives and demands. Their presence complicates the peace process and makes it difficult for the government to establish law and order in the region.
- **External influences:** The unrest in Manipur is influenced by events in neighbouring countries like Myanmar, where the military coup and subsequent crackdown have led to an influx of refugees. These external factors add another layer of complexity to the situation in Manipur.

- **Lack of development:** The Northeast region, including Manipur, faces significant developmental challenges, including poor infrastructure, limited access to resources, and high unemployment. These factors exacerbate existing tensions and make it harder to resolve unrest.
- **Inadequate policy implementation:** Although the government has introduced various initiatives to address the issues in Manipur, the implementation of these policies often falls short, limiting their impact on the ground. This has led to a lack of trust between the local population and the government, which hinders progress in resolving unrest.
- **AFSPA:** The continued implementation of the Armed Forces (Special Powers) Act (AFSPA) in Manipur has been a contentious issue. While the government argues that it is necessary to maintain order, critics argue that the act has led to human rights abuses and fueled resentment among the local population.
- **Way forward:**
- **Inclusive dialogue:** Engage all stakeholders, including various ethnic groups, in a dialogue to understand their grievances and find common ground. The Mizoram Accord of 1986 between the Government of India and the Mizo National Front (MNF) serves as an example of successful engagement with all stakeholders.
- **Strengthen governance:** Improve governance by addressing corruption, and inefficiency, and strengthening local administration. This can be modelled on the successful decentralization efforts in Kerala, which have empowered local communities and improved the delivery of public services.
- **Promote economic development:** Invest in infrastructure, education, and job creation to foster economic development and reduce poverty. The success of the Gujarat model in India, which emphasizes industrialization and infrastructure development, can serve as a blueprint.
- **Reevaluate AFSPA:** Review the implementation of the Armed Forces (Special Powers) Act and consider alternative security measures that protect human rights and promote trust between security forces and the local population. The withdrawal of AFSPA from Tripura in 2015 could serve as a model for a phased reduction of the act in Manipur.
- **Address border issues:** Strengthen cooperation with neighboring countries, particularly Myanmar, to manage cross-border issues such as smuggling, infiltration, and refugee influx. The cooperation between India and Bangladesh on border management can serve as a model for enhancing security along the Manipur-Myanmar border.
- **Encourage civil society involvement:** Empower civil society organizations to play an active role in conflict resolution and peacebuilding. The work of organizations like the Naga Mothers Association and the Northeast India Women Initiative for Peace in Manipur can be further supported and expanded.
- **Cultural Exchange Programs:** Promote cultural exchange programs within Manipur and between the state and other regions of India to foster a better understanding and appreciation of diverse cultures. This can be inspired by the European Union's Erasmus+ program, which encourages cross-cultural learning and interaction among students and educators.

WHY WE MUST FOCUS ON CURING, NOT CRIMINALISING DRUG USERS

Context: There are reports that Himachal Pradesh is considering joining Uttarakhand, Gujarat and Madhya Pradesh as states that have legalised cannabis cultivation.

The production, manufacturing, possession, consumption, sale, purchase, transport and use of cannabis is prohibited and criminalised by the Narcotic Drugs and Psychotropic Substances (NDPS) Act 1985.

What are issues with the current approach to deal with drug abuse?

- Criminalisation is used to deter the use of drugs. However, drug dependence has increased over the years across the world.
- In India, 3.1 crore people are reported to have used a cannabis product in the last 12 months and about 72 lakh people required help to address their cannabis dependency-related problems.
- Criminalisation means long pre-trial incarceration and stigmatisation of users. They lack access to de-addiction centres.

- The 2001 amendment to the law differentiates between those who possess a “small quantity” of the drug and those found storing it in “commercial quantities’ . This is a welcome step in distinguishing between “drug users” and “drug traffickers”.
- However, possession of the drug for personal consumption or consuming it for recreational purposes remains an offence under the Act. Such cases constitute 60% of the total NDPS cases reported in India.
- People who end up in jail often belong to the socially and economically vulnerable class. They constitute the majority of the undertrial prisoners under the NDPS Act.
- Putting drug users behind bars makes their rehabilitation difficult and exposes them to the risk of becoming peddlers.
- Rehabilitation of drug users is systematically replaced by the denial of bail and enforcement of jail terms and penalties.
- The bail provision of the NDPS Act makes jail a rule, and bail an exception. The moral panic in society relating to drug use and abuse has an impact on the pre-trial procedure.
- The over-criminalisation of drug users undermines their social well-being. It results in the wastage of precious time of the criminal justice machinery.

What is the way forward to deal with drug abuse?

- In 2021, the Ministry of Social Justice and Empowerment recommended the decriminalisation of the possession of small quantities of drugs for personal consumption. Drug consumers should be treated as victims rather than culprits.
- The Ministry also suggested mandatory de-addiction and rehab facility for 30 days followed by mandatory community service for one year for drug addicts. The ministry’s position was along the lines of the approach advocated by UN human rights experts.
- There is a need to focus on a public health approach to deal with drug addiction. Countries such as Portugal and Canada have demonstrated the efficacy of the public health approach.
- Law enforcement agencies view drug users as offenders, whereas the public health systems focus on their well-being.
- In India, Sikkim has tried to tackle the drug problem by differentiating between peddlers and consumers. It has tried to advance healthcare services to the most vulnerable drug users. The state’s model of decriminalisation can be replicated at the national level.

ASSAM TO BAN POLYGAMY

Context: The Assam government will soon move to **ban the practice of polygamy** through “legislative action”.

- **Constituting “expert committee”:**
 - Assam Chief Minister recently said that an “**expert committee**” would be formed to examine whether the state legislature was empowered to prohibit polygamy.
 - This committee, comprising **legal experts and scholars**, would examine the provisions of the **Muslim Personal Law (Shariat) Act, 1937** read with **Article 25** of the **Constitution of India**.
- **Significance:**
 - Recently, the authorities found that many aged men got “married multiple times”, and often to minor girls.
 - Therefore crackdown against child marriage is not the only solution, banning polygamy is also important.

More about the Polygamy

- **About:**
 - Polygamy is defined as “the **act or custom** of maintaining **more than one spouse** at the same time”.
- **Polygamy under Hindu Law:**
 - **The Hindu Marriage Act**, which came into effect on May 18, 1955, made it clear that Hindu polygamy would be **abolished and criminalised**.

- **Monogamy** was the sole option available to Hindus.
- **The Hindu Marriage Act, 1955** states that polygamous marriages are **void**.
 - It was made explicit that a Hindu spouse **may not marry again** until the first one is **terminated**, either through a **divorce or the death** of one of the spouses.
- Because **Buddhists, Jains, and Sikhs** are all considered Hindus and do not have their own laws, the **provisions in the Hindu Marriage Act apply** to these three religious denominations as well.
- **Polygamy under the Muslim personal law:**
 - Crucially, while the Hindu personal law outlaws bigamy and polygamy, the Muslim personal law does not.
 - The clauses under the '**Muslim Personal Law Application Act (Shariat) of 1937**, as construed by the **All India Muslim Personal Law Board**, apply to Muslims in India.
 - A Muslim man can marry and maintain **four women or spouses** at the same time, according to Muslim personal law.
 - Under Muslim personal law, such a relationship is **recognised and legal**.
 - While a Muslim man can have four wives at the same time, however, the same is **not applicable to a Muslim woman**.
 - A Muslim **woman is not allowed to marry more than one** individual.
- **Global practice:**
 - Polygamy is permissible and legal **exclusively for Muslims** in nations such as India, Singapore, as well as Malaysia.
 - Polygamy is still **recognised and practiced** in nations such as Algeria, Egypt, and Cameroon.

Issues & criticisms

- **In conflict with constitutional values:**
 - **Article 14** states that the state shall not refuse any individual under India's territory equal treatment under the law and equal protection under the law. The state is prohibited from discriminating against any person solely based on faith, ethnicity, gender, religion, or birthplace, according to **Article 15(1)** of the Indian Constitution.
 - Only because polygamy has already been embraced among the Islamic culture since the ancient period and has been adjusted as a topic of personal laws.
- **Discriminatory in nature:**
 - According to academicians and some other knowledgeable people, permitting polygamy in one faith while condemning others is discriminatory, and this prejudice must be addressed by the law.
- **Barbarous consequences:**
 - As a man cannot please all of his women emotionally or economically, it creates a purely barbarous consequence in a polygamous relationship.
 - When the male partner dies, polygamy causes property disputes.
- **Impact on children:**
 - Polygamy has an impact not only on the married couple but also on the offspring who are the result of such a relationship.
 - This troubling issue causes trauma in youngsters, which has an impact on their education and interpersonal attitudes towards life.
- **Gender discrimination:**
 - Polygamy regulations vary depending on a person's gender within a single faith. Governments, on the other hand, have failed to consider the situation of women, particularly those who embrace Islam.
- **Not a religious duty:**
 - Polygamy is not at all a preferred lifestyle choice & comes with several drawbacks. It is **not at all a religious duty or religious conduct**, as the court system has often acknowledged.

Way Ahead

- In patriarchal societies, religious laws have often been lopsided, favouring men.

- Laws such as **polygamy, triple talaq and nikah halala are not only archaic**, but they are also **debilitating for Muslim women**.
- The legality of such laws needs to be **challenged** and subsequently discarded.

EIGHT YEARS OF JAN SURAKSHA SCHEMES

Context: Recently, the three social security (Jan Suraksha) schemes – Pradhan Mantri Suraksha Bima Yojana (PMSBY), Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY) and Atal Pension Yojana (APY) – completed 8 years of providing social security net.

PMJJBY and PMSBY were launched to ensure that the people from the unorganised section of the country are financially secure while APY was introduced to cover the exigencies in old age.

What is Pradhan Mantri Suraksha Bima Yojana (PMSBY)?

- It is a one-year accidental insurance scheme renewable from year to year offering coverage for death or disability due to accident.
- **Administered By:** It is administered by Public Sector General Insurance Companies (PSGICs) or any other general insurance company in partnership with banks / Post offices.
- **Eligibility:** Individuals in the age group of 18-70 years having a savings bank or a post office account are entitled to enroll.
- **Benefits:** Accidental death cum disability cover of Rs. 2 lakhs (Rs. 1 lakh in case of partial disability) for death or disability due to an accident against a premium of Rs.20/- per annum.
- **Achievements:** As of April 2023, the cumulative enrolments under the scheme have been more than 34.18 crore and an amount of Rs. 2,302.26 crore has been paid for 1,15,951 claims.

What is Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY)?

- It is a one-year life insurance scheme renewable from year to year offering coverage for death due to any reason.
- **Administered By:** It is administered by LIC or any other life insurance company in partnership with banks / Post office.
- **Eligibility:** Individuals in the age group of 18-50 years having a savings bank or a post office account are entitled to enroll under the scheme.
- **Benefits:** Life cover of Rs. 2 Lakhs in case of death due to any reason against a premium of Rs. 436/- per annum.
- **Achievements:** As of April 2023, the cumulative enrolments under the scheme have been more than 16.19 crore and an amount of Rs. 13,290.40 crore has been paid for 6,64,520 claims.

What is Atal Pension Yojana (APY)?

- It was launched to create a universal social security system for all Indians, especially the poor, the under-privileged and the workers in the unorganised sector.
- It is an initiative of the Government to provide financial security and cover future exigencies for the people in the unorganized sector.
- **Administered By:** Pension Fund Regulatory and Development Authority (PFRDA) through the National Pension System (NPS).
- **Eligibility:** All bank account holders in the age group of 18 to 40 years (the contributions differ, based on the pension amount chosen).
- **Benefits:** Subscribers would receive the guaranteed minimum monthly pension of Rs. 1000 or Rs. 2000 or Rs. 3000 or Rs. 4000 or Rs. 5000 at the age of 60 years, based on the contributions made by them after joining the scheme.
- **Payment Frequency:** Subscribers can make contributions to APY on a monthly/ quarterly / half-yearly basis.
- **Withdrawal from the Scheme:** Subscribers can voluntarily exit from APY subject to certain conditions, on deduction of Government co-contribution and return/interest thereon.
- **Achievements:** As of April 2023, more than 5 crore individuals have subscribed to APY.

What are the Significances of these Schemes?

- These three social security schemes are dedicated to the welfare of the citizens, recognising the need for securing human life from unforeseen risks/losses and financial uncertainties.
- The PMJJBY and PMSBY provide access to low-cost life/accidental insurance cover to the people, the APY provides an opportunity for saving in the present for getting a regular pension in old age.
- The number of people who have enrolled and benefitted from these schemes over the last seven years is a testimony to their success.
- These low-cost insurance schemes and the guaranteed pension scheme are ensuring that financial security, which was available to a select few earlier, is now reaching the last person of the society.

POSHAN BHI, PADHAI BHI SCHEME

Context: In May 2023, the Union Ministry for Women and Child Development launched the Centre's **flagship programme 'Poshan Bhi, Padhai Bhi'**.

About

- **Objective:** The programme will focus on Early Childhood Care and Education (ECCE) at anganwadis across the country. The aim is to make anganwadi centres as nutrition hubs as well as education-imparting centres.
- **Funding:** The ministry has allocated Rs 600 crore for the training of anganwadi workers to implement the ECCE.
- **Governance:** The **National Institute of Public Cooperation and Child Development (NIPCCD)** will provide training of Anganwadi workers. NIPCCD is an autonomous organization under the Union Ministry for Women and Child Development.

Strategy

- Anganwadi Centres will be strengthened with high-quality infrastructure, play equipment, and well-trained Anganwadi workers/teachers
- Every child (till the age of 6-years) would be provided with **at least two hours of high-quality pre-school instruction in the mother tongue** on a daily basis, as per the New Education Policy.
- Target is to ensure that the ECCE material, which was prepared based on the New Education Policy, percolates to every anganwadi in the country through new training methodologies (such as **visual aids, audio aids, audio-visual and bodily-kinesthetic aids**).
- Government will target children's development in **every domain mentioned in the National Curriculum Framework**, viz., physical and motor development, cognitive development, socio-emotional-ethical development, cultural/artistic development, and the development of communication and early language, literacy, and numeracy.

Significance of ECCE via Anganwadi centres

- Early Childhood Care and Education (ECCE) is an important component of Mission Saksham Anganwadi and **Poshan 2.0 (Mission Poshan 2.0)** and the National Education Policy.
- Close to 13.9 lakh operational Anganwadi centres across the country are providing supplementary nutrition and early care and education to around 8 crore beneficiary children under the age of 6 years.
- Considering global evidence on 85% of brain development being achieved by the age of 6 years, the Anganwadi eco-system becomes a critical access point for building the children's base.

ELECTRONIC VOTING MACHINES (EVMS)

Context: Karnataka Legislative Assembly elections' results were released recently. There were allegations that **Electronic Voting Machines (EVMs) from South Africa were being used for voting**.

Production of EVMs in India

- EVMs were first used in **70-Paravur Assembly Constituency of Kerala** in 1982.
- EVMs are produced **indigenously by 2 PSUs viz. Bharat Electronics Ltd., Bengaluru and Electronics Corporation of India Ltd., Hyderabad**.
- India **does not use any EVMs** produced abroad.
- After the introduction of EVM machines in elections of India, many countries used EVM machines made in India in their elections, like Bhutan, Nepal and Namibia.

What parts make up an EVM?

- EVM has two parts – a **‘control unit’** and a **‘balloting unit’** – connected by a **5-metre cable**.
- The balloting unit is in the voting compartment into which the voter enters to cast the vote by pressing the button against the name and symbol of the candidate of her choice and the control unit is with the EC-appointed polling officer.
- The **control unit** has been termed the EVM’s ‘brain’, as the balloting unit is turned on only after the polling officer presses the ‘Ballot’ button on it and the vote is then cast. The control unit is with the **Election Commission selected polling officer**.
- The **Software Programme Code** is written in-house, by these two PSUs, not outsourced, and subjected to security procedures at factory level to maintain the highest levels of integrity.
- The programme is converted into machine code and only then given to the chip manufacturer abroad because we don’t have the capability of producing semi-conductor microchips within the country.

Concerns of using electronic voting machines

- **No certification:** No nationally or internationally recognised institutions or governments have certified the EVMs as cent per cent accurate.
- **Vulnerability to malware:** Many software programmers have claimed that the electronic voting machines are vulnerable to malicious programming and if it gets affected then any hacker can hack the machine and can tamper the vote counts easily.
- **Loss of data:** The biggest change with technology is that no matter how much data it records, a single virus can destroy the entire data storage.
- **Not suitable to Humid places:** The highly humid area and those areas which receive frequent rainfall are not suitable for casting votes using electronic voting machines. As machines are prone to damage due to high humidity level, thus usage of electronic voting machines is not advisable in such areas.
- **Manufacturing:** Most of the electronic voting machines used in the country were foreign manufactured which means the secret codes that control the electronic voting machines are in foreign hands and they can be used to influence the election results.
- **Fake votes:** Most of the electronic voting machines used in the country do not have any mechanism by which the voter can verify their identity before casting the vote due to which fake voters can cast numerous fake votes.

Advantages of Electronic Voting machines

- **Right to vote:** The right to vote is the supreme right of democracy which is being executed through the EVMs.
- **Many developed countries have adopted ballot paper:** It is the constitutional duty and the responsibility of the Election Commission and the Central government to introduce such a transparent system of voting and counting in the elections which can be evaluated by the public, the voters, themselves.
 - Despite this fact, by conducting polling using the machines in India, which is the biggest democracy in the world, the constitutional right to vote is being violated.
- **Difficult for the hackers to hack:** In most of the advanced versions of electronic voting machines, there are no external communication paths which make it difficult for the hackers to hack the machine and tamper the count numbers.
- **Electronic voting machines are cost effective and economical:** In the paper ballot, the amount of raw material used is higher. It directly impacts the environment as paper ballots use papers to cast votes.
- **Time savers:** one can count the votes in a few minutes which make life easier for the election officers on duty. In a paper ballot, the vote counting process is quite tedious and time-consuming.
- **Electronic voting machines are quite effective against bogus votes:** Electronic voting machines are programmed to capture a maximum of five votes in a minute. Due to which a single vote cannot cast fake votes.
- **Electronic voting machines are easier to carry and transport from one place to another without any hassle:** One single machine can record several votes captured through that machine.

Voter verifiable paper audit trail (VVPAT)

- **Voter verifiable paper audit trail (VVPAT) or verified paper record (VPR)** is a method of providing feedback to voters using a ballot-less voting system.

- A **VVPAT** is intended as an independent verification system for voting machines designed to allow voters to verify that their vote was cast correctly, to detect possible election fraud or malfunction, and to provide a means to audit the stored electronic results.
- It contains the name of the candidate (for whom vote has been cast) and symbol of the party/individual candidate.
- The VVPAT offers some fundamental differences as a paper, rather than electronic recording medium when storing votes.

WEATHER-PROOFING FOOD SECURITY

Context: Weather patterns, including temperature, precipitation, and extreme weather events, are critical factors in determining agricultural productivity and food security.

Changes in weather patterns can lead to crop failures, food shortages, and price hikes, which can have far-reaching impacts on the livelihoods of millions of people around the world.

For example, droughts and floods can destroy crops, leading to food shortages and price spikes, while extreme temperatures can reduce crop yields and quality. These impacts are particularly acute in developing countries, where many people depend on agriculture for their livelihoods and may lack access to alternative sources of food or income.

What is Food Security?

Food security, as defined by the United Nations' Committee on World Food Security, means that all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets their food preferences and dietary needs for an active and healthy life.

Food security is the combination of the following three elements:

- Food availability i.e., food must be available in sufficient quantities and on a consistent basis. It considers stock and production in a given area and the capacity to bring in food from elsewhere, through trade or aid.
- Food access i.e., people must be able to regularly acquire adequate quantities of food, through purchase, home production, barter, gifts, borrowing or food aid.
- Food utilization i.e., Consumed food must have a positive nutritional impact on people. It entails cooking, storage and hygiene practices, individuals' health, water and sanitations, feeding and sharing practices within the household.

Food security is closely related to household resources, disposable income and socioeconomic status. It is also strongly interlinked with other issues, such as food prices, global environment change, water, energy and agriculture growth.

Importance of Food Security for a Nation:

- For boosting the agricultural sector.
- For having control on food prices.
- For economic growth and job creation leading to poverty reduction
- For trade opportunities
- For increased global security and stability
- For improved health and healthcare

Why there is a Need of weather proofing Food Security?

- Climate Change is a crisis aggravator and threat multiplier for the most vulnerable amongst us. Its impact on food production, livelihoods and health is expected to push an additional 600 million people into food insecurity by 2080 and increase child malnutrition.
- About 80% of the global population most at risk from crop failures and hunger from climate change are in Sub-Saharan Africa, South Asia, and Southeast Asia, where farming families are disproportionately poor and vulnerable.
- A severe drought caused by an El Nino weather pattern or climate change can push millions more people into poverty.

What are the impacts of Weather on Food Security?

Crop Yield and Production:

- Rising temperatures, changing precipitation patterns, and extreme weather events such as droughts, floods, and storms can have detrimental effects on crop yields.
- Heatwaves and droughts can reduce productivity and lead to crop failures, while excessive rainfall and floods can destroy crops and infrastructure.
- These disruptions in agricultural production can result in decreased food availability and increased prices.

Changing Growing Conditions:

- Climate Change alters the suitability of certain regions for specific crops.
- Shifts in temperature and rainfall patterns may require farmers to adapt their practices or even switch to different crops.
- This can lead to disruptions in food production and regional food imbalances.

Livestock and Fisheries:

- Rising temperatures, changing precipitation patterns, and ocean acidification affect livestock and fish production.
- Heat stress can reduce livestock productivity and increase mortality rates, while changes in water temperature and acidity can impact marine ecosystems and reduce fish populations.

Food Distribution and Access:

- Climate change can disrupt transportation and infrastructure, making it challenging to transport food from production areas to markets.
- Extreme weather events can damage roads, bridges, and ports, leading to delays and higher transportation costs.
- These disruptions can limit people's access to food, particularly in vulnerable regions or those heavily dependent on imported food.

Price Volatility:

- Climate change-related disruptions in agricultural production can lead to increased price volatility for food commodities.
- Crop failures, reduced yields, and decreased supply can cause food prices to spike, making it difficult for vulnerable populations to afford an adequate diet.

Land Degradation and Water Scarcity:

- Climate change contributes to soil erosion, desertification, and degradation of arable land.
- Extreme weather events, such as heavy rainfall and floods, can wash away topsoil, essential for agriculture, and degrade soil fertility.

Why is containing Food Inflation Crucial?

Significance:

- The food and beverages component in the Indian CPI has a weightage of 45.86 %, the highest amongst G20 countries.
- Managing this component to around 4 % is critical to taming overall inflation.

Challenges:

- **Monetary and Fiscal Policy Challenges:** This component of inflation cannot be managed only through monetary policy, nor even by fiscal policy. The simple reason is that it is often triggered by external shocks, such as droughts and breakdown of supply chains — for instance, during the Covid pandemic and the Russia-Ukraine conflict.
- **El Nino:** The brewing El Nino is a looming danger and it's feared that it could cause below normal rainfall, even a drought.
- **Cereal Inflation:** The overall cereal and products inflation is still at a very uncomfortable level, 13.7 %.
- **Rice Inflation:** The biggest crop of the kharif season is rice. And rice inflation (non-PDS) for April was 11.4%.
Wheat inflation: Wheat is the most important rabi crop — is still very high at 15.5%.
- **Milk Inflation:** Inflation in this category in April was more than 8%. But since it has the highest weight amongst 299 commodities that comprise the CPI basket, its contribution to CPI inflation in April was almost 12%, the highest amongst all commodities.
- **Fodder Price Inflation:** The fodder price inflation has been very high, between 20 and 30 %, in recent months. It has further exaggerated the Milk Inflation.

Way forward:

- **Use the Buffer Stocking Policy (unloading excess stocks in open market operations) more proactively:**
 - The rice stocks with the Food Corporation of India (FCI) are more than three times the buffer stock norms for rice. If the government wants to tame rice price inflation, it can unload rice from the Central Pool in open market operations, and easily bring down the rice inflation to around 4%.
 - The wheat procurement has been sufficiently good to meet the requirements of the public distribution system (PDS) and give some room for open market operations.
- **Lower Import duties on Fat:** The policy instrument to use is to lower import duties on fat, which are currently at 40% and skimmed milk powder (SMP), which is at 60%.
 - Indian prices of SMP and fat (butter) are much higher than the global prices, and therefore, by reducing import duties to say 10 to 15%, there would be some imports of fat and SMP.
 - That could help in reining milk and milk product prices.
- **Address the Challenge of Fodder Price Inflation:** Cultivation of Fodder crops must be promoted through subsidy or incentive programs. It can also be addressed through initiatives like adopting suitable crop combinations and developing fodder banks.
- **Be Prepared for Drought:** Though IMD is yet to forecast about the Impact of El Nino, but prevention is always better than cure. Policy interventions like introducing drought-tolerant crop varieties, expanding irrigation, restricting rice exports, storing and distributing grains, expanding social protection coverage can help reduce the impact of climate.

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GAPS IN AEPS EXPLOITED BY CYBERCRIMINALS

Context: The Aadhaar-enabled Payment System (AePS) in India has recently faced exploitation by cybercriminals, leading to unauthorized access to users' bank accounts.

- Scammers have been using leaked biometric details to bypass the need for One Time Passwords (OTPs) and drain funds from unsuspecting victims.
- A series of recent scams have exposed the vulnerabilities of the AePS and how cybercriminals are exploiting the loopholes in the system to defraud unsuspecting customers.

What is AePS?

- The AePS is a bank-led model that allows online interoperable financial transactions at Point of Sale (PoS) or micro-ATMs through the Business Correspondent (BC) of any bank using the Aadhaar authentication.
- It was taken up by the National Payments Corporation of India (NPCI) - a joint initiative of Reserve Bank of India (RBI) and Indian Banks' Association (IBA).
- The AePS is meant to provide easy and secure access to banking services for the poor and marginalized sections of society, especially in rural and remote areas.
- It eliminates the need for OTPs, bank account details, and other financial information.
- Transactions can be carried out with only the bank name, Aadhaar number, and captured fingerprint during Aadhaar enrollment.

Benefits:

- **Deepening Social Security:** The AePS helps in deepening social security by facilitating cash transfers from various government schemes such as PM-KISAN, MGNREGA, etc., directly into the beneficiaries' bank accounts.
- **Enabling Interoperability:** The AePS enables interoperability among different banks and financial institutions, allowing customers to access their bank accounts through any BC or micro-ATM of any bank.
- **Drawbacks:**
- Neither Unique Identification Authority of India (UIDAI) nor NPCI mentions clearly whether AePS is enabled by default.

How is AePS Exploited?

Leaked Biometric Details:

- Cybercriminals obtain leaked biometric information, which includes fingerprints captured during Aadhaar enrollment.
- They use this stolen data to operate biometric POS devices and ATMs without the need for two-factor authentication or OTPs. By bypassing these security measures, they can transfer money from users' bank accounts.

Silicone Thumbs:

- Scammers have been known to use silicone thumbs to deceive biometric devices.
- They place the artificial thumb on the fingerprint sensor, tricking the system into authenticating their fraudulent transactions.
- This method allows them to perform unauthorized financial activities on behalf of the account holder.

Lack of Transaction Notifications:

- In some cases, victims of AePS scams do not receive any notification from their banks regarding unauthorized transactions.
- They remain unaware of the fraudulent activity until they notice discrepancies in their bank account balance.
- This lack of immediate alerts enables scammers to continue draining funds undetected.

Exploiting Weak Security Measures:

Gaps in the AePS system's security protocols, such as inadequate identity verification or authentication processes, provide opportunities for cybercriminals to carry out their fraudulent activities. They take advantage of these weaknesses to exploit the system and access users' bank accounts.

Systemic Issues:

- The AePS also faces issues such as biometric mismatches, poor connectivity, weaker systems of certain banking partners, etc., that affect its performance and reliability.
- Sometimes, the transactions fail due to these reasons but the money gets debited from the customers' accounts without their knowledge.

How to Prevent AePS Frauds?

Amendments to Aadhaar Regulations 2016:

- UIDAI proposes an amendment to the Aadhaar (Sharing of Information) Regulations, 2016.
- The amendment requires entities in possession of an Aadhaar number to not share details unless Aadhaar numbers have been redacted or blacked out.

Aadhaar Lock:

- Users are advised to lock their Aadhaar information using the UIDAI website or mobile app.
- Locking Aadhaar prevents the unauthorized use of biometric information for financial transactions.
- Aadhaar can be unlocked when biometric authentication is required, such as for property registration or passport renewals.
- After the necessary authentication, Aadhaar can be locked again for security purposes.

Other Preventive Measures:

- It is advisable to avoid scanning QR codes or clicking on links sent by unknown or suspicious sources.
- Exercise caution and refrain from trusting individuals who offer assistance in withdrawing money from locations other than authorized bank branches or ATMs.
- Prior to providing a fingerprint on a PoS machine, it is recommended to verify the displayed amount and request a receipt for every transaction.

- Regularly check the balance and transaction alerts of the bank account linked to the mobile number.
- In the event of any suspicious or fraudulent activity, promptly report it to both the bank and the police.
- According to the RBI, customers are entitled to zero liability for unauthorized transactions if promptly reported within three working days.

What are the Challenges of AePS?

- **Lack of Awareness and Literacy:** Many customers are not aware of the benefits and features of the AePS or how to use it safely and securely. They also lack financial literacy and digital skills, which makes them vulnerable to fraud and errors.
- **Inadequate Infrastructure and Connectivity:** The AePS depends on the availability and quality of infrastructure and connectivity, such as biometric devices, PoS machines, internet, power supply, etc. However, these are often lacking or unreliable in rural and remote areas, where the AePS is most needed.
- **Regulatory and Policy Issues:** The AePS also faces some regulatory and policy issues, such as the legal validity of Aadhaar authentication, the privacy and security of biometric data, the MDR charges for transactions, the grievance redressal mechanism for customers, etc.

Way forward

Strengthening the Security and Authentication of AePS Transactions:

- Implement encryption and digital signatures to protect transaction data.
- Incorporate biometric liveness detection to prevent cloning or spoofing of biometric data.
- Certify devices used for AePS transactions and monitor transactions for suspicious activity.

Raising Awareness:

- Educate users about the risks associated with sharing Aadhaar number and biometrics.
- Utilize the Aadhaar lock/unlock feature to control access to biometrics.
- Ensure service providers follow guidelines and standards issued by authorities and comply with data protection laws.

Enhancing Coordination and Cooperation among Stakeholders:

- Facilitate information sharing among UIDAI, NPCI, RBI, banks, fintech companies, law enforcement agencies, and civil society organizations.
- Develop joint strategies and action plans to address cybercrime challenges.
- Provide technical assistance and capacity building to stakeholders.
- Establish a platform for reporting and resolving grievances related to AePS.

ADOPTING FATHER'S SURNAME IN MATRILINEAL MEGHALAYA

Context: Recently, a tribal council's order not to issue a Scheduled Tribe (ST) certificate to any Khasi person who adopts the surname of her or his father

More about the news

- **The order:**
 - The **Khasi Hills Autonomous District Council (KHADC)** has directed the headmen of all villages and urban localities **across the Khasi domain** not to issue ST certificates to **those who adopt their father's surname** instead of sticking to tradition by taking their mother's clan name.
 - The **Khasi Hills Autonomous District Khasi Social Custom of Lineage Act, 1997** also says that in order for someone to legally belong to their mother's Khasi clan, they or their mother **cannot adopt the "personal laws" of their non-Khasi father (or husband)**.
- **Significance:**
 - KHADC claimed that the move is for the preservation and protection of the age-old tradition of the community.

Matriliny in Meghalaya

- **Communities:**
 - The Khasis, numbering about 1.39 lakh, are one of the three indigenous matrilineal communities in the northeastern State. The other two are Garos and Jaintias.
- **What constitutes Matriliny?**
 - In this system, lineage and descent are traced through the mother's clan, like

- Children take the mother's surname,
- The husband moves into his wife's house, and
- The **youngest daughter (khatduh)** of the family is bequeathed the full share of the ancestral — or the clan's — property.
- The **khatduh** becomes the "**custodian**" of the land.
 - She assumes all responsibility associated with the land, including taking care of aged parents, unmarried or destitute siblings.
- **Khasi marrying non-Khasi person:**
 - It is mandatory for any Khasi woman who marries a non-Khasi needs to obtain the Khasi tribe certificate for applying for the ST certificate for her children.
- **Activism to switch to the patrilineal system:**
 - Men's rights activists among the Khasis have been fighting for switching over from the matrilineal to the patrilineal system since the 1960s.

Difference between 'matrilineal' & 'matriarchal' society

- **Matriliny:**
 - Matriliny is formed with regard to the rules of inheritance. In matrilineal societies pass on property from mother to daughter.
- **Matriarchy:**
 - Matriarchy on the other hand is formed with regard to the exercise of authority and domination.
 - A matriarchal family structure is where the women exercise authority and dominance.
- **The case of Meghalaya:**
 - With the entire state of Meghalaya following a matrilineal system, the one thing most people tend to **misuse is the word 'matrilineal'** and **mistake it to be matriarchal** in nature.
 - In the case of the Khasi community, this, however, is not true. The husband is still the head of the family and elder men have a vital part to play in society.
 - The traditional matrilineal society has always kept women out of the larger decision-making process in social institutions like the village council.

NATIONAL WORKSHOP ON EMPOWERING PWD IN EDUCATION

Context: The National Workshop on "Capacity building of training institutes and HRD in the disability field in the context of National Education Policy (NEP): 2020" was recently inaugurated in Jabalpur, Madhya Pradesh.

- Organized by the Rehabilitation Council of India (RCI), the workshop aimed to empower individuals with disabilities and implement the goals of the NEP 2020.
- Also, the Department of Empowerment of Persons with Disabilities, the Ministry of Social Justice and Empowerment, is observing Global Accessibility Awareness Day (GAAD) on May 18th, 2023.

What is the Constitutional and Legislative Framework for Persons with Disability (PwD) in India?

- The Constitution of India ensures equality, freedom, justice and dignity of all individuals and implicitly mandates an inclusive society for all including the persons with disabilities.
- Article 41 of the Directive Principles of State Policy (DPSP) states that the State shall make effective provision for securing the right to work, to education and to public assistance in cases of unemployment, old age, sickness and disablement, within the limits of its economic capacity and development.
- The main legislation on disability rights is the Rights of Persons with Disabilities Act, 2016.
 - The Act covers a wide range of specified disabilities and provides additional benefits for persons with benchmark disabilities and those with high support needs.
 - The Act also provides for grant of guardianship by District Court or any authority designated by the State Government under which there will be joint decision-making between the guardian and the persons with disabilities.

What are the Issues Associated with Person with Disability in India?

- **Accessibility Concern:** One of the primary challenges is the lack of accessibility in public spaces, transportation, buildings, and infrastructure. Many places do not have ramps, elevators, or accessible toilets, making it difficult for people with disabilities to move around independently.

- **Lack of Access to Education:** Access to quality education is limited for people with disabilities. This lack of educational opportunities hinders their personal and professional development.
- **Lack of Proper Healthcare:** A large number of disabilities are preventable, including those arising from medical issues during birth, maternal conditions, malnutrition, as well as accidents and injuries.
- **Social Stigma and Discrimination:** Negative attitudes and social stigma surrounding disabilities are prevalent in Indian society. People with disabilities often face discrimination, exclusion, and marginalization, which affects their self-esteem and social interactions.

What are the Recent Initiatives to Empowerment of PwD?

India:

- Accessible India Campaign
- DeenDayal Disabled Rehabilitation Scheme
- National Fellowship for Students with Disabilities

Global Conventions to Which India is Signatory:

- Declaration on the Full Participation and Equality of People with Disabilities in the Asia-Pacific Region.
- Biwako Millennium Framework
- UN Convention on Protection and Promotion of the Rights and Dignity of Persons with Disabilities.

Way Forward

- **Building Pathways to Inclusion:** There is a need to design and construct accessible buildings, public spaces, transportation systems, and communication technologies should be prioritized. This includes features like ramps, elevators, tactile paths, audio announcements, and braille signage.
- **Empowering Abilities with Cutting-Edge Solutions:** There is a need to promote the development and adoption of affordable and locally sourced assistive technologies such as prosthetics, mobility devices, hearing aids, and communication tools. Embrace emerging technologies like 3D printing and AI to customize solutions for individuals.
- **Unlocking Doors to Knowledge and Equality:** Implementing inclusive education policies that ensure students with disabilities have equal access to quality education. This involves providing assistive devices, specialized training for teachers, accessible learning materials, and inclusive curriculum development.
- **Shattering Stigmas through Awareness and Sensitization:** There is a need to Conduct awareness campaigns to promote inclusivity and reduce societal stigmas around disability. This includes sensitizing communities, employers, educators, and healthcare providers about the rights, abilities, and potential of individuals with disabilities.

SELF HELP GROUP KUDUMBASHREE

Context: Recently, the President of India has inaugurated the 25th anniversary celebrations of Kudumbashree, the largest Self-Help Group (SHG) network in the country.

The president also released a handbook called "chuvaduv" (meaning footsteps) that outlined ideas for the future of the movement and highlighted its achievements so far.

What is Kudumbashree?

About:

- Kudumbashree was established in 1997 in Kerala, aiming at eradicating poverty and empowering women following the recommendations of a government-appointed task force.
- The mission was launched with the support of the Government of India and NABARD (National Bank for Agriculture and Rural Development).
- Kudumbashree meaning 'prosperity of the family' in the Malayalam language and therefore focuses on poverty alleviation and women empowerment, promoting democratic leadership and provides support structures within the "Kudumbashree family."

Operation: The mission operates through a Three-Tier structure consisting of,

- Neighbourhood Groups (NHGs) at the primary level
- Area Development Societies (ADS) at the ward level
- Community Development Societies (CDS) at the local government level.
- This structure forms a large network of Self-Help Groups.

Goal:

- The goal of Kudumbashree is to eliminate absolute poverty within a specific timeframe of 10 years, with the active involvement of local self-governments.
- Through its mission and self-help group approach, Kudumbashree aims to uplift families and empower women to improve their socio-economic status and overall well-being.

Significance:

- It has empowered women, generated employment, alleviated poverty, and initiated various social initiatives.
- It has become Kerala's biggest social capital, and its members have become elected representatives in local government bodies.
- During a severe flood that occurred in Kerala five years ago, Kudumbashree, the self-help group network, donated Rs 7 crore to the Chief Minister's distress relief fund.
- They contributed more money than tech giants like Google and Apple and even surpassed the contribution of the Bill and Melinda Gates Foundation.
- Many of the Kudumbashree workers themselves were victims of the flood, but they still wanted to help others by contributing to the relief fund.

What is the Role of SHGs in Women Empowerment and Fighting Poverty?**Economic Empowerment:**

- SHGs provide women in rural areas with an opportunity to create independent sources of income. Women can utilize their skills and talents to start their own businesses and become financially self-reliant.
- Access to capital through SHGs enables women to invest in their ventures and expand their economic activities.

Overcoming Social Barriers:

- SHGs play a crucial role in challenging regressive social norms and empowering women to take on decision-making roles.
- Through participation in SHGs, women gain confidence, assertiveness, and leadership skills, which help them challenge gender stereotypes.
- Empowered women actively participate in local governance (e.g., gram sabha) and even contest elections.

Improved Socio-economic Status:

- Formation of SHGs leads to a multiplier effect in improving women's status in society and within their families.
- Women experience enhanced socio-economic conditions, including better access to education, healthcare, and resources.
- SHGs contribute to women's self-esteem and confidence by providing them with a platform to voice their opinions and contribute to decision-making processes.

Access to Financial Services:

- SHG-Bank linkage programs, pioneered by organizations like NABARD, facilitate easier access to credit for SHGs.
- Priority Sector Lending norms and assured returns incentivize banks to lend to SHGs.
- This reduces women's dependence on traditional moneylenders and non-institutional sources, leading to fairer and more affordable financial services.

Alternative Employment Opportunities:

- SHGs provide support for setting up micro-enterprises, offering women alternatives to agriculture-based livelihoods.
- Women can establish personalized businesses such as tailoring, grocery shops, and repair services, diversifying their income sources.

PARAKH

Context: A workshop organised by the Ministry of Education aims to bring together the 60 school examination boards operating in various Indian states and Union territories under one umbrella.

- PARAKH, under the National Council of Educational Research and Training (NCERT) is the main component of this plan, envisioned as the National Assessment Centre.

Need & Significance

- To establish a coherent framework to ensure smooth transitions for students moving between boards or regions.
- This will involve harmonising curriculum, grading, and evaluation procedures to enhance the reliability and credibility of certificates and grades obtained.
- Unification also aims to address the prevailing rote examination culture and promote holistic assessments that encompass various dimensions of a student's abilities and potential.

About PARAKH

- The PARAKH stands for The Performance Assessment, Review, and Analysis of Knowledge for Holistic Development.
- PARAKH has been launched as part of the implementation of the National Education Policy (NEP)-2020 that envisaged a standard-setting body to advise school boards regarding new assessment patterns and latest research, and promote collaborations between them.
- It will be tasked with holding periodic learning outcomes tests like the National Achievement Survey (NAS) and State Achievement Surveys.

JUDGING JALLIKATTU: ON THE SUPREME COURT VERDICT

Context: The Supreme Court has recently upheld the changes made by the Tamil Nadu Assembly, as well as the cultural sentiment behind Jallikattu.

About Jallikattu

- **About:**
 - Jallikattu is a **bull-taming sport** that has traditionally been part of the festival of **Pongal**.
 - The festival is a **celebration of nature**, and **thanksgiving** for a bountiful **harvest**, of which **cattle-worship** is part.
 - Contests in Avaniapuram, Peelamedu and Alanganallur, villages neighbouring Madurai, set the tone for the season, which continues until April.
- **How is it played?**
 - The elite Jallikattu breeds test the strength and guile of farm hands in especially-constructed arenas.
 - It is a violent sport, and there is only one winner, man or bull.
- **What is the conflict?**
 - There has been an endless conflict between activists and proponents of the game.
 - The activists argue that any sport involving a physical contest between man and bull violates animal rights.
 - While, the other camp contends that none should stop something that is part of the State's tradition and culture.

Debate around the sport

- **Arguments in favour of the sport:**
 - **The political economy of Jallikattu:**
 - It is about showcasing the quality of cattle, the breeding skills of cattle rearers, the centrality of cattle in an agrarian economy, and the power and pride they bring to farmers and land-owning castes in rural Tamil Nadu.
 - Jallikattu is a cultural manifestation of this political economy.
 - **Act of cultural resistance to an urban modernity:**
 - For agrarian communities like Thevars and Maravars, Jallikattu is one of the few markers of their social standing and identity in a fast-changing world.
 - The contest, which evidently celebrates masculinity, is almost an act of cultural resistance to an urban modernity that tends to marginalise rural and agrarian values.
- **Arguments against the sport:**
 - **Harming both, bulls & humans:**

- The practice of Jallikattu has long been contested, with **animal rights groups and the courts** concerned over issues of **cruelty to animals** and the **bloody and dangerous nature of the sport** that causes death and injuries to both the bulls and human participants.
- **Apex Court's view & the Upanishadic wisdom:**
 - In 2014, the Supreme Court had ruled that the Prevention of Cruelty to Animals Act, 1960, “over-shadows or overrides the so-called tradition and culture”.
 - The court drew upon Upanishadic wisdom and advised Parliament to “elevate rights of animals to that of constitutional rights so as to protect their dignity and honour”.
 - **“Bulls are beaten, poked, prodded, harassed and jumped on by numerous people. They have their tails bitten and twisted and their eyes and noses filled with irritating chemicals,”** the judgment said.

Legal battle over the sport

• **Ban of 2014:**

- In 2014, the Supreme Court, in the **A. Nagaraja judgment** had held Jallikattu as cruelty to bulls.
 - The bone of contention is the **Prevention of Cruelty to Animals (Tamil Nadu Amendment) Act of 2017** and the **Prevention of Cruelty to Animals (Conduct of Jallikattu) Rules of 2017**, which had re-opened the gates for the conduct of the popular bull-taming sport in the name of culture and tradition despite a 2014 ban by the Supreme Court.
 - The primary question involved was **whether Jallikattu should be granted constitutional protection as a collective cultural right under Article 29 (1)**.

• **State government's response:**

- The State government **responded to the ban** by **amending** the central Prevention of Cruelty to Animals Act, 1960, in its **application to the State**, and **obtained the President's assent**.

Supreme Court's current judgement

- The verdict of the five-judge Bench is **anchored to two key findings:**
 - That the fresh regulations **minimise the game's potential for cruelty and pain** formed the basis for the 2014 judgment.
 - Those conditions were **no more prevalent**.
 - Second, the Court has **accepted the legislature's view** that jallikattu is a sport conducted every year to follow tradition and culture.
- **Significance:**
 - The has accepted the legislature's wisdom on what constitutes cultural heritage, holding that the Court cannot embark on such an inquiry.
 - However, it **does not mean** the Court has in any way **diluted the part of the earlier Bench's verdict** reading into Indian law **the full import of international rules in favour of animal rights**.
 - Rather, it has **deferred to the cultural sentiment** underlying the legislative scheme by which sports such as **jallikattu, kambala, a buffalo race** in Karnataka, and **bullock-cart racing** in Maharashtra are not interdicted by the law preventing animal cruelty.

Way ahead

- The judgment means **organisers as well as the respective governments**, still bear the **burden to prevent infliction of pain and cruelty on animals**.
 - These sports also pose an **undeniable hazard to humans too**; to the participants mainly, but **sometimes spectators too**.
- It may be time for organisers to **mandate protective gear for the participants** and strictly enforce rules for proper barricades to keep spectators safe.
- **Cultural assertion**, and **kindness to animals** and **adherence to safety norms** need not be mutually exclusive.

THE RETURN OF CIVIL SOCIETY IS IMPERATIVE

Context: Need is to re-emphasise the crucial, critical and life-giving nature of civil society.

About the Civil Society Organizations in India

- **About:**

- India has a long history of civil society based on the concepts of *daana* (giving) and *seva* (service).
- **Civil society Organization (CSO) or non-governmental organization (NGO)** are organizations that are voluntary in spirit and without profit-making objectives—have been active in cultural promotion, education, health, and natural disaster relief.
- **Data on NGOs:**
 - Today, about **1.5 million NGOs work in India** (i.e., nonprofit, voluntary citizens' groups organized on a local, national, or international level).
 - According to a survey conducted by **Society for Participatory Research in Asia (PRIA)**,
 - 26.5% of NGOs are engaged in **religious activities**,
 - while 21.3% work in the area of **community and/or social service**.
 - About one in five NGOs works in **education**,
 - while 17.9% are active in the fields of **sports and culture**.
 - Only 6.6% work in the **health sector**.

Role of civil society

- The values of civil society are those of political participation and state accountability.
 - Thus, it provides the necessary basis for participation in formal political institutions.
- The institutions of civil society are associational. It advocates pluralism and is opposed to totalitarianism.
- When state becomes an authoritarian political institution, its authority is to be challenged by the civil society.
- Within the civil society, individuals enjoy **enforceable rights of free expression, freedom to form associations, formulation of opinions and freedom to dissent**. Civil society is a vital pre-condition for the existence of democracy.

Criticisms

- All over the world, the influence of civil society organisations is increasing, however, their **credibility** seems to be going down.
- One of the independent reports of 2018 stressed on some key observations and the most important among them were:
 - That civil society organisations are **self-appointed rather than elected**, and thus **do not represent the popular will**.
 - That civil society organisations **receiving foreign funding** are **accountable to external rather than domestic constituencies** and advance foreign rather than local agendas.
 - That civil society groups are **elite actors** who are **not representative of the people** they claim to represent.
 - Critics point to the **foreign education backgrounds, high salaries, and frequent foreign travels** of civic activists to portray them as out of touch with the concerns of ordinary citizens and only working to perpetuate their own privileged lifestyle.

Issues faced by the civil society

- **Shrinking voice of CSOs:**
 - It is widely claimed that the ability of civil society to shape policy and public discourse has shrunk drastically. Because civil society is seen to be the new frontier for war and foreign interference
- **Financial crunch:**
 - Because of the financial and structural constraints imposed on them, CSOs/movements are lacking conscientious youngsters, who naturally need some financial sustenance.
 - **Thousands working** in the social sector, **particularly in grassroots organisations**, have already been rendered jobless as the ban on sub-granting has caused **resource starvation** for these organisations.
- **No possibility of tangible contribution:**
 - Without sustained support, CSOs cannot positively mould public discourse or make a tangible impact on the nation at large.
 - With governments consciously avoiding CSOs/movements, their ability to shape policy is diminished (which adversely impacts organisational morale).
- **The net result:**
 - Faced with a drastically reduced spectrum of options, some progressives will migrate to safer avenues; others may limit the scope of their work

- The net result is that civil society will be unable to speak truth to power, amplify the voices of the most vulnerable, enrich policies/legislation through constructive feedback, or further the collective good.

Suggestions

• For government:

- The governments should also realise that **some of its prominent acts or laws**, such as the Right to Information Act, The Protection of Children from Sexual Offences Act and the National Food Security Act, among others, **will remain relevant if the foundations of civil society are strong**.
 - **Any attempt to disturb civil society will be tantamount to diluting these laws.**
- **Any stringent measures would also adversely impact the monitoring of the implementation of various government schemes**, such as the Mahatma Gandhi National Rural Employment Guarantee Act, the Pradhan Mantri Awas Yojana and the Pradhan Mantri Jan Dhan Yojana, etc.

• For NGOs:

○ Alternate ways of funding:

- Post new FCRA laws, many organisations have already started looking up to **local resource mobilisation (LRM)** and are largely focused on corporate funding through **corporate social responsibility (CSR)**.

○ Charitable funding:

- Civil society should explore **how to encourage more collective giving**, a **form of charitable giving** where groups pool their donations to create larger funds to tackle problems.

○ Utilizing technology:

- There is increasing awareness that increased use of data and digital technology can make charities stronger and even better at what they do.

• For young activists:

- The one possibility that could emerge is that **young activists could be inducted into political parties**, either within the party organisation or in an aligned body.
- This could **create an institutionalised moral force within the parties** (which could balance electoral compulsions with ethical/human rights considerations).
 - This would afford parties a layered systemic approach to thorny issues.

Way ahead

- It is civil society that makes India pluralistic, providing for alternatives beyond the ritualistic game of electoralism. It provides a compost heap of ideas that makes democracy a continuous drama of experiments.
- Civil society has to create a new sense of the commons, rework the rights of nature and create a new mode of constitutional thinking.
- Civil society has to think more internationally to function more creatively in local terms.

CENSUS

Context: The 2021 Census in India had to be postponed for the first time in the past 150 years due to the Covid-19 pandemic. Despite the pandemic ending and the return to normalcy, the Census is still pending.

It was initially proposed to be an entirely digital exercise, with all the information being fed into a mobile app by the enumerators. However, owing to 'practical difficulties', it was later decided to conduct it in 'mix mode', using either the mobile app or the traditional paper forms.

Note: According to the State of World Population report 2023 released recently by the UN Population Fund (UNFPA), India will overtake China to become the world's most populous country by the middle of 2023.

What is the Census?

Definition:

- Population Census is the total process of collecting, compiling, analyzing and disseminating demographic, economic and social data pertaining, at a specific time, of all persons in a country or a well-defined part of a country.

- Census is the basis for reviewing the country's progress in the past decade, monitoring the ongoing schemes of the government and plan for the future.
- It provides an instantaneous photographic picture of a community, which is valid at a particular moment of time.

Phases: The Census Operations in India are carried out in two phases:

- Houselisting/Housing Census under which details of all buildings, permanent or temporary, are noted with their type, amenities, and assets.
- Population Enumeration where more detailed information on each individual residing in the country, Indian national or otherwise is noted.
- It is carried out after making a list of all households that are surveyed.

Frequency:

- The first synchronous census was taken in 1881, by W.C. Plowden, Census Commissioner of India. Since then, censuses have been undertaken uninterruptedly once every ten years.
- The Census of India Act of 1948 provides the legal framework for carrying out the Census however, it does not mention its timing or periodicity.
- Hence, a Census is Constitutionally mandated in India but there is no Constitutional or legal requirement that it needs to be conducted decennially.
- The 10-year frequency is followed in many countries (Ex. the US and the UK) but some countries like Australia, Canada, Japan conduct it every five years.

Nodal Ministry:

- The decennial Census is conducted by the Office of the Registrar General and Census Commissioner, Ministry of Home Affairs.
- Until 1951, the Census Organisation was set up on an ad-hoc basis for each Census.

What is the Significance of Census?

Primary and Authentic Data:

- It generates primary and authentic data that forms the foundation of various statistical analyses. This data is essential for planning, decision-making, and development initiatives in various sectors, such as administration, economy, and social welfare.
- It is not the legal requirement but the utility of the Census that has made it a permanent regular exercise. Reliable and up-to-date data is vital as it influences the accuracy of indicators used in different aspects of India's progress.

Demarcation:

- Census data is utilized for demarcation of constituencies and allocation of representation in government bodies.
- It plays a crucial role in determining the number of seats to be reserved for Scheduled Castes (SCs) and Scheduled Tribes (STs) in Parliament, State legislatures, local bodies, and government services.
- In the case of panchayats and municipal bodies, the reservation of seats for SCs and STs is based on their proportion in the population.
- This ensures proportional representation and promotes inclusivity in the political and administrative systems.

Better Access for Businesses:

- The census data is also important for business houses and industries for strengthening and planning their business for penetration into areas, which had hitherto remained, uncovered.

Giving Grants:

- The Finance Commission provide grants to the states on the basis of population figures available from the Census data.

What can be the Consequences of Delaying Census?

Challenges in Framing Policy:

- A break in the Census periodicity can result in data that is not comparable to previous sets, creating challenges in analyzing trends and making informed policy decisions.

- Lack of reliable data – 12-year-old data on a constantly changing metric is not reliable – has the potential to upset every indicator on India and affect the efficacy and efficiency of all kinds of developmental initiatives.

Political Misrepresentation:

- Delaying the Census has consequences for the reservation of seats for SCs and STs in various governing bodies.
- The data from the 2011 Census would continue to be used, which may result in inaccurate seat reservations.
- This is particularly problematic in towns and panchayats where there have been significant changes in population composition over the last decade.

Unreliable Estimates on Welfare Measures:

- The delay will impact government schemes and programmes, and would result in unreliable estimates from other surveys on consumption, health and employment, which depend on census data to determine policy and welfare measures.
- As many as 100 million people are likely to be excluded from the government's food subsidy programme—the Public Distribution System (PDS)—as the population figures used to calculate the number of beneficiaries are from the 2011 census.

Impact on Houselisting:

- Houselisting takes nearly a year to complete, as it requires enumerators to locate addresses and gather relevant information. In India, houselisting is particularly crucial because the country lacks a robust address system.
- Delaying the census means that the list becomes outdated, as changes in households, addresses, and demographics occur over time.
- This can result in incomplete or incorrect information, leading to a less reliable foundation for subsequent population enumeration and data collection

Lack of Migration Data:

- The outdated 2011 Census data couldn't provide answers to important questions regarding the numbers, causes, and patterns of migration.
- During the Covid lockdown, the sight of migrant workers leaving cities and walking back to their villages highlighted their challenges.
- The government lacked information on the stranded migrants and their requirements for food relief and transportation support.
- The upcoming Census is expected to capture the scale of migration towards smaller towns in addition to major cities, shedding light on healthcare and social service needs specific to migrants.
- This data can help in identifying the necessary support and services required by migrants and their locations.

Way Forward

- The government should prioritize conducting the Census at the earliest possible time.
- Efforts should be made to leverage technology and innovative methods to streamline the data collection process.
- The government should allocate necessary resources and manpower to ensure a smooth and efficient Census operation.
- Timely completion of the Census is crucial for accurate data, informed policy decisions, effective governance, and inclusive development in various sectors.

CODE OF CONDUCT FOR CIVIL SERVANTS

Context: There are **some basic rules a civil servant** needs to follow, and the limitations they are placed under.

Civil Services

- There are **three All India Services (governed by Article 312 of the Indian Constitution)** – the Indian Administrative Service, the Indian Police Service and the Indian Forest Service – which are selected by the central government with officers allotted to various state cadres.
- Other services are called **Central Civil Services**. These services are under the central government itself with no state cadre system.

- They include services such as the Indian Foreign Service, the Indian Revenue Service, Customs and Central Excise Service and several others.

About the Rules

- There are two sets of rules for civil servants – **one for All India Services and the other for Central Civil Services**. Specially designed Conduct Rules govern an officer's behavior and conduct.
- **The AIS Conduct Rules, 1968 and CCS Conduct Rules, 1964 are mostly similar**. These were framed based on recommendations from a committee constituted by then **Minister of Home Affairs Lal Bahadur Shastri in 1962**.

Rules

- **Maintaining Integrity:** Every member of the Service shall at all times maintain **absolute integrity and devotion to duty** and shall do nothing which is unbecoming of a member of the Service.
 - Rule 4(1) of the AIS Conduct Rules is more specific. It states, "No member of the Service shall use his **position or influence directly or indirectly to secure employment** for any member of his family with any private undertaking or Non- Government Organisation."
- **Assist Political Parties:** No member of the Service shall be a **member or associated with any political party** or any organization which takes part in politics.
 - No member of the Service shall canvas or otherwise interfere with, or use his influence in connection with, or take part in, an election to any legislature or local authority.
- **Expressing personal opinion:** Rule 7 of AIS Rules states, "No member of the Service shall, in any radio broadcast or communication over any public media or in any document **published anonymously, pseudonymously or in his own name** make any statement of fact or opinion,— Which has the effect of an adverse criticism of any current or recent policy or action of the Central Government or a State Government.
- **Taking dowry and Gifts:** No member of the Service shall— (i) give or take or abet the giving or taking of dowry; or (ii) demand, directly or indirectly, from the parents or guardian of a bride or bridegroom, as the case may be, any dowry.
 - A member of the service may accept gifts from his near relatives or from his personal friends having no official dealings with them, but shall make a report to the Government if the value of such gift exceeds Rs.25,000.
- **Penalty:** Transgressions can attract two kinds of penalties — major and minor. Major penalties can include "dismissal" from the service as well.

DELAY IN DECENNIAL CENSUS

Context: While inaugurating the new office of the Registrar General of India (RGI), the Home Minister said that the government will make sure that India's next census (whenever it happens) is smarter and more dynamic. Such objectives are laudable, but it is a matter of concern that the 2021 decadal census has seen such an unprecedented delay.

- Some of the praiseworthy forthcoming changes include linking birth and death registration data to the national population register in real time. Not only will this give us a better idea of the state of the population, but it will also make existing databases, such as list of welfare programme beneficiaries and voter lists more accurate.
- The census is a count of people in a certain area, but in India, it gives more information than just the number of people. A lot of the information in the census is meant to capture the dynamics within the population: The share of rural and urban population, their occupational status in farm and non-farm and main and marginal work, migration and its longevity, mother tongue and other languages spoken, quality of household dwellings and assets are some such statistics.

What is the History of Census in India?

- The first census in India was conducted in 1872.
- India's first proper or synchronous Census, one which begins on the same day or year across regions of the country, was carried out in 1881 by the colonial administration and has since happened every 10 years.
- The latest census in India was conducted in 2011, and the next census was scheduled for 2021 which has been postponed due to the Covid-19 pandemic and other reasons.

What is Socio Economic Caste Census (SECC)?

- SECC was conducted for the first time since 1931.
- SECC is meant to canvass every Indian family, both in rural and urban India, and ask about their:
- Economic status, so as to allow Central and State authorities to come up with a range of indicators of deprivation, permutations, and combinations of which could be used by each authority to define a poor or deprived person.
- Specific caste name to allow the government to re-evaluate which caste groups were economically worst off and which were better off.
- SECC has the potential to allow for a mapping of inequalities at a broader level.

What is the Difference between Census and SECC?

- The Census provides a portrait of the Indian population, while the SECC is a tool to identify beneficiaries of state support.
- Since the Census falls under the Census Act of 1948, all data are considered confidential, whereas according to the SECC website, “all the personal information given in the SECC is open for use by Government departments to grant and/or restrict benefits to households.”

What is the Significance of Census?

- **Determining Population Size and Demographics:** The primary purpose of a census is to provide an accurate count of the population residing in a particular area. It helps governments understand the size, distribution, and composition of their population. This information is essential for effective governance, policymaking, and resource allocation.
- **Planning and Development:** Census data helps governments make informed decisions about investing in urban planning, infrastructure, and public services by analyzing population trends and characteristics. It identifies areas that require specific attention, such as regions with high poverty rates or inadequate access to healthcare.
- **Electoral Representation:** Census data influences the redrawing of political boundaries and the allocation of seats in legislative bodies. It helps ensure fair representation by accurately reflecting population shifts and changes over time.
- **Resource Allocation and Funding:** Census data helps allocate government funding and resources to meet community needs for education, healthcare, social welfare, transportation, and infrastructure. Accurate data prevents underfunding or neglect of certain areas.
- The Finance Commission provides grants to the states on the basis of population figures available from the Census data.
- **Economic Planning and Business Decisions:** Census data helps businesses identify consumer trends, target demographics, assess market demand, and identify opportunities for growth and investment.
- **Social Research and Policy Analysis:** Census data aids researchers, academics, and policymakers in studying trends, understanding societal changes, and evaluating policies. It contributes to evidence-based decision-making and informed public discourse.

What are the Implications of the delay in Census?

Targeting the Right Beneficiaries:

- Outdated Census information (available from the last Census in 2011) often becomes unreliable and affects those who do and do not receive the benefits of welfare schemes.
- For Instance, National Food Security Act, 2013 which provides subsidised foodgrains to poor & vulnerable uses the census data to identify the beneficiaries.
- According to 2011 census, India's population was about 121 crore and PDS beneficiaries were approximately 80 crores. However, the world bank has estimated India's population to be 141 crore, PDS coverage should have increased to around 97 crore people.
- Moreover, the Finance Commission uses census data while granting finances to the states. In absence of exact data allocation of funds to the states would be disproportionate.

Challenges for Research and Analysis:

- Researchers and policymakers may have to rely on outdated information or alternative data sources, which may not provide the same level of accuracy or granularity.

- Census data are critical for other sample surveys conducted in the country as they use the Census data as reference. For instance, the latest National Family Health Survey (NFHS-5) released last year used 2011 census data.

Impacts the Political Representation:

- The Census data is also used to demarcate constituencies and allocate seats in Parliament and State Assemblies. The delay in the Census means that the data from the 2011 Census would continue to be used. This may not reflect the rapid changes in the composition of the population over the last decade.
- Census data is used for delimitation of constituencies and for determining the quantum of reservation for Scheduled Castes and Scheduled Tribes. The delay means that either too many or too few seats are being reserved for SC/STs and women in different regions.
- Compromises the Migration Data: The Census data is also important to understand migration and migration patterns and its economic impact. The delay in the Census means that the latest information on internal and international migration is not available for policy making and planning.
- The Covid pandemic has exposed the need for Migration Data. During lockdowns, the govt – in the absence of adequate data – was unable to target migrant laborers stranded in cities far from their homes.
- Missed Opportunities and Delayed Decision-making: Timely census data is essential for identifying emerging trends, assessing needs, and seizing opportunities. A delay in the census can result in missed opportunities for targeted interventions, economic planning, and business decisions.

How will the 2021 Census be Different from Previous ones?

- For the first time the data is collected digitally via mobile applications (installed on enumerator's phone) with a provision of working in offline mode.
- The 2021 census will have Other Backward Class (OBC) data, for the first time since the 1931 census.
- The 2021 census will be conducted in 18 languages out of the 22 scheduled languages and English, while Census 2011 was in 16 of the 22 scheduled languages declared at that time.
- The 2021 census will have a dynamic approach having 31 questions in the house-listing schedule, which include new questions on access to internet, laptop/computer, and LPG/PNG connection.
- First time that information of a person from the Transgender Community and members living in the family will be collected.

Conclusion

- A delay in the census can have wide-ranging implications, including inaccuracies in population data, hindered planning and development, challenges in resource allocation, impacts on electoral representation, limitations in research and analysis, and missed opportunities for decision-making. It highlights the importance of conducting the census in a timely manner to ensure accurate and up-to-date information for effective governance and development.

INDIA'S EMPLOYMENT PROBLEM AND BAD STATISTICS

Context: The Indian definition of employment does not meet international standards.

Need of obtaining employment statistics

- The global recession of 2008 profoundly affected high-income countries and cast its shadow on countries and sectors closely linked to the global economy.
- In this context, **international labour statisticians** urged countries to obtain employment statistics that would
 - examine and monitor “conditions of work” and
 - construct measurements “useful for labour-management negotiations”.
- This required **good estimates of underemployment** resulting in advocacy for a **short measurement period** to reduce recall bias and limiting focus on activities for pay or profit.

Issues with obtaining employment statistics in India

Unmatching definition:

- The Indian definition of employment does not meet international standards. This has resulted in strong recommendations from international bodies to revise India's definition of who is employed and who is not.

- **Validity of International standards for India:**
 - **The International Labour Organisation (ILO)** has urged India to follow the standards laid down by the **19th International Conference of Labour Statisticians (ICLS-19)**, held in **2013**.
 - The question is, are these recommendations appropriate for a transitional economy, in which a large proportion of the population continues to engage in agriculture, often supplemented by casual wage work.
- **Two major recommendations of ICLS-19 are:**
 - **Employment data** should rely on **short-term measures of employment**, in most cases, a **7-day measure**, capturing employment during the preceding week;
 - It should **measure all types of work**, including **unpaid work**, but define a person as being employed only if he or she is engaged in **producing goods or services** for pay or profit.
 - This distinction between work and employment may have critical implications for the measurement of progress towards SDGs.

Challenges for India

- **Excluding production of goods or services for own use:**
 - Exclusion of production of goods or services for own use was possibly put in place due to a conviction that **countries were inflating employment rates for excluded groups**, particularly **women**, by counting distress work instead of providing paying jobs.
 - This would reduce the proportion of individuals defined as being employed by as much as 50 per cent in some conditions. Which could also be the case with India.
- **Relying on a one-week reference period:**
 - The recommendation to rely on a one-week reference period is even more **likely to affect** this classification.
 - A vast **proportion of rural Indians** engage in multiple activities combining farm work with work in construction, **MGNREGS work**, or other work in nearby towns.
 - However, when it is time to sow or harvest, they devote all their time to farming.
 - When surveys occur during this period, many individuals would be classified as farmers, and based on IHDS estimates, **45 per cent may be classified as producing only for home consumption**.
 - Thus, they **would not be counted as employed** even if they are engaged in income-producing activities during other parts of the year.

Reasons for India's declining employment

- **Opting out of work:**
 - The sharp fall in India's labour force participation rate (LFPR) suggests that despite India's young population, many have simply opted out of the labour force, perhaps feeling let down by the absence of remunerative, productive jobs.
- **Women face more issues:**
 - The situation is even more dire for women who had a considerably lower participation rate to begin with.
 - India's female labour force participation is not only lower than the global average, but also lower than countries like Bangladesh.
- **Less Jobs:**
 - Post-pandemic, people unable to find jobs remain high among those looking for jobs. Also, the unemployment rate is higher among the younger and more educated.
- **More Informal Sector Jobs:**
 - While there are signs of increasing formalisation as indicated by the EPFO data, a substantial share of the labour force continues to remain employed in the informal sector, lacking a safety net.

Way ahead

- Changing definitions would **underestimate the strength of the Indian economy** and **not serve any policy purpose**.
- Despite this **potential for an artificial decline** in employment, the advocacy from international bodies for adopting ICLS-19 recommendations remains strong.

- Unless the statistical system develops the self-confidence to assertively engage with international organisations, is willing to adopt global best practices where it makes sense and resists pressure to do so when it does not serve policy needs, it will **continue to be held in low esteem nationally and internationally**.

NEW PARLIAMENT BUILDING

Context: Prime Minister Narendra Modi inaugurated the new Parliament building, which will have exquisite artwork and a ceremonial sceptre 'Sengol' among several features.

Features of new Parliament Building

- **Design:** It has a built-up area of about 65,000 sq m, with its triangular shape ensuring the optimum utilisation of space.
- **Capacity:** The new building will house a larger Lok Sabha hall with a capacity of up to 888 seats, and a larger Rajya Sabha hall with a capacity of upto 384 seats. The Lok Sabha may accommodate up to 1,272 seats for joint sessions of Parliament.
- **Theme:** The Lok Sabha hall is based on the peacock theme, India's national bird. The Rajya Sabha is based on the lotus theme, India's national flower.
- **Constitutional Hall:** A state of the art Constitutional Hall in the building "symbolically and physically puts the Indian citizens at the heart of our democracy", says the official website.
- **Central Lounge:** A Central Lounge that will complement the open courtyard will be a place for members to interact with each other. The courtyard will have a banyan, the national tree.
- **divyang friendly:** The new Parliament will be divyang friendly, and people with disabilities will be able to move around freely, says the website.
- **Modern features:** The building will have ultra-modern office spaces that will be secure, efficient, and equipped with the latest communications technology. The new building will have large committee rooms with the latest audio-visual equipment, and will provide a superior library experience.
- **Platinum-rated Green Building:** The new Sansad Bhavan is a "Platinum-rated Green Building" and embodies India's commitment towards environmental sustainability.

Need a new Parliament building

- **Old:** The existing Parliament House, which was commissioned in 1927, is almost a century old Heritage Grade-I building that has seen a massive increase in parliamentary activities and users over the decades.
- **Ad hoc modifications:** Ad hoc constructions and modifications have been made over time, and the building "is showing signs of distress and over-utilization and is not able to meet the current requirements in terms of space, amenities and technology".
- **Narrow seating space for MPs:** The present building was never designed to accommodate a bicameral legislature for a full-fledged democracy. The number of Lok Sabha seats is likely to increase significantly from the current 545 after 2026, when the freeze on the total number of seats lifts. The seating arrangements are cramped and cumbersome, with no desks beyond the second row.
- **Distressed infrastructure:** The addition of services like water supply and sewer lines, air-conditioning, firefighting equipment, CCTV cameras, etc., have led to seepage of water at several places and impacted the aesthetics of the building. Fire safety is a major concern at the building
- **Obsolete communication structures:** Communications infrastructure and technology is antiquated in the existing Parliament, and the acoustics of all the halls need improvement.
- **Safety concerns:** The current Parliament building was built when Delhi was in Seismic Zone-II; currently it is in Seismic Zone-IV, says the website. This raises structural safety concerns.
- **Inadequate workspace for employees:** Over the years, inner service corridors were converted into offices which resulted in poor-quality workspaces. In many cases, these workspaces were made even smaller by creating sub-partitions to accommodate more workers.

Central Vista Redevelopment Project

- The new parliament building has been developed as part of India's Central Vista Redevelopment Project.
- Central Vista Redevelopment Project refers to the ongoing redevelopment to revamp the Central Vista, India's central administrative area located near Raisina Hill, New Delhi.
- The area was originally designed by Sir Edwin Lutyens and Sir Herbert Baker during British colonial rule.
- **Scheduled between 2020 and 2026, the project aims to**

- revamp a 3 km long Kartvyapath between Rashtrapati Bhavan and India Gate,
- convert North and South Blocks to publicly accessible museums by creating a new common Central Secretariat to house all ministries,
- establishing a new Parliament building near the present one with increased seating capacity for future expansion,
- establishing new residence and office for the Vice-President and the Prime Minister near the North Block and South Block and convert some of the older structures into museums.

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INTERNATIONAL RELATIONS

CHINA'S ANTI-ESPIONAGE LAW

Context: Recently, China's legislature approved sweeping amendments to China's **anti-espionage law**, broadening the scope of what may be defined as activities related to spying and national security.

China's anti-espionage law

- The recent amendments are to **China's 2014 anti-espionage law**.
 - Article 1 of the law says the idea behind the legislation is "to prevent, stop and punish espionage conduct and maintain national security."
- China broadened the **law's scope**, with one of the changes declaring that "all documents, data, materials, and items related to national security and interests" will be protected on par with what is deemed state secrets.
- The transfer of any information deemed by authorities to be in the interest of what they define to be "**national security**" will now be considered an act of espionage.
- The latest change "**improves the regulations** on cyber espionage" and "clearly defines cyberattacks, intrusions, interference, control and destruction" as espionage.
- Other changes would include "clarifying the responsibility of national security organs in guiding and arranging publicity as well as provisions to strengthen the protection of personal information in counter-espionage work."

Objectives

- The amendments come amid a string of high-profile cases involving journalists, foreign executives, as well as international companies in China, who have come under the lens of authorities on national security grounds.
- The expanded law follows the Xi Jinping government's increasing focus on "security" and a recent policy shift now emphasises the dual importance of "development and security", rather than a focus solely on economic development.

Repercussions

- The amended law is likely to have a chilling impact both within China and beyond.
- Chinese journalists, academics, and executives who frequently engage with foreign counterparts are likely to think twice before doing so, at least without explicit government sanction
- Unrestricted engagement between Chinese and foreign scholars, which has already become limited in the Xi Jinping era, is likely to become even rarer.

Impacts on India: Indian companies with a presence in China, particularly in sectors deemed to be sensitive such as pharma and IT, will likely need to review their exposure to risks under the expanded law and broadened definitions of "national security", particularly amid deteriorating relations between the neighbours.

UKRAINE CRISIS HIGHLIGHTS INDIA'S NEED TO REDUCE DEPENDENCE ON MILITARY IMPORTS

Context: The article explains the dilemma posed by Ukraine war for India foreign policy makers.

What is the Russian stand regarding the Ukraine war?

- As per Putin, the Ukrainian nation does not exist, and it is an inalienable part of Russia's history, culture and spiritual space." Such claims are made by hegemonic states to hide their intentions for dominance.
- Putin has accused the US and Europe of bad faith. Gorbachev was given assurance that NATO would advance "not an inch eastward". This undertaking was allegedly violated when NATO included 10 former Warsaw Pact members.

How has conflict posed a dilemma for New Delhi?

- It remains engaged with Russia and China in the BRICS and Shanghai Cooperation Organisation (SCO), while also partnering with the US in the Quad and Malabar groupings. India simultaneously holds presidencies of the G20 and SCO. India will need a "tightrope walk" while maintaining "strategic autonomy".
- The increasing closeness of Moscow with Beijing gives Beijing great leverage. It impacts Russia's capacity to pursue independent relations with other states, especially India.

- There is a rapid decline in Russia's capability as a defence supplier. It should be a cause of worry for India.
- The Quad and Malabar groupings show the convergence of US and Indian strategic interests. But their overall impact has been underwhelming. China sees this grouping as a potential impediment to its hegemonic grand plan. The Quad members except the US have also shown nervousness in their responses to China. Quad meetings have emphasised that the grouping has no security implications and is not an "Asian NATO".

What are prospects of Indo-US cooperation in assisting India in improving the security scenario of India?

- In September 2021, Australia, the UK and US announced the formation of a trilateral security pact, AUKUS. Under it, the US and Britain will share many advanced technologies with Australia and would also assist it in acquiring a nuclear attack submarine force.
- AUKUS shows that there is complete absence of any similar offer of training, military technology or hardware, by the US to India. This is despite the strategic partnership and Indo-US civil nuclear deal and a host of defence-related agreements.
- An Initiative on Critical and Emerging Technologies (iCET) was announced in May 2022 by Joe Biden. It remains to be seen if iCET results in significant sales or transfer of technology to India or ends up like other Indo-US agreements.

What are the options for India to increase independence in defence supplies?

- Weak performance of India's military-industrial complex has made it import-dependent for weaponry.
- While "atmanirbharta" is a good. But technology has long gestation periods. India should draw useful lessons from China.
- China has employed reverse engineering, coercion, and even blatant theft to acquire military technology from the USSR and the West.

INDIA-UAE CEPA COMPLETES ONE YEAR

Context: The historic **India-UAE Comprehensive Economic Partnership Agreement (CEPA)** which came into force on May 1st, 2022, has recently completed one successful year.

India-UAE Comprehensive Economic Partnership Agreement (CEPA):

- **About:** A **Comprehensive Economic Partnership Agreement (CEPA)** was signed between India and UAE a year ago **to strengthen the trade ties** between the two nations.
- **Aim:** The agreement aimed to **increase the total value of bilateral trade in goods to over US\$100 billion and trade in services to over US\$ 15 billion** within five years.

Significance:

- Keeping in mind that **the gems and jewellery sector** contributes a substantial portion of India's exports to the UAE the agreement is **expected to significantly benefit this sector** by providing **tariff concessions**.
- Overall, India is expected to benefit from **preferential market access** provided by the UAE on **over 97 percent of its tariff lines** which account for **99 percent of Indian exports to the UAE** in value terms, particularly from labor-intensive sectors such as:
 - Gems and jewelry, textiles, leather, footwear, sports goods, plastics, furniture, agricultural and wood products, engineering products, pharmaceuticals, medical devices, and automobiles.
- With regards to trade in services, **Indian service providers** have **enhanced access** to around **111 sub-sectors from the 11 broad service sectors**.

Review of the 1st year of India-UAE CEPA

- **Trade success:**
 - According to the reports, this was the **Fastest Executed Bilateral Agreement** where imports and exports increased between India and United Arab Emirates (UAE).
 - The agreement also **boosted trade** which benefited the **domestic market**. **Labour-intensive sectors** also **boomed** as a result of this tie-up.
- **Increase in India's exports:**
 - **India's global export rose by 5.3 percent** and **exports to UAE increased by 11.8 percent**.
 - While the export of commodities like jewelry, car, and beauty products rose, in particular - aircrafts, spacecrafts and exports of parts increased as UAE is a transit hub between Asia and Europe and Americas.

- **Increase in UAE's exports:**
 - Similarly, imports also increased from the UAE by 18.8 percent.
 - The nation's non-oil imports from UAE increased by 4.1 percent and global imports increased by 7.8 percent.
- **Certificate of Origin:**
 - The report further stated that **CEPA ranked second in issuing Certificate of Origin**— a document that confirms the 'nationality' of a product and serves as a declaration to satisfy customs or trade requirements— in the last 11 months.
- **Below expectation export commodities:**
 - On the other hand, the export of commodities such as iron, steel, and apparel did not grow as expected.

India-UAE Relations

- **Evolution of relations:**
 - **Beginning of diplomatic relations:**
 - 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.
 - **2015:**
 - The traditionally strong bilateral relations enjoyed by India & UAE received an impetus with the visit of PM Modi to UAE on 16-17 August 2015 which marked the beginning of a new strategic partnership between the two countries.
 - **The 'Order of Zayed':**
 - Modi's last visit to the UAE was in August 2019, when he received the UAE's highest award, 'Order of Zayed'.
 - **2022:**
 - In February 2022 both sides signed a **Comprehensive Economic Partnership Agreement (CEPA)**.
 - The Dubai-based DP World and India's **National Skills Development Council** signed an agreement to set up a **Skill India Centre in Varanasi** to train local youth in logistics, port operations and allied areas so that they can pursue overseas employment.
- **Trade:**
 - **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.
- **Defence and Security Cooperation:**
 - Bilateral Defence Interaction between India and UAE has been steadily growing in accordance with other aspects of the bilateral relationship.
 - 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**.
- **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.
- **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.

Way ahead

- 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.

STAYING MARRIED TO CHINA – ON TACKLING THREATS FROM CHINA

Context: The US and the EU countries have changed their mind towards their strategy of decoupling from China. This could be seen from their speeches.

What are some of the speeches from the US for China?

- The US secretary recently said that the US will speak out when its interest is at stake. However, this does not mean that it wants to decouple its economy from China's.
- This is because a full separation of our economies would be disastrous for both countries. It would also be destabilising for the rest of the world.
- A similar kind of message was given by the US national security adviser. He said that the US thinks of de-risking and diversifying, not decoupling from China.

What is the new de-risk strategy of the US and how does it differ from the previous decoupling strategy?

- The new 'de-risk' strategy is a departure from the 'decouple' plan. It also intends to change the perspective of the US from the fact of geo-economic containment of China is not easy.
- The decouple plan stated that the geo-economic containment of China would preserve the world's equilibrium without involving any form of conflict.
- It was suggested that the US should restrict trade with China; deny China access to key raw materials; and stop technology transfers that China would need. These all would slow China's economic growth.
- This advice was accepted by both Biden and Trump which aimed at starting New Cold War. However, it is different from the Old Cold War with the Soviet Union.

What are the differences between New Cold War and the Old Cold War?

- The Old Cold War sought the Soviet Union to be geopolitically contained while the New Cold War aims at geo-economic containment of China.
- However, it is not easy to sustain the New Cold War because China is the world's biggest manufacturing and trading nation with almost every country around the world having economic relations with it.
- Hence, the US and the EU have discovered that it is not easy to achieve the geo-economic containment of China in the long run because they remain dependent on China in many ways and reducing these dependencies will take time.
- They have also realised that countries and industries around the world are deeply integrated into China's economy, and vice versa. Hence, due to the complex global supply and value chains, decoupling is not easy.

What steps have been taken by India to reduce its dependence on China and what are the associated concerns?

- In 2019, the Indian government opted out of the Regional Comprehensive Economic Partnership agreement to reduce India's trade dependence on China.
- However, four years later India's trade deficit with China reached an all-time high of over \$85 billion.
- Indian businesses urged GoI that while decoupling is tough, even de-risking would require investments and policy changes that are not easily forthcoming.
- Hence, it is not easy to substitute the dependence on China for India as well as the rest of the world.

INDIA'S EVACUATION MISSIONS AND CHALLENGES

India's Evacuation Missions have become increasingly vital for safeguarding its citizens during global crises, as exemplified by the recent Sudan conflict in 2023. In this mission, India demonstrated its unwavering commitment to ensuring the safety and well-being of thousands of its nationals trapped in the African nation. However, these missions also present a myriad of challenges, including geopolitical complexities, operational difficulties, and resource constraints.

Why there is a rising complexity in India's Evacuation Missions?

- **Unstable Regions:** India's evacuation missions often involve unstable regions where the security situation can change rapidly, making it difficult to plan and execute safe evacuations. The recent rescue of Indians from Sudan highlights this complexity, as the IAF faced intelligence challenges and a rough landing environment.
- **Global Crises:** Global crises like the COVID-19 pandemic and the recent conflict in Afghanistan have led to an increased need for evacuation missions in challenging circumstances. In the Kabul mission of August 2021, the pilots faced chaotic and uncontrolled airspace, emphasizing the complexity of such operations.
- **Diverse Nationalities:** India's evacuation missions often involve not only Indian citizens but also foreign nationals, adding to the logistical challenges of coordinating with other governments and international organizations. During "Operation Raahat" in 2015, India evacuated over 4,600 Indians and 950 nationals from 41 countries amid the Yemen crisis.
- **Coordination Challenges:** India's evacuation missions require close coordination between various government agencies, the armed forces, and international partners. This increases the complexity of such operations, as demonstrated by India's efforts to evacuate its citizens from Ukraine during the COVID-19 pandemic or from Iraq and Syria.
- **Evolving Security Threats:** India's evacuation missions are becoming more complex due to evolving security threats, such as terrorism and cyberattacks. These threats can directly impact the safety and security of evacuees and the personnel involved in the missions, requiring robust planning and countermeasures to mitigate risks.
- **Climate-Related Disasters:** Natural disasters caused by climate change, such as cyclones and floods, can hamper evacuation missions.
- **Growing Indian Diaspora:** With an increasing number of Indians living, working, and studying abroad, the potential for India's evacuation missions to involve a more diverse group of people is growing. This can create additional complexities in terms of communication, cultural understanding, and logistical coordination during evacuation operations.

What is the policy support provided by the government for India's Evacuation Missions?

- **Strong Political Commitment and Continuous Assessment:** India's Prime Minister's directive to prepare evacuation plans for Indian citizens in Sudan in 2023 and his emphasis on regular monitoring and assessment of their safety demonstrate the government's unwavering dedication to protect its nationals abroad.
- **Interagency Coordination:** The high-level meeting chaired by India's PM to discuss the situation of Indians trapped, this was attended by officials from the Ministry of External Affairs, the Indian ambassador to Sudan, the Foreign Secretary, and high-level officials from the air force and navy, highlighting the importance of interagency coordination in evacuation missions.
- **Diplomatic Efforts:** India's External Affairs Minister meeting with UN Secretary-General Antonio Guterres to discuss the situation, emphasizing the role of diplomacy in facilitating evacuation missions.
- **Resource Allocation:** The Indian government's allocation of resources, such as the deployment of Indian Air Force C-130J Super Hercules aircraft for evacuation missions like the one in Sudan in 2023, demonstrates support for the missions.
- **Public Communication:** The Ministry of External Affairs' cautionary statement to Indians in Sudan about active fighting near the Indian mission in Khartoum, emphasizing the role of effective public communication in ensuring the safety of citizens during evacuation missions.
- **Specialized Training:** The specialized training provided to the IAF's special operations crew, like the C-130J squadrons, which helped in successful evacuation missions such as the ones in Afghanistan and Sudan.

- **Coordination with Host Countries:** During the Vande Bharat Mission in 2020, India worked closely with host countries to ensure the safe repatriation of Indian citizens from various nations, emphasizing the importance of coordination with host countries for successful evacuation missions.

What are the operational challenges faced in India's Evacuation Missions?

- **Limited Intelligence:** Evacuation missions can face challenges due to insufficient information about local conditions, hindering effective planning and execution.
- **Logistical Hurdles:** Coordinating transportation, navigating difficult terrain, and providing basic necessities like food and water can be challenging during evacuation missions. For instance, Indian citizens trapped in Sudan in 2023 faced difficulties due to a lack of electricity, food, and water, highlighting the logistical challenges in evacuation missions.
- **Communication Barriers:** Language differences, poor communication infrastructure, and limited access to local authorities can complicate coordination and rescue efforts.
- **Time Constraints:** In many evacuation scenarios, the situation on the ground can change rapidly, requiring flexibility and adaptability from the mission planners and the personnel involved. This adds another layer of complexity to India's evacuation missions, as decision-makers must quickly respond to new information and adjust their plans accordingly.
- **Uncertainty in Evacuee Numbers:** Estimating the exact number of citizens who require evacuation can be difficult, leading to challenges in planning and executing evacuation missions.
- **Navigating Political Sensitivities:** Evacuation missions may involve coordinating with foreign governments or navigating complex political situations, such as India maintaining contact with the U.S., Saudi Arabia, the U.K., and the UAE during the Sudan evacuation in 2023.

What are the advantages associated with the success of India's Evacuation Missions?

- **Enhanced National Reputation:** Successful evacuation missions, like the 2023 Sudan evacuation, demonstrate India's commitment to its citizens abroad and bolster the country's international standing.
- **Improved Military Capabilities:** Complex operations help strengthen India's military expertise, particularly in the areas of special operations and logistics.
- **Strong Diplomatic Relations:** Coordinating with multiple nations during evacuation missions, as India did with the U.S., Saudi Arabia, the U.K., and the UAE in the Sudan case, fosters international cooperation and strengthens diplomatic ties.
- **Greater Public Confidence:** Successfully executing evacuation missions instills confidence in Indian citizens, both at home and abroad, that their government is committed to their safety and wellbeing.
- **Showcase of Technological Advancements:** Successful evacuations, such as the Wadi Seidna mission, highlight the capabilities of advanced aircraft like the C-130J Super Hercules. This shows India's technological progress in the defence sector.

Way forward:

- **Enhance Intelligence Gathering:** Collaborate with regional and global partners to improve intelligence collection and sharing for better situational awareness, like during the Yemen evacuation mission, which involved coordination with several countries.
- **Strengthen Coordination Mechanisms:** Establish joint task forces with friendly countries to streamline coordination between different government agencies, foreign governments, and international organizations, similar to the collaboration during the Nepal earthquake relief operations.
- **Advanced Technology:** Continue investing in cutting-edge technology, such as the C-130J Super Hercules and C-17 Globemaster aircraft, to enhance evacuation capabilities and ensure mission success, as seen in the Sudan evacuation.
- **Train and Equip Special Forces:** Strengthen the training and capabilities of special forces like the Garud commandos, who participated in the Herat embassy evacuation mission, to guarantee the safety of Indian citizens abroad.
- **Develop Contingency Plans:** Conduct regular simulations and exercises with regional partners to prepare comprehensive contingency plans for different scenarios, ensuring timely and effective responses in real-life situations.

- **Maintain Diplomatic Engagement:** Actively participate in regional forums and establish joint mechanisms with countries in the region, as well as those with significant citizens in crisis zones. This will ensure smooth cooperation during evacuation missions.

KALADAN MULTIMODAL PROJECT

Context: Recently MV-ITT LION (V-273) was flagged off from Syama Prasad Mookerjee Port, Kolkata as the inaugural shipment to operationalize the Sittwe Port in Rakhine State of Myanmar.

- The Port has been built under grant assistance from the Government of India as part of Kaladan Multimodal Transit Transport Project (KMTTP).

Kaladan Multimodal Transit Transport Project (KMTTP)

- It is a massive connectivity project to connect the Haldia port (West Bengal) to Mizoram through Myanmar.
- The route envisages a marine journey from Haldia to Sittwe port in Myanmar. It will then link Sittwe seaport to Paletwa via the **Kaladan river boat route**, and then from Paletwa to Zorinpui in Mizoram state in Northeast India **by road**.

Significance of KMTTP Project

- This project will reduce distance from Kolkata to Sittwe by approximately 1,328 km and will reduce the need to transport goods through the narrow Siliguri corridor, also known as Chicken's Neck.
- This strategic and important route will further enhance trade, commerce and economic ties with Myanmar, our North-Eastern States and South Asian Countries.'
- The start of operation of Sittwe port will pave a new avenue for Sittwe to become a maritime hub for Myanmar and enhance regional connectivity.
- It will help in **countering Chinese expansion** in the region.

Another project – alternate route to northeast India

- India is also developing **railway route** from Cox's Bazar deep water port to South Tripura district by rehabilitating the railway link from Santirbazar in India to Feni in Bangladesh, where a road and rail bridge is being built to connect the "Belonia, India–Parshuram, Bangladesh road and rail crossing checkpoints".

India -Myanmar Relations

- The two countries share a long land border of **over 1,600 km** and a maritime boundary in the Bay of Bengal
- **India-Myanmar-Thailand Trilateral Highway** - The project involves the construction of a 1,360 km road from Moreh in India to Mae Sot in Thailand via Myanma.
- **Operation Sunrise** is coordinated efforts between the security forces of India and Myanmar to target insurgent groups operating along the border between the two countries.
- Indo-Myanmar border is an open border with **free movement regime (FMR)** within 16 kms on both sides of the border.
- India has been investing in Myanmar's energy sector, including the **construction of a gas pipeline** from Myanmar to India.
- India has been **providing training** and equipment to Myanmar's security forces to enhance their capacity to deal with security threats.

INDIA-ISRAEL RELATIONS

Context: Recently, India's Council of Scientific and Industrial Research (CSIR) and Israel's Defense Research and Development (DDR&D) have signed a Memorandum of Understanding (MoU) on Industrial Research and Development Cooperation.

What are the Key Highlights of the MoU?

- It aims to work together on research and development projects in various fields such as Artificial Intelligence (AI), Quantum and semiconductors, synthetic biology, Sustainable Energy, Healthcare, and Agriculture. They will focus on implementing specific projects in mutually agreeable areas.
- The collaboration will include important industrial sectors such as aerospace, chemicals, and infrastructure.
- The MoU will be monitored by a Joint Steering Committee led by the heads of the CSIR and DDR&D for taking forward mutually benefiting Industrial and technology cooperation.

How has the India-Israel Relations been So Far?

Diplomatic: Though India officially recognized Israel in 1950, both countries established full diplomatic ties only on 29th January 1992.

- As of December 2020, India was among 164 United Nations (UN) member states to have diplomatic ties with Israel.

Economic and Commercial: Trade between India and Israel has increased from USD 5 billion before the Covid-19 pandemic to about USD 7.5 billion till 2023 January.

- Trade in diamonds constitutes about 50% of bilateral trade.
- India is Israel's third-largest trade partner in Asia and seventh largest globally.
- Israeli companies have invested in India in energy, renewable energy, telecom, real estate, water technologies, and are focusing on setting up R&D centers or production units in India.
- India is also in dialogue with Israel for concluding a Free Trade Agreement (FTA).

Defence: India is one of the largest importers of weapons from Israel, contributing to about 40% of its annual arms exports.

- The Indian armed forces have inducted a wide array of Israeli weapon systems over the years, which range from Phalcon AWACS (Airborne Warning And Control Systems) and Heron, Searcher-II and Harop drones to Barak anti-missile defence systems and Spyder quick-reaction anti-aircraft missile systems.
- At the 15th Joint Working Group (JWG 2021) meeting on Bilateral Defence Cooperation, countries agreed to form a Task Force to formulate a comprehensive Ten-Year Roadmap to identify new areas of cooperation.

Agriculture: In May 2021, “a three-year work program agreement” for development in agriculture cooperation, was signed.

- The programme aims to grow existing Centres of Excellence (CoE), establish new centers, increase CoE's value chain, bring the Centres of Excellence into the self-sufficient mode, and encourage private sector companies and collaboration.

Science & Technology: In recent years, multiple MoUs have been signed between Israel's Start-Up National Central and Indian entrepreneurship centres like iCreate and TiE (Technology Business Incubators).

- In 2022, the two countries recently widened the scope of the India-Israel Industrial R&D and Innovation Fund (I4F) to include sectors like renewable energy and ICT (Information and Communication Technology) through increased participation of academia and business entities.
- I4F is a cooperation between the two countries to promote, facilitate and support joint industrial R&D projects between companies from India and Israel to address the challenges in the agreed 'Focus Sectors'.

Others: Israel is also joining the India-led International Solar Alliance (ISA), which aligns very well with the objectives of both countries to scale up their cooperation in renewable energy and partner in clean energy.

Way Forward

- Indians are sympathetic towards Israel and the government is balancing and recalibrating its West Asia policy on the premise of its own national interest.
- India and Israel need to overcome the vulnerability of their religious extremist neighbours and work productively on global issues like climate change, water scarcity, population explosion and food scarcity.

- A more aggressive and proactive Middle Eastern policy is the need of the hour for India to reap the maximum benefit of the geopolitical realignments gradually being brought in by the Abraham Accords.

UN REFORMS

Context: It has been criticised that Conflicts like those in Sudan, Syria, Myanmar go largely unchecked at the United Nations.

UN Reforms

- **Demand of reform:**
 - **Reform of the United Nations Security Council (UNSC) encompasses five key issues:**
 - Categories of membership,
 - The question of the veto held by the five permanent members,
 - Regional representation,
 - The size of an enlarged Council and its working methods, and
 - The Security Council-General Assembly relationship.
- **Why?**
 - **Changing world order:**
 - In the 77-year-old history of the UN, the composition of the Security Council has been altered only once.
 - I.e., In 1963 when the General Assembly decided to expand the Council from 11 to 15 members, with the addition of four non-permanent seats.
 - Since then, the world has changed. The geopolitical relations in the world have altered, the economic responsibilities in the world in countries have also changed.
 - **Equitable World Order:**
 - There is a need for a more equitable world in order to uphold the principles of democracy at the global level.
 - **Inclusivity:**
 - Developing countries like the African countries, need to be made stakeholders in the multilateral institutions and involved in the decision-making process.
 - **Mitigation of New Threats:**
 - With rising protectionism, increased incidents of terrorism and the threat of climate change, the multilateral system must become more resilient and responsive.
- **How?**
 - **Agreement of members:**
 - Any reform of the Security Council would require the agreement of at least two-thirds of UN member states in a vote in the General Assembly and must be ratified by two-thirds of Member States.
 - All of the permanent members of the UNSC (which have veto rights) must also agree.
 - **Expansion:**
 - The expansion of the Security Council in both permanent and non-permanent categories, as well as reform in its working methods, is indispensable to making this body more representative, legitimate and effective.

Issues

- **Unchecked conflicts:**
 - It has been criticised that Conflicts like those in Sudan, Syria, Myanmar go largely unchecked at the UN.
 - Some countries and non-state actors benefit from the conflict economy. They launder money, sell arms, supply fuel and exploit natural resources.
 - Whereas in the past the UN has played an important role in international diplomacy over the former Yugoslavia, Rwanda and the Middle East.
- **Unable to discharge basic functions:**
 - The Security Council cannot discharge its basic function as one of the permanent members of the Security Council attacked its neighbour.

- The Security Council should be the body to take action against the aggression. But because of the veto power, the Security Council cannot act.
- The recent example being Russia's:
 - Russia, a veto-wielding permanent member of the UN, attacked Ukraine in February 2022.
 - Russia has vetoed UNSC resolutions on Ukraine.
 - Russia also voted against a resolution in the UNGA which called on countries not to recognise the four regions of Ukraine that Russia has claimed.

Challenges

- **Lack of Political Will:**
 - Although there is a general agreement towards change in the system, different countries have different perceptions of the requirement for change.
- **Coffee Club:**
 - It is an informal group comprising 40-odd member states, mostly middle-sized states who oppose bigger regional powers grabbing permanent seats, has been instrumental in holding back reforms to the United Nations Security Council over the past six years.
- **Chinese Opposition:**
 - China being a permanent member blocks the growth of India becoming a Permanent Member.
- **Operationalization of the reforms:**
 - The challenge is also regarding how to operationalize these reforms.
 - The UN is structured in such a way that the decision-making process is distributed among a wide range of countries and constituencies with often competing and contradictory views and interests.
 - Russia and China, for example, did not attend the previous UN meeting on reforms.

Way ahead

- Some of the UN's specialized agencies like Unicef and UNHCR do an admirable job under exacting circumstances when no one else will do it.
 - They need to be further strengthened.
- India has suggested that the UN reforms need to be "broad-based and all-encompassing" and the changes should not be restricted to its secretariat only.

CPEC'S EXTENSION TO AFGHANISTAN

Context: Recently, China and Pakistan have held the 4th round of the Foreign Minister-level Pakistan-China Strategic Dialogue Islamabad, Pakistan, where they agreed to extend the China-Pakistan Economic Corridor (CPEC) into Afghanistan.

Alongside, the 5th China-Pakistan-Afghanistan Trilateral Foreign Ministers Dialogue was also held where they agreed to combat terrorism and enhance cooperation in different economic fields.

In 2021, China proposed construction of the Peshawar-Kabul motorway as an extension of CPEC in Afghanistan.

What is the China-Pakistan Economic Corridor?

- CPEC is a 3,000-km long route of infrastructure projects connecting China's northwest Xinjiang Uygur Autonomous Region and the Gwadar Port in the western province of Balochistan in Pakistan.
- It is a bilateral project between Pakistan and China, intended to promote connectivity across Pakistan with a network of highways, railways, and pipelines accompanied by energy, industrial, and other infrastructure development projects.
- It will pave the way for China to access the Middle East and Africa from Gwadar Port, enabling China to access the Indian Ocean and in return China will support development projects in Pakistan to overcome the latter's energy crises and stabilizing its faltering economy.
- CPEC is a part of the Belt and Road Initiative.
- The BRI, launched in 2013, aims to link Southeast Asia, Central Asia, the Gulf region, Africa and Europe with a network of land and sea routes.

Why does Afghanistan seem Significant for Both Pakistan and China?

- **Access to Rare Minerals:** Afghanistan has a large amount of Rare Earth Minerals (1.4 million tonnes) that are important for making electronics and military equipment. However, since the Taliban took over, the country has been facing economic difficulties because foreign aid has been withdrawn.
- **Energy and Other Resources:** Afghan participation in CPEC will allow Islamabad and Beijing to harness energy and other resources, as well as gain access to Afghanistan's vast wealth of untapped natural resources, ranging from copper, gold, uranium, and lithium, which are critical components for a variety of advanced electronic technologies and high-tech missile guidance systems.

What can be the Implications for India on CPEC's Extension to Afghanistan?

Reduces India's Scope in Central Asia:

- Afghanistan's involvement in CPEC can reduce the scope of India's investment in Iran's Chabahar port. India intends to project the port as a gateway to lucrative prospects for commerce between India, Iran, and Afghanistan with Central Asian countries.
- Pakistan is also hoping to undermine India's influence in Central Asia and CPEC might provide the perfect platform for this.

China can take Lead from India in Development Aid:

- In terms of development aid, India has been the largest regional lender to Afghanistan, investing more than USD 3 Billion for projects such as
- Road construction, power plant construction, dam construction, parliament building, rural development, education, infrastructure, and much more.
- With the extension of CPEC, China is projected to displace India and take the lead in Afghanistan's development sphere.

Security Concerns:

- China may control Afghanistan's Bagram air force base.
- The Bagram airport is the biggest airport and technically well-equipped as the Americans kept it for their use till the end, instead of the Kabul airport.

Undermining India's Sovereignty:

- The CPEC passes through PoK, which undermines India's sovereignty. India has repeatedly raised concerns over this issue as a violation of its sovereignty and territorial integrity.
- By extending the CPEC to Afghanistan, China and Pakistan are further consolidating their economic and strategic ties, which India sees as a threat to its security and regional interests.

Terrorism and Strategic Concerns:

- If Afghanistan becomes a part of the CPEC, it will boost economic development but may also give Pakistan a strategic advantage in the region, which could be a threat to India's interests.
- It may lead to an increase in terrorism from Pakistan against India, as it seeks to gain the upper hand in the region.

Exploitation of Rare Earth Minerals:

- With the extension of CPEC, China is also looking to exploit Afghanistan's rich minerals and highly lucrative rare-earth mines.
- Rare-earth metals, which are key components for a host of advanced electronic technologies and hi-tech missile guidance systems.

Way Forward

CPEC has the potential to alter the power balance in the region in China's favour, much to India's displeasure. If not dealt with properly, this might change the strategic dynamics of the region and the credibility of India's claim over PoK in the long run.

India should strengthen its economic and trade ties with Afghanistan by investing in the country's infrastructure and development. This will not only improve the economic situation in Afghanistan but also help India in countering the influence of CPEC.

EVOLVING INDIA - GULF RELATIONS

Context: The new India-US relations on the Gulf is a major departure from the traditional approaches to the Middle East in both India and the US. In India, one of the entrenched principles of the earlier foreign policy was the proposition that India must either oppose US or keep its distance from it in the Middle East.

The Recent meeting in Riyadh between Saudi Crown Prince and the national security advisers of the US, UAE, and India underlines the growing strategic convergence between India and US in the Gulf. It also highlights India's new possibilities in the Arabian Peninsula.

What was the Ideological Taboo in India's Foreign Policy?

Any proposition that India would sit down with the US, Israel and the Gulf countries were considered as a fantasy just a few years ago. Some of the reasons behind this ideological taboo are:

- Traditionally, India pursued a policy of non-alignment, aiming to maintain neutrality and independence in its foreign relations.
- India historically prioritized its relationships with neighbouring countries in South Asia. It concentrated on building regional alliances, resolving conflicts, and promoting economic integration within its immediate neighbourhood.
- In the past, India had limited resources to invest in projecting influence in regions beyond its immediate neighbourhood, including the Gulf. India focused on its own domestic development and addressing internal economic issues, which somewhat constrained its engagement with the Gulf nations.
- Also, seeing India's deep ties with Russia, India increasing its ties with US was also seen as a taboo in the past.
- Because of Arab-Israel conflict of Palestine issue, there was a notion among the policy framers that India can't be visibly friendly to Israel.

How has India Shifted its Foreign Policy?

- After recognizing the significance of Middle East in India's Foreign Policy, it started increasing its ties with Gulf. The landmark shift towards this was seen with the formation of a four-nation grouping — unveiled in October 2021 — called I2U2 that brought the US, India, Israel, and the UAE together.
- India shifted its policy by rejecting the notion that India can't be visibly friendly to Israel and maintained a fine balance of ties with both Israel and Arab.
- India's uneasy relations were also transformed with the two Arabian kingdoms, Saudi Arabia and the UAE, into solid strategic partnerships.

Significance of India's Increasing Ties with the Gulf:

- **Countering Terrorism and Pakistan:** If India sheds its "anti-Western" lens in the Middle East, the US would lead the West to discard its pro-Pakistan bias in thinking about the relationship between the Subcontinent and the Gulf. They can help India in countering terrorism as well.
- Pakistan's continuing strategic decline makes it a lot less relevant to the changing geopolitics of the Gulf.
- Gulf Nations have seen an ideological shift from religion to Nationalism. The engagement with them would also help India overcome the dangerous forces of violent religious extremism within the Subcontinent.

Energy Security: The Gulf countries, including Saudi Arabia, the United Arab Emirates (UAE), Qatar, and Kuwait, are major oil and gas producers. India is heavily dependent on Gulf nations for its energy needs, as they account for a significant portion of its oil and gas imports. Strengthening ties ensures a stable and reliable energy supply, which is crucial for India's growing economy.

- They are also thriving to reduce dependence on oil in the long run which could be beneficial for India as well.
- Between 2014-18, the total renewable electricity installed in the GCC states increased by over 300 percent.
- UAE, Saudi Arabia, Oman and Bahrain are the members of International Solar Alliance initiated by India.
- **Economic Cooperation:** The Gulf countries have robust economies with substantial investment potential. India seeks to enhance trade and economic cooperation with these nations, exploring opportunities for investment, infrastructure development, and bilateral trade. It opens avenues for Indian businesses to tap into the Gulf's lucrative markets and benefit from their diverse sectors such as construction, real estate, finance, and tourism.
- Investment from Gulf to India has increased significantly during past few years. India can utilise its relations to attract more investments from the Gulf.

- Also, there is a Free Trade Agreement (FTA) being negotiated between India and Gulf Cooperation Council.
- **Remittances and Diaspora:** The Gulf nations house millions of Indian people who play a vital role in India's economy through remittances. Strengthening ties with these nations benefits Indian workers by providing better welfare and protection, enhancing labor migration, and creating more employment opportunities.
- During FY 2021-22, India received highest ever remittances. UAE contributed the most after USA.
- **Geostrategic Importance:** The Gulf holds geostrategic significance due to its location connecting Europe, Asia, and Africa. India's enhanced engagement in the region provides it with a platform to expand its influence and shape regional dynamics. It allows India to participate in dialogues, initiatives, and organizations such as the Gulf Cooperation Council (GCC), Arab League, and Indian Ocean Rim Association (IORA), strengthening its diplomatic ties and strategic partnerships.
- **Cultural and People-to-People Exchanges:** India shares historical, cultural, and social ties with the Gulf countries, dating back centuries. Strengthening bilateral relations promotes cultural exchanges, tourism, and people-to-people interactions, fostering mutual understanding and goodwill between the nations. It helps preserve and promote the shared heritage, traditions, and values of the Indian diaspora in the Gulf.

What are the Challenges in India-Gulf ties?

- **Geopolitical Dynamics:** The Gulf region is strategically important due to its energy resources and its location at the crossroads of major international trade routes. Geopolitical rivalries and conflicts in the region, such as the Iran-Saudi Arabia rivalry, the Yemeni civil war, and the Qatar diplomatic crisis, can impact India's relations with Gulf countries.
- **Regional Instability:** The Gulf region has witnessed political instability and security threats in recent years. Ongoing conflicts, such as the Syrian civil war and the rise of extremist groups such as ISIS have created challenges for regional stability. These issues can have spill-over effects on India's relations with Gulf countries and pose security concerns for Indian citizens residing in the region.
- **China Factor:** China has emerged as an important player in the geopolitics and its diplomatic and political influence in the region will continue to rise. Yet, China is nowhere near displacing US as the principal external actor in the Gulf. Thus, it also makes India heavily dependent on US for fostering its relations with gulf nations.

Way Forward:

- **Economic Cooperation Frameworks:** Establishing bilateral economic cooperation frameworks, such as free trade agreements or preferential trade agreements, can facilitate smoother trade and investment flows. India must thrive to finalize negotiations on India-GCC free trade agreement.
- **Cultural Exchanges and People-to-People Contacts:** Strengthening cultural exchanges, promoting tourism, and facilitating people-to-people contacts will foster greater mutual understanding and strengthen the bonds between India and the Gulf nations. Encouraging cultural festivals, educational exchanges, and promoting tourism initiatives can contribute to building stronger ties at the grassroots level. Sister city relationships can play a significant role in enhancing cultural relations.
- **Diversification of Trade:** While India and the Gulf countries have a significant trade relationship, there is room for diversification. Both sides can explore new sectors and expand the scope of trade beyond oil and gas. Encouraging investments in sectors like renewable energy, technology, healthcare, and agriculture can enhance bilateral trade and reduce dependence on a single commodity. India has signed CEPA with UAE, signing such agreements with other gulf countries would help India diversify its trade.

Conclusion

- India needs to update its approach to the Gulf region in order to take advantage of new opportunities. This would involve modernizing the way India thinks about its strategic interests in the Gulf and changing the outdated ways in which people talk about the Arabian Peninsula.

BAN ON DIESEL VEHICLES BY 2027: REASONING AND CHALLENGES

Context: As environmental concerns take centre stage, India contemplates a significant shift in its automotive industry. A government panel, the Energy Transition Advisory Committee (ETAC), recommends a ban on diesel vehicles in cities with a population of over a million by 2027.

This bold step aims to curb emissions and promote a transition to electric and gas-fueled vehicles. However, the proposed ban brings its own set of challenges, from upsetting the automotive industry to disrupting public transport and logistics.

What are the recommendations of the Indian government panel to Ban on diesel vehicles?

- **Ban on Diesel Vehicles in Major Cities:** The panel recommends banning the use of diesel-based four-wheeler vehicles by 2027 in cities with a population of over a million (10 lakh) and in polluted towns.
- **Transition to Electric and Gas Vehicles:** They proposed a transition to electric and gas-fuelled vehicles in such places to reduce emissions.
- **No New Diesel Buses:** The committee suggests that by 2030, no city buses should be added which are not electric, and diesel buses for city transport should not be added from 2024 onwards.
- **Promotion of Electric Vehicles (EVs):** The panel advises the government to extend the incentives under the Faster Adoption and Manufacturing of Electric and Hybrid Vehicles scheme (FAME) beyond March 2024 to promote the use of EVs.
- **Increase Use of Railways and Gas-Powered Trucks:** The panel also recommends ramping up the use of railways and gas-powered trucks for transporting cargo.
- These recommendations aim to help the Indian government reach its goal of reducing greenhouse gas emissions and producing 40% of its electricity from renewables to meet its 2070 net zero goal.

What is the rationale behind the recommendation to Ban on diesel vehicles?

- **Environmental Impact:** A shift to electric and gas-powered vehicles would likely result in significant reductions in greenhouse gas emissions and air pollution, which is a major issue in many Indian cities. This could improve public health and contribute to global efforts to combat climate change.
- **Health Concerns:** Diesel vehicles contribute significantly to air pollution. They emit higher levels of particulate matter (PM) and noxious gases, which can lead to severe health issues like heart and lung diseases. For instance, the Automotive Research Association of India reported that the transport sector contributes up to 20% of the PM 2.5 emissions, a key air pollutant.
- **Alignment with Global Trends:** Many countries are moving towards cleaner energy sources for transportation to meet their climate goals. Banning diesel vehicles aligns India with these global trends. For example, European countries like France and the UK have already announced plans to phase out diesel and petrol vehicles in the coming years.
- **Fostering Clean Technology:** Banning diesel vehicles can stimulate the development and adoption of cleaner technologies, such as electric and hybrid vehicles. Such as, with a clear end date for diesel vehicles, automakers would be incentivized to invest more in developing and improving electric vehicle technology.

What are the other countries which are looking to ban diesel vehicles?

Many countries around the world have announced plans to ban diesel vehicles in the coming years to combat air pollution and climate change. Here are a few:

- **United Kingdom:** The United Kingdom has planned to ban the sale of new petrol- and diesel-engined cars by 2030, while all new cars and vans sold must be fully zero emission by 2035.
- **France:** has pledged to stop selling fossil fuel cars by 2040.
- **Germany:** German cities started putting restrictions on older diesel vehicles that emit larger amounts of pollutants in 2018.
- **Norway:** wants to ditch fossil fuel-powered cars by 2025, much before other countries.
- **Netherlands:** The Netherlands aims to have only emissions-free vehicles on its roads by 2030. United States: announced it would ban the sale of diesel and petrol cars by 2030.
- **European Union:** European Parliament gave the green light to new legislation to ban the sale of petrol and diesel cars from 2035. Under the law, all cars and vans sold in the European Union must be zero-emission by 2035.

What will be the impact of the Ban on diesel vehicles?

1. Impact on Environment

- **Reduction in Air Pollution:** With diesel vehicles off the roads, there will be a significant reduction in the emission of particulate matter and harmful gases. This will improve air quality, especially in cities.
- **Lower Carbon Emissions:** As electric vehicles (EVs) replace diesel cars, CO₂ emissions will decrease, helping India meet its climate change commitments and move towards a more sustainable future.

2. Impact on Carmakers

- **Need for Technological Shift:** Car manufacturers will have to invest heavily in EV technology and other technology and associated infrastructure. This might prove to be challenging, especially for those heavily invested in diesel technology.
- **Potential Financial Loss:** Companies that have recently invested in making their diesel engines compliant with new emission standards might face financial losses if a diesel ban is implemented.

3. Impact on Consumers

- **Initial High Costs:** EVs typically have a higher upfront cost than diesel vehicles. This could make the transition difficult for some consumers, especially those in lower income brackets.
- **Maintenance and Running Costs:** While the initial cost of EVs is high, they have lower running and maintenance costs compared to diesel vehicles. Over time, this can offset the initial investment.
- **Need for Infrastructure:** The lack of adequate charging infrastructure might be a challenge for potential EV owners. However, with the government's push for EVs, infrastructure development is expected to improve.

What are the potential alternatives to diesel vehicles?

- **Electric vehicles (EV):** It is one that operates on an electric motor, instead of an internal-combustion engine that generates power by burning a mix of fuel and gases. However, the most significant disadvantage of electric vehicles is that they must be charged regularly.
- **Compressed Natural Gas (CNG) Vehicles:** CNG vehicles use compressed natural gas, a cleaner-burning alternative to diesel. CNG vehicles produce fewer emissions and are often cheaper to run than diesel vehicles. However, the shortage of CNG stations and reduced storage space due to large CNG tanks are the major disadvantages of this vehicle.
- **Fuel Cell Vehicles (FCVs):** FCVs use hydrogen gas to power an electric motor. They produce no tailpipe emissions, with water vapour being the only by-product. However, the infrastructure for hydrogen fueling is less developed compared to other alternatives.
- **Biofuel Vehicles:** Biofuel vehicles run on fuels derived from organic materials, such as corn or sugarcane. These fuels can be used in traditional internal combustion engines and can help reduce greenhouse gas emissions. However, there are concerns about the impact of large-scale biofuel production on food supply and prices.
- **Liquefied Petroleum Gas (LPG) Vehicles:** LPG, also known as autogas, is a clean-burning fossil fuel that can be used in internal combustion engines. LPG vehicles produce fewer emissions than diesel vehicles and are often cheaper to run.

What are the challenges in executing the ban on diesel vehicles?

- **Infrastructure for Alternatives:** One of the major challenges is establishing the infrastructure for alternative fuels or electric vehicles. For instance, electric vehicles require a network of charging stations, which are currently not as widely available as diesel refuelling stations.
- **Investment Recovery:** Automakers have invested heavily in diesel technology to meet existing emission standards. The proposed ban could lead to significant financial losses for them.
- **Transition of Commercial Vehicles:** Commercial vehicles, including trucks and buses, mostly run on diesel. Transitioning this sector to cleaner alternatives will be challenging due to the specific requirements of these vehicles, such as the need for high torque and long-range capabilities.
- **Consumer Acceptance:** Changing consumer behaviour and preferences is always challenging. Consumers may have concerns about the cost, performance, and reliability of alternative vehicles.

Way forward:

- **Incentives for Clean Vehicles:** The government should provide incentives to consumers and manufacturers for adopting cleaner vehicles. This could be in the form of tax rebates, subsidies, or discounts on electric vehicles (EVs).
- **Investment in Infrastructure:** Significant investment should be made in developing the necessary infrastructure for alternative vehicles, especially charging stations for EVs. For example, Public and private entities could collaborate to establish charging stations at convenient locations like shopping centers, public parking lots, and along major highways.
- **Public Awareness Campaigns:** Public awareness campaigns should be conducted to educate consumers about the benefits of clean vehicles and the potential harm caused by diesel emissions.
- **Support for Commercial Vehicles:** Specific programs should be implemented to support the transition of commercial vehicles from diesel to cleaner alternatives. For instance, subsidies could be offered to transport companies to offset the cost of replacing their diesel trucks with electric or hybrid models.
- **Phased Implementation:** Instead of an abrupt ban, a phased implementation could be considered. This allows consumers and manufacturers time to adjust and plan accordingly. Such as the ban could start with major cities and gradually extend to smaller towns. It could also start with specific types of vehicles, like public buses or delivery vehicles, before expanding to all types of diesel vehicles.
- **Research and Development:** Encourage research and development in cleaner technologies and alternative fuels. This can be done through government funding and by fostering partnerships between academia and industry. Like, a government-funded research program could be established to develop more efficient batteries for electric vehicles or more effective emission control technologies for biofuel vehicles.

EURASIA HOLDS POTENTIAL

Context: The year 2023 is evidently important for India as it hosts multiple global events, including that of the Shanghai Cooperation Organisation (SCO).

Significance of Eurasia for India

- **Varanasi - Cultural and Tourism Capital of SCO:**
 - The holy city of Varanasi, showcasing India's culture and traditions over the ages, is the **first "Cultural and Tourism Capital"** of the Shanghai Cooperation Organisation **for 2022-23**.
 - It is a new initiative by the eight-member organisation to promote **people-to-people contacts and tourism** among the member states.
 - The **title of 'Cultural and Tourism Capital'** will be **rotated** among the member states.
- **Security:**
 - **RATS** can help India to improve its **counterterrorism abilities** by working toward intelligence sharing, law enforcement and developing best practices and technologies.
 - Through the SCO, India can also work on **anti-drug trafficking** and **small arms proliferation**.
- **Regional Integration:**
 - SCO can help in achieving **regional integration** and promote **connectivity and stability** across borders.
 - Further, it also helps India to have a **multilateral talk** with **friends like Russia** and **adversaries like China and Pakistan**.
- **Geopolitical Advantage:**
 - Central Asia is a part of India's Extended Neighbourhood.
 - And SCO provides India with an opportunity to pursue the **"Connect Central Asian Policy"**.
 - It will also help India to check on the ever-growing influence of **China in Eurasia**.

Opportunities & potential

- **Trade & commerce:**
 - SCO assumes importance given India's interest in signing **free trade agreements (FTAs)** with countries in Eurasia.

- The Eurasian states can be **long-term partners in energy (oil, natural gas) and natural resources (uranium, iron ore, etc)**.
- India's trade relations with China, Russia and Pakistan are known, hence exploring other markets in the SCO would be worthwhile.
- **Pharmaceutical sector:**
 - Focussing on pharma and allied products could be a good starting point. In fact, India will have much scope to enhance pharmaceutical exports to Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan.
 - In the current geopolitical scenario it is almost impossible for India to enter into the Chinese space in these four economies.
 - However, in pharmaceuticals, India has the potential to make greater inroads.
- **Infrastructure development:**
 - Opportunities in infrastructure development remain largely unexplored by India in Eurasia.
 - **TAPI pipeline:**
 - Over the years, India had multiple plans to link itself with Central Asia. For instance, the Turkmenistan-Afghanistan- Pakistan-India gas pipeline, which has the potential to meet India's energy needs.
 - **Hospitals and clinics:**
 - India, through the infrastructure development initiative, could also extend cooperation by setting up hospitals and clinics in Eurasia given its experience in other developing economies.
 - **Central Asian e-network for education & medicines:**
 - India also has been planning to set up a Central Asian e-network with its hub in India, to deliver, tele-education and tele-medicine connectivity, linking Central Asian states.
- **Project exporters:**
 - Indian companies have in the past successfully implemented projects in a variety of sectors and in diversified markets overseas, including in Africa.
 - They have also demonstrated capabilities to successfully execute a range of projects in challenging environments.
 - Given that Eurasia provides a wide range of opportunities across sectors, Indian project exporters could collaborate with overseas entities to get into this market. However, they will be required to compete with China in the region.

Challenges:

- **Volatility of the region:**
 - A volatile Afghanistan and terror sanctuaries in the Af-Pak region have created many bottlenecks in connectivity projects initiated by SCO member states and other regional countries of Eurasia.
- **Pakistan's refusal for connectivity projects:**
 - Pakistan has impeded strategic, economic and cultural interests by blocking by refusing to facilitate connectivity via its territory.
 - **For instance, the Turkmenistan-Afghanistan-Pakistan-India (TAPI) pipeline** has been stalled since 2006 due to instability in Afghanistan and hindrances created by Pakistan.
- **Illicit drug trade:**
 - Another common challenge to the SCO region is the illicit drug trade emanating from the Af-Pak region.
 - In 2021, more than 80 per cent of opium and heroin supplies originated from Afghanistan via different routes to the global opium market.
 - The greater involvement of terror outfits in the narcotic trade has sprung new geo-political challenges to the SCO.
- **Perception of anti-West forum:**
 - There continues to be a perception in the West that SCO is an anti-West forum.

Way ahead

- While it is imperative for India to bring security issues to the fore at SCO meetings, the potential for economic and trade cooperation with members of the SCO, like those in Eurasia, must be explored.
- SCO is, perhaps, the only platform where India comes together with countries of this region.

PROBLEM WITH INDIA'S MULTI-ALIGNMENT STAND

Context: India's strategic autonomy and policy of non-alignment have evolved into a multi-alignment approach.

About India's multi-alignment stand

- **Origin of India's non-alignment stand:**
 - There has been a progressive evolution in Indian thinking on forming and joining regional economic and security groupings, since the days New Delhi declared itself as "Non-Aligned" in the 1950s.
 - India, thereafter, remained a leading player in the "**Non-Aligned Movement**" (NAM).
 - The 120 members of NAM professed that they would not get drawn into "**Great Power**" rivalries between the US and USSR.
- **India's current multi-alignment stand:**
 - **With Russia:**
 - The disintegration of the Soviet Union in the 1990s led to new groupings and alliances.
 - But we are now happily in a position where we are partners, in different ways, with all major global power centres. Economics and economic integration play a far more central role as bridges of cooperation today.
 - **USA & QUAD:**
 - India finds itself linked with the **US and Japan** far more closely than in the past, in a world order which is becoming more China-centric than in the past.
 - This has been the rationale of Quadrilateral Security Dialogue or QUAD, comprising **Australia, India, Japan and the US**.
 - **West Asia:**
 - The most notable decision taken in recent days was after the first summit meeting of the recently established **I2U2 grouping, comprising India, Israel, the US and the UAE**.
 - This was the first time when India and the US partnered two West Asian countries to focus cooperation on use of water resources, food security, health, transportation and space.
 - **Southeast Asian Nations:**
 - While India has an **free trade agreement (FTA) with ASEAN**, New Delhi has chosen, for understandable reasons, not to join the Regional Comprehensive Economic Partnership (RCEP), containing 15 East Asian and Pacific nations, including ASEAN members, Australia, New Zealand and China.
 - **Eurasia:**
 - India holds membership of the Shanghai Cooperation Organisation (SCO), which is a permanent intergovernmental international organisation of Eurasian Nations with a secretariat in Beijing.

Problem with India's multi-alignment stand

- **No condemnation for violations of international law:**
 - India has refused to condemn violations of international law, as in the case of **Russia's invasion of Ukraine** or the **February 2021 coup in Myanmar** (New Delhi abstained from United Nations General Assembly and Security Council resolutions).
 - This may be understandable as India has often taken an **evasive position on conflicts** that involve its **traditional allies**.
 - However, critics are not unreasonable in arguing that this **ambiguity does not behove a nation aspiring to become a permanent member of the UNSC**, which implies a **commitment to speak as a global voice against territorial aggression** and **rights** violations similar to what Russia has unleashed on Ukraine.
- **Not in the position to play the role of a mediator:**
 - A pursuit of 'multi-alignment' may have given New Delhi some diplomatic space in the ongoing war in Ukraine. However, it may not be sufficient for India to try to play the role of a mediator between Russia and Ukraine.
- **Lowest ranker:**

- The latest **State of Southeast Asia Survey** has shown that India ranks the second lowest (at only 1 percent) among ASEAN and nine middle powers in its **leadership in maintaining a rules-based order** and **upholding international law**.
- **Not party to newly formed mechanisms:**
 - What often gets overlooked is how India has steered clear from US-led regional security mechanisms like **AUKUS** and **5-Eyes**.

Way ahead

- **Rising middle power:**
 - Despite all the problems, **the diplomatic success of India** as a **rising middle power** has not gone unnoticed.
 - It would have been unthinkable barely a decade ago to envisage a situation where India receives UAE finances and Israeli technology, geared to US involvement, for stepping up agricultural production for its western neighbours.
- **Rise in trust levels:**
 - Furthermore, India has enjoyed a significant increase in trust levels this year at 25.7 per cent compared to only 16.6 percent last year.
 - Among those who trust India, there is a significant increase among those who felt that India's military power is an asset for global peace and security.
- **Potential of balancing & assume a greater role:**
 - As India's influence increases, it can assume a greater role as a bridging power and play a moderating role in the **Quad, G7, BRICS and the SCO**.
 - Considering its presidency for the G20 and the SCO, **2023 will indeed be the year to see how India does its balancing act**.

THIS STRATEGIC-ECONOMIC BLOC WILL ONLY TIGHTEN THE LEASH

Context

- India chose to join the **Indo-Pacific Economic Framework for Prosperity (IPEF)** but declined the **Regional Comprehensive Economic Partnership (RCEP)**.

About Regional Comprehensive Economic Partnership (RCEP)

- **About:**
 - RCEP is a **regional Free Trade Agreement** between **ASEAN and 6 other countries**, viz. **India, China, Japan, South Korea, Australia and New Zealand**.
 - It was signed in November 2020 after 8 years of negotiations.
 - Although, India walked out of the negotiations. Therefore, it is now an **agreement between 15 countries**.
 - RCEP members constitute **nearly a third of the global population** and 29% of global GDP.
- **Significance of India pulling out of RCEP:**
- India pulled out of the RCEP negotiations, citing its **negative impact on the domestic producers**.
- India has said that the international groupings have many times led to **de-industrialisation** and an **unfair competition** imposed on domestic producers.
 - In a veiled reference to China, India has also said that many countries **preach openness, but are not so transparent** about their own policies.
- Other members have said that the doors of RCEP would be open for future participation of India.

About Indo-Pacific Economic Framework for Prosperity (IPEF)

- **About:**
 - It is an **economic framework** for **enhancing US involvement in Asia**.
 - It is to **counter the influence of China** in the region and fill the vacuum created by not being a partner to RCEP.
 - **Not a traditional trading block:**
 - The IPEF, unlike FTA, is more of a **tailor-made mechanism** that seeks the **benefits of trade partnerships** while insulating Americans from the downsides of trade liberalisation.

- Unlike FTAs, it **does not include market access commitments** such as lowering tariff barriers, as the agreement is more of an administrative arrangement.
- **Stress on supply chain:**
 - IPEF manifests **US' ambitions to expand ties** with key Indo-Pacific economies through robust supply chains excluding China.
- **Focus Areas: It is based on 7 strategic pillars:**
 - Trade facilitation, particularly for small and medium enterprises (SMEs)
 - Standards for a digital economy and technology
 - Supply-chain resilience
 - Decarbonisation and clean energy
 - Infrastructure
 - Workers' standards
 - Other areas of shared interest
- **'Menu' based approach:**
 - The 7 pillars will have specific modules and countries would have to sign up to all of the components within a module, but do not have to participate in all modules.
 - Member countries can opt to participate in parts of the framework.

Significance

- **Strategic importance:**
 - The US-led Indo-Pacific Economic Framework for Prosperity (IPEF) is strategically important for India.
 - It will enhance India's economic engagement in the region.
 - The IPEF will help control the damage caused by the RCEP withdrawal as all the IPEF members save India and the US are signatories to the RCEP.
- **Supply chain building:**
 - Building resilient supply chains is one of the motives of the IPEF.
 - India can consider members as alternative sources for its raw materials requirements.
 - This could reduce India's overdependence on China for these inputs.

Challenges & criticisms of IPEF

- **India's economic issues with USA:**
 - India has economic issues with the U.S., e.g. about **agriculture, intellectual property, labour and environment standards**, and the **digital economy**.
 - And the Strategic partnership **should not mean** accepting a completely U.S. self-interest-driven economic framework that does not suit India's current economic interests.
- **Centring USA:**
 - According to the early assessment by many experts, it shows that the IPEF would **result in a complete stranglehold over the economic systems** of the participating countries, in a manner that is to the **complete advantage of the U.S.**
 - The IPEF is really about developing a strategic-economic bloc — an integrated economic system centred on the U.S., and, as importantly, excluding China.
- **Detrimental to domestic policies:**
 - According to critics, the systemic integration caused by the IPEF's actual long-term impact will **leave little leeway for domestic policies to help a country's own industrialisation**.
 - For example., through tight supply chain integration that many elements of the IPEF contribute to.
- **Deep implications for India:**
 - The IPEF can already be seen to have **deep implications in**
 - **Agriculture**, in terms of **genetically modified seeds and food**,
 - Surrendering policy space for regulating **Big Tech**, and
 - Compromising a comparative advantage in **manufacturing** because of **unfair labour and environment standards**.
 - It will also seriously affect India's ability to create a vibrant domestic ecosystem in emerging areas such as a digital economy and green products.

- **Digital Governance:**
 - IPEF formulation contains issues that directly conflict with India's stated position. **These are:**
 - **Prohibition on cross-border data flows** and **data localization** requirements including for financial services
 - **Prohibition of the levying of customs duties on digital products** distributed electronically
 - **Promotion of the interoperability of privacy rules** and related enforcement regimes, such as the APEC Cross-Border Privacy Rule, while respecting U.S. federal and state privacy laws and regulations.
- **Huge investment demand:**
 - Though it's stated to be beneficial for the countries in the region it would require huge investments and active participation in the implementation phase.
- **Silent on market access:**
 - The arrangement is silent on providing access to the indigenous goods and services to the markets of would be member states including U.S.

Way ahead

- India would stand to gain by being part of the supply chain initiative of the arrangement but it would **need flexibility on the other initiatives.**
 - **The IPEF has four pillars:** trade, supply chains, clean economy, and fair economy. **Already fearful of a possible trap, India has joined** the other three pillars but **not trade.**
- The one clear difference is of China versus the U.S. Developing a strategic partnership with the U.S. is India's top foreign policy priority. Its relationship with China has, meanwhile, further deteriorated.

INDIA-US STRATEGIC AND SECURITY TIES AT QUAD

Context: India's security potential in the IOR fits well with the US' search for like-minded partners that could share security responsibilities in the Asia-Pacific region.

About QUAD

- **About:**
 - It is also known as **Quadrilateral Security Dialogue (QSD).**
 - QUAD is an informal group of India, the US, Japan and Australia.
 - It is a strategic dialogue with the objective to ensure a free, open, inclusive and prosperous Indo Pacific.
- **Shared values between the nations are:**
 - Political democracies
 - Market economies
 - Pluralistic societies
- **Timeline:**
 - **2007:**
 - Japanese PM Shinzo Abe mooted the idea of Quadrilateral Security Dialogue
 - It could not materialize due to the reluctance of Australia
 - **December 2012:**
 - Shinzo Abe again initiated a concept of Asia's Democratic Security Diamond, involving Australia, India, Japan and the US.
 - The aim was to safeguard the maritime commons from the Indian Ocean to the western Pacific.
 - **November 2017:**
 - QUAD Coalition was finally given a present-day form with the active participation of India, the US, Australia and Japan.
 - The aim was to keep critical sea routes open and free for navigation in the Indo-Pacific.
 - Foreign ministers of the four countries held their first meeting under the 'Quad' framework in New York in September 2019.

Significance of QUAD for India

- **Countering Chinese Influence:**

- Recent stand-offs on the Indo-China Border and the reluctance of Russia to step in and build pressure is forcing India to look for alternatives.
- **Post-COVID Diplomacy:**
 - The **disruption across the world** and **non-transparent systems of China** pose an opportunity for India to take lead and become the **World's Manufacturing Hub**.
 - India can leverage its expertise **in the vaccine and pharma industry** to increase its **soft power**.
 - Further, **Japan and the US** want to shift their manufacturing companies out of China in order to curb its imperialistic behavior.
- **India's SAGAR initiative:**
 - India under the SAGAR initiative wants to become a **net security provider in the Indian Ocean**.
 - QUAD cooperation may give India access to multiple strategic locations for creating Naval bases.
- **Multipolar World:**
 - India has supported a **rule-based multipolar world** and QUAD can help it in achieving its ambition of becoming a regional superpower.
- **Climate Change:**
 - The **climate crisis** calls for **urgency in action**.
 - Quad nations are already driving their efforts toward climate ambition, including working on the 2030 targets for national emissions and renewable energy, clean-energy innovation, and deployment.
 - The most commendable commitment is their **focus on increasing the Indo-Pacific region's resilience to climate change** by improving **critical climate information-sharing** and **disaster-resilient infrastructure**.

India & USA's current positions at QUAD

- **About:**
 - Since the turn of the century, India has viewed itself as a **major power, first responder, and security actor** in the **Indian Ocean Region (IOR)**.
 - At the same time, the USA was keen to **nurture India as a counterbalance to China's influence** in the region, opening the window for greater convergence of interests.
- **Conflicting positions:**
 - **India's position on Ukraine war:**
 - India's **muted criticism of the Russian invasion of Ukraine** in 2022 expectedly led to some frustration in the West, raising **questions over India's credibility as a security partner**.
 - Even with converging Indo-US strategic interests in the Indo-Pacific, **differences persist** between Washington and New Delhi.
 - **Position on Indo-Pacific region:**
 - The US views the Indo-Pacific as a region where **rules-based liberal international order** needs to be preserved **vis-à-vis China's assertive rise** and even the **Russian threat**.
 - By contrast, India **does not see the Indo-Pacific as an exclusive group** of actors in a region that is against any country.
 - New Delhi **considers it an "inclusive" region** and has, at times, even signalled the **inclusion of China and Russia** within its definition of the Indo-Pacific.
 - **Threat of China:**
 - The US is open about the threat China poses to its interest and is ready to deter and even fight if required.
 - India, on the other hand, is wary of balancing China directly and prefers maintaining the competition-cooperation model in its ties with China.
 - **Views on "maritime order" and "freedom of navigation":**
 - India and the US have contrasting views on "maritime order" and "freedom of navigation."
 - India has ratified the **United Nations Convention on the Law of the Sea (UNCLOS)** while the **US has not**, and both have distinct interpretations of the law
 - In fact, India's interpretation is closer to China's understanding of the law.

- While Indian law is against freedom of navigation operation in its exclusive economic zone, these differences have been managed well at the diplomatic level.

India's Balancing Act

• **Multi-alignment:**

- India has been tilting towards the West for the last two decades, it continues to balance multiple partnerships, at times with countries at odds with each other.
 - This is evident in India's decision to **cooperate with the US and its allies** on the **Quad** and other arrangements while **maintaining ties with China and Russia**
 - This also explains Indian silence on Russia's actions in Ukraine.
- The multi-alignment posture relates to India's position regarding "strategic autonomy" and its legacy of not depending on any of the competing countries.

• **Non-involvement:**

- India will likely remain less involved or enthusiastic about overtly addressing Chinese actions in regions that do not directly impinge on its security interests (case in point, **Taiwan or even Ukraine** as visible in the present context).

Way Ahead

- Overall, **India-US strategic and security ties** are not perfect and are unlikely to be so in the coming future.
- The spectre of divergences will continue to exist within the role compatibility the two enjoy.
 - This may also affect the orientation of the Quad from a security perspective.
- However, the differences are unlikely to impede the incremental progress of their bilateral ties or engagement in a Quad arrangement.

REFORMING UNSC AND BRETTON WOODS

Context: Recently, at a press conference in Hiroshima, Japan, the UN Secretary-General has called for reforms in UNSC (United Nations Security Council) and Bretton Woods Institutions, citing that the current order is outdated, dysfunctional and unfair.

In the face of the economic shocks from the Covid-19 pandemic and the Russia-Ukraine Conflict, the said institutions have failed to fulfil their core function as global safety nets.

Need for Reforming Bretton Woods Institutions:

- While these institutions performed well over their first 50 years – they have been struggling in more recent times as problems of rising inequality, financial instability and Protectionism have re-emerged.
- The threat of Climate Change and ecological stress, rising disasters and a more interconnected world with new threats like cyber-security and pandemics require a new International Financial Architecture.
- There has been biases in fund allocation and unregulated Special Drawing Rights (SDRs), the IMF allocated USD 650 billion in SDRs during the pandemic.
- The G7 countries, with a population of 772 million people, received USD 280 billion. The African continent, with 1.3 billion people, received only USD 34 billion.

What is the United Nations Security Council?

About:

- The UN Security Council was established by the UN Charter in 1945 and is one of the 6 principal organs of the United Nations.
- **UNSC has 15 members:** 5 permanent members (P5) and 10 non-permanent members elected for 2-year terms.
- **The P5 are:** US, Russia, France, China and the UK.
- India has been a non-permanent member of the Council during 1950-51, 1967-68, 1972-73, 1977-78, 1984-85, 1991-92, 2011-12 and for the 8th time, entered the UNSC in 2021 and was on the council for the term 2021-22.

Issues with the UNSC:

Creating Problems for the Developing Countries:

- Developing countries are facing problems in three dimensions: Moral, power-related, and practical.

- A systemic and unjust bias in global economic and financial frameworks in favour of rich countries is generating “great frustration in the developing world”.

Limits the Representation:

- The absence of Africa, as well as countries like India, Germany, Brazil, and South Africa, from the permanent membership of the UN Security Council is seen as a significant drawback.
- It limits the representation of important nations and their perspectives on global issues, hindering effective decision-making on complex and interconnected problems.

Misuse of Veto Power:

- The P5 have anachronistic veto power in the UNSC which has faced criticism for being undemocratic and limiting the Council's ability to make important decisions when any of the P5 disagrees.
- Many argue that such elite decision-making structures are not suitable for the current global security landscape.

What can be done to Address these Issues?**Bretton Woods:**

There is a need to reshape and revitalize three global institutions -the IMF, WBG and the WTO (World Trade Organization) where:

- The IMF will focus on macroeconomic policy and financial stability, with stricter surveillance of advanced economies and their impact on global crises.
- The restructured WBG will prioritize sustainability, shared prosperity, and leveraging private capital effectively. It should work with others to address global challenges and act as a wholesaler of finance.
- A stronger WTO is needed for fair trade, faster dispute resolution, and the ability to respond swiftly to emergencies.
- The system needs more automatic and rule-based financing mechanisms to avoid delays and political influences.
- There needs to be regular calibrated SDR issues, global pollution taxes, and financial transaction taxes.
- A well-structured G-20 could provide overarching guidance to the Bretton Woods system and its interactions with other institutions.

UNSC:

- There is a need to ensure equal representation for all regions, including Africa, along with decentralization of power and authority, which will allow nations from all regions to voice concerns related to peace and democracy in their countries, making decision-making more representative and democratic.
- The focus should be on addressing global issues rather than preserving the privileges of the P5 nations.
- Urgent correction is needed to balance power between the P5 and the rest of the world, ensuring a more democratic and legitimate governance of the UNSC for international peace and security.
- The IGN (Intergovernmental Negotiation) process, which discusses UNSC reform, should be revised and re-energized, avoiding procedural tactics that hinder progress.

G20 COUNTRIES AND DISASTER RISK REDUCTION

Context: Recently, the First G20 Disaster Risk Reduction Working Group (DRR WG) meeting under India's G20 Presidency took place, where India highlighted the importance of Disaster Risk Reduction (DRR).

What are the Highlights of the Meeting?

- The G20 Disaster Risk Resilience Working Group has called upon governments to build a social protection system with an effective and preferred instrument for disaster risk financing.
- It emphasised the need for new-age Social Protection Systems that invest in local risk resilience to mitigate, prepare and recover from disasters.

The five priorities outlined:

- Global coverage of Early Warning Systems
- Increased commitment towards making infrastructure systems disaster resilient
- Stronger national financial frameworks for DRR
- Strengthened national and global disaster response system
- Increased application of ecosystems-based approaches to DRR

- The G20 DRR WG intended to include considerations for the Sendai Framework's mid-term review, renew multilateral cooperation at all levels, and inform future global policies and initiatives related to DRR.

What is the Need for Creating a Collective G20 Framework for Disaster Risk Reduction?

- The G20 nations, with a population of 4.7 billion, have large exposure, risk from asset concentration, and vulnerability to natural disasters.
- In the current World Risk Index, four out of the top 10 vulnerable countries are G20 nations.
- The combined estimated annual average loss in the G20 countries alone is USD 218 billion, equivalent to 9% of the average annual investment in infrastructure made by them.
- Disaster risk reduction measures can play an important role in preventing such losses.

What can be the key Strategies for Reducing Disaster Risk?

Better Economic and Urban Development:

- Reducing risk can be achieved mainly by reducing vulnerability and exposure to risk through measures such as better economic and urban development choices and practices, protection of the environment, reduction of poverty and inequality, etc.
- For example, in India, effective implementation of flood risk management strategies can help in reducing and managing Extreme Weather Conditions.

Financing:

- There is a need to re-imagine financing disaster risk reduction. The financing requirements flowing through government budgets are not independent of a country's fiscal position and hence may be limited.
- Innovative financing tools including creating reserve funds, dedicated lines of credit and tapping resources globally should be explored.

Infrastructure:

- Infrastructure, such as roads, rails, airports, and electricity lines created through public revenues need to be resilient to disasters and may require more funds incrementally.
- There is a need to finance this additionality using options that are reflective of the social benefits of such disaster-resilient infrastructure.

Dealing with Extensive and Intensive Risk:

- Differential strategies to deal with extensive risk (risk of losses from frequent but moderate impacts) and intensive risk (from low frequency and high impact events), should be worked out.
- A large portion of the losses accumulate from extensive events.
- Cumulatively, dispersed events such as Heatwaves, lightning, local floods, and landslides cause enormous losses. Implementing targeted approaches to reducing losses from extensive risk events can have an impact in the short to medium-term horizon.

Multi-tiered, Multi-sectoral Effort:

- There is a need to view disaster risk reduction as a multi-tiered, multi-sectoral effort.
- If efforts are integrated vertically from local to sub-national to national to global, and horizontally across sectors, the level of readiness to manage unknown risks will be enhanced.
- The world is interlinked and interdependent, and the G20 can help develop such strategies.

What are the Initiatives for Disaster Risk Reduction?

Global:

- Sendai Framework for Disaster Risk Reduction 2015-2030
- The Climate Risk and Early Warning Systems (CREWS)
- International Day for Disaster Risk Reduction - 13th October
- Green Climate Fund's Sectoral Guide on Climate Information & Early Warning Systems

India's Initiatives:

- Coalition for Disaster Resilient Infrastructure Society (CDRIS)
- National Disaster Management Plan (NDMP)

Way Forward

- The G20 should foster collaboration and coordination among its members and other stakeholders on early warning systems, disaster-resilient infrastructure, financial frameworks and response systems for disaster risk reduction.

- They should promote innovation and research on disaster risk reduction, especially on the use of technology, data and ecosystems-based approaches.
- There is a need to align disaster risk reduction efforts with the 2030 Agenda for Sustainable Development, the Paris Agreement on Climate Change and the New Urban Agenda and ensure that no one is left behind.
- The Working Group on Disaster Risk Reduction is an opportunity for the G20 to take a lead in the implementation of the Sendai framework over the next seven years.

INDIA AND CRISES HIT PAKISTAN

Context: The recent arrest of former Pakistani Prime Minister led to massive protests across the country. For the first time, violent mobs, including the supporter of former PM, attacked army and paramilitary installations across Khyber Pakhtunkhwa (KPK), Punjab, Balochistan and major cities of Pakistan. The army was not targeted even in the wake of 1971 liberation of Bangladesh, military coups or even post the assassination of popular leaders such as Benazir Bhutto.

The instability in Afghanistan has further added fuel to the fire and the instability in Pakistan could in turn further destabilise Afghanistan. The growing instability in the Pakistan could spill over in no time and can affect the stability of the region.

What is the Current Situation in Pakistan?

Political Rollercoaster:

- Pakistan is facing a political crisis since April 2022, when the former prime minister Imran Khan was ousted from his position in a vote of no confidence. He refused to accept the result and launched a series of protests and rallies, demanding an early election. He also faced many legal charges, including terrorism, corruption and contempt of court.
- The current Pakistani government has accused him of destabilizing the country and undermining democracy.
- They've accused Imran Khan of becoming opportunistic and destructive by tapping into the anti-army sentiment among the public.
- The turmoil in Pakistan's political discourse could result into a Pakistan Spring (Like Arab Spring). There are many similarities between the situations in Pakistan and those in the Arab Spring countries. Some of the similarities include political instability, economic grievances, corruption, youth bulge, civil society activism and media freedom.

Rise of Taliban:

- Since the withdrawal of US troops from Afghanistan, the Pakistani army has been under siege and the Taliban supported Tehreek-e-Taliban Pakistan (TTP) is expanding its footprint across Balochistan and Punjab.
- The emboldened TTP and Baloch groups mounted several attacks against the armed forces.
- The Pakistani army is practically fighting a two-front war (internally with TTP & externally with Taliban) and keeping a tight watch on the Iran border.
- The Pakistani army used to be seen as a strong and capable force that could play a smart game of proxy wars has been exposed to be invincible by Taliban.
- The Taliban is now a major threat to Pakistan, and the army is struggling to contain it. This has led to a loss of confidence in the army, and its aura of invincibility has faded.

Army under Seize:

- Street mobilisations after the ouster of Imran Khan have made the army vulnerable. The army today is politically much weaker which may provide a fostering ground for non-state actors like TTP.
- The army's diminished stature became visible, when protesters could access even General Headquarters with some persuasion. Violent mobs targeted the Corp Commander's house in Lahore, the Pakistan Military Academy, the air force base, and army patrols in cities.

Economic Crisis:

- The inflation rate in Pakistan is currently over 30%, which is the highest it has been in years. This is making it difficult for people to afford basic necessities, such as food and fuel. The Pakistani rupee has lost over 30% of its value against the US dollar in the past year.

- Recently, a video circulated over social media showed that Pakistanis in some regions are stockpiling LPG in plastic bags as dealers are curtailing supplies due to a lack of cooking gas cylinders. Moving bombs': Pakistan's LNG crisis sparks dangerous 'bag gas' trade
- The country's public debt has grown to a staggering USD 250 billion, and the government has failed to secure a bailout from the International Monetary Fund (IMF) due to its inability to implement the required reforms.
- The country is facing a severe shortage of foreign exchange reserves, which have fallen to a 9-year low of less than USD 3 billion meaning that the country does not have enough foreign currency to import essential goods and services.
- The recent climate disasters have added the fuel to the fire, making their economy more vulnerable.

Resentment against China:

- The two provinces (KPK and Balochistan) crucial for CPEC, have become battle grounds for security forces. The army's steadfast backing of CPEC has brought it to the centre of rising public resentment against Chinese investments.
- The sentiment is so perceptible that following his recent visit to Pakistan, the Chinese foreign minister stressed that some forces had fabricated the rumour that China created a "debt trap" in Pakistan.

What are the Threats to India?

- **Escalation of Cross-Border Tensions:** Pakistan's political crisis may lead to a rise in cross-border tensions, particularly along the Line of Control (LoC) in Kashmir. Pakistan may resort to provoking India by supporting militant groups or violating the ceasefire agreement to divert attention from its domestic problems or to rally public support behind the government or the military.
- **Refugee Crisis:** The economic crisis in Pakistan could lead to a refugee crisis, with millions of Pakistanis fleeing the country. This could put a strain on India's resources and could also lead to an increase in crime and social unrest.
- **Compromised Regional Security:** The current crisis in Pakistan could lead to regional instability, as Pakistan becomes more dependent on its neighbours for support. This could lead to increased tensions between Pakistan and its neighbours, including India.
- **Nuclear Proliferation:** Any political or economic instability in Pakistan that weakens its control over its nuclear arsenal could potentially lead to concerns about the security and safety of those weapons. This could raise tensions and pose a threat to regional stability.

What are the Opportunities for India?

Counterterrorism Cooperation:

- Pakistan's political and economic situation can provide an opportunity for India to engage with the international community in addressing the issue of cross-border terrorism.
- By highlighting Pakistan's support for terrorism, India can strengthen its case for global cooperation in combating terrorism and isolating state-sponsored terror networks.

Regional Power Projection:

- India can demonstrate its ability to maintain stability and handle regional challenges effectively, contrasting with the internal strife faced by Pakistan.
- Strengthening regional alliances and partnerships, particularly with countries in South Asia and the Middle East, could enhance India's position as a responsible regional power.

Strengthening Regional Connectivity:

- India can capitalize on Pakistan's current challenges by promoting regional connectivity initiatives, such as the Chabahar port in Iran or the International North-South Transport Corridor (INSTC).
- These projects can bolster India's access to Central Asia, Afghanistan, and beyond, enabling trade diversification and enhancing India's regional influence.

Economic Cooperation with Other Countries:

- India can position itself as a stable and attractive investment destination in the region.
- With Pakistan facing economic challenges, India can leverage its economic growth and stability to attract foreign direct investment (FDI) and foster closer economic ties with other nations.
- This can lead to increased trade partnerships and collaborations, further enhancing India's economic standing.

What can India do in such a situation?

- “Victims of terrorism do not sit together with perpetrators of terrorism to discuss terrorism”. But India can give a chance to desperate Pakistan of formal talks if it agrees to stop terrorism, resolve Kashmir issue. Pakistan needs the talks desperately.
- India can use its diplomatic leverage to isolate Pakistan internationally and expose its alleged support for terrorism and human rights violations.
- The crises in Pakistan have shown that the country is unable to effectively govern itself. India can use this to its advantage by pressuring Pakistan to change its behaviour on issues such as terrorism and nuclear proliferation.
- Amidst such a crisis, India must prioritize its border security and enhance its military preparedness to contain insurgencies, cross-border aggression, or provocation from Pakistan.
- India could strengthen its economic and strategic ties with Iran, and other Central Asian countries to counter Pakistan’s influence in the region.

Conclusion:

- Dealing with Pakistan's establishment that has supported anti-India terrorist groups is unpleasant. Nonetheless, permitting Pakistan to come under the influence of extremist Islamists would present an even graver situation. India must make efforts to stabilize the conditions in Pakistan, as the repercussions such as border tensions and insurgencies will directly impact India.

IPEF MINISTERIAL MEETING

Context: Recently, the second Indo-Pacific Economic Framework for Prosperity (IPEF) Ministerial Meeting took place, showcasing the significant strides made in fostering economic engagement among partner countries in the Indo-Pacific region.

Hosted by the United States, this virtual gathering convened high-level officials to delve into discussions regarding the four pillars of the framework and the ongoing negotiations associated with each pillar.

What are the Key Highlights of the Meeting?

- The meeting announced the substantial conclusion of the negotiations of a first-of-its-kind international IPEF Supply Chain Agreement under Pillar II of the framework, which aims to increase the resilience, efficiency, productivity, sustainability, transparency, diversification, security, fairness, and inclusivity of their supply chains.
- The meeting also reported good progress under the other IPEF Pillars, namely Fair and Resilient Trade (Pillar I), Infrastructure, Clean Energy, and Decarbonization (Pillar III), and Tax and Anti-Corruption (Pillar IV).
- The meeting witnessed the introduction of a regional hydrogen initiative by some IPEF partners to encourage widespread deployment of renewable and low-carbon hydrogen and its derivatives in the region under Pillar III.

What is IPEF?

- It is a US-led initiative that aims to strengthen economic partnership among participating countries to enhance resilience, sustainability, inclusiveness, economic growth, fairness, and competitiveness in the Indo-Pacific region.
- IPEF was launched jointly by the USA and other partner countries of the Indo-Pacific region on 23rd May 2022, at Tokyo.

Members:

- Australia, Brunei, Fiji, India, Indonesia, Japan, South Korea, Malaysia, New Zealand, Philippines, Singapore, Thailand, United States, and Vietnam.

Pillar:**Trade (Pillar I):**

- Focuses on enhancing trade engagement among IPEF partner countries.
- Aims to promote economic growth, peace, and prosperity in the region.
- India had joined Pillars II to IV of IPEF while it has an observer status in Pillar-I.

Supply-chain resilience (Pillar II):

- Seeks to make supply chains more resilient, robust, and well-integrated.

- Emphasizes crisis response measures and cooperation to mitigate disruptions.
- Focuses on improving logistics, connectivity, and investments in critical sectors.
- Aims to enhance worker roles through upskilling and reskilling initiatives.

Clean Economy (Pillar III):

- Aims to advance cooperation on clean energy and climate-friendly technologies.
- Focuses on research, development, commercialization, and deployment of clean energy.
- Encourages investment in climate-related projects in the Indo-Pacific region.

Fair Economy (Pillar IV):

- Focuses on implementing effective anti-corruption and tax measures.
- Highlights India's strong steps in improving legislative and administrative frameworks to combat corruption.
- Reaffirms commitment to implementing UNCAC (United Nations Convention against Corruption) and FATF (Financial Action Task Force) standards.



CivilsTap Hlmachal

SOCIAL ISSUES, EDUCATION, HEALTH

PROTECTION OF WOMEN FROM SEXUAL HARASSMENT ACT, 2013

Context: In a recent judgment, the Supreme Court expressed concerns about the implementation of the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) (PoSH) Act, 2013.

The court emphasized the serious lapses and uncertainties surrounding the Act, leading to many working women feeling compelled to leave their jobs.

What is the Key Concern Raised by the Supreme Court?

Concern:

- There were serious lapses and uncertainties in the implementation of the PoSH Act, for example only 16 out of 30 national sports federations had constituted Internal Complaints Committees (ICCs) as mandated.
- This reflects poorly on state functionaries, public authorities, private undertakings, organizations, and institutions responsible for implementing the PoSH Act.
- These lapses also have a negative impact on women's self-esteem, emotional well-being, and physical health. Also, it makes women reluctant to report instances of sexual harassment due to uncertainty and lack of confidence in the process.

Recommendation:

- If the working environment remains hostile, insensitive, and unresponsive, the Act will remain a mere formality. The Act must be enforced diligently to ensure the dignity and respect that women deserve at the workplace.
- There is a need to undertake a time-bound exercise to verify whether relevant bodies have constituted ICCs, Local Committees (LCs), and Internal Committees (ICs) under the Act.
- Instructed bodies to publish details of their respective committees on their websites.
- SC has given eight weeks for government Ministries, bodies to comply with mandates of the 2013 Act.

What is the PoSH Act, 2013?

- The POSH Act is a legislation enacted by the Government of India in 2013 to address the issue of sexual harassment faced by women in the workplace.
- The Act aims to create a safe and conducive work environment for women and provide protection against sexual harassment.
- The PoSH Act defines sexual harassment to include unwelcome acts such as physical contact and sexual advances, a demand or request for sexual favours, making sexually coloured remarks, showing pornography, and any other unwelcome physical, verbal, or non-verbal conduct of a sexual nature.
- **Background:** The Supreme Court in a landmark judgment in the Vishakha and others v State of Rajasthan 1997 case gave 'Vishakha guidelines'.
- These guidelines formed the basis for the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013.
- The SC also drew its strength from several provisions of the Constitution including Article 15 (against discrimination on grounds only of religion, race, caste, sex, and place of birth), also drawing from relevant International Conventions and norms such as the General Recommendations of the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW), which India ratified in 1993.

Key Provisions:

- **Prevention and Prohibition:** The Act places a legal obligation on employers to prevent and prohibit sexual harassment in the workplace.
- **Internal Complaints Committee (ICC):** Employers are required to constitute an ICC at each workplace with 10 or more employees to receive and address complaints of sexual harassment. The Complaints Committees have the powers of civil courts for gathering evidence.
- **Duties of Employers:** Employers must undertake awareness programs, provide a safe working environment, and display information about the POSH Act at the workplace.

- **Complaint Mechanism:** The Act lays down a procedure for filing complaints, conducting inquiries, and providing a fair opportunity to the parties involved.
- **Penalties:** Non-compliance with the Act's provisions can result in penalties, including fines and cancellation of business licenses.

DENGUE

Context: Serum Institute of India and Panacea Biotec apply for Expression of Interest for clinical trials for indigenous manufacturers of Dengue vaccine.

Dengue Virus (DENV)

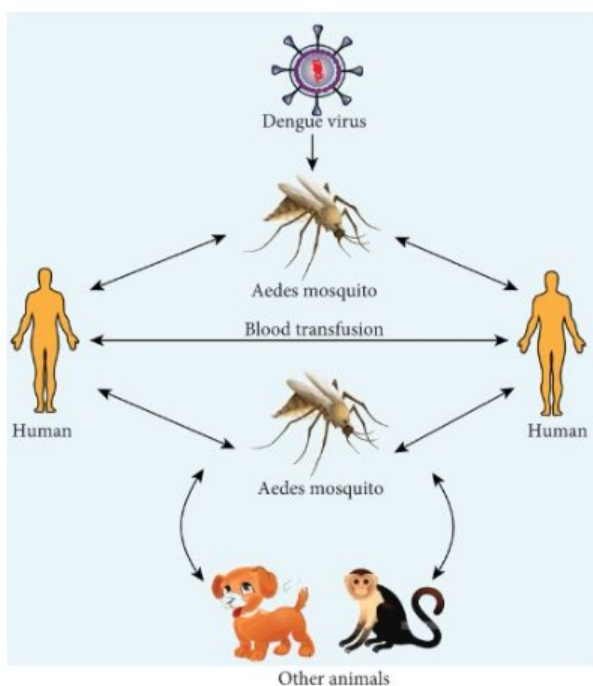
- Dengue is a viral infection caused by the **dengue virus (DENV)**, transmitted to humans through the bite of infected mosquitoes.
- DENV is a **pathogenic arthropod-borne flavivirus (arbovirus)**, it is a single-stranded and positive-sense RNA molecule belonging to the family **Flaviviridae**.

Geographical Distribution

- Dengue is found in **tropical and sub-tropical climates** worldwide, mostly in **urban and semi-urban areas**.
- Presently, DENV is prevalent throughout the different countries (at least 100 countries) including in **Asia, the Pacific, the Americas, Africa, and the Caribbean**.

Transmission

- **Transmission through the mosquito bite:** The virus is transmitted to humans through the bites of infected female mosquitoes, primarily the **Aedes aegypti mosquito**. Other species within the Aedes genus can also act as vectors, but their contribution is secondary to Aedes aegypti.
- **Human-to-mosquito transmission:** Mosquitoes can become infected by people who are viremic with DENV. This can be someone who has a symptomatic dengue infection, also people who show no signs of illness as well (they are asymptomatic).
 - Human-to-mosquito transmission can occur up to 2 days before someone shows symptoms of the illness, and up to 2 days after the fever has resolved.
- **Maternal transmission:** There is evidence of the possibility of maternal transmission (from a pregnant mother to her baby).
- **Other transmission modes:** Rare cases of transmission via blood products, organ donation and transfusions have been recorded. Similarly, transovarial transmission of the virus within mosquitoes have also been recorded.



Symptoms

- high fever (40°C/104°F)

- severe headache
- pain behind the eyes
- muscle and joint pains
- Nausea
- Vomiting
- swollen glands
- rash.
- Individuals who are infected for the second time are at greater risk of severe dengue. Severe dengue symptoms often come after the fever has gone away:
 - severe abdominal pain
 - persistent vomiting
 - rapid breathing
 - bleeding gums or nose
 - Fatigue
 - Restlessness
 - blood in vomit or stool
 - being very thirsty
 - pale and cold skin
 - feeling weak.

Prevention

- The mosquitoes that spread dengue are active during the day. The risk of getting dengue can be reduced by:
 - clothes that cover as much of your body as possible.
 - mosquito nets if sleeping during the day, ideally nets sprayed with insect repellent window screens.
 - mosquito repellents (containing DEET, Picaridin or IR3535).
 - Avoid water collection around the house to prevent breeding of mosquitoes. If needed, one must cover water with a lid to refrain breeding.
 - coils and vaporizers.

Treatment

- Rest
- drink plenty of liquids
- use acetaminophen (paracetamol) for pain
- avoid non-steroidal anti-inflammatory drugs, like ibuprofen and aspirin
- watch for severe symptoms.
- So far one vaccine (Dengvaxia) has been approved and licensed in some countries. However, only persons with evidence of past dengue infection can be protected by this vaccine. Several additional dengue vaccine candidates are under evaluation.

Vaccines Proposed

- Two potential vaccines that Serum Institute of India initiated is to conduct Phase-III randomised, double-blind, placebo-controlled trials in 10,335 healthy adults (aged 18-80 years) in 20 sites (ICMR-funded).
- The Phase-III protocol has been approved by the Drugs Controller General of India (January 2023) and the company is trying to upscale vaccine production with the trials expected to start in August-September this year.
- ICMR has noted that the desirable characteristics of a dengue vaccine includes **acceptable short- and long-term safety profile** (no antibody dependent enhancement), inducing **protection against all four serotypes of dengue, reducing risk of severe diseases and deaths, inducing a sustained immune response and effectiveness irrespective of the earlier sero-status and age of the individual.**

Why India Sees Massive Dengue Outbreaks Every Year

- Poor sewer systems lead to pooling of water in many of the cities in India which leads to breeding of mosquitoes.
- Many people store water in their habitat because of shortage of water in many parts of India. This makes the place perfect for breeding mosquitoes.

- There are no adequate efforts from the government to develop a vaccine against Dengue because of other prevalent health conditions.
- Lack of awareness in the community to prevent mosquito bites and to avoid breeding places for mosquitoes.



GENERAL STUDIES 3.

ECONOMY

INDIA AND EFTA STATES

Context: The Secretary General of the European Free Trade Association (EFTA) emphasizes the potential benefits of a Trade and Economic Partnership Agreement (TEPA) between India and Iceland, Liechtenstein, Norway, Switzerland (EFTA states).

- The high-level delegates from Iceland, Liechtenstein, Norway, Switzerland, and India met in April 2023, in New Delhi to discuss the prospects of resuming their negotiations towards a TEPA. A joint statement issued at the end of the talks reflects the parties' common decision to "continue their efforts to resolve all outstanding issues and work towards deepening and strengthening the economic partnership".
- They aim to deepen and strengthen their economic partnership and contribute to a more inclusive global trading system.

What is EFTA?

- EFTA is an intergovernmental organization that was established in 1960 as an alternative trade bloc for those European states that were unable or unwilling to join the European Union (EU).
- EFTA comprises Iceland, Liechtenstein, Norway, and Switzerland, which are not part of the EU but have access to its single market through various agreements.

What is the Economic Significance of EFTA States for India?

- **Human Resource:** Although the EFTA states have a small population of just over 14 million, their economies are among the world's highest in innovation, competitiveness, wealth creation per inhabitant, life expectancy, and quality of life.
- **Trade:** They are the 10th largest merchandise traders and 8th largest services traders worldwide, with imports and exports of goods and services close to USD 1.3 trillion in 2021.
- **World Leaders:** EFTA companies are world leaders in pharmaceuticals, biotechnology, machinery manufacturing, R&D-driven technology products, geothermal-related technologies, marine technology, energy-related services, financial services, banking, and insurance.
- **Success History of EFTA's Trade Agreements:** EFTA has a track record of negotiating mutually beneficial trade agreements with 40 partner countries, covering 29 free trade agreements (FTAs).
 - Nearly 22% of EFTA states' imports come from these FTA partners.
 - Agreements are in place with Hong Kong, Indonesia, the Philippines, South Korea, and Singapore, and negotiations are ongoing with Malaysia, Thailand, and Vietnam.

What are the Potential Benefits of a TEPA?

- **Increased Trade:** A TEPA between India and EFTA states would foster a strong partnership and increase trade between trusted democratic partners that share values such as promoting sustainable development and gender equality.
- India's impressive economic growth and leadership in green technologies would benefit from EFTA states' complementary support by strengthening trade and investment ties.
- **Market Access:** Improved market access for goods would boost India's export potential to EFTA markets, where the EFTA's export products frequently serve as inputs in Indian export industries.
- **Increased Investment:** EFTA states have contributed significant investments of over USD 35 billion in India, spanning sectors such as machinery, electrical engineering and metals, pharmaceuticals, banking, financial services and insurance, construction, and fast-moving consumer goods (FMCG). The TEPA is estimated to increase investments in India significantly.
- **Mutual Benefits:** EFTA states benefit from the highly skilled Indian workforce, notably in the services sector.
 - India benefits from over 400 companies established by EFTA states, generating more than 1,50,000 jobs.

- A trade agreement would increase predictability in the services sector, creating more business opportunities for skilled Indian service providers.
- **Renewable Technologies:** India aims to meet 50% of its energy needs with renewables by 2030, with potential for scaling up projects and cooperation in solar, wind, hydro, and geothermal power. EFTA states can contribute to India's green growth aspirations with their cutting-edge technologies.

What are the Challenges?

- **Addressing Differences in Economic Structures:** The EFTA states are highly developed economies with a focus on high-tech industries and services, while India is a developing economy with a more diverse economic structure.
Bridging the gap between these different economic structures may be a challenge in negotiating a TEPA.
- **Market Access Challenges:** The agreement must address market access issues and address concerns regarding tariffs, quotas, and non-tariff barriers, to ensure free and fair trade between the parties.
- **Regulatory Challenges:** Differences in regulations, standards, and legal frameworks can pose a challenge for establishing a smooth trading relationship.
Addressing regulatory barriers and streamlining procedures can be time-consuming and require extensive cooperation between the parties.
- **Competitive Challenges:** EFTA states are small, but their economies are highly competitive, particularly in sectors such as pharmaceuticals, biotechnology, and machinery manufacturing.
Addressing competitive challenges to ensure a level playing field and fair competition is essential.
- **Environmental and Social Challenges:** Addressing environmental and social challenges, such as promoting sustainable development and gender equality, is crucial in establishing a long-term, successful partnership between the parties.
- **Negotiation Challenges:** Negotiating a mutually beneficial agreement that meets the interests of all parties involved can be challenging.
This includes addressing outstanding issues and achieving a balanced agreement with strong political involvement and guidance.

Way Forward:

- **Address Outstanding Issues:** The high-level delegates from EFTA and India should work towards resolving any outstanding issues that may hinder the conclusion of a mutually beneficial TEPA.
- **Identify Areas of Mutual Benefit:** The parties should identify areas of mutual benefit, such as technology transfer, R&D and innovation, business collaboration, and market access for goods, to increase trade and investment ties.
- **Collaborate on Skilled Labour:** The TEPA should also focus on increasing predictability in the services sector, creating more business opportunities for skilled Indian service providers and contributing to the economic growth and welfare of both countries.
- **Strong Political Involvement and Guidance:** India and EFTA should prioritize the TEPA negotiations and provide strong political involvement and guidance to ensure a swift process towards a balanced agreement.

ECONOMICS OF INDIA’S POPULATION GROWTH

Context: The annual State of World Population report 2023 by the UN Population Fund (UNFPA) stated that India’s population is expected to surpass that of China by the middle of this year at the latest.

History of India’s population

Period	Population estimate	Remarks
1871	255 million	1 st Census Data
1947	343 million	At the time of Independence
2023	1426 million	India becomes most populous

Population vs Economic development

- Starting point of this debate is **Thomas Malthus’** argument in 1798.

- **Malthusianism is the theory** that population growth is potentially exponential while the growth of the food supply or other resources is linear, which eventually reduces living standards to the point of triggering a population decline. This event, called a Malthusian catastrophe.
- Since then, however, the world population has grown eight times to reach 8 billion.
- During the 1950s and 60s, “the general view of economists was that high birth rates and rapid population growth in poor countries would divert scarce capital away from savings and investment, thereby placing a drag on economic development.
- However, between the 1970s and 1990s, several studies “failed to detect a robust relationship between national population growth rates and per capita income growth”
- The global view reverted in the 1990s when researchers again found a clear “negative association between population growth and economic performance”.
 - During this time, World was also introduced to the concept of “demographic dividend” i.e., high economic growth when there is a bulge in the working-age population (roughly speaking, population between 15 and 65 years).

In Indian Context

● **Opportunities for India:**

- Theory of demographic transition suggests that population growth is linked to overall levels of economic development as more people are able to produce more goods.
- The rising young population (>66 % population in 15-59 age) provides India with a great opportunity for growth, peppered with the possibility of path-breaking innovation.
- India’s population heterogeneity ensures that this window of demographic dividend becomes available at different times in different States.
- Farming and industry will be able to benefit from economies of scale.
- It will lead to higher tax revenues which can be spent on public goods, such as health care and environmental projects.
- The size of the population is intimately connected to the global power dynamics shaping the relationship between nations and regions.

● **Issues with population:**

- The increase in the working-age population may lead to rising unemployment, fueling economic and social risks.
- High population growth also affects the faster depletion of resources.
- The 65+ category is going to grow quite fast i.e., increase from 8.6% now to 13% by 2030.
- If India is unable to reap demographic dividend, it will become a demographic disaster.

Lessons for India

- India’s fertility rate (the number of children per woman) is already below the replacement rate of 2.1 but the population will peak by 2064.
- The bigger challenge now is to figure out how to best use India’s demographic dividend because despite China growing at remarkably high over the past four decades it may become old before becoming rich.
- Countries like Singapore, Taiwan and South Korea have already shown us how demographic dividend can be reaped to achieve incredible economic growth by:
 - Increasing women’s participation in the workforce. As of 2022, 29.4 % of women were working or looking for work, down from 34.1% in 2003-04.
 - Investing more in children and adolescents, particularly in nutrition and learning during early childhood.
 - A greater focus needs to be on transitioning from secondary education to universal skilling and entrepreneurship, as done in South Korea.
 - Health investments - Evidence suggests that better health facilitates improved economic production.
 - Making reproductive healthcare services accessible on a rights-based approach. We need to provide universal access to high-quality primary healthcare.
 - India needs to address the diversity between States. Southern States, which are advanced in demographic transition, already have a higher percentage of older people.

- A new federal approach to governance reforms for demographic dividend will need to be put in place for policy coordination between States on various emerging population issues such as migration, ageing, skilling, female workforce participation and urbanization.

Conclusion

- India has a window of opportunity to reap the benefits of demographic dividend until 2040s otherwise it could become demographic liability or demographic disaster.

DE-DOLLARISATION

Context: There's a growing trend of countries **sidestepping the US dollar (de-dollarisation)** and choosing to use their own local currencies for bilateral trade.

What is de-dollarisation?

De-dollarisation is a term that refers to the process whereby countries **tend to reduce their reliance on the US dollar as a reserve currency**, medium of exchange, and also a unit of account.

Why is the US dollar used so widely?

- **Dominance of Dollar:** After **World War II**, the US dollar replaced the **British pound** as the dominating currency worldwide. In 1944, the **Bretton Woods Agreement** established the dollar as the **world's reserve currency**. The original Bretton Woods Agreement is dead, but the dollar remains the international reserve currency.
- **Trade deficit of US:** U.S. has been running a persistent trade deficit for decades now (in fact the last time the U.S. ran a trade surplus was way back in 1975). The **excess dollars** that the rest of the world accumulates due to the U.S. 's trade deficit has been invested in U.S. assets such as in debt securities issued by the US government.
- **Popularity of U.S. assets among investors:** The high level of trust that global investors have in the **U.S. financial markets**, perhaps owing to the **'rule of law'** in the U.S., is considered to be a major reason why investors prefer to invest in U.S. assets.

What is Reserve Currency?

- Reserve currencies are **foreign currencies held by central banks** and other monetary authorities to facilitate international transactions, stabilize exchange rates, and bolster financial confidence.
- These currencies are typically characterized by their **stability, liquidity, and wide acceptance in global markets**, which make them attractive for holding and conducting international transactions.
- A reserve currency is also used by central banks to prepare for **international debt obligations and to influence their domestic exchange rate**.

Global Efforts Towards Dedollarization

- In recent years, several countries and regions have embarked on the path towards dedollarization, driven by a combination of **geopolitical, economic, and strategic considerations**.
- Notable examples include China, Russia, Brazil and the European Union, each of which has taken steps to reduce their reliance on the US dollar in international transactions and financial markets.

Why are de-dollarisation attempts being made?

- **Sanctions by U.S.:** The U.S. imposed several sanctions that restricted the use of the U.S. dollar to purchase oil and other goods from Russia, and this has been seen by many countries as an attempt to weaponise the dollar.
- **Power to control transactions by U.S.:** Since international transactions carried out in the U.S. dollar are cleared by American banks, this gives the U.S. government significant power to oversee and control these transactions.
- **To end U.S Hegemony:** Some countries, like China and Russia, have sought to diminish the influence of the US dollar as a means of countering perceived American hegemony and mitigating the impact of US sanctions.

- **To Promote their own currency:** Other countries, particularly those in the Eurozone, have pursued dedollarisation to promote the international use of their currency, the euro, in a bid to enhance their global economic standing and secure greater financial autonomy.

Challenges Towards Dedollarisation

- **Threat to Global Financial Stability:** As countries reduce their reliance on the US dollar, adjustments in the composition of global reserve assets may lead to **shifts in capital flows and changes in asset prices**. In the absence of adequate policy coordination and risk management, these fluctuations could create **financial instability**.
- **Alternative currency:** Creating a viable alternative to the US dollar presents a formidable challenge. To achieve the requisite degree of stability, liquidity, and acceptability, an alternative reserve currency must be underpinned by a robust economy, deep and liquid financial markets, and sound monetary and fiscal policy frameworks. Currently, **no single currency fully meets these criteria**, although the euro and the Chinese yuan have made strides in this regard.
- **Increased volatility in Exchange rates:** Dedollarisation could result in increased volatility in currency exchange rates, particularly during the initial phases of transition. This, in turn, could **impact trade, investment, and capital flows**, particularly for countries with less developed financial markets or limited policy tools to manage exchange rate volatility.

Should India Focus on De-dollarisation?

- **Benefits:** It could **reduce the vulnerability to fluctuations** in US monetary policy and enhance monetary autonomy, enabling them to better **tailor policy actions to the domestic economic conditions**.
 - Moreover, the **diversification of reserve currencies** could provide a buffer against currency fluctuations and capital flow reversals, **reducing the likelihood of financial crises** and improving overall financial stability.
- **Challenges:** As developing countries transition away from the US dollar, they may face **heightened exchange rate volatility**, which could impact trade, investment, and capital flows.
 - Additionally, the development of deep and liquid domestic financial markets – a prerequisite for currency internationalisation – could prove to be a formidable challenge for countries with less developed financial systems.
 - Furthermore, the potential costs associated with the transition, such as adjustments to existing trade and financial arrangements, may be significant and could strain limited resources.

Way Ahead

- In light of these considerations, developing countries like India should adopt a prudent and measured approach towards dedollarisation. Policymakers must strike a **delicate balance** between the potential benefits of reducing reliance on the US dollar and the risks and costs associated with such a transition.
- While dedollarisation presents opportunities for a more diversified and resilient global financial system, it also poses significant challenges that must be carefully managed to ensure the preservation of global financial stability and sustained economic growth.
- Developing countries such as India must carefully weigh the potential benefits and risks associated with this transition.

REPORT ON CURRENCY & FINANCE 2022-23

Context: Recently, the Reserve Bank of India's (RBI) Department of Economic and Policy Research (DEPR) released a Report on Currency & Finance 2022-23.

About the report

- The report, themed '**Towards a Greener Cleaner India**', does not represent the views of the RBI, and is based on the findings and conclusions of the contributors from the Department of Economic and Policy Research.
- It covers four major dimensions of climate change to assess future challenges to sustainable high growth in India.
 - The areas are the unprecedented scale and pace of climate change; its macroeconomic effects; implications for financial stability; and policy options to mitigate climate risks.

Major Findings

- The **cumulative total expenditure** for adapting to **climate change** in India is estimated to **reach ₹85.6 lakh crore (at 2011-12 prices) by 2030**.
- India's goal of achieving the net zero target by 2070 would require an **accelerated reduction** in the energy intensity of GDP by about **5% annually** and a significant improvement in its energy mix in favour of renewables to about **80% by 2070-71**.
- **India's green financing requirement** is estimated to be at least **2.5% of GDP annually till 2030** to address the infrastructure gap caused by climate events.
- Results of a climate stress test reveal that **public sector banks (PSBs)** may be **more vulnerable** than **private sector banks**.
- Globally, however, the measurement of climate-related financial risks remains a work in progress.
- CBDCs can be more energy efficient than much of the current payment landscape, including credit and debit cards.
 - The CBDC helps curb emissions by nullifying operations such as printing, storage, transportation, and replacement of physical currency.

Recommendations

- In order to **speed up and drive green finance** in the country and meet climate goals, India needs to put in place a broad-based carbon pricing system in-line with emerging global best practices and introduce a carbon tax.
- It also recommended introducing an Emissions Trading System (ETS) linked to green taxonomy, covering all sectors of the economy, which can partly balance subsidy and tax.
- There is a need to properly record public spending on climate change and related issues and report them in a climate budget report as a supplement to the annual budget.
- India should explore ways to **improve access to technology and critical mineral** resources through multilateral, regional, and bilateral strategic partnerships, and step up efforts to address the variability in wind and solar power supply through appropriate energy storage technology and demand management mechanisms using smart grids.
- **Other suggestions:** Complementing green building standards with the Internet of Things (IoT)-based monitoring and AI and ML to manage and reduce energy demand;
 - Boosting climate resilient agriculture;
 - Production of green hydrogen using renewable energy; and investment in carbon capture and storage technologies.
- Central banks could mandate banks and other financial institutions to consider climate and environmental risks through various regulations.

Future Outlook

- A balanced policy intervention with progress ensured across all policy levers would enable India to achieve its green transition targets by 2030, making the net zero goal by 2070 attainable.

AMENDMENT IN PREVENTION OF MONEY LAUNDERING ACT, 2002 (PMLA)

Context: Chartered accountants, Company secretaries, and cost and works accountants who carry out financial transactions on behalf of their clients are now under the ambit of the **Prevention of Money Laundering Act (PMLA)**.

Recent Amendment

- Amendments under the PMLA in line with the recommendations of the FATF.
- An **activity** will be recognized under the PMLA if these professionals carry out financial transactions **on behalf** of their client such as buying and selling of any immovable property; managing of client money, securities or other assets; management of bank, savings or securities accounts; organization of contributions for the creation, operation or management of companies; creation, operation or management of companies, limited liability partnerships or trusts, and buying and selling of business entities.
- The financial professionals who have obtained certificates of practice as chartered accountants, company secretaries, cost and work accountants would be defined as relevant persons for reporting transactions on behalf of their individual clients.

- The reporting entities shall be expected to maintain the record of all transactions and would be required to furnish these to the Director (Financial Intelligence Unit).
- The reporting entities would also be expected to conduct KYC before commencement of each specified transaction and will have to examine the ownership and financial position including sources of funds of the client and to record the purpose behind conducting the specified transaction.

Criticism of the Amendment

- Tax experts said given the onerous compliance, and low conviction rate under the law, the inclusion of CAs, CS, and CWAs, was uncalled for.
- Concerns amongst financial professionals that they could possibly not just face penalty for non-compliance but could also have potential run-ins with investigative agencies like ED.

Other recent changes

- Over a month ago, in March, the government had widened the ambit of reporting entities under money laundering provisions to incorporate more disclosures for non-governmental organizations and defined politically exposed persons (PEPs).

About Prevention of Money Laundering Act,2002 (PMLA)

- The Parliament enacted the PMLA as a result of international commitment to sternly deal with the menace of money laundering of proceeds of a crime having transnational consequences and on the financial systems of the countries.

Objectives:

- The PML Act seeks to combat money laundering in India and has three main objectives:
- To prevent and control money laundering
- To confiscate and seize the property obtained from the laundered money;
- To deal with any other issue connected with money laundering in India.

NEED FOR DIGITAL UPSKILLING OF WORKFORCE

Context: With the acceleration in the pace of technological change and the demands for such skills exceeding their supply, digital literacy and upskilling is not anymore optional and rather a necessity. The National Sample Survey (NSS) (2020-21) and LFPS 2020-21 indicate the need to broaden the coverage of IT or computer-based training across various sectors.

- So does the Future of Jobs 2023 report (4th edition; first launched in 2016) released recently by the World Economic Forum (WEF) which highlights the creation of 97 million new jobs by 2025 on account of technological advancements in artificial intelligence (AI) and other fields.
- Notwithstanding the initiatives for digital literacy, India still has a long way to go before it comes at par with the countries with highly skilled workforce.
- There is an urgent need for the Indian government, businesses, and educational institutions to invest in digital upskilling initiatives to bridge the existing digital gap and remain competitive and relevant in the global marketplace.

What does the WEF Report say about Tech-Advancement and Job Creation?

- **Optimistic yet Cautionary Projection:** The WEF predicts that while 85 million jobs will become obsolete by 2025, technological advancements in AI and other fields will lead to the creation of 97 million new jobs.
- However, the role of machines in the division of labour will continue to increase, especially for repetitive and routine tasks.
- The jobs of the future are expected to rely more on data-driven and machine-powered processes.
- **Tech-driven Shift in India:** The WEF has also projected a slightly lower churn in jobs for the labour markets in India over the next 5 years compared to the global average of 23%. The churn in India will largely be technology-driven, via sectors such as AI & ML (machine learning) (38%), followed by data analysts and scientists (33%) and data entry clerks (32%).
- The smallest churn, predictably, will be in labour-intensive segments of the economy.

- However, the report also shows employers in India and China to remain the most upbeat in terms of future talent availability.

What Factors Indicate that India's Workforce is Digitally Unprepared?

- **Huge Demand-Supply Gap:** As per a report by Nasscom, Draup, and Salesforce, even when taking into account the current talent base of 420,000, there exists a 51% gap between AI & ML and big data analytics' (BDA) talent demand and supply. This gap is significantly worse for ML engineers, data scientists, DevOps engineers and data architects where the demand-supply gap is 60-73%.
- **Shortcomings in Upskilling:** The problem is exacerbated by the quality of talent available; an overwhelming number of engineering graduates are unemployable with their current level of skills.
- Approximately 30% of the trained workforce in different fields have IT training, yet 29% of individuals with such training are unemployed, pointing towards either inadequate training content or poor training quality that results in low employability.
- Apart from the IT sector, the overall skilling effort, across segments of the economy, falls far short of what is required.
- For instance, just 22% of those certified under the Pradhan Mantri Kaushal Vikas Yojana have found placement.
- **Lack of Basic Understanding of Computers:** The NSS 2020-21 reveals about 42% of the country's youth has a basic understanding of copying or moving files or using copy and paste tools on a computer.
- Additionally, only 10% and 8.6% of youth have knowledge of basic arithmetic formulae in a spreadsheet and creating an electronic presentation using presentation software, respectively. Only 2.4% of youth have programming skills.
- **Low Investments:** India's investment in mid-career upskilling also remains quite average which has been reflected in the high unemployment rate among those with advanced education.

How can India Make its Workforce Digitally Prepared?

- **Revamping Skills and Investments:** To adapt to the changing job market, it is crucial to restructure the entire skill development system and focus on upskilling the workforce with an eye on emerging technologies and the future of work.
- India has an advantage over other countries due to its sizable working-age population and a significant youth demographic.
- However, full benefits of demography can't be reaped if sufficient attention is not given to strategic investment, particularly in the reskilling of the workforce to keep up with the digital transformation.
- **Special Focus on IT Skills:** To remain competitive in the global market, it has become increasingly imperative for individuals from all sectors to possess specialised IT or computer skills.
- The government, recognising this, has implemented several skilling programmes, such as the Skill India Mission and Pradhan Mantri Kaushal Vikas Yojana (PMKVY) 4.0.
- These initiatives aim to train and certify millions of individuals in various vocational skills, including IT and digital skills, with a focus on emerging technologies like artificial intelligence, mechatronics and robotics.
- **Alternate Talent Pools:** We need to build digital capabilities in smaller towns, get more women to join the work-stream with hybrid work norms, revamp vocational education from industrial training institutes and polytechnics.
- Corporate-Social-Responsibility (CSR) funding from industries can be leveraged for these programmes.
- The governments should work together with employers, training providers, and workers to meet the growing digital learning needs.

US FED RATE HIKE

Context: After raising interest rates aggressively to tame inflation, the US Federal Reserve has once again raised its benchmark overnight interest rate by a quarter of a percentage point to the 5.00%-5.25% range.

Overnight rates are the rates at which banks lend funds to each other at the end of the day in the overnight market.

In many countries, the overnight rate is the interest rate the central bank sets to target monetary policy (Repo Rate in India).

What could be the Possible Impact of this Hike on India?

- The economists have expected that the latest Fed hike may not have a material impact on India as the RBI has paused hikes and there is weakness in the crude oil prices as well.
- Domestic markets are likely to remain resilient and if there is volatility, it would have a limited impact on the economy.
- It is also expected that the strength of the rupee and the continued buying by foreign institutional investors (FIIs) will strengthen the market.
- FIIs have already started investing in India, with inflows in April 2023 rising to Rs 13,545 crore and Rs 8,243 crore in May so far.
- Moreover, this hike is being viewed as last one for this year, 2023 and the Fed will start cutting rates from the second half of 2023.
- If the Fed opts for a cut later in the year, capital inflows are expected to pick up.
- If the Fed starts cutting rates from July 2023, markets are expected to rise sharply.

Why do Central Banks resort to a Rate Hike?

- The central bank may increase interest rates to control inflation.
- This is being done to reduce the amount of money available for borrowing, which can help to cool down the economy and prevent prices from rising too quickly.
- With higher borrowing costs, people and companies may be less willing to borrow, which can slow down economic activity and growth.
- Businesses may take fewer loans, hire fewer people, and reduce production in response to the increased costs of borrowing.

What are the Impacts of US Fed Rate Hike on Indian Economy?

- **Capital Flows:** A US Fed rate hike can lead to a rise in interest rates in the US, which can attract capital flows from other countries. This can lead to a reduction in foreign investment in India, which can affect economic growth.
- **Depreciation of rupee:** It can also lead to a depreciation of rupee, which can have an impact on India's trade balance and current account deficit.
 - Depreciation of Indian rupee may result in costlier imports such as crude oil and other goods. This may bring the imported inflation in Indian Economy.
- **Domestic Borrowing Costs:** It can lead to an increase in borrowing costs in India, as investors may choose to invest in US securities instead of Indian securities. This can lead to a reduction in domestic investment and higher borrowing costs for businesses and individuals.
- **Stock Market:** It can also impact the stock market in India. Higher US interest rates can lead to a reduction in demand for risky assets such as equities, which can lead to a decline in stock prices in India.
- **External Debt:** India's external debt is mostly denominated in US Dollars, a US Fed rate hike can increase the cost of servicing that debt, as the value of the rupee may fall against the dollar. This can lead to an increase in India's external debt burden and a negative impact on the economy.
- **Banks:** The banking industry gets benefited by the interest rates rise, as banks re-price their loan portfolio much quicker than their deposit rates, which helps them to increase their net interest margin.

What Options are Available with India to Counter Fed Hikes?

- **Adjusting Domestic Interest Rates:** The RBI, could raise interest rates in response to the Fed hikes to attract foreign investors to invest in Indian markets, which would increase demand for Indian currency and help maintain its value. However, this could also slow down domestic economic growth.

- **Diversifying Reserves:** India could diversify its foreign exchange reserves to reduce its dependence on the U.S. dollar and mitigate the impact of Fed rate hikes. For instance, India could increase its holdings of other major currencies such as the Euro, Yen, and Chinese Yuan.
- **Enhancing Trade Relations with Other Countries:** India could focus on expanding trade ties with other countries to boost its economic growth and reduce the impact of the Fed rate hikes. This could include exploring new export markets, attracting foreign investment, and increasing bilateral trade agreements.
- **Encouraging Domestic Consumption:** If the Fed rate hikes lead to a slowdown in the Indian economy, the government could boost domestic consumption through measures such as tax cuts, subsidies, or public works programs to stimulate economic activity.
- **Reduce Dependence on Crude Oil:** One of the major effects of a stronger US dollar is the increase in crude oil prices, which in turn contributes to the overall rise in commodity prices. To address this, it is important to promote the use of alternative sources of energy such as renewable energy and ethanol.

GOVT'S NEW GST COMPLIANCE MEASURES

- Government recently undertook two significant measures to **curb tax evasion** and **increase compliance** under the **Goods and Services Tax (GST)** regime:
 - Lowering the threshold for businesses to generate **e-invoice for business-to-business (B2B) transactions**, from Rs 10 crore to Rs 5 crore, and
 - Rolling out the **automated return scrutiny module** for GST returns in a backend application for central tax officers.

More about the news

- **The 'Automated return scrutiny module':**
 - This will enable the officers to **scrutinise GST returns** of **centre-administered taxpayers** selected on the basis of **data analytics and risks** identified by the system.
 - **Discrepancies on account of risks associated** with a return will be displayed to the tax officers.
 - They will **interact with the taxpayers through the GSTN common portal** for communication of discrepancies noticed in returns and **subsequent action** in form of either issuance of an order of acceptance of reply or issuance of show cause notice or initiation of audit/investigation.
 - The automated return scrutiny module has **already commenced** with the scrutiny of **GST returns for FY 2019-20**, with the requisite data already with the tax officers.
- **Changes changes for e-invoicing:**
 - At present, businesses with **turnover of Rs 10 crore and above** are required to generate e-invoice for all B2B transactions.
 - **37th meeting of GST Council:**
 - The GST Council in its **37th meeting in September 2019** had approved the **standard of e-invoice** with the **primary objective to enable interoperability across the entire GST ecosystem**.
 - Under this, a **phased implementation was proposed** to ensure a common standard for all invoices, that is, an e-invoice generated by one software should be capable of being read by any other software and through machine readability, an invoice can then be uniformly interpreted.
 - **New compliance:**
 - The government now has lowered the threshold for businesses to generate e-invoice for business-to-business (B2B) transactions to Rs 5 crore from Rs 10 crore under GST.
 - The changes will come into effect from August 1.

Significance

- Amid **rising instances of GST frauds** and cases of **fake invoices**, these changes are expected to **broaden the compliance mandate** for more businesses, especially small and medium enterprises
- The measures are also expected to **help boost the GST revenue collections**.

- With a **uniform invoicing system**, the tax authorities are able to **pre-populate the return** and **reduce the reconciliation issues**.

Challenges

- While the reduction in the e-invoicing threshold is seen as an important factor for boosting GST revenue collections and checking frauds, it will also **increase compliance requirements** for smaller businesses.
 - Industry needs to ensure that any vendor supplying goods or services and crossing the threshold turnover of Rs 5 crore is necessarily issuing an e-invoice from August 2023 to avoid any dispute with respect to availability of input tax credit.

MAKING AGRICULTURE ECONOMICALLY VIABLE

The Indian government has been aware of the need to make farming more economically viable and sustainable. The government has been taking various measures to address the problems faced by the farmers, such as low productivity, high input costs, market fluctuations, climate change, indebtedness, and lack of institutional support. The agricultural sector is very crucial for the overall economy and society of India, as it provides employment to a large segment of the workforce and ensures food security for the country's population. Improving the condition of Indian agriculture has been a priority and a challenge for the policymakers in India.

Why is it Important to make Agriculture Economically Viable?

- **To Ensure Food Security:** India is a country with a large population and a growing demand for food. In order to ensure that everyone has access to enough food, it is important to make agriculture economically viable so that farmers can produce enough food to meet the demand.
- **To Promote Rural Development:** Agriculture is a major contributor to the rural economy. By making agriculture economically viable, it is possible to promote rural development and improve the lives of people living in rural areas.
- **To Support the Livelihoods of a Majority of Indians:** Making agriculture economically viable can help improve the living standards and well-being of millions of Indians who depend on farming for their survival. Agriculture is the main source of income and employment for more than 50% of the Indian population directly.
- **To Enhance the Growth and Stability of The Economy:** Agriculture contributes around 17-18% to the GDP of India. Making agriculture economically viable can help boost the overall economic growth and stability of India by increasing farm productivity, reducing wastage, diversifying crops, enhancing value addition and ensuring food security.
- **To Adopt Sustainable and Natural Farming Practices:** Agriculture causes environmental degradation, water scarcity, soil erosion, and greenhouse gas emissions. Current farming practices rely on harmful chemicals, irrigation, and subsidies. Making agriculture economically viable can encourage sustainable and natural farming practices that reduce environmental impact and enhance adaptation to climate change.

What are the challenges?

- **Lack of Digital Literacy:** Many farmers in rural areas may not have access to smartphones or reliable internet connectivity, which can limit their ability to access digitalized agri-services. Another challenge is the need for education and training to help farmers understand how to use these new technologies effectively.
- **Small land holdings:** Many farmers in India have small land holdings, which can limit their ability to achieve economies of scale and reduce their profitability.
- **Lack of Access to Credit:** Many farmers in India lack access to formal credit, which can limit their ability to invest in their farms and improve their productivity.
- **Lack of Access to Markets:** Many farmers in India lack access to markets where they can sell their produce at a fair price. This can result in farmers receiving low prices for their produce and reduce their profitability.
- **Climate change:** Climate change is resulting in more frequent and severe weather events such as droughts and floods, which can have a devastating impact on farmers' livelihoods.
- **Lack of infrastructure:** Many rural areas in India lack basic infrastructure such as roads, electricity, and irrigation systems, which can limit farmers' ability to improve their productivity and profitability.
- **Natural calamities:** India is prone to natural calamities such as floods, droughts, and pests. These calamities can damage crops and livestock, leading to losses for farmers.

- **Inefficient marketing:** The marketing system for agricultural produce in India is inefficient. This leads to low prices for farmers and high prices for consumers.

What are some Policy Options for making Agriculture Economically Viable?

- **Digitalisation of Agriculture:** The new age technology based Agri start-ups offer full-stack solutions for farmers from seed to market. They prioritize the farmer by providing direct access to supplies, loans, insurance, and selling their produce at the best price.
- For Example, Gurugram-based DeHaat caters to 15 lakh farmers covering over 35 crops, through artificial intelligence, machine learning, and data analytics.
- Typically, the farmers with smart phone can access digitalized agri-services for agri-inputs, farm advisory, and marketing of agri-produce.
- **Integrated/Natural Farming:** Integrated farming can be profitable for farmers with small land holdings. By having a few animals, fishponds, and vermi-culture for natural manure, farmers can become self-reliant and financially empowered. Family labor is important for this type of farming, and it is both commercially viable and environmentally sustainable.
- Natural farming offers a solution to various problems such as food insecurity, farmers' distress, health issues and natural calamities by using locally available resources and minimizing external inputs.
- **Climate Smart Agriculture:** Climate smart agriculture can make agriculture economically viable by shifting towards eco-friendly agri-inputs such as Nano Urea. This can reduce the indiscriminate use of fertilizers, which can lead to irreparable ecological damage, soil infertility, and a toxic food chain. By using cost-effective and sustainable farming practices, farmers can increase crop yields while reducing input costs. This can help farmers become more profitable and sustainable in the long run.
- **Adopting Best Farm-practices:** Adopting best farm-practices such as co-operative principles can make agriculture economically viable. For instance, Israel, despite its unfavourable climate and limited resources, has become a major exporter of farm-produce and a global leader in agricultural technologies. By following social equality, co-operation and mutual aid in generating agricultural output in the most productive manner, farmers can increase their efficiency and productivity. This can lead to increased profitability and sustainability in the long run.
- **Say 'NO' to Informal Credit:** Besides easing access to formal credit, farmers need to be counselled on financial prudence. Formal credit facilities can increase agricultural productivity and profitability by providing farmers with funds to invest in their farms.
- Despite the availability of formal sources of finance, a recent survey shows that money lenders/traders/landlords still exist in rural India, making farmers financially unstable and dependent on informal credit sources.
- **Development of Agri-Value Chains:** Key drivers of agri-value chains are customer focus, infrastructure, technology, training & capacity building.
- VAPCOL, a multi-state farmer producer company based in Maharashtra, is a case in point. It has a membership of 55 FPOs covering over 40,000 tribal farmers spread across seven States.
- **Leveraging Collectives:** Convergence of SHGs, Farmers Producer Organisations (FPOs) and Co-operatives will lead to better bargaining power of farmers in terms of bulk procurement of inputs at a discounted price, economies of scale in transportation and warehousing, access to low-cost institutional finance, farm mechanisation (drones for monitoring of crops and spraying of fertilisers and plant protection chemicals, etc.).

RBI WITHDRAWS CIRCULATION OF ₹2000 NOTES

Context: The Reserve Bank of India (RBI) has decided to withdraw the Rs 2000 denomination banknotes from circulation.

RBI's Circular

- The notes will continue as **legal tender**. The RBI has advised banks to **stop issuing Rs 2,000 denomination** banknotes with immediate effect and all Rs 2,000 currency notes **must be exchanged before September 30, 2023**.
- The RBI has advised people to approach bank branches for deposit and/or exchange of these banknotes.
- One can exchange Rs 2000 banknotes up to a limit of Rs 20,000 at a time. A non-account holder of a bank also can exchange Rs 2000 banknotes up to a limit of Rs 20,000 at a time at any bank branch.

Why were Rs 2000 notes introduced?

- The Rs 2000 note was introduced in **November 2016 under Section 24(1) of The RBI Act, 1934**, primarily with the objective of meeting the currency requirement of the economy after the legal tender **status of Rs 500 and Rs 1000 notes was withdrawn**.

Why has the RBI withdrawn Rs 2000 notes?

- **Initial Objective has been met:** With the fulfillment of the objective of **other adequate stock of banknotes** in other denominations to meet currency requirements, the printing of Rs 2000 notes was stopped in 2018-19.
- **Clean Note Policy:** The 'Clean Note Policy' of the Reserve Bank of India, it has been decided to withdraw the Rs 2000 denomination banknotes from circulation.
 - The Clean Note Policy seeks to give the **public good-quality currency notes and coins with better security features**, while soiled notes are withdrawn out of circulation.
 - The RBI had earlier decided to withdraw from circulation all banknotes issued **prior to 2005** as they have fewer security features as compared to banknotes printed after 2005.
 - However, the notes issued **before 2005 continue to be legal tender**. They have only been withdrawn from circulation in conformity with the **standard international practice of not having notes of multiple series in circulation at the same time**.
- **Concerns of hoarding:** The move comes amid concerns of the **highest denomination notes being used to hoard black money**.

IRDAI VISION 2047

Context: The Insurance Regulatory and Development Authority of India (IRDAI), as part of its Vision Insurance for all' by 2047, has allotted states and union territories to every insurer to increase insurance penetration in India.

IRDAI is also planning to launch Bima Trinity - Bima Sugam, Bima Vistar, Bima Vaahaks – in collaboration with general and life insurance firms to make insurance activities hassle free.

What is IRDAI Vision 2047?

Objective:

- Insurance for All by 2047 aims that every citizen has an appropriate life, health and property insurance cover and every enterprise is supported by appropriate insurance solutions.
- It also aims to make the Indian insurance sector globally attractive

Pillars:

- Insurance customers (Policyholders)
- Insurance providers (insurers)
- Insurance distributors (intermediaries)

Focus Areas:

- Making available right products to right customers
- Creating robust grievance redressal mechanism
- Facilitating ease of doing business in the insurance sector
- Ensuring the regulatory architecture is aligned with the market dynamics
- Boosting innovation
- Competition and distribution efficiencies while mainstreaming technology and moving towards principle based regulatory regime.

Significance:

- It can help people in households all over the country to have access to an affordable insurance policy that covers health, life, property, and accidents.
- These policies would offer faster claim settlements, sometimes within hours, and additional benefits like gym or yoga memberships.

What is Bima Trinity?

Bima Sugam:

- It is a unified platform that combines insurers and distributors. It simplifies policy purchases, service requests, and claims settlement for customers in one convenient portal.

Bima Vistar:

- It is a comprehensive bundled policy that covers life, health, property, and accidents. It provides defined benefits for each risk category, ensuring quick claim payouts without surveyors.

Bima Vaahaks:

- It is a women-centric workforce operating at the Gram Sabha level. They will educate and convince women about the benefits of comprehensive insurance, particularly Bima Vistar. By addressing concerns and emphasizing advantages, Bima Vaahaks empower women and enhance their financial security.

What is the State of Insurance Sector in India?

- According to the Economic Survey 2022-23, life insurance density in the country increased from USD 11.1 in 2001 to USD 91 in 2021. Total global insurance premiums in 2021 increased 3.4% in real terms, with the non-life insurance sector registering 2.6% growth, driven by rate hardening in commercial lines in developed markets.
- According to the Economic Survey 2022-23, India's insurance market is poised to emerge as one of the fastest-growing markets globally in the coming decade.
- As per the IRDAI, insurance penetration in India increased from 3.76% in 2019-20 to 4.20% in 2020-21, registering a growth of 11.70%.
- India is at present the 10th biggest market in the world it is projected to be 6th biggest by 2032.

What are the Challenges Related to Insurance Sector

Lower Adoption Rate:

- Insurance is not widely adopted in India compared to other countries. This is because many people are not aware of insurance or don't trust it.
- In rural areas, where a large portion of the population lives, only a small percentage have life insurance coverage.
- The insurance industry's contribution to India's GDP (Gross Domestic Product) is less than 5%, which is lower than the global average. In simple terms, insurance is not widely used in India, and efforts are needed to increase awareness and trust in insurance products.

Lack of Product Innovation:

- The insurance sector in India has been slow in product innovation. Many insurance companies offer similar products, which leads to a lack of differentiation in the market.

Fraudulence:

- Fraud includes things like making false claims and lying about information.
- The use of digital technology and customer-focused policies may have unintentionally given fraudsters more chances to steal identities and make fake claims.
- Over 70% of Indian insurers have seen an increase in fraud cases in the past two years.

Talent Management:

- The insurance sector in India faces a talent shortage. The industry needs skilled professionals in areas such as actuarial science, underwriting, claims, and risk management. Attracting and retaining talented professionals is a challenge for the industry.

Slow Rate of Digitalization:

- The insurance sector in India has been slow to adopt digitalization compared to other industries, which has resulted in several challenges such as inefficient processes, lack of transparency, and poor customer experience.

Claims Management:

- The claims process in India is often seen as complicated, slow, and opaque, which can lead to customer dissatisfaction and loss of trust in the insurance industry.
- This can be due to a lack of transparency, inefficient processes, and poor communication with customers.

Way Forward

- To improve the insurance sector in India, several steps can be taken to leverage technology, align with customer behavior, optimize data usage, simplify claims management, adopt hybrid distribution models, and tackle fraud.
- Digitalization should be a priority across the value chain to reduce costs, improve efficiency, and support ecosystem development. This involves using technology to enhance employee skills and productivity through upskilling programs.
- Insurers need to align with dynamic changes in customer behavior and preferences. By offering quick personalized products and prioritizing flexibility over mass offerings, insurers can better meet customer needs and manage perceptions.



CivilsTap Hlmachal

CYBER SECURITY

COMMAND CYBER OPERATIONS AND SUPPORT WINGS

Context: In the recent Army Commanders' Conference (ACC), the Indian Army decided to operationalize the Command Cyber Operations and Support Wings (CCOSWs) to strengthen its cybersecurity capabilities, defend its networks, and counter threats in the key domain of cyberspace.

What is the Army Commanders' Conference (ACC)?

- The ACC is a biannual institutional event that serves as a platform for high-level conceptual discussions and decision-making on important policies for the Indian Army.
- The latest conference discussed various agenda points, updates from the Army Headquarters, progress on transformation initiatives, and budget management.

What are CCOSWs?

- The CCOSWs are a specialized unit of the Indian Army that will assist the formations in undertaking mandated cyber security functions.
- The unit will be responsible for safeguarding the networks and enhancing the cybersecurity posture of the Indian Army.
- They will also facilitate better utilization of modern communication systems and networks within the Indian Army.

Importance:

- The migration towards network centricity and increased reliance on modern communication systems makes the CCOSWs important.
- The CCOSWs will help the Indian Army counter their adversaries in the grey zone and their cyber warfare. And to stay ahead of its adversaries in terms of cybersecurity.
- The CCOSWs will be instrumental in maintaining the confidentiality, integrity, and availability of critical information.
- The CCOSWs will ensure that the Indian Army's communication networks are secure from cyber-attacks. And will be responsible for identifying and mitigating cyber threats to the Indian Army's networks.

What are India's Initiatives in Cyber Warfare?

Defence Cyber Agency:

- It is a tri-service agency that deals with cyber issues and coordinates with other agencies such as the National Cyber Security Coordinator, National Technical Research Organisation, etc.
- The Agency is responsible for formulating cyber doctrine, strategy, and policy for the defense forces. It also conducts joint training, exercises, and operations in the cyber domain.

Indian Computer Emergency Response Team (CERT-In):

- This is the national nodal agency for responding to cyber security incidents and providing cyber security services to various sectors.
- National Critical Information Infrastructure Protection Centre (NCIIPC):
- This is the national agency for protecting the critical information infrastructure of the country, such as power, banking, defense, etc.

Cyber Swachhta Kendra (Botnet Cleaning and Malware Analysis Centre):

This is a platform for detecting and cleaning infected devices and providing malware analysis reports.

Way Forward

- Develop a comprehensive cybersecurity strategy that integrates the CCOSWs with other cybersecurity capabilities across the Indian Armed Forces, to ensure seamless coordination and effective response to cyber-attacks.
- Continue to invest in modern communication systems and networks, while also prioritizing cybersecurity training and awareness programs for all personnel within the Indian Army to ensure they are equipped with the necessary skills to identify and respond to cyber threats.
- Regularly review and update the cybersecurity policies and procedures in light of emerging security scenarios, to ensure the Indian Army remains prepared to tackle cyber threats in the future.

SCIENCED AND TECHNOLOGY

INDIAN SPACE POLICY 2023: PROVISIONS AND GAPS

Context: This year, the Indian Space Research Organisation (ISRO) released the Indian Space Policy 2023 that had been in the works for some years.

- The policy has been welcomed as a progression towards India's entry in a New Space age. However, it needs to be followed up with suitable legislation, accompanied by clear rules and regulations.
- Until the early 1990s, India's space industry and space economy were defined by ISRO. Private sector involvement was limited to building to ISRO designs and specifications.
- The Indian Space Policy 2023 unveils the government's plan to let private enterprises carry out end-to-end activities - from launching satellites and rockets into space to operating Earth stations.

What were India's Past Quests to Reform in its Space Sector?

- **The First Satellite Communication Policy:** It was introduced in 1997, with guidelines for foreign direct investment (FDI) in the satellite industry that were further liberalised but never generated much enthusiasm.
- **Remote Sensing Data Policy:** It was introduced in 2001, which was amended in 2011; in 2016, it was replaced by a National Geospatial Policy that has been further liberalised in 2022.
- **Draft Space Activities Bill:** It was brought out in 2017, which went through a long consultative process and lapsed in 2019 with the outgoing Lok Sabha.

The government was expected to introduce a new Bill by 2021, but it appears to have contented itself with the new policy statement released by ISRO.

Why there is a Need to Introduce Private Players into Space Sector?

- **India Lags far behind in Space Economy:** The global space economy is currently valued at about USD 360 billion. Despite being one among a few spacefaring nations in the world, India accounts for only about 2% of the space economy.
- **Harnessing the Full Potential of India's Space Sector:** Today, while ISRO's budget is approximately USD1.6 billion, India's space economy is over USD9.6 billion. Broadband, OTT and 5G promise a double-digit annual growth in satellite-based services.
- It is estimated that with an enabling environment, the Indian space industry could grow to USD 60 billion by 2030, directly creating more than two lakh jobs.
- **Private Sector has revolutionised the Space Sector:** Companies like SpaceX, Blue Origin, Virgin Galactic have revolutionized the space sector by reducing costs and turnaround time while In India however, players within the private space industry have been limited to being vendors or suppliers to the government's space program.
- **Enhancing Security:** The security and defence agencies spend nearly a billion dollars annually to procure earth observation data and imagery from foreign sources. This much reliance on foreign entities can put India's security at stakes.
- **Bringing Aatmanirbharta in Space Sector:** Today, more than half the transponders beaming TV signals into Indian homes are hosted on foreign satellites, resulting in an annual outflow of over half a billion dollars.
- **Promoting Entrepreneurship in Space Sector:** There is a need to promote private sector activity in all high technology areas including space, to fully unlock the potential of India's youth and entrepreneurs.
- To realize this vision, it is necessary to enable private entities within the Indian space sector to establish themselves as independent players capable of end-to-end space activities.
- **Making Space Industry at par with Global Industry:** Promoting the private sector will enable the Indian space program to remain cost competitive within the global space market, and thus create several jobs in the space and other related sectors.

What is in Indian Space Policy 2023?

Vision: The 'Vision' is to "enable, encourage and develop a flourishing commercial presence in space" that suggests an acceptance that the private sector is a critical stakeholder in the entire value chain of the space economy.

Key Highlights:

The policy creates four distinct, but related entities, that will facilitate greater private sector participation in activities that have usually been the traditional domain of the ISRO.

InSPACE (Indian National Space Promotion and Authorisation Centre): It will be a single window clearance and authorisation agency for space launches, establishing launch pads, buying and selling satellites, and disseminating high-resolution data among other things.

- It will also share technologies, products, processes and best practices with NGEs (non-government entities and this will include private companies) and government companies.
- IN-SPACE will create a “stable and predictable regulatory framework” that will ensure a level playing field for the NGEs.
- It will act as a promoter by setting up industry clusters and as the regulator, issue guidelines on liability issues.
- New Space India Limited (NSIL): It will be responsible for commercialising space technologies and platforms created through public expenditure, as well as, manufacturing, leasing, or procuring space components, technologies, platforms and other assets from the private or public sector.
- Department of Space: It will provide overall policy guidelines and be the nodal department for implementing space technologies and, among other things, co-ordinate international cooperation and coordination in the area of global space governance and programmes in consultation with the Ministry of External Affairs.
- It will also create an appropriate mechanism to resolve disputes arising out of space activity.
- Rationalising the role of ISRO: It states that ISRO will “transition out of the existing practice of being present in the manufacturing of operational space systems.
- Hereafter, mature systems shall be transferred to industries for commercial usage. ISRO shall focus on R&D in advanced technology, proving newer systems and realisation of space objects for meeting national prerogatives”.
- ISRO will share technologies, products, processes and best practices with other government and non-government companies.
- This will make ISRO use its all its strength on cutting edge research and development and long-term projects such as Chandrayaan and Gaganyaan.

Private Sector’s Role:

- The NGEs (this includes the private sector) are “allowed to undertake end-to-end activities in the space sector through establishment and operation of space objects, ground-based assets and related services, such as communication, remote sensing, navigation, etc.”.
- Satellites could be self-owned, procured or leased; communication services could be over India or outside; and remote sensing data could be disseminated in India or abroad.
- NGEs can design and operate launch vehicles for space transportation and establish their own infrastructure.
- NGEs can now make filings with the International Telecommunication Union (ITU) and engage in commercial recovery of asteroid resources.
- In short, the entire gamut of space activities is now open to the private sector. Security agencies can task NGEs for procuring tailor-made solutions to address specific requirements.

What are the Gaps in the Policy?

- The policy sets out an ambitious role for IN-SPACE but provides no time frame for the necessary steps ahead.
- Neither is there an indicative timeline for ISRO’s transitioning out of its current practices nor is there a schedule for IN-SPACE to create the regulatory framework.
- The policy framework envisaged will need clear rules and regulations pertaining to FDI and licensing, government procurement to sustain the new space start-ups, liability in case of violations and an appellate framework for dispute settlement.
- IN-SPACE is a regulatory body but doesn’t have legislative authority.
- IN-SPACE is expected to authorise space activities for all, both government and non-government entities. Currently, its position is ambiguous as it functions under the purview of the Department of Space.

What Should be Done to Fill these Gaps?

- The Space Policy 2023 is a forward-looking document reflecting good intentions and a vision. But it is not enough. What is urgently needed is a time frame to provide the necessary legal framework to translate this vision into reality, to successfully launch India into the Second Space Age
- The government should bring a bill that grants statutory status to IN SPACe and also sets out time limits for both ISRO and IN SPACe. The bill should also address the ambiguity related to Foreign Investment, government support for new space startups.

CYBERSECURITY CHALLENGES IN THE 5G AGE

Context: The ultra-fast speed of 5G indeed holds the promise of revolutionary changes in communication and Internet consumption. The country is estimated to have over 150 million 5G users by the end of 2024 – a tiny fraction of the current 1.2 billion mobile phone users. This number will expand significantly once the 5G network is progressively deployed in tier-2 and tier-3 geographies. Along with the spread, the cybersecurity challenges in the 5G age will also increase many folds.

What is 5G Technology?

- Every few years, a new generation of mobile communications takes shape and is described as 1G, 2G, 3G, 4G networks, and so on. Each of these new generations brings higher data transfer speeds and lower latency rates.
- The high speed and low latency of 5G will enable the connected devices to communicate in real-time, offering better and more reliable performance. This will benefit household purposes (such as IoT-enabled smart homes) and the industrial sector (for example, smart factories and automated manufacturing). According to one study, by 2035, 5G will enable USD 13.2 trillion of global economic output and support 22.3 million jobs.
- 5G will subsequently impact edtech, autonomous and robotic systems, telemedicine and precision agriculture.

What are the geopolitical fights associated with 5G technology?

- **Commercial motives:** Leading tech-powered nations have strived to attain the ‘first mover’ advantage in 5G technology. So, major world telecom leaders may have taken the lead in developing 5G technology. For instance, Chinese telecom companies have been aggressively penetrating new markets by commercialising the technology and offering it at cheaper rates.
- **The Chinese threat:** There are apprehensions that China might weaponise 5G technology by coercing the Chinese telecom companies to share their consumer data with the government or even force them to shut down 5G networks in times of geopolitical tumult.
- Various instances and allegations of Chinese telecom companies engaging in cyber espionage in many countries have only reinforced these concerns. For example, the Australian government report on Papua New Guinea’s National Cyber Security Centre built by China said that the project had multiple cybersecurity issues, which exposed confidential government data.
- **The US counter on China:** The United States has spearheaded a campaign to counter the Chinese telecom companies’ dominance in the 5G market. For instance, the US government has designated Huawei and ZTE as national security threats and also banned the sale and import of new communications equipment from five other Chinese companies. Further, the US has also persuaded its allies not to use Chinese equipment in their domestic 5G networks.
- **Democratic states and authoritarian regime fight:** There have been efforts to bring together like-minded and leading democratic states to jointly tackle the tech challenge posed by authoritarian regimes such as China and Russia. For example,
 - **The idea of D-10:** The former UK Prime Minister floated the idea of D-10, a coalition of ten democracies, to create an alternative supply chain for 5G and other emerging technologies.
 - The Quadrilateral Security Dialogue, or the Quad has pledged to advance interoperability and security and work on 5G supplier diversification and Open RAN technology.

On the other hand, authoritarian regimes are pursuing emerging technologies beyond 5G.

What are the potential cybersecurity challenges in the 5G?

- With 5G there will be an increased tendency among threat actors to target critical national infrastructure.
- 5G will play a crucial role in national development and economic growth. So, it can undoubtedly be regarded as a critical infrastructure. Hence, 5G communication networks will represent a valuable target for cyberattacks, including sabotage.
- Threat actors will exploit several vulnerabilities of the 5G network and ecosystem. Such as,
 - a) Due to the complexity of technology, there are many moving parts in the 5G ecosystem. This raises uncertainty about the resilience of each of those parts. For instance, if some systems in the network are not fully patched, they can potentially act as the weakest link in cyber defence.
 - b) Due to the higher speeds and enhanced capacity, 5G requires more access points and network edges, where the local network or device connects with the internet. This shifts much of the core network functions closer to the end user, making it challenging to enforce the requisite security compliance and ensure trusted third-party vendors.
 - c) There are mixed types of networks — 5G systems with legacy systems such as 4G. This also exposes the 5G network to the vulnerabilities of previous-generation networks.
 - d) Unlike 4G, 5G has a much smaller area of coverage. Hence, they require several smaller antennas and base stations. This can allow precise location tracking of mobile phone or internet users inside and outside, thereby increasing privacy risks.
 - e) The 5G network will bring about a wider proliferation of IoT-enabled devices. According to one estimate, by 2025, there will be approximately 27 billion connected IoT devices. This magnifies the threat canvas, as these devices will offer new malware and botnet distribution vectors.
- These will bring increased avenues for attacks such as Distributed Denial-of-Service attacks or Man-in-the-Middle attacks. For example, in 2016, the Mirai botnet exploited unsecured IoT devices' vulnerabilities to disrupt the functioning of thousands of routers, security cameras, and digital video recorders.
 - f) 5G inherits the vulnerability from previous generation protocols, i.e., threat actors can get hold of the International Mobile Subscriber Identity (IMSI)
- By seizing the IMSI, threat actors can intercept mobile traffic in a defined area to monitor an individual user's activity, including tracking location and intercepting calls.

What needs to be done to limit the cybersecurity challenges in the 5G?

- 5G will require an enhanced focus on the security of the connections, devices, and applications.
- Explore next-generation technologies: Leading tech companies and global partnerships have already started exploring next-generation technologies. For instance, The Quad countries have announced plans to collaborate on space-based 6G to ensure that security-by-design and best cybersecurity practices are incorporated as the technology takes shape. China is also formulating plans to advance research and innovation in 6G technologies.
- **Formulate a cyber resilience plan:** 5G technology and network are not secure by design. So, countries adopting 5G, including India, must have a dedicated cyber resilience plan in place.
- Constant update of policies: the cyber and information-security policies of the 5G network ecosystem must adopt adequate security protocols. This will need constant updating and upgrading since threat actors continue exploiting emerging vulnerabilities.
- **Enhance awareness of end-user:** End users' cyber hygiene — their understanding of safe practices in cyberspace — can help them better tackle the threats and protect themselves. So, the government should take steps to increase awareness among end user.

GAGANYAAN

Context: Indigenously developed parachutes for the safe return of the capsule that will carry astronauts under the proposed Gaganyaan programme are being tested by ISRO.

- It is developed by The Aerial Delivery Research and Development Establishment (ADRDE), the Agra-based laboratory under the Defence Research and Development Organisation (DRDO).

What is Gaganyaan Mission?

- Gaganyaan Mission of ISRO aims to achieve human spaceflight capability by launching a crew of 3 members to Low Earth Orbit of 400 km bringing them back safely to earth, by landing in Indian sea waters.
- India will be the fourth nation to achieve this feat after Russia, USA and China.

Mission Specifics

- The uncrewed 'G1' mission is targeted to be launched in the last quarter of 2023 followed by the second uncrewed 'G2' mission in the second quarter of 2024, before the final human space flight 'H1' mission in the fourth quarter of 2024.
- Various tests to check Technology Preparedness Levels for safety of crew are planned. These demonstrator missions include
 - Integrated Air Drop Test (IADT),
 - Pad Abort Test (PAT) and
 - Test Vehicle (TV) flights
- LVM3 rocket of ISRO, is identified as the launch vehicle for Gaganyaan mission. Its parts are re-configured to meet human rating requirements and changed into Human Rated LVM3 (HLVM3). LVM3 consists of solid stage, liquid stage and cryogenic stage.
- HLVM3 consists of Crew Escape System (CES) powered by a set of quick acting, high burn rate solid motors which ensures that Crew Module along with crew is taken to a safe distance in case of any emergency either at launch pad or during ascent phase.
- Orbital Module (OM) that will be Orbiting Earth comprises Crew Module (CM) and Service Module (SM).
 - CM is the habitable space with Earth like environment in space for the crew. I
 - SM will be used for providing necessary support to CM while in orbit.

Importance of Gaganyaan Mission

- Progress towards a sustained and affordable exploration of the solar system and beyond.
- Advanced technology capability for undertaking human space exploration, sample return missions and scientific exploration.
- Scope for employment generation and human resource development in advanced science and R&D activities.
- It will strengthen international partnerships and global security through the sharing of challenging and peaceful goals.

Challenges

- Hostile space environment with a lack of gravity and atmosphere and danger of radiation.
- Transition from one gravity field to another affects hand-eye and head-eye coordination leading to orientation-loss, vision, muscle strength, aerobic capacity, etc.
- There are two choices for an artificial atmosphere, either an Earth-like mixture of oxygen in inert gas or pure oxygen. A pure or concentrated oxygen atmosphere is toxic and has fire risk, especially in ground operations.

Other ISRO Missions

Mission	Tentative Target
Aditya L1	Mid 2023 (expected)
Chandrayaan 3	June 2023
Shukrayaan 1	2024
Mangalyaan 2	2024

Way Forward

- The next step after this mission will focus towards achieving capability for a sustained human presence in space.
- India could look forward to establishing a Space Station which will be a platform for conducting scientific and industrial research in myriad areas of fundamental, applied and engineering sciences.

INDIA'S QUANTUM MISSION

Context: India's National Quantum Mission could be a game changer in multiple sectors, from **defence, energy, and environment to healthcare and civil applications.**

About Quantum Technology

- It is based on the **principles of Quantum mechanics** developed in the early 20th century to describe nature at the scale of atoms and elementary particles.
- Scientists have expanded quantum theory to understand biological phenomena such as **smell, consciousness, enzyme catalysis, photosynthesis, avian navigation** like that of the Robin, origin of life and effects on coronavirus.

Applications: It is manifested through applications in **secure communication, disaster management through better prediction, computing, simulation, chemistry, healthcare, cryptography, imaging among others.**

About National Quantum Mission (NQM)

- It will mainly work towards **strengthening India's research and development** in the quantum arena alongside indigenously building quantum-based (physical qubit) computers which are far more powerful to perform the most complex problems in a highly secure manner.
- **DST will lead this national mission**, supported by other departments.
 - Presently, R&D works in quantum technologies are underway in the US, Canada, France, Finland, China, and Austria.

Focus:

- The mission will focus on **developing quantum computers (qubit)** with physical qubit **capacities ranging between 50 – 1000 qubits** developed over the next eight years.
 - Computers up to 50 physical qubits will be developed over three years,
 - 50 – 100 physical qubits in five years, and
 - Computers up to 1000 physical qubits in eight years.
- It will also support the **design and synthesis** of quantum materials such as **superconductors, novel semiconductor structures**, and topological materials for the fabrication of quantum devices.
- **Single-photon sources/detectors**, and **entangled photon sources** will also be developed for quantum communications, sensing, and metrological applications.
- **Themes:**
 - Four **Thematic Hubs (T-Hubs)** will be set up in top academic and National R&D institutes on the domains -
 - Quantum Computing,
 - Quantum Communication,
 - Quantum Sensing & Metrology, and
 - Quantum Materials & Devices.
 - The hubs will focus on the generation of new knowledge through basic and applied research as well as promote R&D in areas that are mandated to them.

Significance

- For India, investments in quantum materials and devices can generate a **cadre of highly skilled workforce**.
- As India gears to become the **world's third-largest economy by 2027**, a **strongly networked material infrastructure** in the country will be crucial.
 - It will cater to **not just quantum technologies** but also **other major scientific megaprojects** ranging from the semiconductor mission to neutrino observatory and gravitational wave detection.
- It would greatly benefit **communication, health, financial and energy** sectors as well as **drug design, and space applications**.
- It will provide a huge boost to National priorities like **digital India, Make in India, Skill India and Stand-up India, Start-up India, Self-reliant India**, and **Sustainable Development Goals (SDG)**.

Suggestions

- **Research:**
 - **Research** will be required to develop **low-loss materials** for superconducting quantum electronics that **preserve quantum information over a long period**, novel semiconductor nanostructures for the high-brightness source of entangled photons and much more.
 - The **impact of much of the research** cuts across multiple verticals of quantum technologies, and this necessitates dedicated and centralised material/device infrastructures.
- **Capacity building:**

- Achieving these tasks will require **leveraging the evolving scientific infrastructure** in the country and aligning with some of the key national mandates.
- **Capacity building** in the past two decades under national initiatives, such as the Nano Mission, has enabled a five-fold increase in research publications in this area
- **Need of new talent:**
 - The National Quantum mission will require a **significant component of materials research** to be carried out in **goal-oriented multi-institutional consortia**.
 - This will demand **strategic recruitment of new talent**, synergistic multi-institutional collaboration and political will to ease bureaucratic norms and prevent delays in infrastructure building — to ensure that the mission's deadlines are met.
- **Benefitting from existing initiatives:**
 - This activities could also benefit from the **government's support** through the **Startup India initiative** and other schemes.

Way Ahead

- India needs to **create a well-balanced R&D ecosystem** where material research for near-term **goals and applications** needs to **coexist** and collaborate with those with more **fundamental and futuristic objectives**.
- Material domains in all aspects of quantum technology — computing, communications, and sensing — are still developing.
- Hence there is a chance that through timely investment and efficient management, **India will emerge a global leader in the field**.

INDIA'S WOMEN IN SCIENCE

Context: Recent data from the **Department of Science and Technology (DST)** showed women made up 28% of participants in 2018-19 in extramural **Research and Development (R&D) projects**, up from 13% in 2000-01.

About

- The proportion of **women primary investigators in R&D increased** more than four times — from 232 in 2000-01 to 941 in 2016-17. The proportion of women researchers rose from 13.9% in 2015 to 18.7% in 2018.
- In 2008, the Indian Academy of Sciences published **Lilavati's Daughters: The Women Scientists of India**, a volume capturing the journeys of nearly 100 Indian women in science.
- In 2016, **Aashima Dogra and Nandita Jayaraj** launched the website **thelifeofscience.com** that would profile the stories of women and non-binary people in science in India. It would serve the dual purpose of throwing up role models for a younger generation and shedding light on the constraints that discourage diversity at India's premier institutes and labs.

Women scientists of India

- **Anandibai Joshi** (India's first woman physician), **Janaki Ammal** (first Indian scientist to have received the Padma Shri Award in 1977), **Iravati Karve** (India's first woman anthropologist), **Kamala Sohoni** (first Indian woman to have bagged a PhD degree in the scientific discipline), **Rajeshwari Chatterjee** (First woman engineer from the state of Karnataka), **Kalpana Chawla** (first astronaut of Indian origin to have forayed into the space), and **V R Lalithambika** (leading the Gaganyaan mission).

What are the obstacles that hold women back?

- **Familial issues:**
 - Lack of representation, deeply entrenched patriarchy.
 - Women tend to drop out when they get married or have children.
 - These reasons are attributed to dropout from higher studies, career break, overage for scientific jobs and prolonged absence from place of work or even resignation from the job.
- **Institutional Issues:**
 - Poor working conditions and sexual harassment at workplaces.
- **Drop at the post-doctoral level:**
 - We have observed that participation (of women) is healthy till the postgraduate level. But there is a drop at the post-doctoral level, where most of the research takes place.
- **Participation in IIT's:**

- The rate of women's participation is particularly low across the five IITs in Delhi, Mumbai, Kanpur, Chennai, and Roorkee ranging from 9% to 14%.

Measures Taken by the Government

• Gender Advancement for Transforming Institutions (GATI):

- It is a pilot project under the Department of Science and Technology to promote gender equity in science and technology.
- In the first phase of GATI, 30 educational and research institutes have been selected by DST, with a focus on women's participation in leadership roles, faculty, and the number of women students and researchers.

• Knowledge Involvement in Research Advancement through Nurturing (KIRAN):

- It is a plan under the Department of Science and Technology to encourage women scientists and also prevent women scientists from giving up research due to family reasons.

• SERB-POWER (Promoting Opportunities for Women in Exploratory Research):

- SERB – POWER provides structured support in research to ensure equal access and weighted opportunities for Indian women scientists engaged in R&D activities.
- The R&D support to women scientists is provided through two components, namely: SERB POWER Fellowships & SERB POWER Research Grants.

• Consolidation of University Research through Innovation and Excellence in Women Universities (CURIE) Programme:

- Only women Universities are being supported for the development of research infrastructure and the creation of state-of-the-art research laboratories to enhance women's participation in the S & T domain.

• Indo-US Fellowship for Women in STEM (Science, Technology, Engineering, Mathematics & Medicine):

- It encourages Indian women scientists and technologists to undertake international collaborative research in premier institutions in the USA for a duration of 3-6 months.

• Vigyan Jyoti Scheme:

- It encourages girl students of Class 9 to 12 to pursue education and career in S&T, particularly in the areas where women are underrepresented.

• National Award for woman scientist:

- To recognize the contribution of women scientists in the field of Earth System Sciences, Ministry of Earth Sciences has initiated a special award called "National Award for woman scientist" which is conferred to one-woman scientist each year on the Foundation Day.

• Setting up of creches:

- Some institutions are setting up creches so that the scientist mothers can carry on with their research work uninterrupted.

Conclusion

- For a better tomorrow, we need to **empower women in STEM**, as it helps women pursue their dreams, and science, businesses, society and therefore, nations would gain immensely from their equal representation.

25TH ANNIVERSARY OF POKHRAN-II

Context: India recently celebrated the 25th anniversary of Pokhran-II on 11th May 2023 marking the successful nuclear bomb test explosions which became a significant milestone in its journey to become a nuclear power. May 11 is also celebrated as the National Technology Day to honour Indian scientists, engineers and technologists, who worked for the country's scientific and technological advancement and ensured the successful conduct of Pokhran tests.

What is Pokhran-II and India's Journey as a Nuclear Power?

Origin:

- In 1945, renowned physicist Homi J. Bhabha lobbied for the establishment of the Tata Institute of Fundamental Research (TIFR) in Bombay, dedicated to nuclear physics research.
- TIFR became India's first research institution dedicated to the study of nuclear physics.

- Post-independence, Bhabha convinced the then PM Jawaharlal Nehru about the importance of nuclear energy and in 1954, the Department of Atomic Energy (DAE) was founded, with Bhabha as the director.
- The DAE operated autonomously, away from significant public scrutiny.

Reasons for India's Pursuit of Nuclear Weapons:

- India's pursuit of nuclear weapons was motivated by concerns over its sovereignty and security threats from China and Pakistan.
- The 1962 Sino-Indian War and China's nuclear test in 1964 heightened the need for India to safeguard its national security.
- The war with Pakistan in 1965, with Chinese support, further emphasized the need for self-sufficiency in defense capabilities.

Pokhran- I:

About:

- By the 1970s, India was capable of conducting a nuclear bomb test.
- Pokhran-I was India's first nuclear bomb test conducted on May 18, 1974, at the Pokhran Test Range in Rajasthan.
- It was code-named Smiling Buddha and officially described as a "peaceful nuclear explosion" with "few military implications".
- India became the 6th country in the world to possess nuclear weapons capability after the US, Soviet Union, Britain, France and China.

Implications of Test:

- The tests faced near-universal condemnation and significant sanctions especially from US and Canada.
- It hindered India's progress in nuclear technology and slowed down its nuclear journey.
- Domestic political instability, such as the Emergency of 1975 and opposition to nuclear weapons also hindered progress.

After Pokhran-I:

- The 1980s saw a resurgence of interest in nuclear weapons development due to Pakistan's progress.
- India increased funding for its missile program and expanded its plutonium stockpiles.

Pokhran-II:

About:

- Pokhran-II refers to a sequence of five nuclear bomb test explosions conducted by India on between 11-13th May 1998 at Rajasthan's Pokhran desert.
- Code name - Operation Shakti, this event marked India's 2nd successful attempt.

Significance:

- Pokhran-II cemented India's status as a nuclear power.
- It demonstrated India's ability to possess and deploy nuclear weapons, thus enhancing its deterrence capabilities.
- The Indian government led by Prime Minister Atal Bihari Vajpayee officially declared itself as a state possessing nuclear weapons following Pokhran-II.

Implication:

- While the tests in 1998 also invited sanctions from some countries (like the US), the condemnation was far from universal like in 1974.
- In context of India's fast-growing economy and market potential, India was able to stand its ground and thus cement its status as a dominant nation state.

India's Nuclear Doctrine:

- India adopted a policy of credible minimum deterrence, stating that it would maintain a sufficient nuclear arsenal for deterrence purposes but would not engage in an arms race.
- In 2003, India officially came out with its nuclear doctrine that clearly elaborated on the 'no first use' policy.

India's Current Nuclear Capability:

- India currently possesses approximately 160 nuclear warheads, according to the Federation of American Scientists (FAS).

- India has achieved an operational nuclear triad capability, allowing for the launch of nuclear weapons from land, air, and sea.
- The triad delivery systems include Agni, Prithvi, and K series ballistic missiles, fighter aircraft, and nuclear submarines.

ELECTRIC VEHICLES: THE ADVANTAGES AND CHALLENGES

Context: There can be no denying that the era of electric vehicles (EVs) is well and truly upon us. With zero tailpipe emissions, EVs are a direct cure for air pollution and will also help reduce oil imports.

- There has been a significant rise in the production and sales of electric vehicles in recent years. Many major automobile manufacturers have invested heavily in EV technology, launching a wide range of electric models to cater to the growing demand. This increased availability and diversity of electric vehicles contribute to the notion that the era of EVs is indeed underway.
- Advancements in battery technology and infrastructure have played a crucial role in accelerating the adoption of EVs. The development of more efficient and affordable batteries has extended the driving range of electric vehicles, reducing range anxiety for consumers. Additionally, the expansion of charging infrastructure, including public charging stations and home charging solutions, has improved the convenience and accessibility of EVs for drivers.
- Furthermore, governments and policymakers around the world have shown a strong commitment to promoting electric vehicles as a means to address climate change and reduce emissions.

Why are EVs crucial?

Environmental Benefits: EVs have the potential to significantly reduce greenhouse gas emissions and combat climate change.

- Unlike fossil fuel engine vehicles, EVs produce zero tailpipe emissions.
- EVs help reduce carbon dioxide (CO₂) and other pollutants that contribute to air pollution, smog, and global warming.
- Electric vehicles help reduce harmful pollutants such as nitrogen oxides (NO_x), particulate matter (PM), and volatile organic compounds (VOCs).
- This has a direct positive impact on public health, as cleaner air reduces the risk of respiratory and cardiovascular diseases.
- **Energy Diversity and Security:** EVs contribute to energy diversity by reducing dependence on oil imports.
- As the electricity grid can be powered by a mix of energy sources, including renewables like solar and wind, EVs offer the opportunity to shift transportation towards cleaner and more sustainable energy options.
- This reduces vulnerability to fluctuations in oil prices and enhances energy security by reducing reliance on fossil fuel imports.
- **Technological Advancements and Job Creation:** The development and adoption of EVs have spurred technological advancements in battery technology, electric drivetrains, and charging infrastructure.
- These advancements not only benefit the automotive sector but also have broader applications, such as energy storage for renewable energy sources and grid stability.
- Electric mobility creates jobs and innovation in battery manufacturing, renewable energy, and charging infrastructure.
- **Long-Term Cost Savings:** Electric vehicles have lower operating costs, as electricity is generally cheaper than gasoline or diesel. Moreover, EVs have fewer moving parts and require less maintenance, resulting in reduced servicing and repair expenses over time.
- **Decongesting Cities:** Electric vehicles can help decongesting cities by promoting shared mobility and compact design.
 - Shared mobility refers to the use of vehicles as a service rather than as a personal asset. This can reduce the number of vehicles on the road and the need for parking space.
 - Compact design refers to the use of smaller and lighter vehicles that can fit more easily in urban spaces. This can also reduce congestion and emissions.

- Innovative and futuristic smart EVs for shorter intra-city distances, day- trips, and the like would not need a bigger battery. That means less time to recharge and lower cost.

What are the challenges for EVs?

- **High Initial Cost:** The upfront cost of purchasing an electric vehicle is relatively higher compared to conventional vehicles. The high initial cost makes it less affordable for many potential buyers, limiting the demand for EVs.
- This cost difference is primarily due to the expensive battery technology used in EVs.
- **Limited Charging Infrastructure:** In India, the charging infrastructure is still in the early stages of development and is concentrated in major cities.
- The lack of a robust and widespread charging network makes it inconvenient for EV owners, especially for those living in apartments or without dedicated parking spaces.
- **Range Anxiety:** Range anxiety refers to the fear or concern of running out of battery charge while driving. Limited driving range is a significant challenge for EV adoption.
- Although EV ranges have been improving, there is still a perception that EVs may not offer sufficient range for long-distance travel, particularly in a country with vast distances like India.
- The batteries in EVs degrade over time, which can lead to a decrease in range.
- **Battery Technology and Supply Chain:** The production of lithium-ion batteries, which are a key component of EVs, requires specific minerals and rare earth elements.
- India currently relies heavily on imports for battery manufacturing, leading to supply chain challenges.
- The charging time of EVs is longer than the refuelling time of conventional vehicles, which affects their convenience and usability.
- **Limited Model Options:** Currently, the availability of electric vehicle models in India is relatively limited compared to conventional vehicles. The market needs more options in various segments, including affordable EVs, to cater to diverse consumer preferences and requirements.

What are some government initiatives to promote EV adoption?

- The Faster Adoption and Manufacturing of Electric Vehicles (FAME)scheme II, which provides incentives for EV manufacturers and buyers. These incentives include subsidies, tax rebates, preferential financing, and exemptions from road tax and registration fees.
- The National Electric Mobility Mission Plan (NEMMP), which sets out the target to achieve 6-7 million sales of hybrid and electric vehicles year on year from 2020 onwards by providing fiscal incentives.
- The National Mission on Transformative Mobility and Battery Storage, which seeks to create a comprehensive ecosystem for the adoption of EVs and support the establishment of giga-scale battery manufacturing plants in India.
- The Production Linked Incentive (PLI) scheme, which provides incentives for the manufacturing of electric vehicles and components.
- The Vehicle Scrappage Policy, which provides incentives for the scrapping of old vehicles and the purchase of new electric vehicles.
- The Go Electric campaign aims to create awareness on the benefits of EVs and EV charging infrastructure.
- India is among a handful of countries that support the global EV30@30 campaign, which aims for at least 30% new vehicle sales to be electric by 2030.
- The Ministry of Power, in its revised guidelines on charging infrastructure (MoP Guidelines), has prescribed that at least one charging station should be present in a grid of 3 km and at every 25 kms on both sides of the highways.
- The Ministry of Housing and Urban Affairs has also amended the Model Building Bye-laws, 2016 (MBBL) to mandate setting aside 20% of the parking space for EV charging facilities in residential and commercial buildings.

Conclusion

- India has set a very ambitious target to achieve net zero by 2070 at UNFCC COP26. To achieve this goal, EVs have a crucial role to play. While EVs themselves produce zero tailpipe emissions, the overall environmental impact of electric vehicles depends on the source of the electricity used to charge them. If the electricity is generated from renewable sources like solar or wind, the environmental benefits are maximized.

BRAHMOS: 25 YEARS OF THE JOINT VENTURE CONTEXT:

Context: India-Russia defence Joint Venture BrahMos Aerospace has embarked on a glorious milestone as it completed 25 years.

- It is a joint venture between India's Defence Research and Development Organisation (DRDO) and Russia's NPO Mashinostroyeniya.
 - The missile derives its name from the Brahmaputra and Moskva rivers.
- The BrahMos JV was formed in 1998 and the first successful launch of the missile took place in 2001.

Features

- **Stages:** BrahMos is a **two-stage missile** with a solid propellant booster engine.
 - Its first stage brings the missile to supersonic speed and then gets separated.
 - The liquid ramjet or the second stage then takes the missile closer to three times the speed of sound in the cruise phase.
- **Capability:** The missile is capable of being launched from **land, sea, sub-sea and air against surface and sea-based targets** and has been long inducted by the Indian armed forces.
 - The ship-based version was inducted in the Navy in 2005, the land-based version in the Army in 2007, and the air-launched version was inducted in the Air Force in 2020.
- **Range:** The range of the BrahMos was originally limited to 290 km as per obligations of the Missile Technology Control Regime (MTCR) of which Russia was a signatory. Following India's entry into the club in June 2016, plans were announced to extend the range initially to 450 km and subsequently to 600 km.
- **Speed:** The BrahMos missile has a speed of **2.8 Mach**, which is nearly three times the speed of sound
- **Indigenised:** The missiles now contain a high level of indigenised content and several systems have also been indigenised to maximise the participation of Indian industry in the development of the ordnance.

Latest developments

- In **January 2023**, the Defence Acquisition Council (DAC) approved the procurement of Brahmo's launchers for Shivalik-class frigates and next-generation missile vessels.
- An underwater version is also being developed, which will be exported to friendly foreign nations and used by Indian submarines.
- In January 2022, India's BrahMos and **Philippines Aerospace Limited** inked a deal worth around \$375 million to procure BrahMos cruise missiles for the Philippines Marines.

Export Potential

- Since the inception of the BrahMos project, it has been envisaged as a huge export opportunity.
- Over the years many countries have shown an interest in the missile and the missile is generating a lot of global attention, particularly from South America, the Middle East, Asia Pacific and African regions.
- In 2022, there were reports of a possible deal with Indonesia, Saudi Arabia and UAE.

Importance

- The BrahMos JV has helped India develop its military-industrial complex.
- The deal between the Philippines and BrahMos is a milestone in India's efforts to become one of the largest defence exporters in the world.
 - In addition, it also shows the growing capabilities of India's public and private defence sectors.
- It helps the country achieve strategic autonomy in the defence sector, which is important to safeguard the country's national interests.
- Additional BrahMos exports could to some extent help in fulfilling Prime Minister Narendra Modi's vision of 'Making in India, Making for the world', achieving the defence hardware export target of US\$ 5 billion by 2025.
- BrahMos missile provides India strategic airpower in the face of 2 inimical neighbours.

Competitors and Challenges

- One of the most prominent cruise missiles in the world is the **Tomahawk**, developed by the **US**. Notably, it is subsonic and flies around 0.8 Mach.
 - It has a range of about 1,600 km, much more than the BrahMos, but its speed makes it relatively slow and somewhat easier to intercept.
- The **French Apache** series of missiles is also a prominent cruise missile, with a top speed of 1 Mach.

- This has been inducted by UAE, Greece, Saudi Arabia, the UK and Italy, besides France.
- The **Chinese** inducted the YJ-1814 into the PLA in 2014. It has a range of 220–540 km and cruises at subsonic speed before accelerating to supersonic speed in the terminal stage.
- The **Russian P-800 Oniks** is a supersonic cruise missile with specifications somewhat similar to BrahMos and flies at a top speed of 2.2 Mach.
 - the BrahMos missile is not significantly different from the P-800 Oniks, it costs twice as much. This can be attributed perhaps to a more developed military industrial base in Russia which results in a lower cost of production.
- Possible defence deals are highly competitive, with major players extensively marketing their products.

Way Ahead

- BrahMos has very few competitors in the international market and The 2022 Philippines deal should spur additional exports of the supersonic cruise missile.
- India needs to more actively develop marketing and promotion networks akin to established players in the global market to promote defence sales.

NEW NAVIC SATELLITE

Context: The Indian Space Research Organisation (ISRO) launched the first of the **second-generation satellites** for its navigation constellation successfully.

- Christened NVS-01, the first of ISRO's NVS series of payloads is the **heaviest** in the constellation and was launched by a **Geosynchronous Satellite Launch Vehicle (GSLV)** rocket from Sriharikota.
- Each of the seven satellites currently in the Indian Regional Navigation Satellite System (IRNSS) constellation, operationally named NavIC, weighed much less.

Features of Second-generation NavIC satellite

- **Atomic Clock:** The satellite will have a **Rubidium atomic clock** onboard, a significant technology developed by India which only a handful of countries possess.
 - The satellite-based positioning system determines the location of objects by using the atomic clocks on board; **failure of clocks means the satellites are no longer able to provide accurate locations.**
 - Several of the existing satellites stopped providing location data after their onboard atomic clocks failed — this was the **main reason** for the launch of the replacement satellite in 2018.
- **L1 signals for better use in wearable devices:** The second generation satellites will send signals in a **third frequency, L1**, besides the **L5 and S frequency signals** that the existing satellites provide, **increasing interoperability** with other satellite-based navigation systems.
 - The L1 frequency is among the most commonly used in the Global Positioning System (GPS), and will increase the use of the regional navigation system in **wearable devices and personal trackers that use low-power, single-frequency chips.**
- **Longer mission life:** The second-generation satellites will also have a **longer mission life** of more than 12 years. The existing satellites have a mission life of 10 years.

Practical purpose of the NAVIC constellation

- NavIC is in use for projects like **public vehicle safety, power grid synchronisation, real-time train information systems, and fishermen's safety.**
- Other upcoming initiatives such as common alert protocol based **emergency warning, time dissemination, geodetic network, and unmanned aerial vehicles** are in the process of adopting the NavIC system.
- **Some cell phone chipsets** such as the ones built by Qualcomm and MediaTek integrated NavIC receivers in 2019.

Significant Features of regional navigation system

- There are **four global satellite-based navigation systems** — the American GPS, the Russian GLONASS (GLObalnaya NAVigatsionnaya Sputnikovaya Sistema), the European Galileo, and the Chinese Beidou. Japan has a four-satellite system that can augment GPS signals over the country, similar to India's GAGAN (GPS Aided GEO Augmented Navigation).
- NavIC is better than GPS in some aspects. While GPS can get you within 20 metres of your target, **NavIC is more accurate and can get you even closer—within 5 metres.**

- For individual users, this might not be significant but for military equipment like guided missiles, it is crucial.
- However, unlike GPS, which can be used anywhere in the world, **NavIC is regional and can only be used within India** and up to **1,500 km from its borders**.
- NavIC uses satellites in **high geo-stationary orbit** — the satellites move at a constant speed relative to Earth, so they are always looking over the same region on Earth.
- NavIC signals come to India at a **90-degree angle**, making it easier for them to reach devices located even in **congested areas, dense forests, or mountains**.
- With the use of NavIC picking up, the **government has been looking at the possibility of increasing the coverage area of the system**.



CivilsTap Hlmachal

ENVIRONMENT

SOLID WASTE MANAGEMENT AND STRAY DOG ATTACKS

Context: Recently, many dog bite incidents spotlighted the link between urban solid waste management and stray dog attacks in Indian cities.

About Linkages between waste management and stray dog attacks

- The “carrying capacity” — the ability of a city to support a species — is determined by the **availability of food and shelter**.
- **Free-ranging dogs** are scavengers that forage around for food, eventually gravitating toward exposed garbage dumping sites.
- Dogs **congregate around urban dumps**, such as landfills or garbage dumps, due to feeding opportunities.
- **Free-roaming dogs move towards** densely-populated areas in cities, such as urban slums which are usually located next to garbage dumping sites and landfills.
- The proximity of residential areas to dumping sites and the **rise in dog attacks** speak to “core issues of unplanned and unregulated urban development.”

Data Analysis

- A population boom in Indian cities has contributed to a staggering rise in solid waste.
- The estimates by the Ministry of Environment, Forest and Climate Change of India show that **only 75-80% of the total municipal waste** is collected, and only 22-28% of it is processed.
 - The rest is dumped across cities, becoming food for stray dogs or clogging sewage systems.
- Cities have also witnessed a sharp increase in the stray dog population, which as per the official 2019 livestock census stood at 1.5 crores.

Issues and Challenges

- The **existing systems for solid waste collection** and disposal are chequered, with poor implementation and underfunding.
- **Most metro cities** are littered with garbage bins that are either old, damaged, or insufficient in containing solid wastes
- **Urban local bodies** are struggling to implement and sustain rules under the **Solid Waste Management Rules 2016**, such as the door-to-door collection of segregated waste.
- Development of cities, **managing solid waste** has become a daunting challenge,” and the “unconfined and unmanaged leftovers” end up aiding the proliferation of stray dogs.
- **Tepid animal birth control programmes** and **insufficient rescue centres**, in conjunction with **poor waste management**, result in a proliferation of street animals in India.
- **India also shoulders the highest rabies burden** in the world, accounting for a third of global deaths caused due to the disease.
- Frequent reports of dogs chasing people down the road, attacking and even “mauling” people to death have made the management of stray dogs an administrative and legal issue.

Measures and Initiatives of India

- India’s response to the “**stray dog menace**” has relied upon the **Animal Birth Control (ABC) programme**, through which municipal bodies trap, sterilise and release dogs to slow down the dog population.
- The second anchor is **rabies control measures**, including vaccination drives.
- Other measures include **mass culling of dogs** in States like Kerala or imposing bans on the entry of stray dogs in colonies or feeding them in public.
- In November 2022, the **Nagpur Bench of the Bombay High Court** ruled that people interested in feeding strays should first formally adopt them and feed them in their own homes, directing the municipality to impose a fine of ₹200 on anyone found feeding dogs in public places.

Suggestion and Measures

- Taking measures to curb exposed garbage is the first step to addressing stray dog bites.
 - Responsible waste management is the solution to this issue

- **Proper management of refuse** [solid waste] and a tolerant attitude towards dogs can ensure their peaceful co-existence with us.
- The cities need to learn to manage solid waste better, rabies vaccines, and dog sterilisation .
- All the waste collected should be transported to designated landfill sites.

PARIS AGREEMENT AND ITS FAILURE TO ADDRESS THE CLIMATE CHANGE

Context: Recently, the World Meteorological Organization (WMO) released its State of the Global Climate 2022 report which pointed out that the Paris Agreement on Climate Change has been ineffective in fulfilling its agenda.

The Paris Agreement that serves as the centre point of ongoing global negotiation on climate change was inked in 2015.

What has the Report Highlighted on Performance of Paris Agreement?

Inability to Achieve Climate Related Goals:

- After signing of the Agreement, the last eight years (2015-2022) have consecutively been the warmest years on record globally.
- The situation could have been far worse if the La Nina weather event had not occurred in the past three years, which has a cooling effect on the weather system.
- Globally updated Nationally Determined Contributions (NDCs) to limit global warming to 1.5°C have failed even to achieve 2°C target.
- The Paris Agreement has not been able to equitably phase out fossil fuels predominantly responsible for the climate crisis.
- Neither the NDCs nor the disaster risk reduction and climate risk management plans are in place to combat climate-induced extreme weather phenomena.

Suggestions:

- To complement the Paris Agreement, a new global framework in the form of a Fossil Fuel Treaty should be introduced.
- Most industrialised and emission-belching countries should be made to follow the Paris Agreement's commitments.
- Accelerated climate action with deeper, faster emissions cuts is needed as tools, the knowledge, and the solutions are available.
- There is a need to undertake massively scaled-up investments in adaptation and resilience, particularly for the most vulnerable countries and communities who have done the least to cause the crisis.

URBAN EXPANSION AND DEVELOPMENT

Context: Urbanization is one of the most common characteristics of economic development. As the economy grows gradually, the process of urbanization depends on the shift of the surplus population from rural to urban areas along with the growth of some industrial urban centres.

- Urbanization is closely linked to modernization and industrialization. Urbanization is not just a modern phenomenon, but a rapid and historic transformation of human social roots on a global scale, whereby, rural culture is rapidly replaced by predominantly urban culture.
- For reasons of wealth and social mobility, many rural people come to the city. But the picture of urbanization is not as glorious as it seems. Modern cities have grown in a haphazard and unplanned way due to rapid industrialization.
- According to the 2011 Census, the urbanization rate in India was 31.2%, up from 27.8% in 2001. Around 590 million people would live in the cities by 2030. India is experiencing rapid urbanization. Therefore, it is important to understand the pattern of this growth and its effect on the population.

What are the Causes of Rapid Urbanization?

- The growing trend of urbanization is reflected in the increasing concentration of the majority of the urban population in some major cities.
- **Natural Population Increase:**
 - Rapid urbanization is taking place due to the high rate of natural population growth.
 - The natural growth rate of the urban population is higher than that of the rural population due to the higher net survival rate resulting from improved health and medical facilities.
 - Death rates in urban areas have decreased considerably due to improved availability of medical and health services, safe drinking water supply and improved sanitation facilities.
- **Migrations:**
 - Rural-urban migration is considered to be another important factor responsible for rapid urbanization in India.
 - The creation of many manufacturing and trading activities as a result of industrial development has led to the migration of rural people to urban areas in search of jobs and higher incomes.
 - As a result of heavy public investment in industry and mining, large-scale industrial development and sustainable agricultural development are taking place.
 - Due to pull factors, a large number of rural people are migrating to urban areas.
 - There are certain push factors in which a number of rural people are driven out of villages due to economic constraints, lack of facilities, political violence.
- **Expansion of Trade and Industry:**
 - Urbanization has taken place with a growing expansion of industry and trade in a particular state of the region.
 - Growth of an industry with its ancillaries, together with the localization of industry, would always create a favourable situation for the growth of an urban establishment.
 - Similarly, the growth of business and trade, together with the establishment of an active market, always provides adequate support for growing urbanization in those places linked to the development of industry and trade.

What are the Consequences of Rapid Urbanization?

Positive Aspect:

- **Economic Growth:**
 - Rapid industrialization results in the development and establishment of many industrial cities.
 - Together with manufacturing units, ancillaries and the service sector have begun to grow in these urban areas.
- **Employment:**
 - New and additional employment opportunities are being created in urban areas in the newly expanding manufacturing and service sector.
 - This would result in rural-urban migration and the industrialization urbanization process to be established.
- **Modernization and Change in Attitude:**
 - Urbanization results in changes in the attitudes and minds of urban people resulting in the modernization of behaviour and a proper motivation that indirectly helps the country to achieve faster economic development.

Negative Aspect

- **Congestion:**
 - Growing urbanization is largely responsible for increasing congestion in urban areas.
 - Too much congestion has resulted in problems such as traffic jams, too much concentration of the population, the management of which is gradually becoming very difficult and costly.
- **Low Quality of Life:**
 - Too much of the population creates urban chaos related to housing, education, medical facilities, slum growth, unemployment, violence, overcrowding, etc.

- All of these would lead to deterioration in the quality of human life.
- **Loss of Productivity in Rural Areas:**
 - Large-scale migration from rural to urban areas takes place.
 - Such large-scale migration of the active population from rural areas would result in a loss of productivity in rural areas, leading to poor conditions in the village economy.
 - As a result, urbanization beyond a certain point would have unhealthful consequences.

What is the Significance of Urban Living?

- **Easier Access to Facilities:**
 - Urban living is linked with higher levels of literacy and education, better health, longer life expectancy, greater access to social services and enhanced opportunities for cultural and political participation.
 - Urbanization is associated with easier access to hospitals, clinics and health services in general.
 - Living in proximity to these services results in improved emergency care and general health.
- **Access to Information:**
 - There are also benefits from easier access to sources of information such as radio and television which may be used to communicate information about health to the general public.
 - For instance, women living in towns and cities are more likely to be informed about family planning which results in reduction in family size and less frequent childbirth.
- **Individualism:**
 - The multiplicity of opportunities, social diversity, and lack of familial and social control over decision making leads to more self-interest and facilitates decision-making by an individual and choosing one's career and actions by oneself.

What are the Issues Associated with Urbanization?

- **Excessive Population Pressure:**
 - On the one hand, rural-urban migration accelerates the pace of urbanisation, on the other, it creates excessive population pressure on the existing public utilities.
 - Consequently, the cities suffer from the problems of slums, crime, unemployment, urban poverty, pollution, congestion, ill-health and several deviant social activities.
- **Overflowing Slums:**
 - There are about 13.7 million slum households in the country sheltering a population of 65.49 million people across the country.
 - As much as 65% of Indian cities have adjoining slums where people live in small houses adjacent to each other.
- **Inadequate Housing:**
 - Among the numerous social problems of urbanization, the problem of housing is the most distressing.
 - A vast majority of the urban population live under conditions of poor shelter and in highly congested spaces.
 - In India, more than half of the urban households occupy a single room, with an average occupancy per room of 4.4 persons.
- **Unplanned Development:**
 - The model of building a developed city comprises unplanned development, which only bolsters the dichotomy prevailing in urban cities between the rich and the poor.
- **Pandemic-Induced Problems:**
 - The Covid-19 pandemic has exacerbated the misery of urban poor or slum dwellers.
 - The sudden implementation of complete Covid lockdown severely affected the ability of slum dwellers to earn their living.
- **Non-Inclusive Welfare Schemes:**

- The benefits of welfare schemes for urban poor often reach only a small part of the intended beneficiaries.
- Most relief funds and benefits do not reach slum dwellers, mainly because of inclusion and exclusion errors.

Way Forward:

- **Integration of Inclusive Urban Development:**
 - Adopting an integrated approach to urban programming by involving all development sectors, and prioritizing inclusivity in urban development.
- **Use of Scientific Data Methods:**
 - Use of scientific data methods for assessing and monitoring outcomes of both state and central schemes to ensure evidence-based decision-making.
- **Citizen Participation:**
 - Enhancing the voice and participation of citizens in civic affairs through physical and digital means to ensure that their needs and priorities are reflected in urban governance.
- **Strategic Thinking and Investment:**
 - Investing in strategic thinking and investment, including private sector participation, and integrated and coordinated actions across agencies to address the challenges faced by cities.

PETERSBERG CLIMATE DIALOGUE

Context: The Petersberg Dialogue on Climate Change was held in Berlin from May 2-3, 2023.

- The Petersberg Climate Dialogue was **hosted by Germany and the United Arab Emirates**, which is hosting the 28th Conference of Parties (COP28) to the United Nations Framework Convention on Climate Change.
- **Ministers from 40 countries** attended the conference **to discuss the way forward towards COP28**.
- The discussions at the event veered around **global renewables target, climate finance and Global Stocktake**.

Summit highlights

- **Global renewables target**
 - According to members, in order to **limit global warming to 1.5°C**, the world needs to make **sharp cuts in their greenhouse gas emissions**.
 - They also initiated discussions around a **potential global target for renewables** at the next climate conference.
- **Fossil fuels: Phaseout production or reduce emissions?**
 - Members agreed to be **laser focused on phasing out fossil fuel emissions**, while phasing up viable, affordable zero-carbon alternatives.
 - They called for a **tripling of renewable energy capacity by 2030** followed by a **doubling in 2040**, & the address was focused on **reducing fossil fuel 'emissions'**.
- **On track for \$100 billion climate finance:**
 - According to members, developed countries are **"on good track" to deliver the \$100 billion per year** they had promised to **mobilise by 2020** during the **COP15 in 2009**.
 - Although this is good news, delivering the \$100 billion goal in 2023 might be **a little too late**.
 - The \$100 billion is likely to be a **gross underestimation of the true need** for climate finance in developing countries.
 - A recent estimate pegs climate finance needs at **\$1 trillion per year by 2030** for emerging markets alone.
 - This means that climate finance **needs are more than 10 times the amount that developed countries have been able to mobilise**, 14 years after committing to the \$100 billion figure.
- **Global Stocktake:**
 - **2023 is the year for the Global Stocktake**.

- Global Stocktake is essentially a **periodic review of global climate action** which aims to assess whether current efforts will enable us to **reach the objectives set out in the Paris Agreement**.
- This is the **first Global Stocktake year since the Paris Agreement** was signed in 2015 and the report has been underway for the past two years.
 - It is set to be released in September of 2023.
- **Stocktake outcomes:**
 - Members noted that the Global Stocktake outcome should focus on how **climate change impacts, actions and responses** have a bearing on the developmental priorities of developing countries including eradication of poverty.
 - The first Global Stocktake should seek to convey a message on sustainable lifestyles as well as sustainable consumption to inform the next round of Nationally Determined Contributions and enhanced international cooperation.

Way ahead:

- Although the \$100 billion pledge might have been met this year, the needs have now escalated. **This underlines the urgent need for financial reparations.**
- COP28 UAE will be a milestone moment when the **world will take stock of its progress on the Paris Agreement**.
 - The first Global Stocktake (GST), will provide a comprehensive assessment of progress since adopting the Paris Agreement.
 - This will **help align efforts on climate action**, including **measures that need to be put in place** to bridge the gaps in progress.

CONVENTION ON MIGRATORY SPECIES

Context: The Ministry of Environment, Forest, and Climate Change in collaboration with the United Nations Environment Programme/ Convention on Migratory Species (UNEP/CMS) had organized a meeting of Range Countries to strengthen conservation efforts for migratory birds and their habitats in the Central Asian Flyway (CAF).

The meeting was attended by 11 countries, including Armenia, Bangladesh, Kazakhstan, Kyrgyzstan, Kuwait. The delegates agreed on an institutional framework for the CAF and a draft roadmap for updating the CMS CAF Action Plan.

What is CMS?

- It is an intergovernmental treaty under the UNEP- popularly known as Bonn Convention.
- It was signed in 1979 and in force since 1983.
- As of 1 March 2022, the CMS has 133 Parties.
- India is also a party to CMS since 1983.

Aim:

- It aims to conserve terrestrial, marine and avian migratory species throughout their range.
- It lays the legal foundation to conduct conservation measures on a global scale.
- The legal instruments under CMS may range from legally binding Agreements to less formal MoU.

Two appendices under CMS:

- Appendix I lists 'Threatened Migratory Species'.
- Appendix II lists 'Migratory Species requiring international cooperation'.

India and the CMS:

- India has signed a non-legally binding Memorandum of Understanding (MoU) with CMS on conservation and management of Siberian Cranes (1998), Marine Turtles (2007), Dugongs (2008), and Raptors (2016).
- With 2.4% of the world's land area, India contributes to around 8% of the known global biodiversity.
- India also provides temporary shelter to several migratory species including Amur Falcons, Bar-headed Geese, Black-necked Cranes, Marine Turtles, Dugongs, Humpback Whales, etc.

What is a Migratory Species?

- A species or lower taxon of wild animals of which the entire population or any geographically separate part of the population cyclically and predictably cross one or more national jurisdictional boundaries.
- The word 'cyclically' relates to a cycle of any nature, such as astronomical (circadian, annual, etc.), life or climatic, and of any frequency.
- The word 'predictably' implies that a phenomenon can be anticipated to recur in a given set of circumstances, though not necessarily regularly in time.

What is Central Asian Flyway?

- The CAF is a major migratory route for birds, covering 30 countries from the Arctic Ocean to the Indian Ocean.
- Indian subcontinent is a part of a CAF with at least 279 populations of 182 migratory waterbird species (including 29 globally threatened species).
- It is home to more than 400 species of migratory birds, including threatened and endangered species such as the Siberian crane and the lesser white-fronted goose.

What are some Efforts made by India for Migratory Species?

National Action Plan for the Conservation of Migratory Birds (2018-2023): India has launched the National Action Plan for the conservation of migratory species along the Central Asian Flyway.

- To reduce pressure on critical habitats and migratory routes by addressing the various challenges faced by migratory birds, including habitat loss, degradation and fragmentation, hunting, poaching, pollution, and climate change.
- To stop the decline of migratory birds and reverse the scenario by 2027.
- To avoid threats to habitats and migratory routes and ensure their sustainability for future generations.
- To support trans-boundary cooperation among various countries along the Central Asian Flyway to conserve migratory birds and their habitats.
- To improve the database on migratory birds and their habitats to enhance our understanding of their conservation needs.

India also Announced:

- Conservation of marine turtles- by launching its Marine Turtle Policy and Marine Stranding Management Policy, by 2020,
- Reduction of pollution from micro-plastic and single-use plastic,
- Transboundary protected areas for conservation of species like Tigers, Asian elephants, Snow Leopard, the Asiatic Lion, the one-horned rhinoceros, and the Great Indian Bustard, and
- Sustainable infrastructure development like Linear Infrastructure Policy Guidelines to tailor development in ecologically fragile areas.
- **Project Snow Leopard (PSL):** PSL was launched in 2009 to promote an inclusive and participatory approach to conserve snow leopards and their habitat.
- **Dugong Conservation Reserve:** India has established its first Dugong conservation reserve in Tamil Nadu.

Wildlife Protection Act, 1972:

- Rare and endangered species of birds including migratory birds are included in Schedule-I of the Act thereby according them highest degree of protection.
- Stringent punishments have been provided in the Act for violation of provisions of the Act.
- Important habitats of birds, including migratory birds have been notified as protected Areas under the Act for better conservation and protection of birds and their habitats.

Other Initiatives:

- Focused protection measures involving the local communities have been taken up in the State of Nagaland for protection of Amur Falcons that migrate to Northeast India on their route to Southern Africa.
- India has taken several steps to conserve vultures like imposing ban on veterinary use of diclofenac, establishment of Vulture breeding centres etc.
- Wildlife Crime Control Bureau has been established for control of illegal trade in wildlife and its parts and products.

CARBON BORDER ADJUSTMENT MECHANISM

Context: The European Union (EU) has announced that its Carbon Border Adjustment Mechanism (CBAM) will be introduced in its transitional phase from October 2023, which will levy a carbon tax on imports of products made from the processes which are not Environmentally sustainable or non-Green. CBAM will translate into a 20-35 % tax on select imports into the EU starting 1st January 2026.

What is CBAM?

CBAM is part of the "Fit for 55 in 2030 package", which is the EU's plan to reduce greenhouse gas emissions by at least 55% by 2030 compared to 1990 levels in line with the European Climate Law.

The CBAM is a policy tool aimed at reducing Carbon Emissions by ensuring that imported goods are subject to the same carbon costs as products produced within the EU.

Implementation:

- The CBAM will be implemented by requiring importers to declare the quantity of goods imported into the EU and their embedded Greenhouse Gas (GHG) emissions on an annual basis.
- To offset these emissions, importers will need to surrender a corresponding number of CBAM certificates, the price of which will be based on the weekly average auction price of EU Emission Trading System (ETS) allowances in €/tonne of CO₂ emitted.
- **Objectives:** CBAM will ensure its climate objectives are not undermined by carbon-intensive imports and spur cleaner production in the rest of the world.

Significance:

- It can encourage non-EU countries to adopt more stringent environmental regulations, which would reduce global carbon emissions.
- It can prevent carbon leakage by discouraging companies from relocating to countries with weaker environmental regulations.
- The revenue generated from CBAM will be used to support EU climate policies, which can be learned by other countries to support Green Energy.

How can it Impact India?

Impact India's Export: It will have an adverse impact on India's exports of metals such as Iron, Steel and aluminum products to the EU, because these will face extra scrutiny under the mechanism.

- India's major exports to the EU, such as iron ore and steel, face a significant threat due to the carbon levies ranging from 19.8% to 52.7%.
- From 1st January 2026, the EU will start collecting the carbon tax on each consignment of steel, aluminum, cement, fertilizer, hydrogen and electricity.

Carbon Intensity and Higher Tariffs:

- The carbon intensity of Indian products is significantly higher than that of the EU and many other countries because coal dominates the overall energy consumption.
- The proportion of coal-fired power in India is close to 75%, which is much higher than the EU (15%) and the global average (36%).
- Therefore, direct and indirect emissions from iron and steel and aluminium are a major concern for India as higher emissions would translate to higher carbon tariffs to be paid to the EU.

Risk to Export Competitiveness:

- It will initially affect a few sectors but may expand to other sectors in the future, such as refined petroleum products, organic chemicals, pharma medicaments, and textiles, which are among the top 20 goods imported from India by the EU.
- Since India has no domestic carbon pricing scheme in place, this poses a greater risk to export competitiveness, as other countries with a carbon pricing system in place might have to pay less carbon tax or get exemptions.

What Measures can India Take to Mitigate the Impact of CBAM?

Decarbonization Principle:

- On the domestic front, the government has schemes like National Steel Policy, and the Production Linked Incentive (PLI) scheme aims to increase India's production capacity, but carbon efficiency has been out of the objectives of such schemes.
- The government can complement these schemes with a Decarbonization Principle.
- Decarbonization refers to the process of reducing or eliminating greenhouse gas emissions, especially carbon dioxide (CO₂), from human activities such as transportation, power generation, manufacturing, and agriculture.

Negotiation with EU for Tax Reduction:

- India could negotiate with the EU to recognize its energy taxes as equivalent to a carbon price, which would make its exports less susceptible to CBAM.
- For example, India could argue that its tax on coal is a measure to internalize the costs of carbon emissions, and therefore equivalent to a carbon tax.

Transfer of Clean Technologies:

- India should negotiate with the EU to transfer clean technologies and financing mechanisms to aid in making India's production sector more carbon efficient.
- One way to finance this is to propose to the EU to set aside a portion of their CBAM revenue for supporting India's climate commitments.
- Besides, India should also begin preparing for the new system just as China and Russia are doing by establishing a Carbon Trading System.

Incentivizing Greener Production:

- India can begin preparations and in fact, seize the opportunity to make production greener and sustainable by incentivizing cleaner production which will benefit India in both remaining competitive in a more carbon-conscious future.
- International economic system and achieving its 2070 Net Zero Targets without compromising on its developmental goals and economic aspirations.

Take on EU's Tax Framework:

- India, as the leader of the G-20 2023, should use its position to advocate for other countries and urge them to oppose the EU's carbon tax framework.
- India should not only focus on its own interests but also consider the negative impact that the CBAM will have on poorer countries that heavily rely on mineral resources.

Conclusion

- The CBAM is a policy to reduce carbon emissions from imported goods and create a fair-trade environment.
- It can encourage other countries to have stricter environmental regulations and reduce global carbon emissions

WHY INDIA IS HEATING UP SLOWER THAN THE WORLD AVERAGE?

Context: According to the latest report of the Intergovernmental Panel on Climate Change the world is currently at around **1.1°C of warming** whereas the warming **trends over the Indian region are very different.**

About

- The annual mean temperature of the world is known to have **increased by 1.1 degree Celsius** from the average of the 1850-1900 period.
- An assessment of climate change over the Indian subcontinent, published by the Ministry of Earth Sciences in 2020, said **annual mean temperatures had risen by 0.7 degree Celsius from 1900.**
- **This is significantly lower than the 1.59 degree Celsius rise for land temperatures across the world.**

- It could give the impression that the problem of **climate change over India was not as acute** as other parts of the world.

Temperature

- Temperature is the **measure of the average heat or thermal energy** in a substance.
- Air and water temperatures are primarily determined by the **amount of sunlight that is absorbed by the surface of the Earth, and the amount of heat that is re-radiated** in the atmosphere by the greenhouse gases.
- **Atmospheric and ocean circulation** redistribute heat across the surface of the Earth and shape regional temperature patterns.

Are Warming Trends Different Across the Globe?

- **Average of Warming Temperature:** The planet as a whole has warmed by 1.1 degree Celsius compared with pre industrial times but, this is just the average. **Different regions have seen very different levels of warming.**
- **Arctic Region:** The polar regions, particularly **the Arctic, have seen significantly greater warming.** The Arctic region has warmed **at least twice as much as the world average.** Its current annual mean temperatures are about **2 degrees Celsius higher than pre-industrial times.**
 - The ice cover in the Arctic is melting, because of which more land or water is getting exposed to the Sun. Ice traps the least amount of heat and reflects most of the solar radiation when compared with land or water.
 - More recent research suggests that the higher warming in the polar region could be attributed to a host of factors, including the **albedo effect, changes in clouds, water vapour and atmospheric temperatures.**
 - The warming in the polar regions account for a **substantial part of the 1.1 degree Celsius temperature rise** over the entire globe.

Factors that Affects the Warming of Regions

- **Altitude:** The increase in temperatures is known to be **more prominent in the higher altitudes**, near the polar regions, than near the equator.
 - This is attributable to a complex set of atmospheric phenomena, including heat transfers from the tropics to the poles through prevailing systems of **air circulation.**
- **Albedo effect:** Another prominent cause is what is known as the albedo effect, or **how much sunlight a surface reflects.** The ice cover in the Arctic is melting, because of which more land or water is getting exposed to the Sun.
 - Ice traps the least amount of heat and reflects most of the solar radiation when compared with land or water.
- **Aerosols:** Aerosols refer to **all kinds of particles suspended in the atmosphere.** These particles have the potential to affect the local temperature in multiple ways.
 - Many of these **scatter sunlight back**, so that less heat is absorbed by the land. **Aerosols also affect cloud formation.** Clouds, in turn, have an impact on how much sunlight is reflected or absorbed.
- **Land-Ocean Atmospheric Interactions:** Variation in the amount of solar radiation absorbed, and the **amount of heat re-radiating from Earth's land and oceans results in temperature differences in air over different types of terrain.**
 - For example, sea breezes occur because land heats up and cools down faster than water, so that the **land is warmer during the day** and breezes flow from the sea inland, but the **ocean is warmer than land at night**, so the wind blows from land to sea.

INDIAN SLUDGE FINDS 'HIGH POTENTIAL' FOR USE AS FERTILIZER

Context: A recent analysis found that sludge found in Indian sewage treatment plants (STP) has high potential for use as fertilizer but required treatment before it could be used unrestrictedly in farms, or as a potential biofuel.

About Sludge

- It is the thick residue filtered out of sewage treatment plants

- It is rich in organic chemicals and is also a repository of heavy metals, industrial effluents, and bacterial contaminants.

Classification of Treated sludge

- Treated sludge can be **classified as class A or class B** as per the standards of the United States Environmental Protection Agency with class A being safe to be disposed of in the open and useful as organic fertilizer.
- **Class B** means that the sludge can be used in “restricted” agricultural applications, the edible parts of the crop not be exposed to the sludge-mixed soil, and animals and people have not come into extensive contact.

Efforts of India

- Arth Ganga is a sustainable viable economic model conceptualized under the "Namami-Gange" program to integrate people in the basin with Ganga Rejuvenation.
 - One of the measures, under this ‘Arth Ganga’ (economic value from Ganga), is to “monetize” and reuse treated wastewater and sludge.
 - This means converting sludge into usable products such as manure and bricks.

Challenges

- India doesn't yet have standards classifying sludge as class A or B.
 - Currently, those awarded contracts for developing and maintaining STPs under the Namami Ganga Mission are also apportioned land for disposing of the sludge.
 - However, this is rarely treated, and during rains, such sludge — with its accompanying chemical and metallic constituents — often makes its way back into rivers and local water sources.
- A study by the Indian Institute of Technology (IIT)-Roorkee found that most of the sludge analysed after drying fell into the class B category.
- Nitrogen and phosphorous levels were higher than those recommended by India's fertilizer standards (FCO, 2009).
 - However, the potassium levels of some sludges were less than recommended.

Suggestions

- To improve the quality of sludge, the report recommends the sludge needs to be stored for at least three months to kill pathogens, and blended with cattle manure and husk or local soil to reduce the heavy metal.
- This, however, would still put it in class B and converting it into grade A sludge would require far more extensive treatment.
- Before standards were made, it was necessary to understand the characteristics of the sludge from these STPs before ways could be devised to incentivize private players to treat and dispose of sludge.

PHASE OUT METHANE EMISSIONS BY 2030

Context: Recently, Sultan Ahmed Al Jaber, the President-Designate of COP28 has called upon the oil and gas industry to phase out methane emissions by 2030, as Methane have emerged as a critical concern in the fight against climate change. And align with comprehensive net-zero emission plans by or before 2050.

The significance of inclusivity and the active involvement of developing nations in climate action and the energy transition, as well as the adoption of technologies for climate mitigation, was strongly emphasized.

COP28, or the 28th United Nations Climate Change conference is scheduled to be held between November 30 and December 12 in the UAE.

What is Methane?

- Methane is the simplest hydrocarbon, consisting of one carbon atom and four hydrogen atoms (CH₄).
- It is flammable and is used as a fuel worldwide.
- Methane is powerful greenhouse gas.
- Methane has more than 80 times the warming power of carbon dioxide over the first 20 years of its lifetime in the atmosphere.
- It has a shorter lifespan in the atmosphere compared to carbon dioxide.
- The common sources of methane are oil and natural gas systems, agricultural activities, coal mining, and wastes.

Impact:**More Global Warming Potential:**

- The International Energy Agency (IEA) reports that fossil fuel operations generate over one-third of all methane emissions from human activity.
- It is nearly 80-85 times more potent than carbon dioxide in terms of its global warming capacity.
- This makes it a critical target for reducing global warming more quickly while simultaneously working to reduce other greenhouse gases.
- Methane is responsible for around 30% of the rise in global temperatures since the Industrial Revolution.

Promotes Generation of Tropospheric Ozone:

- Increasing emissions are driving a rise in tropospheric ozone air pollution, which causes more than one million premature deaths annually.

What is the Role of Hydrocarbons in Energy Transition from Methane?

- **Transition Role:** Hydrocarbons can play a transitional role during the shift to new energy systems by providing a reliable and readily available source of energy.
- **Bridge Fuel:** They can serve as a bridge fuel between high-carbon fossil fuels and cleaner alternatives, helping to meet energy demand while reducing carbon emissions.
- **Energy System Stability:** Hydrocarbons contribute to maintaining energy system stability during the initial phases of integrating intermittent renewable energy sources.
- **Existing Infrastructure:** The infrastructure for extracting, processing, and distributing hydrocarbons is already established, allowing for a smoother transition to new energy systems.
- **Carbon Intensity Reduction:** Efforts should focus on minimizing the carbon footprint of hydrocarbons by implementing cleaner technologies and practices throughout the production and consumption processes.

How can Developing Nations be Included in the Energy Transition?

- **Increase Financial Support:** Provide increased climate finance to developing nations to facilitate their transition to clean energy sources and technologies.
- **Technology Transfer:** Facilitate the transfer of clean energy technologies from developed countries to developing nations, ensuring access to affordable and efficient solutions.
- **Capacity Building:** Invest in training programs and knowledge-sharing initiatives to build the capacity of developing nations in implementing and managing clean energy projects.
- **Policy Support:** Assist developing countries in developing and implementing supportive policies and regulations that encourage the adoption of renewable energy and energy-efficient practices.
- **Public-Private Partnerships:** Foster collaborations between public and private sectors to leverage resources, expertise, and innovation in supporting the energy transition of developing nations.

What is the Role of Climate Technologies in Climate Mitigation?**Renewable Energy Technologies:**

- Climate technologies encompass a wide range of renewable energy sources such as solar, wind, hydro, and geothermal power.
- These technologies enable the generation of clean and sustainable energy, reducing reliance on fossil fuels and lowering carbon emissions.

Energy Efficiency Technologies:

- Climate technologies focus on enhancing energy efficiency in various sectors, including buildings, transportation, and industries.
- Building technologies such as smart meters, energy-efficient appliances, and insulation that improve energy performance.
- Batteries and energy storage enable the integration of variable renewables and provide backup power for grid stability and reliability.
- These technologies aim to reduce energy consumption and minimize wastage, leading to significant emissions reductions.

Carbon Capture, Utilization, and Storage (CCUS):

- CCUS technologies capture carbon dioxide emissions from power plants and industrial facilities, preventing them from being released into the atmosphere.

- The captured carbon is then stored underground or utilized in other applications, effectively reducing greenhouse gas emissions.

Sustainable Transportation Technologies:

- Climate technologies promote the development and adoption of low-carbon transportation solutions such as electric vehicles (EVs), hydrogen fuel cells, and advanced biofuels.
- These technologies help reduce emissions from the transportation sector, which is a significant contributor to greenhouse gas emissions.

Circular Economy Technologies:

- Optimizes resource use and minimizes waste by designing products and systems that can be reused, repaired, recycled, or biodegraded.

UNITED NATIONS FORUM ON FORESTS

Context: The eighteenth session of the United Nations Forum on Forests (UNFF18), held in New York from May 8-12, 2023, brought together delegates from around the world to discuss the relationship between sustainable forest management (SFM), energy, and the achievement of the United Nations-mandated Sustainable Development Goals (SDGs).

What are the Major Highlights of UNFF18?**Sustainable Forest Management (SFM) in Tropical Region:**

- In a recent development, experts have underscored the significance of practicing SFM in tropical regions. With the surge in bioenergy consumption since 2013, there has been a mounting strain on forests, making the need for sustainable sourcing of tropical timber even more crucial.
- The rise in bioenergy usage, driven by the global push for renewable energy sources, has inadvertently created additional pressure on tropical forests. As bioenergy relies on biomass, such as wood pellets and chips, as fuel, the demand for timber has intensified. This has raised concerns about the potential negative impact on forest ecosystems, biodiversity, and the overall sustainability of these regions.
- By implementing sustainable practices, such as selective logging and reforestation, the long-term health and vitality of these forests can be safeguarded.

Forest Ecosystems and Energy:

- Forestry director of the Food and Agriculture Organization (FAO), highlighted the significant contribution of forest ecosystems to renewable energy requirements.
- Over five billion people worldwide benefit from non-timber forest products, with forests providing 55% of these renewable energy needs.

Forests and Climate Change Mitigation:

- The Emissions Gap Report's findings underscore the immense climate mitigation potential that forests hold. Through processes such as carbon sequestration, forests act as carbon sinks, absorbing and storing substantial amounts of carbon dioxide from the atmosphere.
- By preserving and sustainably managing forests, nations can leverage this natural capacity to help bridge the emissions gap and achieve climate targets.
- Forests have the potential for reducing 5 gigatonnes of emissions.

Challenges and Countries Perspectives:

- **India:** India presented a case of a UNFF country-led initiative on long-term SFM and expressed concerns regarding wildfires and the limitations of current forest certification schemes.
- **Saudi Arabia:** Saudi Arabia highlighted the importance of preventing forest fires and urban expansion encroaching on forested areas.
- **Suriname:** Suriname, claiming to be the most forested and carbon-negative country, shared its experiences of economic pressures impacting its green cover and environmental policies. The country committed to deriving 23% of its net energy from renewable sources by 2025 and achieving carbon neutrality by 2060.
- **Congo and the Dominican Republic:** These countries stressed their commitment to forest conservation measures and called for strategies to reduce pressures on natural forests while improving livelihoods, given their heavy reliance on fuelwood.

- **Australia:** Australia mentioned that some species rely on fire for germination and shared information on mechanical fuel load reduction trials. The country emphasised the need to make wood residue markets financially feasible.
- **Other Perspectives:** Countries like Zhimin and Satkuru suggested replacing plastic sticks with residues of compacted bamboo or sawdust to produce briquettes and pellets, offering sustainable alternatives for energy production.

GLOBAL ANNUAL TO DECADEAL CLIMATE UPDATE

Context: Recently, the World Meteorological Organization (WMO) issued the Global Annual to Decadal Climate Update.

About Global Annual to Decadal Climate Update

- It is produced annually in May and summarizes the predicted future of the global climate over the next year and the next five years.
- The **focus** is on **climate indices** such as global mean near-surface temperature, Atlantic multidecadal variability, and the El Niño/Southern Oscillation, as well as regional indices and annual and multi-year seasonal means of near-surface temperature, mean sea-level pressure, and precipitation.

Findings

- **Global temperatures** are likely to **surge to record levels** in the next five years, fuelled by **heat-trapping greenhouse gases** and a **naturally occurring El Niño event**.
 - The **annual mean global near-surface temperature** for each year between **2023 and 2027** is predicted to be between **1.1°C and 1.8°C** higher than the **1850-1900** average.
 - This is used as a baseline because it was before the emission of greenhouse gases from human and industrial activities.
- There is a **66% chance** that the annual average near-surface global temperature between **2023 and 2027** will be **more than 1.5°C** above pre-industrial levels for at least one year.
- There is a **98% chance** that at least one of the next five years, and the five-year period as a whole, will be the warmest on record.
- **Arctic warming** is disproportionately high.
 - Compared to the 1991-2020 average, the temperature anomaly is predicted to be more than three times as large as the global mean anomaly when averaged over the next five northern hemisphere extended winters.
- **Predicted precipitation** patterns for the May to September 2023-2027 average, compared to the 1991-2020 average, suggest increased rainfall in the Sahel, northern Europe, Alaska, and northern Siberia, and reduced rainfall for this season over the Amazon and parts of Australia.

Implications

- A warming El Niño is expected to develop in the coming months and this will combine with human-induced climate change to push global temperatures into uncharted territory.
- In addition to increasing global temperatures, human-induced greenhouse gases are leading to **more ocean heating and acidification, sea ice and glacier melt, sea level rise, and more extreme weather**.
- This will have far-reaching repercussions for **health, food security, water management, and the environment**.

Way Ahead

- This report does not mean that we will permanently exceed the 1.5C specified in the Paris Agreement, which refers to long-term warming over many years.
- However, WMO is sounding the alarm that we will breach the 1.5C level on a temporary basis with increasing frequency.
- There is a need to **strengthen weather and climate services** to support climate change adaptation.
- The focus should be on the ongoing Early Warnings for All initiative to protect people from increasingly extreme weather

GROUNDWATER EXTRACTION AND LAND SUBSIDENCE

Context: Cracks in buildings and 'sinking' land in Joshimath, Uttarakhand a hill town in Uttarakhand, made the headlines earlier in 2023.

A similar phenomenon has been playing out for years in the plains of Punjab, Haryana, Delhi and Faridabad. According to the data gathered for years by the Central Ground Water Board (CGWB), excessive groundwater extraction is identified as the underlying cause of these alarming incidents.

What has the CGWB Identified About Groundwater Extraction and Land Subsidence?

Land Subsidence Due to Groundwater Extraction:

- Digging operations conducted for mining activities demonstrated the occurrence of "soil settlement" or sinking due to voids created from mining. Similar observations prompted researchers to investigate the role of groundwater extraction in land subsidence in India.

Evidence of Land Subsidence in Different Regions:

- Unlike land movement from landslides or earthquakes, subsidence from groundwater extraction was gradual and barely visible annually.
- Studies utilizing satellite-based analysis of ground movement have identified building deformities resulting from groundwater withdrawals.
- Using data from the Sentinel-1 satellite shows that the National Capital Region (NCR) sank an average of 15 mm per year from 2011-2017.
- Urbanization and unplanned growth exacerbated groundwater withdrawal and contributed to subsidence in the NCR.
- Kolkata and parts of eastern India also experience overexploited groundwater blocks and land subsidence.

What is the Status of Ground Water Extraction in India?

- Currently, 85% of rural and 50% of urban population is dependent on groundwater for sustenance, making India the largest groundwater user globally.
- India's stage of groundwater extraction, which is the percentage of utilization of groundwater against recharge, has dropped from 61.6% in 2020 to 60.08% in 2022, according to the report on the National Compilation of Dynamic Ground Water Resources in India.

Groundwater Depletion in Northwest India:

- Agricultural practices in N-W India heavily depend on groundwater withdrawal due to limited monsoon rain.
- Data from the CGWB reveals alarming levels of groundwater exploitation:
 - Punjab: 76% of groundwater blocks are 'over exploited.'
 - Chandigarh: 64% of groundwater blocks are 'over exploited.'
 - Delhi: Approximately 50% of groundwater blocks are 'over exploited.'

Issues Associated:

- **Unregulated Pumping:** Several states affected by depletion of groundwater provide free or heavily subsidized power (including solar pumps) for pumping groundwater for irrigated agriculture. This enables overexploitation and depletion of scarce groundwater resources.
- **Preference to Water-Intensive Crops:** The minimum support price for wheat and rice creates highly skewed incentive structures in favor of wheat and paddy, which are water intensive crops and depend heavily on ground water for their growth. This makes groundwater a heavenly resource for their farming.
- **Saline Water Intrusion:** In coastal areas, excessive groundwater pumping can cause saline water intrusion. As fresh groundwater is depleted, seawater infiltrates into the aquifers, making the water unsuitable for various uses and adversely impacting agriculture and ecosystems.
- **Ecological Impacts:** Groundwater depletion affects ecosystems by altering the flow of water in rivers, lakes, and wetlands. This disrupts the natural balance, harming aquatic life and biodiversity. It also affects the availability of water for plants and animals dependent on groundwater sources.

What are the Government Initiatives Related to Groundwater Conservation?

- Pradhan Mantri Krishi Sinchayee Yojana
- Jal Shakti Abhiyan- Catch the Rain Campaign
- Atal Bhujal Yojana
- Atal Mission for Rejuvenation and Urban Transformation (AMRUT)

Way Forward

- **Crop Diversification and Efficient Irrigation:** There is a need to promote crop diversification and shift to more water-efficient irrigation techniques like drip irrigation and sprinkler systems.
- **River Catchment Management:** Creation of green corridors, rainwater harvesting zones, mapping of channels for potential recharge zones to store floodwater and artificial groundwater recharge structures in the urban areas (where groundwater is five-six meters below the surface), will subsequently contribute to reducing groundwater depletion.
- **Technology and Monitoring:** Leverage technology for real-time monitoring of groundwater levels, such as remote sensing, IoT devices, and data analytics can help in informed decision-making and enable prompt action to mitigate groundwater depletion.
- **Wastewater Recycling and Reuse:** There is a need to encourage the use of treated wastewater for non-potable purposes like industrial processes to reduce the reliance on freshwater sources and alleviate the pressure on groundwater extraction.

NEW CLIMATE CHANGE REPORT & REVIEW OF PARIS TARGETS

The State of the Global Climate 2022 report has been released by the World Meteorological Organization.

More about the report

- **About:**
 - **It focuses on key climate indicators:**
 - greenhouse gases, temperatures, sea level rise, ocean heat and acidification, sea ice and glaciers. It also highlights the impacts of climate change and extreme weather.
 - **Greenhouse gases & rising temperature:**
 - It shows the **planetary scale changes** on land, in the ocean and in the atmosphere caused by record levels of heat-trapping greenhouse gases.
 - It has warned that **at least one of the next four years** could be **1.5 degrees hotter** than the pre-industrial average.
- **Report Highlights;**
 - **Increase in Greenhouse Gases (GHGs) emissions:**
 - Global GHGs emissions continued to increase in 2022. Carbon dioxide is at 149% of pre-industrial levels, Methane is at 262% of pre-industrial levels, Nitrous oxide is at 124% of pre-industrial levels.
 - The annual increase of methane was 18 ppb from 2020 to 2021. This is the largest increase on record.
 - **High Global Mean Temperature:**
 - In 2022, the planet was 1.15 ± 0.13 °C warmer than the pre-industrial (1850-1900) average, making the last 8 years the warmest on record.
 - Despite cooling La Niña conditions, 2022 was the 5th or 6th warmest year.
 - **Above Normal Precipitation:**
 - In 2022, large areas with above normal precipitation included large parts of Asia and the south-west Pacific, areas of northern South America and the Caribbean, the eastern Sahel region, parts of southern Africa, Sudan, and eastern Europe.
 - Meanwhile, regions with rainfall deficits included western and central Europe, northwest Africa, parts of the Middle East, Central Asia and the Himalayas, Eastern Africa and Madagascar, central and southern South America, and central and western North America.
 - **Ocean Heat Content:**
 - As GHGs accumulate in the atmosphere, temperatures warm on land and in the ocean. It is expected that the ocean will continue to warm well into the future – a change which is irreversible on centennial to millennial time scales.
 - In 2022, 58 percent of the ocean surface suffered at least one marine heatwave event and 25 per cent of the surface experienced at least one marine cold spell.
 - **Rise in Sea Level:**

- In 2022, global mean sea level continued to rise. The sea has risen approximately 3.4 ± 0.3 mm per year over the past 30 years .
- **Extreme Events:**
 - Rising global temperatures have contributed to more frequent and severe extreme weather events around the world, including cold and heat waves, floods, droughts, wildfires and storms.

Analysing the report

- **IMO's record for India:**
 - The agency did not specify country-wise trends.
 - However, the **India Meteorological Organisation** recorded 2022 as the fifth warmest year on record since 2021, and the last decade as the hottest 10 years in the country's history.
- **Worldwide impacts:**
 - The **Indian monsoon** arrived earlier last year and withdrew before its normal date.
 - **Northeast India experienced floods** in June and a dry spell in July and August.
 - **Floods in Pakistan** claimed more than 1,500 lives and affected more than 30 million people.
 - **Heatwaves** led to record temperatures in several parts of **Europe** last year, leading to droughts and reduced river flows.
 - **North America** had its **warmest** August and forest fires raged in several parts of the US and Australia.
- **What can be done?**
 - **Need of greater investments:**
 - These weather vagaries have underlined the need for greater investments in building people's resilience —interventions to risk-proof agriculture, build food security, develop flood and cyclone warning systems and strengthen the defences of coasts and other vulnerable areas.
 - According to a UN report released at the end of last year, most countries have adaptation plans in place, and "instruments are getting better at prioritising disadvantaged groups".
 - However, the report also notes that international "adaptation finance flows to developing countries are 5-10 times below estimated needs and the gap is widening".
 - **Need of reviewing Paris targets:**
 - At Paris in 2015, most nations agreed that checking global warming to 1.5 degrees Celsius above pre-industrial levels holds the key to keeping climate change at tolerable levels.
 - It was clear then that achieving this goal required making drastic cuts in emissions.
 - However, many experts now argue that the cumulative ambition expressed through the **Paris Pact's voluntary targets —the Nationally Determined Contributions —was insufficient** to keep the temperature rise below the tolerance threshold.

Way ahead

- The 2023 United Nations Climate Change Conference or Conference of the Parties of the UNFCCC, more commonly referred to as COP28, will be the **28th United Nations Climate Change conference**, held from **November 30th until December 12th, 2023** at the **Expo City, Dubai**.
 - The climate diplomats will **take stock of the progress on meeting the Paris Pact's targets** at the COP-28 in Dubai.
 - The latest **WMO report should lead to rethinking targets and course corrections**, especially to **protect the most vulnerable**.

SHRINKING OF LAKES

Context: More than **50 percent of the world's largest lakes and reservoirs** have shrunk over the past three decades **primarily due to climate change and human activities**, according to a new study.

About the study

- The study was published in the journal Science named '**Satellites reveal widespread decline in global lake water storage**'.

- For the study, team examined **1,975 of the world's largest lakes**, including **1,052 natural lakes and 921 reservoirs** — researchers studied lakes which are larger than 100 sq km and reservoirs with more than 1 cubic km of storage capacity.
- The analysis was done following a **novel methodology** that involved **combining two-dimensional water areas** with one-dimensional water levels to estimate the three-dimensional change in water storage.
- Combining recent level measurements with longer-term area measurements allowed to **reconstruct the volume of lakes dating back decades**.

Findings of the Study

- The researchers found that out of the 1,052 natural lakes that were examined, **457 had significant water losses** in the past three decades. Meanwhile, **234 natural lakes gained water** and 360 of such water bodies didn't show any notable trend.
- The study also pointed out the **worst affected largest lakes** across the world and why they are shrinking in size.
 - For instance, **the Aral Sea in Central Asia, Lake Mar Chiquita in Argentina, the Dead Sea in the Middle East, and the Salton Sea in California** have mainly dried due to unsustainable water consumption.
 - Whereas, increasing temperature and (potential evapotranspiration)PET caused the **complete disappearance of Lake Gowd-e-Zareh** in Afghanistan, Toshka lakes in Egypt, and marked drying of Lake Kara-Bogaz-Gol in Turkmenistan, Lake Khyargas in Mongolia, and Lake Zonag in China.
- Notably, lakes have shrunk or disappeared completely across **82 percent of the Arctic's lake-rich regions in the past 20 years**.
- **Natural lakes** located in **humid tropics and high altitudes** are also experiencing water shortages.
- **India:** More than **half of the reservoirs located in peninsular India have witnessed substantial water storage decline**, mainly due to sedimentation.
 - Moreover, among the worst affected natural lakes in the country is **Ladakh's Tso Moriri**.
- **Reservoirs:** Two-thirds of all reservoirs across the globe have experienced significant storage declines.
 - Reservoirs, however, showed a net global increase in water levels, owing to 183 recently filled reservoirs.

Reasons for Shrinking of Lakes

- **Human Activities:** 57 percent of the net decline in the water quantity in natural lakes to **human activities**, such as unsustainable consumption of water.
- **Climate Change:** The Arctic lakes have shrunk as a result of a “combination of changes in precipitation, runoff, temperature, and potential evapotranspiration (PET) — loss of water due to both evaporation and transpiration, which are likely a concurrent result of natural variability and climate change.
- **Sedimentation:** The main reason behind the drop in water levels is sedimentation — the process of particles such as sand and stones settling to the bottom of a body of water.
 - Sedimentation is the primary contributor to the global storage decline in existing reservoirs and has a larger impact than hydroclimate variability, i.e., droughts and recovery from droughts.

What are the consequences of shrinking lakes?

- Nearly **two billion people**, one-quarter of the global population in 2023, have been affected as they live in basins with large water bodies that have witnessed a significant drop in their water levels in the past three decades.
- Many of these drying lakes have been identified as **important sources of water and energy (hydropower)**.
- The reduced size of these lakes not only results in freshwater decline and environmental degradation but also **disrupts the water and carbon cycles**.
- Widespread water shortage in these water bodies, “particularly accompanied by rising lake temperatures, could **reduce the amount of absorbed carbon dioxide** and increase carbon emissions to the atmosphere as the lakes are hotspots of carbon cycling.
- If lakes are encroached upon they disappear as a water source but also **contribute to severe urban flooding**.
- Loss of lake levels leads to **groundwater pumping and depletion**, leading to a host of other issues.

How can we conserve these water bodies?

- There is a need to manage them in an **integrated manner**. Steps like **restrictions on water consumption and climate mitigation** to bring down global temperatures are some of the ways to conserve them.
- This will also **help in reducing sedimentation in reservoirs** as the rate of sedimentation is linked to climate change — it increases when there is extreme precipitation, as well as land disturbance such as wildfires, landslides and deforestation.
- Managing lakes in an integrated manner will elevate the status of lakes to their rightful place, and they can continue to sustain humanity.

REPORTS ON GLOBAL WARMING OF 1.5 °C

Context: The World Meteorological Organization (WMO) released two reports titled “Global Annual to Decadal Climate Update 2023-2027” and “State of Global Climate 2022.”

Major Findings

- The predictions of the recently released reports point to precipitation anomalies and an increase in marine heat waves as compared to marine cold spells.
- The **El Niño**, which is currently brewing, will further strengthen this year, resulting in a 98% possibility of witnessing temperatures higher than 2016 at least in one of the years in the 2023-27 period.
- **Global surface temperature:** The annual mean global surface temperature between 2023 and 2027 will be 1.1-1.8 degree Celsius higher than the baseline temperature of 1850-1900 or pre-industrial levels.
 - In 2022, it was 1.15 degrees above the baseline, and by 2027, the average will exceed 1.5 degrees, a critical point beyond which there may be no return.
- The cryosphere is shrinking, and there is a mass loss of glaciers in High-mountain Asia, Western North America, and South America.
 - Due to the alarming rate of warming of the Arctic Ocean, the Greenlandic ice sheet is melting at a faster pace, contributing to the increase in sea level.

What is the 1.5 degree Celsius target?

- The 1.5 °C is the goal of the Paris Agreement which is a legally binding international treaty on climate change.
 - It was adopted by 196 Parties at the UN Climate Change Conference (COP21) in Paris, France, on 12 December 2015. It entered into force on 4 November 2016.
- The Paris Agreement is a landmark in the multilateral climate change process because, for the first time, a binding agreement brings all nations together to combat climate change and adapt to its effects.
- Its overarching goal is to hold “the increase in the global average temperature to well below **2°C above pre-industrial levels**” and pursue efforts “to limit the temperature increase to **1.5°C above pre-industrial levels.**”

Why is it needed ?

- In recent years, world leaders have stressed the need to limit global warming to 1.5°C by the end of this century.
- That’s because the UN’s Intergovernmental Panel on Climate Change indicates that crossing the 1.5°C threshold risks unleashing far more severe climate change impacts, including more frequent and severe droughts, heatwaves and rainfall.

Issues

- Historically, developed countries are responsible for a major chunk of greenhouse gas (GHG) emissions.
 - Therefore, they are expected to assume more responsibility and implement climate action.
- However, the Climate Performance Index over the years has shown otherwise.
 - Countries like Australia, the U.S., Japan, Russia and Canada have made little progress in meeting their pledges.
- Additionally, polluters like China, Iran and Saudi Arabia **rank low in climate performance**.
- The **pandemic pushed the world into a socio-economic crisis**. On the road to recovery, countries pledged measures to build-back.
 - However, in most cases **there is little to no consideration** for building-back in a sustainable manner.
- The **Ukraine conflict** has further added to **woes and sparked** an energy crisis threatening climate goals.
- For example, warming greater than the global average is being experienced in the Arctic, with the term ‘polar amplification’ gaining more traction.

Global Impacts

- Climate risks and hazards impact human population and the ecosystem depending on exposure, vulnerability, and adaptive capacity.
 - It has exacerbated food insecurity, displacement, and deaths.
- Climate change has been affecting crop yield negatively and the risks posed by agricultural pests and diseases have also increased in the past few years.
- Countries like Ethiopia, Nigeria, South Sudan, Somalia, Yemen, and Afghanistan are facing acute food shortages resulting in malnutrition and hunger, demanding urgent humanitarian assistance.
- However, food insecurity in these countries is due to the complex interaction of climate conditions with other factors such as droughts, cyclones, and political and economic instability.
- The heatwaves in Pakistan and India in 2022 resulted in a decline in crop yields.
- The **floods in Pakistan** affected croplands in southern and central parts of the country and displaced eight million people within the country.
- Aquatic and terrestrial ecosystems have also not been immune to such changes in climate patterns. Phenological shifts and mismatches have been recorded due to climate change.
- The population of migratory species has declined in Sub-Saharan Africa. Additionally, the warming above 1.5 degree Celsius can prove lethal for coral reefs which are already prone to bleaching.
- According to the WMO, extreme weather anomalies have caused the deaths of two million people and incurred \$4.3 trillion in economic damages over the past fifty years. In 2020-2021, 22,608 disaster deaths were recorded globally.

Impact on India

- India has been increasingly facing the brunt of climate change.
- February 2023 was recorded as the hottest month since record-keeping began in 1901.
- In 2022, India witnessed extreme weather events for 80% of the days. Indian monsoons were wetter than usual last year after recording extreme heat during the pre-monsoon period, resulting in wildfires in Uttarakhand and acute food shortages.
- According to the Climate Change Performance Index 2023, India ranked eighth with a high-performance after Denmark, Sweden, Chile, and Morocco.

Way Ahead

- Being an emerging economy with development needs, India is attempting to balance its development needs with ongoing climate action both at the domestic and international levels.
- With domestic measures like the Green Hydrogen Mission and the introduction of green bonds, India is performing fairly well despite contributing only a miniscule to cumulative GHG emissions. At the international level, through the International Solar Alliance and Coalition for Disaster Resilient Infrastructure, India can prove to be a responsible climate player keeping in mind that it has a long way to go in very little time.

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ENERGY

GEARING UP FOR RENEWABLE ENERGY PUSH

Context: The government has recently invited bids for 50 GW of renewable energy capacity annually for the next five years.

About renewable & non-renewable resources of energy

- **Renewable energy:**
 - Renewable energy is energy derived from natural sources that are replenished at a higher rate than they are consumed.
 - Sunlight and wind, for example, are such sources that are constantly being replenished. Renewable energy sources are plentiful and all around us.
- **Non-renewable energy:**
 - Fossil fuels - coal, oil and gas - on the other hand, are non-renewable resources that take hundreds of millions of years to form.
 - Fossil fuels, when burned to produce energy, cause harmful greenhouse gas emissions, such as carbon dioxide.
- **Significance of renewable resources of energy:**
 - **Addressing Climate crisis:**
 - Generating renewable energy creates far lower emissions than burning fossil fuels.
 - Transitioning from fossil fuels, which currently account for the lion's share of emissions, to renewable energy is key to addressing the climate crisis.
 - **Cheaper & employment generator:**
 - Renewables are now cheaper in most countries, and generate three times more jobs than fossil fuels.
 - The sources also have comparatively low maintenance costs.
 - **Atmanirbhar Bharat:**
 - Investment by the private sector in renewable energy would also be helpful in fulfilling the Government's objective of self-reliance. It will also create employment opportunities in the country.

Common sources of renewable energy

- **Solar Energy:**
 - Solar energy is the most abundant of all energy resources and can even be harnessed in cloudy weather. The rate at which solar energy is intercepted by the Earth is about 10,000 times greater than the rate at which humankind consumes energy.
- **Wind Energy:**
 - Wind energy harnesses the kinetic energy of moving air by using large wind turbines located on land (onshore) or in sea- or freshwater (offshore).
- **Geothermal Energy:**
 - Geothermal energy utilizes the accessible thermal energy from the Earth's interior. Heat is extracted from geothermal reservoirs using wells or other means.
- **Hydropower:**
 - Hydropower harnesses the energy of water moving from higher to lower elevations. It can be generated from reservoirs and rivers. Reservoir hydropower plants rely on stored water in a reservoir, while run-of-river hydropower plants harness energy from the available flow of the river.
- **Ocean Energy:**
 - Ocean energy derives from technologies that use the kinetic and thermal energy of seawater - waves or currents for instance - to produce electricity or heat.
- **Bioenergy:**
 - Bioenergy is produced from a variety of organic materials, called biomass, such as wood, charcoal, dung and other manures for heat and power production, and agricultural crops for liquid biofuels.

Most biomass is used in rural areas for cooking, lighting and space heating, generally by poorer populations in developing countries.

Renewable energy capacity in India

• About:

- India currently has a total renewable energy capacity of 168.96 GW (as on February 28, 2023) with about 82 GW at various stages of implementation and about 41 GW at tendering stage.
- This includes 64.38 GW Solar Power, 51.79 GW Hydro Power, 42.02 GW Wind Power and 10.77 GW Bio Power.

• Upcoming plans:

- The government invited bids for 50 GW of renewable energy capacity annually for the next five years.
- These annual bids of ISTS (Inter-State Transmission) connected renewable energy capacity will also include setting up of wind power capacity of at least 10 GW per annum.
- The plan finalised by Ministry of New & Renewable Energy (MNRE) was in accordance with India's COP26 commitments.

• Major initiatives:

- National Solar Mission (NSM)
- Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan (PM-KUSUM).
- Atal Jyoti Yojana (AJAY) Phase-II
- Solar Parks Scheme

• Potential:

- Considering that Renewable Energy projects take 18-24 months for commissioning, the bid plan will add 250 GW of renewable energy and ensure 500 GW of installed capacity by 2030.
 - The Power Ministry is already working on upgrading and adding the transmission system capacity for evacuating 500 GW of electricity from non-fossil fuel.

• Challenge:

- The challenge is the availability of equipment and infrastructure to implement this ambitious plan as well as evacuation of the power.
- While financing these projects may not be a challenge, as money is flowing into the clean energy sector, who will supply the equipment like turbines and modules, power cables etc will be an issue as there are only a handful of original equipment manufacturers.

Reasons for the growth of renewable energy:

• Expansion of electricity coverage:

- Increased coverage of electricity, along with the provision of last-mile connectivity to all households under the SAUBHAGYA scheme or Sahaj Bijli Har Ghar Yojana (see inset), has led to higher demand for energy.
- As urbanisation increases, there is also an increase in the per capita consumption of energy leading to the growth of energy demand.

• Growth:

- Despite the COVID-induced slowdown, India is one of the few countries which are looking at a substantial growth rate in the future, thus increasing the requirement of energy in the post-COVID world.

• Growing acceptance of electric mobility:

- Electric and hybrid vehicles have become the technology of choice around the world. This will create additional power demand for charging the needs of the Electric vehicles.

• Rise in importance of clean energy:

- India's commitments under the Paris climate deal: Apart from decreasing the energy intensity and creation of carbon sink, India has also committed itself to meet 40% of its total energy demand from non-fossil sources.
- Thus, it is imperative to invest in renewable energy to meet this target.

Way Ahead

- India's switch from coal to clean power is a win-win and a promising step towards meeting the country's net zero emissions target by 2070
- Governments and private sector organizations need to collaborate and work together to develop innovative solutions and strategies that can help to overcome these obstacles.
- India's energy demand is expected to increase more than that of any other country in the coming decades due to its sheer size and enormous potential for growth and development.
 - Therefore, it is imperative that most of this new energy demand is met by low-carbon, renewable sources.

TELANGANA-ANDHRA PRADESH WATER DISPUTE

Context: The dispute over the **water share of the Krishna river** between Andhra Pradesh and Telangana remains unresolved, **even nine years after the bifurcation** of the combined State.

About the Krishna water dispute

- **Beginning - Gentlemen's Agreement:**
 - The dispute dates back to the formation of Andhra Pradesh in November, 1956.
 - Before the formation of Andhra Pradesh, four senior leaders each from **different regions of Andhra**, including the **Rayalaseema Region and the Telangana region**, signed a **Gentlemen's Agreement on February 20, 1956**.
- **Protection of Telangana's interests and needs:**
 - Among others, one of the provisions of the agreement was the **protection of Telangana's interests and needs** with respect to the **utilisation of water resources** with **equitable distribution** based on **treaties followed globally**.
- **Issue:**
 - However, the focus of the combined dispensation **with respect to irrigation facilities was on Andhra**, which already had systems developed by the British **at the cost of in-basin drought-prone areas in Telangana** — a fact which was argued by the leaders of the latter region from the beginning.
- **Bachawat Tribunal (KWDT-I):**
 - In 1969, the Bachawat Tribunal (KWDT-I) was constituted to settle the dispute around water share **among the riparian States of Maharashtra, Karnataka and Andhra Pradesh** (before bifurcation).
 - **Allocation of water:**
 - The Tribunal **allocated 811 tmcft dependable water to Andhra Pradesh**.
 - The Andhra Pradesh government later apportioned it in the **512:299 tmcft ratio between Andhra (including parts of Rayalaseema which comprise the Krishna Basin) and Telangana**, respectively, based on the command area developed or utilisation mechanism established by then.
 - **Tungabhadra dam:**
 - The Tribunal had also recommended taking the **Tungabhadra Dam** (a part of the Krishna Basin) **water to the drought-prone Mahabubnagar area of Telangana**.
 - However, **this was not followed through**, giving birth to discontent among the people.
 - Telangana had time and again reiterated how it had been met with injustice in Andhra Pradesh when it came to the matter of distributing water resources.

Arrangement for water sharing after the bifurcation

- **Andhra Pradesh Reorganisation Act, 2014:**
 - There is no mention of water shares in the Andhra Pradesh Reorganisation Act, 2014, since the KWDT-I Award, which was still in force, had not made any region-wise allocation.
- **Ad hoc arrangement:**
 - At a meeting convened by the then **Ministry of Water Resources in 2015**, the two States had agreed for sharing water in the **34:66 (Telangana:A.P.) ratio** as an ad hoc arrangement with the minutes **clearly specifying that it has to be reviewed every year**.

- The arrangement in the Act was only for the management of water resources by **setting up two Boards**,
 - The Krishna River Management Board (KRMB) and
 - The Godavari River Management Board (GRMB).
- **Demand of equal share:**
 - In October 2020, Telangana raised its voice for an equal share, till water shares are finalised.
 - At a Board meeting held earlier this month, Telangana refused to continue the existing arrangement.
 - Unable to convince the member States, the river Board has referred the matter to the Ministry of Jal Shakti (MoJS).

What does each State claim?

- **Telangana's demand:**
 - Telangana has been asking the Centre to **finalise water shares** from day one of its formation.
 - Citing treaties and agreements followed globally in sharing river waters, Telangana has been arguing that as per the basin parameters, it is **entitled for at least a 70% share** in the allocation of the 811 tmcft.
 - Besides, it has been highlighting how **Andhra Pradesh has been diverting about 300 tmcft water** to the **areas outside the basin** from fluoride-affected and drought-prone areas within the basin in Telangana.
- **Andhra Pradesh's claim:**
 - On the other hand, Andhra Pradesh has also been staking **claim for a higher share of water** to **protect the interests of command areas** already developed.

Centre's stand

- The Centre has **convened two meetings of the Apex Council** comprising the **Union Minister and Chief Ministers** of Telangana and Andhra Pradesh in 2016 and 2020 without making any attempt to deal with the issue.
 - Following a suggestion made by the MoJS in 2020, **Telangana has withdrawn its petition over the issue** in the Supreme Court as the Ministry had assured to refer the matter of water shares to a Tribunal.
 - However, the Centre has **yet to resolve the issue** for **over two years** now even as the two States continue to spar over the matter day in and day out.

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