

# CivilsTap

Quality & Affordable Education



# Current Affairs

## Monthly Magazine

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By CivilsTap Himachal

For HPAS & Other Competitive  
Exam in Himachal Pradesh

## Mains

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# GENERAL STUDIES 1.

## GEOGRAPHY

### LA NINA AND ITS IMPACTS

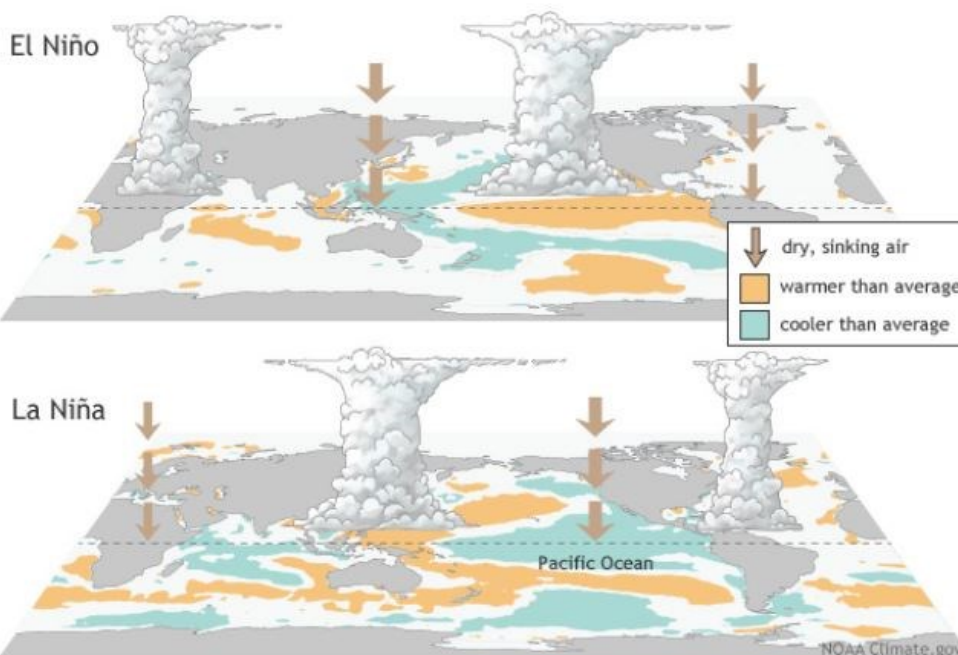
**Context:** The India Meteorological Department (IMD) has forecasted above-normal rain in the upcoming monsoon season in India, with “favourable” La Nina conditions expected to set in by August-September.

#### About

- ❖ El Niño and La Nina are climate phenomena that are a result of ocean-atmosphere interactions, which impact the temperature of waters in the central and eastern tropical Pacific Ocean.
- ❖ El Niño events are far more frequent than La Nina ones. Once every two to seven years, neutral ENSO conditions get interrupted by either El Niño or La Nina.
- ❖ **Coriolis Effect:** The Earth’s east-west rotation causes all winds blowing between 30 degrees to the north and south of the equator to slant in their trajectory.
  - ✓ As a result, winds in the region flow towards a southwesterly direction in the northern hemisphere and a northwesterly direction in the southern hemisphere. This is known as the Coriolis Effect.
  - ✓ Due to this, winds in this belt called trade winds blow westwards on either side of the equator.
- ❖ **Normal Conditions:** During normal conditions in the Pacific ocean, trade winds blow west along the equator, taking warm water from South America towards Asia.
  - ✓ To replace that warm water, cold water rises from the depths — a process called upwelling.
  - ✓ The warmer surface waters near Indonesia create a region of low-pressure area, causing the air to rise upwards. This also results in formation of clouds and heavy rainfall.
  - ✓ The air flow also helps in building up the monsoon system which brings rainfall over India.

#### La Niña:

- ❖ **It means Little Girl in Spanish.** La Niña is also sometimes called El Viejo, anti-El Niño, or simply “a cold event.” La Niña has the opposite effect of El Niño.
- ❖ The trade winds become stronger than usual, pushing more warmer waters towards the Indonesian coast, and making the eastern Pacific Ocean colder than normal.



#### Impacts

- ❖ **Increased rainfall:** Regions such as Southeast Asia, northern Australia, and parts of South America often experience above-average rainfall during La Niña events.
  - ✓ Except in east and northeast India, all remaining regions are expected to receive normal or above seasonal rainfall during La Niña.
  - ✓ Similar to India, Indonesia, the Philippines, Malaysia and their neighbouring countries receive good rainfall during a La Niña year.
- ❖ **Drier conditions in some areas:** Conversely, regions like the southwestern United States and parts of Africa experience below-average rainfall, leading to drought conditions.
- ❖ **Stronger Atlantic hurricanes:** La Niña tends to reduce wind shear in the Atlantic, creating conditions that are more conducive to the development of hurricanes.
  - ✓ For instance, the Atlantic Ocean churned out a record 30 hurricanes during the La Niña year 2021.
- ❖ **Cooler temperatures:** Some areas experience cooler temperatures than normal, particularly in the Pacific Northwest of the United States and parts of South America.

### What is El Niño?

- ❖ El Niño means Little Boy in Spanish. South American fishermen first noticed periods of unusually warm water in the Pacific Ocean in the 1600s.
  - ✓ It is a climate phenomenon characterized by the periodic warming of sea surface temperatures in the central and eastern equatorial Pacific Ocean.
  - ✓ During El Niño, trade winds weaken. Warm water is pushed back east, toward the west coast of the Americas and as a result cold water is pushed towards Asia.

### Impact of El Niño

- ❖ **Low Rainfall:** El Niño often correlates with below-average monsoon rainfall in India, leading to droughts in many parts of the country. This can have severe consequences for agriculture, water resources, and the economy.
- ❖ **Increased Temperature:** El Niño also lead to an increase in temperatures across various parts of India.
- ❖ **Forest Fires:** The drier conditions associated with El Niño increase the risk of forest fires, particularly in regions with dense vegetation. These fires cause environmental damage, loss of biodiversity, and air pollution.
- ❖ **Water Scarcity:** Decreased rainfall during El Niño events lead to water scarcity in many parts of India. This affect drinking water supplies, irrigation for agriculture, and hydropower generation.
- ❖ **Impact on Fisheries:** El Niño also affect marine ecosystems and fisheries along India's coastline. Changes in sea surface temperatures and ocean currents disrupt fish migration patterns and lead to fluctuations in fish populations.

### Conclusion

- ❖ Scientists say that climate change is set to impact the ENSO cycle. Many studies suggest that global warming tends to change the mean oceanic conditions over the Pacific Ocean and trigger more El Niño events.
- ❖ The World Meteorological Organization (WMO) has also said that climate change is likely to affect the intensity and frequency of extreme weather and climate events linked to El Niño and La Niña.

## LANDSLIDE VULNERABILITY IN INDIA

**Context:** Heavy rain caused by the cyclone Remal triggered landslides in several places in Meghalaya, Mizoram, Assam, and Nagaland.

### What is Landslide?

- ❖ Landslides are a geological phenomenon that involves the sudden and rapid movement of a mass of rock, soil, or debris down a slope under the influence of gravity.

- ❖ Landslides, usually, occur in areas having characteristics like Steep terrain such as hilly or mountainous areas, Presence of joints and fissures or areas where surface runoff is directed or land is heavily saturated with water.

### Landslide vulnerability in India

- ❖ According to the Geological Survey of India (GSI) about 0.42 million square km of India's landmass, or about 13% of its area, spread over 15 states and four Union Territories, is prone to landslides.
- ❖ About 0.18 million square km, or 42% of this vulnerable area is in the Northeastern region, where the terrain is mostly hilly.
  - ✓ This area is also prone to earthquakes, which too, are a major trigger for landslides.

### Causes of Landslides

#### ❖ Natural Causes:

- ✓ **Heavy Rainfall:** Heavy rainfall is one of the most common triggers of landslides. It increases pore water pressure as well as the weight of soil by making it saturated.
- ✓ **Erosion:** Clay and vegetation present within the soil or rock act as cohesive elements and help bind particles together. By removing these cohesive elements, erosion makes an area more prone to landslides.
- ✓ **Earthquakes:** Intense ground shaking due to earthquakes causes instability in rocks and soils, thus triggering landslides.
- ✓ **Volcanic Eruptions:** Ash and debris deposited by volcanic eruptions overload slopes while the accompanied seismic activity causes instability.

#### ❖ Anthropogenic Causes

- ✓ **Deforestation:** By holding soils as well as obstructing the flow of falling debris, vegetation cover plays an important role in preventing landslides in any area. Deforestation takes away this preventive cover and increases vulnerability to landslides.
- ✓ **Encroachment in Vulnerable Terrains:** Of late, humans have been encroaching in landslide-prone areas such as hilly terrains. This has led to increased construction activities in these areas and increased chances of landslides.
- ✓ **Uncontrolled Excavation:** Unauthorized or poorly planned excavation activities, such as mining, quarrying, etc destabilize slopes and increase the chances of landslides.
- ✓ **Climate Change:** Climate change caused by various anthropogenic activities has led to abrupt alterations in precipitation patterns and increased frequency of extreme weather events.

### Measures taken in India

- ❖ The Disaster Management Act, of 2005 provides a comprehensive legal and institutional framework for the management of various disasters including landslides.
- ❖ The National Landslide Risk Management Strategy (2019) covers all aspects of landslide disaster risk reduction and management, such as hazard mapping, monitoring, and early warning systems.
- ❖ The National Disaster Management Authority (NDMA) has issued Guidelines on Landslide Hazard Management (2009) that outline the steps that should be taken to reduce the risk of landslides.
- ❖ The National Institute of Disaster Management (NIDM) has been providing capacity building and other support to various national and state-level disaster management authorities.
- ❖ **Early Warning system:** Efforts have been made towards better prediction of weather. E.g. Ensemble Prediction System. This will help predict disasters like landslides.

### Way Ahead

- ❖ Every mountainous area has a carrying capacity. However development is essential, and one cannot stop the creation of infrastructure. Hence sustainability has to be factored in, so that the load does not exceed the carrying capacity.
- ❖ The National Disaster Management Authority (NDMA) has been working with GSI and other agencies to mitigate and manage the risks from landslides.

## IMD'S FORECAST FOR EL NIÑO-SOUTHERN OSCILLATION (ENSO)

**Context:** India Meteorological Department (IMD) said that El Nino Southern Oscillation (ENSO) neutral conditions would emerge in June and during July – September, ENSO would transition into La Nina.

### Key Points

- ❖ South peninsular and central India is expected to receive 'above' normal rainfall, northwest India would receive normal rainfall whereas east and northeast India is expected to receive below average rainfall during the June – September period.

### About El Niño-Southern Oscillation (ENSO)

- ❖ It is a recurring climate pattern involving changes in the temperature of waters in the central and eastern tropical Pacific Ocean.
- ❖ In periods ranging from about three to seven years, the surface waters across a large swath of the tropical Pacific Ocean warm or cool by anywhere from 1°C to 3°C, compared to normal.
- ❖ This oscillating warming and cooling pattern, referred to as the ENSO cycle, directly affects rainfall distribution in the tropics and can have a strong influence on weather across different parts of the world.
- ❖ ENSO is one of the most important climate phenomena on Earth due to its ability to change the global atmospheric circulation, which in turn, influences temperature and precipitation across the globe.

### ENSO phases and Impacts

- ❖ **El Niño:** A warming of the ocean surface, or above-average sea surface temperatures (SST), in the central and eastern tropical Pacific Ocean.
  - ✓ Over Indonesia, rainfall tends to become reduced while rainfall increases over the central and eastern tropical Pacific Ocean.
  - ✓ The low-level surface winds, which normally blow from east to west along the equator ("easterly winds"), instead weaken or, in some cases, start blowing the other direction (from west to east or "westerly winds").
  - ✓ In general, the warmer the ocean temperature anomalies, the stronger the El Niño (and vice-versa).
- ❖ **La Niña:** A cooling of the ocean surface, or below-average sea surface temperatures (SST), in the central and eastern tropical Pacific Ocean.
  - ✓ Over Indonesia, rainfall tends to increase while rainfall decreases over the central and eastern tropical Pacific Ocean.
  - ✓ The normal easterly winds along the equator become even stronger. In general, the cooler the ocean temperature anomalies, the stronger the La Niña (and vice-versa).
- ❖ **Neutral:** Neither El Niño or La Niña. Often tropical Pacific SSTs are generally close to average.
  - ✓ However, there are some instances when the ocean can look like it is in an El Niño or La Niña state, but the atmosphere is not playing along (or vice versa).

### Repercussions for India

- ❖ The El Nino Southern Oscillation (ENSO) has had a greater impact on northern parts of India, lesser impact on the central parts and relatively constant impact on the southern parts of the country in recent decades
- ❖ The warming phase known as the El Nino is generally known to suppress monsoon rainfall while the cooling phase known as the La Nina generally enhances monsoon rainfall.
  - ✓ Even though there are multiple other factors, like the monsoon low pressure systems and depression, which affect the monsoon rainfall, La Nina is one of the major factors.
  - ✓ In a La Nina year, one could expect above normal rainfall.

## DISASTER MANAGEMENT

### STATE OF FIRE SAFETY STANDARDS IN INDIA

**Context:** Recent devastating fires in Delhi and Rajkot have brought to light the critical lack of fire safety measures in Indian cities.

#### About

- ❖ Despite established fire preparedness disciplines worldwide and repeated fire outbreaks over the past three decades, public spaces, housing, hospitals, and commercial buildings in India remain vulnerable.
- ❖ In 2022, over 7,500 fire accidents resulted in the deaths of 7,435 people in India, according to the National Crime Records Bureau (NCRB).
- ❖ Maharashtra and Gujarat, two of the most urbanized states, account for approximately 30% of fire-related deaths in the country.
- ❖ Past incidents like the Uphaar Cinema fire (1997), AMRI hospital fire (2011), Kamala Mills inferno (2017), and various hospital fires during the COVID-19 pandemic reveal a persistent neglect of safety standards

#### Challenges in Preventing Fire Accidents in India

- ❖ **Non-compliance with Safety Regulations:** Many establishments, like the Rajkot gaming centre, operate without necessary fire safety clearances and flout basic safety norms.
- ❖ **Weak Municipal Oversight:** Municipal bodies responsible for fire safety inspections are often understaffed and lack resources, leading to infrequent and ineffective checks.
- ❖ **Neglect of Existing Guidelines:** Detailed guidelines in the National Building Code and state-specific fire safety rules are often ignored, resulting in hazardous conditions.
  - ✓ National Building Code of India, 2016, it includes provisions for 'Fire and Life Safety' audits, these are only recommendatory, not mandatory.
- ❖ **Inadequate Firefighting Infrastructure:** A study indicates urban India has less than 40% of the required fire stations, and the existing infrastructure needs modernization.

#### Fire Safety Standards in India

- ❖ Fire safety standards in India are governed by the National Building Code (NBC) 2016, which provides comprehensive guidelines for fire prevention, protection, and life safety in buildings.
- ❖ Part 4 of the NBC details fire and life safety requirements, including building materials, fire exits, firefighting equipment, and alarm systems.
- ❖ Each state has its own Fire Services Act, which outlines the powers and responsibilities of fire services and enforces fire safety regulations.
- ❖ The BIS sets standards for fire safety equipment like extinguishers, hoses, and alarms.
- ❖ Director-General of Civil Defense, Home Guards, & Fire Services under the Ministry of Home Affairs oversees fire management.
- ❖ National Fire Service College, Nagpur provides training and education for fire service personnel.

#### Steps Taken For Fire Safety

- ❖ **Scheme for Expansion and Modernization of Fire Services in the States:** Launched by the Centre in 2023, this scheme aims to strengthen fire services in states until 2025-26 by providing financial assistance for upgrading equipment, training personnel, and establishing new fire stations.
- ❖ **Model Bill to Provide for the Maintenance of Fire and Emergency Service for the State:** This model bill, circulated by the Centre, aims to facilitate the establishment and maintenance of efficient fire and emergency services at the state level.
- ❖ **National Disaster Management Authority (NDMA) guidelines:** The NDMA has released guidelines covering scaling, types of equipment, and training for fire services across the country.
- ❖ **Fire Safety Audits:** Mandating fire safety audits in all buildings over 15 meters tall every two years by an independent entity.

## Way Ahead

- ❖ **Strict Enforcement of Regulations:** Authorities must rigorously enforce fire safety regulations and penalize violators.
- ❖ **Investing in Infrastructure:** A 2018 FICCI-Pinkerton study revealed that urban India has less than 40% of the required fire stations. The 15th Finance Commission highlighted the need for modernizing firefighting infrastructure.
- ❖ **Strengthening Municipal Capacity:** Municipal bodies need increased resources and training to conduct regular and thorough fire safety inspections.
- ❖ **Policy Implementation and Monitoring:** Ensure strict adherence to the National Building Code and state-specific fire safety regulations.
  - ✓ Regular audits of compliance, particularly in vulnerable facilities like hospitals.
- ❖ **Accountability and Legal Reforms:** Hold violators accountable through stringent penalties and legal action.
  - ✓ Fast-track the implementation of recommendations from past disaster investigations.
- ❖ **Prioritizing Healthcare Facilities:** Special attention must be given to fire safety in healthcare facilities, considering the presence of flammable materials and vulnerable patients.



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# GENERAL STUDIES 2.

## POLITY, CONSTITUTION

### EC'S MODEL CODE OF CONDUCT (MCC) NEED REFORMS

**Context:** Election Commission of India (ECI) issued notices over Model Code of Conduct (MCC) violation complaints against top leaders of the country .

#### Model Code of Conduct (MCC)

- ❖ It is a set of guidelines published by the Election Commission of India (EC) for political parties and candidates to set standards of conduct during the election campaign and polling.
- ❖ It also explains how parties can lodge complaints to the EC observers in case of dispute and instructs how the Ministers of the parties in power must conduct themselves when the MCC is in force.
- ❖ In 2019, a new addition regarding election manifestos was added, instructing parties to not issue promises which were 'repugnant to the ideals of the Constitution'.
- ❖ The MCC is not a statutory document – not enforceable by any laws passed by the Parliament .
  - ✓ Violating many of its guidelines may not attract punitive action.
    - However ,several actions are listed as 'electoral offences' and 'corrupt practices' under the Indian Penal Code (now known as Bharatiya Nyaya Sanhita) and the Representation of the People Act, 1951.
    - These actions will attract appropriate punishment as per these laws.

#### Features

- ❖ The MCC comes into force immediately when the election schedule is announced by the Election Commission and remains in operation till the election process is complete, i.e. results are announced.
- ❖ It is applicable to all elections to the Lok Sabha, State Assemblies. It is also applicable for State Legislative Council elections from Local Bodies, and Graduates' and Teachers' Constituencies.
- ❖ It is enforced throughout India in case of General elections, and the State up for polls in case of Legislative Assembly elections.
- ❖ All organisations, committees, corporations, commissions (for e.g. Transport authorities, Jal boards) funded wholly or partially by the Centre or State are bound by the MCC.
- ❖ While listed political parties and candidates are bound to follow the MCC, even non-political organisations which hold campaigns favouring a political party or candidate are bound to follow specific guidelines mentioned by the EC.

#### Concern

- ❖ The political environment in the country has sharpened, blunting the efficacy of the MCC.
- ❖ Instances of violations are rising, becoming rampant and rabid.
- ❖ Political leaders are deploying their prestige, firepower and demagoguery like never before and finding ingenious ways to remain in the shadow zone between the letter and the spirit of MCC.
- ❖ **Money has replaced muscle;** technology has provided a shining armour.
- ❖ MCC has not clearly spelt out the consequences of defaults, thus diluting its deterrent effect.
  - ✓ Delayed responses dilute the impact of penalties and diminish public confidence in the credibility of the EC.

#### Conclusion and Way Forward

- ❖ The MCC draws its strength and sanctity from the strict, prompt and non-discriminatory enforcement by EC, there is a need to remodel it by imposing more reasonable restrictions in a non-discriminatory manner.
  - ✓ This is essential to restore a certain degree of decorum and discipline in public discourse.
- ❖ It is necessary to specify punitive measures in a fair, transparent and predictable manner, especially with respect to serious violations such as hate speech invoking communal and caste feelings to secure votes, offering inducements for garnering votes, using foul, filthy and abusive language against political

opponents, indulging in political propaganda by invoking, praising, questioning or criticising the Indian armed forces, etc.

- ✓ Such violations should attract severe consequences that could be graded and made known publicly.
- ❖ A list of all cases of reported violations should be compiled, a statement of their disposal/pendency should be displayed on the EC website and a database needs to be created for public information.
- ❖ The time has come for MCC to initiate punitive action against political parties if its functionaries or star campaigners are involved in proven cases of MCC violation.
  - ✓ This action could be a fine and/or action under The Election Symbols (Reservation and Allotment) Order, if warranted.

## NEED FOR THE REFORMS IN INDIAN ARBITRATION SYSTEM

**Context:** Vice President Jagdeep Dhankhar underlined the need for reformation in the Indian Arbitration system.

### About

- ❖ He highlighted that the process has become very complex.
  - ✓ Award (by arbitration court), objection to award, appeals, and then invocation of Article 136 of the constitution is followed by review and Curative petitions, which has become the norm.
  - ✓ Therefore, he stressed the need for streamlining to enhance efficiency.
- ❖ Article 136 deals with Special leave to appeal by the Supreme Court.
  - ✓ Article 136 allows citizens to file so-called special leave petitions (SLPs) to appeal before the Supreme Court against any “judgement, decree, determination, sentence or order in any cause or matter passed or made by any court or tribunal in the territory of India”.
  - ✓ It is up to the apex court to decide whether it wants to hear an appeal or not.

### Arbitration Mechanism in India

- ❖ Arbitration is a quasi-judicial process of settlement of disputes between Trading Member, Investor, Clearing Member, Authorised Person, Listed Company etc.
- ❖ Arbitration aims at quicker legal resolution for the disputes.
- ❖ The Arbitration and Conciliation Act 1996 has been modelled on lines of the UNCITRAL (United Nations Commission on International Trade Law) framework of laws.
- ❖ **Arbitration Agreement:** Parties can agree to resolve their disputes through arbitration either before or after a dispute arises.
- ❖ **Arbitral Tribunal:** The arbitral tribunal, comprised of one or more arbitrators, is appointed by the parties or as per the procedure agreed upon by them.
  - ✓ The decision on the dispute is mostly binding on the parties.
  - ✓ Generally, there is no right to appeal an arbitrator’s decision.
- ❖ **Arbitration Proceedings:** The Arbitration Act provides a framework for conducting arbitration proceedings, including the appointment of arbitrators, the conduct of hearings, submission of evidence, and issuance of the final arbitral award.
- ❖ **Enforcement:** The Act empowers arbitral tribunals to grant interim measures to preserve the rights of parties, pending the final resolution of the dispute.
  - ✓ Arbitral awards, once granted, are enforceable in the same manner as court judgments.
- ❖ **Institutional and Ad Hoc Arbitration:** Arbitration in India can be conducted through institutional arbitration bodies like the Indian Council of Arbitration (ICA), International Chamber of Commerce (ICC), or through ad hoc arbitration where parties directly appoint arbitrators.
- ❖ **Amendment in 2019:** In 2019, further amendments were made to the Arbitration Act to streamline the arbitration process, expedite proceedings, and reduce the scope of interference by courts.

### Need for the Arbitration Mechanism

- ❖ **Overburdened Judiciary:** Arbitration provides an alternative mechanism for resolving disputes efficiently and expeditiously, thereby relieving the burden on the courts.

- ❖ **Promotion of Business and Investment:** A robust arbitration framework is essential for fostering a conducive business environment and attracting foreign investment.
- ❖ **International Trade and Commerce:** Arbitration offers a neutral and internationally recognized forum for resolving cross-border disputes, providing certainty and predictability to parties engaged in international transactions.
- ❖ **Confidentiality and Privacy:** Arbitration proceedings are generally confidential, allowing parties to maintain the privacy of their disputes and sensitive business information.
- ❖ **Specialized Expertise:** Arbitration allows parties to choose arbitrators with expertise in the relevant subject matter or industry, ensuring that disputes are resolved by professionals who understand the complexities and nuances of the issues involved.

### Challenges

- ❖ **Judicial Interference:** Courts often entertain challenges to arbitral awards on grounds that go beyond those permitted under the law, leading to delays and undermining the finality of arbitral awards.
- ❖ **Delays and Backlogs:** Factors contributing to delays include procedural complexities, frequent adjournments, and challenges in enforcing procedural timelines.
- ❖ **Lack of Specialized Arbitrators:** Despite efforts to promote arbitration, there is a shortage of qualified and experienced arbitrators, particularly those with expertise in specialized fields.
- ❖ **Costs and Accessibility:** The costs associated with arbitrators' fees, legal representation, and administrative expenses deter parties from opting for arbitration, particularly in low-value disputes.
- ❖ **Confidentiality Concerns:** Despite provisions for confidentiality in arbitration proceedings, concerns persist regarding the disclosure of sensitive information and the potential for breaches of confidentiality.
- ❖ **Institutional Infrastructure:** While there are several arbitral institutions in India, the institutional infrastructure for arbitration remains underdeveloped compared to other jurisdictions.

### Way Ahead

- ❖ Reforms aimed at streamlining procedures, enhancing judicial support, promoting arbitration education and training, and strengthening institutional infrastructure can contribute to the growth and development of the arbitration mechanism in India.

## CLASH BETWEEN FUNDAMENTAL RIGHTS & DPSPs

**Context** – The Supreme Court can resolve the longstanding conflict between fundamental rights and DPSPs in Property Owners Association vs State of Maharashtra case by providing clarity on Article 31C's validity and adherence to the Constitution's basic structure. The concept of democracy as a governing method and a core societal value

### What are the key questions raised in the case of Property Owners Association vs State of Maharashtra?

1. The interpretation of the term "material resources of the community" as mentioned in Article 39(b) of the Constitution.
  2. Whether laws enacted to achieve the objective set forth in Article 39(b) are immunized from legal challenges based on fundamental rights to equality and liberty. This question also highlights a conflict between Part III of the Constitution, which outlines fundamental rights, and Part IV, which lists Directive Principles of State Policy (DPSP).
- ❖ **NOTE**-Article 39(b)-It places an obligation on the state to create policy towards securing "the ownership and control of the material resources of the community are so distributed as best to subserve the common good".
  - ❖ What has been the history of conflict between fundamental rights and Directive Principles of State Policy (DPSP)?
  - ❖ This tension between the two has existed throughout India's history. However, it has become particularly intense in the 1970s when amendments were made to exempt certain laws from judicial review.

### 1. Constitutional Provisions and Earlier Judicial Interpretations-

- A. At its inception, the Constitution's bare text was clear enough. Article 13 stated that any law violating a fundamental right would be invalid. In contrast, Article 37 stated that Directive Principles of State Policy (DPSP) wouldn't be enforceable in court.
- B. In its early judgments, the Supreme Court clarified the hierarchy between fundamental rights and DPSPs. In *Mohd. Hanif Quareshi vs State of Bihar* (1958), the Chief Justice stated that the state should implement DPSPs without abridging fundamental rights.
2. **Introduction of Article 31(C)**– The 25th amendment introduced Article 31C to protect laws enacted to fulfill Article 39(b) and (c) from challenges under Articles 14 and 19 of the Constitution. This provision aimed to exempt legislation promoting the common good from fundamental rights scrutiny.
3. **Kesavananda Bharati vs State of Kerala (1973)**– The court upheld the validity of Article 31C but made it subject to judicial review.
4. **42nd Constitutional Amendment**– Parliament brought the 42nd Amendment Act in 1976, which extended the scope of the Article 31C by including within its purview any law to implement any of the DPSPs specified in Part IV of the constitutional and not merely Article 39 (b) or (c).
5. **Minerva Mills vs Union of India (1980)**– 42nd CAA was subsequently challenged in this case. The court declared the amendment unconstitutional. The Court found that while DPSPs provided the ends of governance, fundamental rights constituted the means to such ends.
6. **Waman Rao vs Union of India**– The court upheld the validity of Article 31C by arguing that laws aligned with Articles 39(b) and (c) wouldn't violate rights under Articles 14 and 19.

### What are the consequences of legal ambiguity surrounding Article 31C?

1. **Potential for Abuse:** Critics argue that Article 31C, as amended, gives excessive power to the legislature, enabling it to enact laws that could infringe upon fundamental rights under the guise of achieving the objectives of the Directive Principles. In other words, it places certain laws above fundamental rights. For instance, a law nationalizing the printing press, purportedly for the common good, could suppress free speech.
2. **Judicial Responses and Uncertainties:** The Supreme Court has struggled with Article 31C's implications, as seen in the *Minerva Mills* case (1980) and the *Waman Rao* judgment.
  - ❖ For ex-in *Minerva Mill* case, there some of the questions were not answered like- Has Article 31C reverted to its original version from the 25th amendment, minus the parts invalidated by the majority in *Kesavananda*? Or is it in a limbo where its validity is uncertain?
  - ❖ These rulings questioned the amendment's alignment with the Constitution's basic structure. But did not conclusively resolve the tensions between Directive Principles and Fundamental Rights.
  - ❖ This ongoing ambiguity has led to a persistent conflict between fundamental rights and Directive Principles of State Policy (DPSP). The Court now has an opportunity in the *Property Owners* case to address this conflict and strengthen the Constitution's core principles.

### SC OUTLINES STATE'S DUTY BEFORE ACQUIRING PRIVATE PROPERTY

**Context:** The Supreme Court underscored the constitutional safeguards required before the State can acquire private property.

#### About

- ❖ It is a step to protect private property from arbitrary state takeover for a public purpose.
- ❖ The judgement highlighted the necessity of adhering to fair procedures and upholding the rights of property owners under the Indian Constitution.
  - ✓ The compulsory acquisition without following mandatory procedures followed by a grant of compensation to the owners will not make the accession constitutional.

#### Major Highlights of the Judgement

- ❖ As per SC, the right to property is protected as a constitutional right and has even been interpreted to be a human right.

- ❖ It is generally assumed that for a valid acquisition all that is necessary is to possess the power of eminent domain [power of the sovereign to acquire property of an individual for public use without consent] to acquire, followed by grant of reasonable and fair compensation.
- ❖ **Article 300 A:** The court stated that procedural justice is a cornerstone of Article 300A when the acquisition of private property by the State is for a public purpose and on the payment of compensation.
  - ✓ The phrase 'authority of law' in the Article should not be understood as merely the power of eminent domain vested in the state.
  - ✓ The requirement of a 'law' in Article 300A does not end with the mere presence of a legislation which empowers the state to deprive a person of his property.
- ❖ **Seven basic rights:** The court laid down seven basic procedural rights of private citizens which constitute the "real content of the right to property under Article 300A" that the state should respect before depriving them of their private property.
  - ✓ They include, the right to notice or the duty of the state to inform the person that it intends to acquire his property;
  - ✓ The right of the citizen to be heard or the duty of the state to hear the objections to the acquisition;
  - ✓ The right of the citizen to a reasoned decision or the duty of the state to inform the person of its decision to acquire property;
  - ✓ The duty of the state to demonstrate that the acquisition is exclusively for public purpose; the right to fair compensation of the citizen;
  - ✓ The duty of the state to conduct the process of acquisition efficiently and within prescribed timelines;
  - ✓ And finally, the conclusion of the proceedings leading to vesting or the right of conclusion.

#### **Significance of the Judgement**

- ❖ The ruling not only clarified the State's obligations but also strengthened the procedural protections afforded to property owners, reinforcing the constitutional principles of justice and fairness in property rights.

CivilsTap Hlmachal

## GOVERNANCE

### STREET VENDORS ACT: EMERGING CHALLENGES

**Context:** 10 Years of Street Vendors (Protection of Livelihood and Regulation of Street Vending) Act has been completed.

#### About the Act

- ❖ The Act came into effect on May 1, 2014, marking a significant milestone after nearly four decades of legal jurisprudence and the tireless efforts of street vendor movements across India.
- ❖ It aimed to **‘protect’** and **‘regulate’** street vending in cities, with State-level rules and schemes, and execution by Urban Local Bodies (ULBs) through by-laws, planning, and regulation.

#### Feature

- ❖ The Act clearly delineates the roles and responsibilities of both vendors and various levels of government.
- ❖ It recognises the positive urban role of vendors and the need for livelihood protection.
- ❖ It commits to accommodating all ‘existing’ vendors in vending zones and issuing vending certificates.
- ❖ The Act establishes a participatory governance structure through Town Vending Committees (TVCs) and mandates that street vendor representatives must constitute 40% of TVC members, with a sub-representation of 33% of women street vendors.
- ❖ These committees are tasked with ensuring the inclusion of all existing vendors in vending zones.
- ❖ The Act outlines mechanisms for addressing grievances and disputes, proposing the establishment of a Grievance Redressal Committee chaired by a civil judge or judicial magistrate.
- ❖ Its provisions set a crucial precedent for inclusive and participatory approaches to address street vending needs in cities, at least in theory.

#### Need of the law

- ❖ Street vendors, estimated to constitute 2.5% of any city’s population, play multifaceted roles in city life.
- ❖ Local vegetable sellers and food vendors are essential providers of daily services. Vending offers many migrants and the urban poor a source of modest yet consistent income.
- ❖ The vendors also make city life affordable for others by providing vital links in the food, nutrition, and goods distribution chain at reasonable prices.
- ❖ **Street vendors are also integral to Indian culture** — imagine Mumbai without its vada pav or Chennai without its roadside dosai. The law was enacted to acknowledge this reality.

#### Broad Challenges

- ❖ The Act has faced three broad challenges.
  - ✓ At the administrative level, there has been a noticeable increase in harassment and evictions of street vendors, despite the Act’s emphasis on their protection and regulation.
  - ✓ This is often due to an outdated bureaucratic mindset that views vendors as illegal entities to be cleared.
  - ✓ There is also a pervasive lack of awareness and sensitisation about the Act among state authorities, the wider public, and vendors themselves.
  - ✓ TVCs often remain under the control of local city authorities, with limited influence from street vendor representatives. And the representation of women vendors in TVCs is mostly tokenistic.
- ❖ At the governance level, existing urban governance mechanisms are often weak.
  - ✓ The Act does not integrate well with the framework established by the 74th Constitutional Amendment Act for urban governance.
  - ✓ ULBs lack sufficient powers and capacities.
  - ✓ Schemes like the Smart Cities Mission, laden with resources and pushed through as policy priorities from the top-down, mostly focus on infrastructure development and ignore the provisions of the Act for the inclusion of street vendors in city planning.
- ❖ At the societal level, the prevailing image of the ‘world class city tends to be exclusionary.

- ✓ It marginalises and stigmatises street vendors as obstacles to urban development instead of acknowledging them as legitimate contributors to the urban economy.
- ✓ These challenges are reflected in city designs, urban policies, and public perceptions of neighbourhoods.
- ❖ The Act now faces new challenges such as the impact of climate change on vendors, a surge in the number of vendors, competition from e-commerce, and reduced incomes.

### Way Forward

- ❖ While the Act is progressive and detailed, its implementation requires support, possibly (and ironically) necessitating top-down direction and management starting from the Ministry of Housing and Urban Affairs.
- ❖ This needs to be decentralised over time to ensure effectiveness in addressing the diverse needs and contexts of street vendors nationwide.
  - ✓ PM SVANidhi, a micro-credit facility for street vendors, has been a positive example in that direction.
- ❖ There is a strong need to decentralise interventions, enhance the capacities of ULBs to plan for street vending in cities, and move away from high-handed department-led actions to actual deliberative processes at the TVC level.
- ❖ Urban schemes, city planning guidelines, and policies need to be amended to include street vending.
- ❖ The Act's broad welfare provisions must be used creatively to meet the emerging needs of street vendors.
- ❖ The sub-component on street vendors in the National Urban Livelihood Mission needs to take cognisance of the changed realities and facilitate innovative measures for addressing needs.

## SLOW PROGRESS IN ACHIEVING SDGs

**Context:** The United Nations summit on Sustainable Development Goals (SDGs) was held in New York recently. It assessed progress towards achieving the 17 SDGs and 169 specific targets set by the agenda-2030, adopted in 2015. The article highlights the slow progress and challenges in achieving SGGs.

### What are SDGs?

- ❖ **SDGs stand for Sustainable Development Goals.** They are a set of 17 global objectives established by the United Nations in 2015 as part of the agenda 2030 for Sustainable Development.
- ❖ **Coverage-**These goals cover a wide range of social, economic, and environmental issues, aiming to address the world's most pressing challenges, including poverty, inequality, climate change, environmental degradation, peace, and justice.
- ❖ **Nature-**The SDG programme is internationally non-binding. However, all countries have committed to work towards these goals.

### What has been the overall progress towards achieving the SDGs?

1. **Slow Progress-** Reports indicate that progress has been slow and off track. While there were some improvements between 2015 and 2019, they were largely inadequate to meet the goals.
2. **Impact of Covid-19-**The outbreak of the COVID-19 pandemic and other global crises have significantly impeded progress.
3. **Lack of adequate attention to environmental goals-** Not enough focus has been attached to goals about the environment and protecting biodiversity. This slow progress is worrying because it goes against the idea that all the SDGs are connected and cannot be separated. It also puts the environment at risk of getting worse in a faster manner.

### What are key areas that require urgent action?

The UN SDG Report 2023 identified five key areas for urgent action: –

1. Commitment of governments to seven years of accelerated, sustained, and transformative actions to deliver on SDG promises.

2. Concrete, integrated, and targeted policies and actions to eradicate poverty, reduce inequality, and end the war on nature, with a focus on advancing women's and girls' rights and empowering the vulnerable.
3. Strengthening national and subnational capacity, accountability, and public institutions to deliver accelerated progress.
4. Recommitment of the international community to deliver and mobilize resources to assist developing nations.
5. Continued strengthening of the UN development system.

### **What is the impact of this slow progress?**

1. If the current pattern persists, it will result in a faster decline in environmental quality. This contradicts the aim of moving towards sustainability.
2. The SDGs have not been sufficient in making much political difference at the national or local level, except discussions and some small changes in rules and institutions. It suggests that setting global goals does not directly impact politics on local or national levels.

### **What are the suggestions given by 2019 report 'Future is Now' for accelerating SDG implementation?**

1. **Systematic Approach to Achieving the 2030 Agenda** –It highlights how the 2030 Agenda can truly change things by using a systematic approach. This implies finding a balance between different results and ensuring that actions help achieve several SDGs at the same time
2. **Selecting Priority Areas**-It recommends choosing the most suitable starting points based on local needs and regional or national priorities. Then, it suggests using four key tools-governance, economy and money, actions by individuals and groups, and science and technology.
3. **Collaborative Partnership for Global Sustainable Development** -People in these sectors must collaborate and build new partnerships to develop and execute sustainable development plans that suit each country's unique needs and priorities. This will help make big changes globally.

**Conclusion**– In 2024, many countries around the world will have elections, involving 64 nations and nearly half of the world's population. It's important for the new governments to think about sustainability and align their national policies accordingly.

## **UNIVERSAL HEALTH COVERAGE**

**Context:** The expansion of Universal health coverage will be complex, but data and digital technology can smoothen the way.

### **Universal Health Coverage**

#### ❖ **Meaning:**

- ✓ Universal health coverage (UHC) means that all people have access to the full range of quality health services they need, when and where they need them, without financial hardship.
- ✓ It covers the full continuum of essential health services, from health promotion to prevention, treatment, rehabilitation, and palliative care across the life course.

#### ❖ **SDG target:**

- ✓ Achieving UHC is one of the targets the nations of the world set when they adopted the 2030 Sustainable Development Goals (SDGs) in 2015.

#### ❖ **UHC in India:**

- ✓ Currently, India aims to attain UHC through the expansion of the Ayushman Bharat-Pradhan Mantri Jan Arogya Yojana (AB-PMJAY), the flagship publicly financed health insurance (PFHI) scheme of the Union government.

### **Challenges**

#### ❖ **Off-track progress:**

- ✓ The world is off track to make significant progress towards universal health coverage (Sustainable Development Goals (SDGs) target 3.8) by 2030.

#### ❖ **Stagnation:**



- ✓ Improvements to health services coverage have stagnated since 2015, and the proportion of the population that faced catastrophic levels of out-of-pocket health spending increased continuously since 2000.
- ✓ This global pattern is consistent across all regions and the majority of countries.
- ❖ **Shortage of manpower:**
  - ✓ Many Western and Central Asian nations today are staring at acute shortages of manpower in healthcare.
- ❖ **Disruption due to pandemic:**
  - ✓ The COVID-19 pandemic further disrupted essential services in 92% of countries at the height of the pandemic in 2021. In 2022, 84% of countries still reported disruptions.
- ❖ **Increasing poor and non-poor gap:**
  - ✓ A greater proportion of disposable incomes is taken away from a poor household as compared to a non-poor one, further broadening the gap between the two.
    - If sickness hits a working member of the household, she/he must often withdraw from active employment and their main source of income dries up at the time when they urgently need more money for treatment.
    - Households have to often sell or mortgage their productive assets, such as land and cattle, to cover the treatment costs.
    - This further reduces their capacity to bounce back.
  - ✓ According to the WHO, 55 million people fall into poverty or deeper poverty every year due to catastrophic expenditures on health.
- ❖ **Lesser spending than the Lower and Middle-Income Countries:**
  - ✓ India currently spends about Rs 8 lakh crore or about 3.2 percent of its GDP on health.
  - ✓ This is much lower than the average health spending share of the GDP — at around 5.2 percent of the Lower and Middle Income Countries (LMIC).
  - ✓ **Comparing the data:**
    - Of this, the government (Centre and states put together) spends about roughly 1.1 percent of the GDP.
    - Contrast this with the government health expenditure in countries like China (3 percent), Thailand (2.7 percent), Vietnam (2.7 percent) and Sri Lanka (1.4 percent).

## Suggestions

- ❖ **Global Initiative on Digital Health:**
  - ✓ It is here that India's leadership in digital health becomes significant. Under India's G20 presidency, the WHO has launched a Global Initiative on Digital Health aiming to marshal investments into digital health and facilitate regional and international exchange and reporting on health.
- ❖ **Role of India's Digital Health journey:**
  - ✓ India's own indigenous digital health movement, the Ayushman Bharat Digital Mission, preceded this initiative and is steadily gathering steam.
  - ✓ Digital health must be seen as a tool for effectively managing the inevitably complex nature of UHC expansion.
    - Here, it will have a wide-ranging role to play, right from helping administer diverse contracts to implementing terms for value-based provider reimbursement and incentives.
    - A robust digital and data infrastructure can address most of the challenges.
- ❖ **Role of AI:**
  - ✓ Artificial Intelligence (AI) is rapidly transforming health care worldwide, and India has the potential to be at the forefront of this revolution.
  - ✓ **Diagnostics:** One of the key areas where AI can make a significant impact is in diagnostics.
    - AI-powered tools can enhance the accuracy and efficiency of medical diagnoses, leading to faster treatment decisions and better patient outcomes.

- ✓ Predictions & preventions: Additionally, AI can help predict disease outbreaks, analyse health-care data, and optimise treatment plans, expediting health-care procedures, and revolutionising drug discovery ultimately making health care more personalised and effective.
- ❖ **Need of Spreading the digital and data infrastructure:**
  - ✓ India is not alone in this journey. Many low- and middle-income countries are also looking to build on their existing systems to expand UHC for their citizens.
  - ✓ The Indian example could be instructive for them in terms of policy lessons.
  - ✓ Pervasive staff shortages in the West and initiatives such as 'Heal in India' could accelerate the medical brain drain even as we suffer major staff shortages of our own.
- ❖ **Need of Private sector participation:**
  - ✓ The public sector cannot be the only solution for universal health coverage in India.
  - ✓ Expanding PFHIs would entail bringing a large chunk of the private sector under the public fold.
  - ✓ Multifaceted nature of modern health challenges require multilateral and synergistic coalitions involving both the public and private sectors.
- ❖ **WHO's recommendations:**
  - ✓ To build back better, WHO's recommendation is to reorient health systems using a primary health care (PHC) approach.
  - ✓ Most (90%) of essential UHC interventions can be delivered through a PHC approach, potentially saving 60 million lives and increasing average global life expectancy by 3.7 years by 2030.

### Way Ahead

- ❖ It will be imperative that national interests don't lose ground to international ambitions and that digital technologies are leveraged to create non-competing solutions that are mindful of the Global South.
- ❖ Countries need to build on their existing systems, overlaying reforms and best practices incrementally.
- ❖ With concerted efforts and a commitment to excellence, a healthier and more prosperous India can be built for generations to come.

## SCHEME FOR CARE AND SUPPORT TO VICTIMS UNDER POCSO

**Context:** Recently, issues linked to the Scheme for Care and Support to Victims have been highlighted.

### About Scheme for Care and Support to Victims

- ❖ In November 2023, the Ministry of Women and Child Development notified the "Scheme for Care and Support to Victims under Section 4 & 6 of the Protection of Children from Sexual Offences (POCSO) Act, 2012".
- ❖ The new scheme aims to provide integrated support and assistance to girl child victims under one roof, facilitate immediate, emergency and non-emergency access to a range of services, including access to education, police assistance, and health care, including maternity, neo-natal and infant care, psychological and legal support.
- ❖ However, the scheme's name and implementation raise significant concerns and inconsistencies, prompting a need for thorough examination and rectification.

### Features

- ❖ The scheme is funded as a 100% centrally funded scheme under the Nirbhaya Fund and implemented by the States/UTs through the District Magistrate.
- ❖ It was for only abandoned or orphaned pregnant girls, initially, the scheme has now been expanded to include all pregnant girl victims under the mentioned sections of the POCSO Act.
- ❖ The scheme applies from the time of the report of the case and continues until the girl child turns 18 years old.
  - ✓ After turning 18, further support may be provided under aftercare provisions until the age of 23.
- ❖ The girl child victim will be provided with health insurance cover @ Rs. 5 Lakhs per year/- under PM-JAY.

- ❖ The scheme provides for free legal aid/assistance from the panel of advocates at the District Legal Services Authority (DLSA) and assistance under the Scheme from the District Child Protection Officer if needed.
- ❖ Every reported case booked under the POCSO Act, 2012 of a pregnant girl under 18 years — would be given an initial payment of ₹6,000 and a monthly payment of ₹4,000 as stipulated in Mission Vatsalya up to the age of 21 years with possible extension of up to 23 years.

### Issues and Concerns

- ❖ The scheme is fraught with glaring oversights and inconsistencies with prevailing legislations, rules, orders and guidelines.
- ❖ The scheme remains silent on whether the benefits will continue to be provided if the victim of a reported case opts for an medical termination of pregnancy (MTP) or has a miscarriage.
- ❖ The misleading nomenclature, either by oversight or deliberate, results in confusion (a constant feature that runs through the scheme).
- ❖ India occupies a high position in the ranking of child marriages and teenage pregnancies, the burden on the exchequer, proposed by the scheme, is going to be multifold.
- ❖ The law has not proven to be very effective, largely because many cases involving pregnant girls arise out of marriage and non-exploitative, explorative sexual activity among young people.
- ❖ Victims under the POCSO Act, including those who are pregnant, do not automatically qualify as Children in Need of Care and Protection (CNCP).

### Conclusion and Way Forward

- ❖ Sexual crimes are unfortunately associated with social stigma for the victims, a large number of cases remain unreported denying justice to victims. Most of the victims are girl children.
  - ✓ These girl child victims often fail to receive timely help and support.
- ❖ Therefore, it is imperative for the Ministry of Women and Child Development to address the existing issues, bearing in mind the provisions of the various prevailing legislations, rules, guidelines and protocols
  - ✓ Data which can substantiate many of the aspects put forth will further give it the backing of solid evidence.
- ❖ The existing scheme needs to unequivocally clarify whether all the entitlements for the girls who opt for institutional care listed in the “Process Flow of the Scheme”, also apply to those in non-institutional care, i.e., for girls who prefer to live with their family.
- ❖ A thorough analysis of health data and police data needs to be undertaken to plan, budget and provide for the scheme.

## AN OVERVIEW OF THE AMRUT SCHEME

**Context:** India is rapidly urbanizing, around 36% of India’s population is living in cities and by 2047 it will be more than 50%.

The World Bank estimates that around \$840 billion is required to fund the bare minimum urban infrastructure over the next 15 years.

### About

- ❖ Looking at the rapid urbanisation and to address the infrastructure need, AMRUT (Atal Mission for Rejuvenation and Urban Transformation) scheme was launched by the government in 2015, with its 2.0 version launched in 2021.
- ❖ The mission was drawn to cover 500 cities and towns with a population of over one lakh with notified municipalities.
- ❖ **The purpose of the AMRUT mission was to:**
  - ✓ Ensure that every household has access to a tap with assured supply of water and a sewerage connection;
  - ✓ Increase the value of cities by developing greenery and well-maintained open spaces such as parks and;

- ✓ Reduce pollution by switching to public transport or constructing facilities for non-motorised transport.
- ✓ Amrut 2.0: aimed at making cities 'water secure' and providing functional water tap connections to all households in all statutory towns.
- ✓ Ambitious targets were set up such as providing 100% sewage management in 500 AMRUT cities.

❖ **Other components of AMRUT 2.0 are:**

- ✓ Pey Jal Survekshan to ascertain equitable distribution of water, reuse of wastewater, mapping of water bodies and promote healthy competition among the cities /towns.
- ✓ Technology Sub-Mission for water to leverage latest global technologies in the field of water.
- ✓ Information, Education and Communication (IEC) campaign to spread awareness among masses about conservation of water.

**Need for the Scheme**

- ❖ It is estimated that about 2,00,000 people die every year due to inadequate water, sanitation and hygiene.
- ❖ In 2016, the disease burden due to unsafe water and sanitation per person was 40 times higher in India than in China.
- ❖ The 150 reservoirs monitored by the central government, which supplies water for drinking and irrigation, and are the country's key source of hydro-electricity, were filled to just 40% of its capacity a few weeks ago.
  - ✓ Around 21 major cities are going to run out of ground water.
- ❖ In a NITI Aayog report it was stated that 40% of India's population will have no access to drinking water by 2030.
  - ✓ Nearly 31% of urban Indian households do not have piped water; 67.3% are not connected to a piped sewerage discharge system; and average water supply per person in urban India is 69.25 litres/day, whereas the required amount is 135 litres.

**Challenges**

- ❖ **Narrow Approach:** The basic fundamental of the scheme was erroneously constructed. Instead of a holistic approach, it took on a project-oriented attitude.
  - ✓ Furthermore, AMRUT was made for cities with no participation from the cities. It was quite mechanical in design, with hardly any organic participation of the elected city governments, and driven by mostly private interests.
- ❖ **Delays in Implementation:** Like many government schemes, AMRUT projects often face delays in implementation due to bureaucratic hurdles, land acquisition issues, and other administrative challenges.
- ❖ **Maintenance and Sustainability:** While AMRUT focuses on building new infrastructure, ensuring its long-term maintenance and sustainability is equally important.
  - ✓ Without proper maintenance, the infrastructure deteriorates over time, undermining the benefits of the scheme.
- ❖ **Inclusivity:** There is a need to ensure that the benefits of AMRUT reach all sections of society, including marginalized communities and informal settlements.
  - ✓ Inclusive planning and implementation strategies are essential to address the needs of all urban residents.
- ❖ **Environmental Impact:** The rapid urbanization and infrastructure development under AMRUT may have adverse environmental consequences if not implemented sustainably.
  - ✓ Measures should be taken to minimize environmental degradation and promote eco-friendly practices.

**Way Ahead**

- ❖ The scheme needs nature-based solutions and a comprehensive methodology with a people centric approach and empowering local bodies.

- ❖ By addressing these challenges effectively, AMRUT can play a crucial role in improving the quality of life in urban areas across India.



## INTERNATIONAL

### INDIA AND INDONESIA COLLABORATION

**Context:** India and Indonesia agreed to enhance collaboration in areas of defence industry, maritime security and multilateral cooperation.

#### About the collaboration

- ❖ **Historical Linkages:** India and Indonesia share two-millennia old close cultural and commercial contacts.
  - ✓ The Hindu, Buddhist and later Muslim faith travelled to Indonesia from the shores of India.
  - ✓ The stories from great epics of Ramayana and Mahabharata form a source of Indonesian folk art and dramas.
  - ✓ The famous Bali Yatra, a week-long festival, is celebrated with a great deal of fervour and gaiety in both India and Indonesia.
- ❖ **Political Relations:** The struggle against colonial powers, democratic traditions, pluralist culture, and progressive leadership are some of the common strands connecting India and Indonesia.
  - ✓ President Sukarno of Indonesia was the Guest of Honour during the first Republic Day of India in 1950.
  - ✓ Independent India and Indonesia became chief votaries of independence of Asian and African countries, the spirit of which led to historic Bandung Conference of 1955 and later formation of Non-aligned Movement in 1961.
  - ✓ Since the adoption of India's 'Look East Policy' in 1991, and its upgradation to 'Act East' in 2014, there has been a rapid development of bilateral relations in political, security, defence, commercial and cultural fields.
  - ✓ India and Indonesia have a Comprehensive Strategic Partnership and have arrived at a shared vision of the Indo-Pacific.
- ❖ **Commercial Relations:** Indonesia has emerged as India's largest trade partner in the ASEAN region.
  - ✓ The Total Bilateral Trade during the fiscal year 2022-23 was USD 38.85 Billion (growth of 48% from last FY) with USD 10.02 Billion (18% growth) worth export and USD 28.82 Billion (62% growth) worth imports.
  - ✓ India is the second largest buyer of coal and crude palm oil from Indonesia and imports minerals, rubber, pulp and paper and hydrocarbons reserves.
  - ✓ India exports refined petroleum products, commercial vehicles, telecommunication equipment, agriculture commodities, bovine meat, steel products and plastics to Indonesia.
    - Indonesia is an attractive destination for Indian investment
- ❖ In the defence sector, both countries have been working closely and organized Samudra Shakti, a bilateral maritime exercise, and Garuda Shakti, a joint military exercise, every year.

#### Recent Developments

- ❖ The first-ever "**India-Indonesia Defence Industry Exhibition-cum-Seminar**" was organised in Jakarta by the two countries as they marked the 75th year of establishment of diplomatic ties.
- ❖ Indonesia is also keen to build its own defence industry and offered to share India's experiences in this regard and also to partner for long-term collaborations in the defence sector.
- ❖ The Society of Indian Defence Manufacturers (SIDM), and Pinhantanas, Indonesia's national private defence industry association will sign a memorandum of understanding (MoU) to promote and strengthen the defence industry partnership between the two countries.

#### Future Outlook

- ❖ India and Indonesia had civilizational connections for more than two thousand years. Both countries being maritime neighbours and strategic partners have important and close relations.
- ❖ In current times, this partnership is characterised by close cooperation in bilateral and multilateral arena, including frequent high-level interactions,"

- ❖ Indonesia is an important partner in India's Act East Policy and the Indo-Pacific region.
  - ✓ The two countries have the huge potential to grow further in the coming years with increasing bilateral and community relations.

## HAMAS ACCEPTS PROPOSAL FOR GAZA CEASEFIRE

**Context:** Hamas announced its acceptance of a ceasefire proposal put forth by Egypt and Qatar, signaling a potential breakthrough in the ongoing Israel-Gaza conflict.

### About

- ❖ The proposal includes a three-stage truce, each phase lasting 42 days.
- ❖ It includes a withdrawal of Israeli forces from Gaza and a return of displaced Palestinians to their homes as well as an exchange of Israeli captives and Palestinian prisoners.

### What is Hamas?

- ❖ Hamas is the largest Palestinian militant Islamist group and one of the two major political parties in the region.
  - ✓ Currently, it governs more than two million Palestinians in the Gaza Strip.
- ❖ **Foundation:** The group was founded in the late 1980s, after the beginning of the first Palestinian intifada, or uprising, against Israel's occupation of the West Bank and Gaza Strip.
- ❖ Hamas as a whole, or in some cases its military wing, is designated a terrorist group by Israel, the United States, the European Union, the United Kingdom, and other countries.

### Israel Palestine Conflict

- ❖ It is a decades long dispute between Israel and Palestine that began in the middle of the twentieth century when the Jews from various parts of the world were granted the homeland in present-day Israel by Britain.
- ❖ It is one of the world's longest conflicts where Israel has occupied the West Bank and the Gaza Strip which the Palestine state claims.
- ❖ Numerous attempts have been made to resolve the conflict as part of the peace process by various groups of countries and the United Nation.
- ❖ With time, the countries around have normalized the ties with Israel through the Abraham Accord, Oslo Accord, etc.
- ❖ But the deadlock still persists and the world community is persistent in its effort to attain the two-state solution.

### Present Conflict

- ❖ **Backdrop of the recent attack:** Hamas's attack follows months of rising violence in the Israeli-occupied West Bank, with stepped-up Israeli raids, Palestinian street attacks and assaults by Jewish settlers on Palestinian villages.
- ❖ **Issue over Jerusalem:** Israel considers the whole of Jerusalem as its capital and not just a part of it. But Palestinians don't agree with that and rather want it to be their capital of future independent Palestine.

### Way Ahead

- ❖ Peace based on a **"two-state solution"** is much needed with the help of international organizations and can only be achieved from Israel-Palestine talks.
- ❖ Israel said the deal did not meet its "core demands" and its War Cabinet has decided to continue the Rafah operation. However it would send negotiators to Egypt to work on a deal.

## INDIA'S GLOBAL RISE, ITS REGIONAL DECLINE

**Context:** India's recent economic success, solid momentum, and promising prospects are making the country more influential

### About India's Global Rise

- ❖ **India's aggregate power has grown over the past two decades** — evident in robust economic growth, military capabilities, and a largely young demography.
- ❖ Its inclusion in key global institutions such as the G-20, as an invitee at G-7 meetings, and active participation in multilateral groups such as the Quad, BRICS, and the Shanghai Cooperation Organisation further highlight its geopolitical significance and its powerful presence globally, even if it is not a member of the United Nations Security Council.
- ❖ India's global rise is also aided by growing international attention on the Indo-Pacific, a theatre that is pivotal to global strategic stability, where India has a central position, geographically and otherwise.
- ❖ A major reason why the United States and its allies are keen to accommodate India's global interests including in order to push back China in the region.

### Emerging Challenges

- ❖ India's influence is declining in South Asia.
  - ✓ When compared to India's influence in the region during the Cold War or in comparison to China's influence in the region today,
- ❖ Its waning regional influence is caused by diminishing relative power (vis-à-vis China), loss of primacy in South Asia, and fundamental changes in South Asian geopolitics.
- ❖ The arrival of China in South Asia, the withdrawal of the U.S. from the region, and India's tilt to the Indo-Pacific have shifted the regional balance of power in Beijing's favour.
- ❖ India's regional decline is a product of the dynamics of comparative power, and geopolitical choices made by the region's smaller powers.
  - ✓ India's smaller neighbours seem to find China as a useful hedge against India, for the moment at least.
- ❖ China's rise will, therefore, mean that India may no longer be the most consequential power in the region.

### Way Forward for India

- ❖ India must revisit some of its traditional conceptions of the region, 'modernise' its primacy in South Asia, and take proactive and imaginative policy steps to meet the China challenge in the region.
- ❖ First of all, India must accept the reality that the region, the neighbours and the region's geopolitics have fundamentally changed over the decade-and-a-half at the least.
- ❖ India must focus on its strengths rather than trying to match the might of the People's Republic of China in every respect
  - ✓ Fashioning a new engagement with the region that reflects India's traditional strengths and the region's changed realities is essential.
  - ✓ Reclaiming Buddhist heritage is one such example.
- ❖ India's continental strategy is replete with challenges whereas its maritime space has an abundance of opportunities for enhancing trade, joining multilateralism, and creating new issue-based coalitions, among others.
  - ✓ India must use its maritime (Indo-Pacific) advantages to cater to its many continental handicaps.
  - ✓ Doing so could involve including India's smaller South Asian neighbours to the Indo-Pacific strategic conversations.
- ❖ India and its partners (**the U.S., Japan, Australia, the European Union, and others**) must find ways of engaging and partnering with Sri Lanka, the Maldives, and Bangladesh as part of their larger Indo-Pacific strategy.
- ❖ New Delhi should make creative uses of its soft power to retain its influence in the region.
  - ✓ One way to do that is to actively encourage informal contacts between political and civil society actors in India and those in other South Asian countries.
- ❖ There is a desire to join hands with external friendly partners both in the Indian Ocean and South Asia so as to deal with the region's common challenges.
  - ✓ This openness in New Delhi, and the desire of the external actors to engage the region, must be utilised to address the difficulties arising out of New Delhi's regional decline.



## INDIA AND NEPAL'S BORDER ISSUE

**Context:** Nepal's announcement of printing the new Rs 100 currency note featuring Indian territories, has reignited discourse over border disputes with India.

### Background

- ❖ The territorial dispute is about a 372-sq-km area that includes Limpiyadhura, Lipulekh, and Kalapani at the India-Nepal-China trijunction in Uttarakhand's Pithoragarh district.
- ❖ In 2019, Lipulekh, Kalapani, and Limpiyadhura had been included in India's map.
- ❖ Tensions between both the nations emerged after Nepal issued a political map in 2020, which included the same territories.

### Controversy over Nepal-India border

- ❖ Nepal has asserted its claim based on the Sugauli Treaty of 1816, signed between the East India Company and Guru Gajraj Mishra.
- ❖ Under the Treaty, the Kali River was marked as Nepal's western boundary with India.
- ❖ According to Nepal the east of the Kali river should begin at the source of the river which is in the mountains near Limpiyadhura.
  - ✓ While India claims the border begins at Kalapani, where the river begins.
- ❖ The Kali River has changed direction over the years, causing confusion in defining the border.

### Susta Border dispute

- ❖ Susta is a disputed territory between Nepal and India. It is administered by India as part of West Champaran district of Bihar.
- ❖ Nepal claims the area a part of West Nawalparasi District under Susta rural municipality, alleging that over 14,860 hectares of Nepali land in Susta has been encroached upon by India.

### India and Nepal Relations

- ❖ Nepal is important for India in the context of its overall strategic interests in the region. There is an age-old 'roti beti' relationship, which refers to cross-border marriages between people of the two countries.
- ❖ **Shared Border:** The country shares a border of over 1,850 km with five Indian states – Sikkim, West Bengal, Bihar, Uttar Pradesh and Uttarakhand.
  - ✓ Land-locked Nepal relies heavily on India for the transportation of goods and services and access to the sea is through India.
- ❖ **The India-Nepal Treaty of Peace and Friendship:** Signed in 1950, it forms the bedrock of the special relations that exist between India and Nepal.
  - ✓ Nepalese citizens avail facilities and opportunities on par with Indian citizens in accordance with the provisions of the Treaty.
  - ✓ Nearly 8 million Nepalese citizens live and work in India.
- ❖ **Defense Cooperation:** India has been assisting the Nepal Army (NA) in its modernisation by supplying equipment and providing training.
  - ✓ The 'Indo-Nepal Battalion-level Joint Military Exercise SURYA KIRAN' is conducted alternately in India and in Nepal.
  - ✓ The Gorkha regiments of the Indian Army are raised partly by recruitment from hill districts of Nepal.
- ❖ **Connectivity and Development Partnership:** India has been assisting Nepal in development of border infrastructure through upgradation of 10 roads in the Terai area; development of cross-border rail links at Jogbani-Biratnagar, Jaynagar-Bardibas; and establishment of Integrated Check Posts at Birgunj, Biratnagar, Bhairahawa, and Nepalgunj.
- ❖ **Energy Cooperation:** India and Nepal have had a Power Exchange Agreement since 1971 for meeting the power requirements in the border areas of the two countries.
  - ✓ An Agreement on 'Electric Power Trade, Cross-border Transmission Interconnection and Grid Connectivity' between India and Nepal was signed in 2014.

- ❖ **Trade and Economic:** India remains Nepal's largest trade partner, with bilateral trade crossing US\$ 7 billion in FY 2019-20.
  - ✓ India's export to Nepal has grown over 8 times in the past 10 years while exports from Nepal have almost doubled.
  - ✓ Nepal is India's 11th largest export destination, up from 28th position in 2014.
  - ✓ In FY 2021-22, it constituted 2.34% of India's exports. The exports from India constitute almost 22% of Nepal's GDP.
- ❖ **Mahakali River bridge:** Recently, a MoU was signed between India and Nepal for the construction of a motorable bridge across the Mahakali River connecting Dharchula (India) with Darchula (Nepal), under Indian grant assistance.
- ❖ **Operation Maitri & post-earthquake reconstruction assistance:** In the wake of the 2015 earthquake in Nepal, GoI was the first responder and carried out its largest disaster relief operation abroad (Operation Maitri).

### Issues between India & Nepal

- ❖ **Treaty of Peace and Friendship of 1950:** On 31 July 1950, India and Nepal signed a treaty of peace and friendship in an effort to "strengthen and develop these ties and to perpetuate peace between the two countries".
  - ✓ As time passed, Nepal believed the treaty was "incompatible with national self-respect".
- ❖ **Madhesi Issue:** India's entrenched interests in Nepal suffered a setback in 2015, when a blockade at the borders ensued following protests by Madhesis and some other ethnic groups against marginalization of their interests in the newly-passed Nepalese Constitution.
- ❖ **Chinese Interference:** China's involvement in Nepal's infrastructure projects through its Belt and Road Initiative poses a threat to Nepal's role as a buffer state between India and China.
- ❖ **Security challenges with Porous borders:** The porous and poorly guarded border between India and Nepal allows terrorist groups to exploit it for smuggling weapons, ammunition, trained members and fake currency, which poses a significant security risk to India.

### Way Ahead

- ❖ India-Nepal has a long history of cultural connections. Nepal is important for India's economic and strategic interests. Having a friendly and supportive Nepal will serve as a buffer between India and an assertive China.
- ❖ To manage border disputes both parties should explore realistic solutions. The successful boundary dispute resolution between India and Bangladesh can serve as a model for the way forward.

## PILLARS OF INDIA-MALDIVES RELATIONS

**Context:** Recently India's External Affairs Minister said that India's relations with Maldives rest on the twin important pillars of 'mutual interests' and 'reciprocal sensitivity'.

### Background

- ❖ The undiplomatic words used by ministers in Maldives against Prime Minister Narendra Modi in particular and Indians in general has deteriorated the relations between both the nations.
- ❖ The new government led by President Mohamed Muizzu asked India to withdraw military personnel and chose China for one of his first overseas visits.

### Significance of Maldives for India

- ❖ **Trade Route:** Situated along crucial maritime trade routes between the Gulf of Aden and the Strait of Malacca, the Maldives acts as a "toll gate" for nearly half of India's external trade and 80% of its energy imports.
- ❖ **Strategic Location:** The Maldives is strategically located in the Indian Ocean, and its stability and security are of interest to India.
- ❖ **Counterbalancing China:** Maldives presents an opportunity for India to counterbalance China's growing influence in the Indian Ocean, fostering regional balance of power.

- ❖ **Economic partnership:** India is one of the biggest investors and tourism markets for the Maldives, with significant trade and infrastructure projects underway.
- ❖ **Defense and Security Cooperation:** Since 1988, defense and security has been a major area of cooperation between India and Maldives.
  - ✓ A comprehensive Action Plan for Defence was also signed in 2016 to consolidate defense partnership.
  - ✓ Estimates suggest that almost 70 percent of Maldives' defense training is done by India — either on the islands or in India's elite military academies.

### Significance of India for Maldives

- ❖ **Essential Commodities:** India supplies Maldives with its everyday essentials: rice, spices, fruits, vegetables, poultry, medicines and life-saving drugs.
- ❖ **Education:** Every year, Maldivian students come to Indian higher educational institutions.
- ❖ **Economic dependence:** Of the Rs 50 crore total trade between India and Maldives in 2022, Rs 49 crore was India's exports to Maldives. India emerged as Maldives' second largest trade partner in 2022.
- ❖ **Disaster Relief Assistance:** When a tsunami struck the islands in 2004, India was the first to send in help.
  - ✓ In 2014 Male had a drinking water crisis as the major desalination plant broke down, India overnight airlifted drinking water to the islands.
  - ✓ During the Covid-19 pandemic, India sent essential medicines, masks, gloves, PPE kits and vaccines for the island country.

### Challenges in Relations

- ❖ **Domestic turmoil in the Maldives:** Recent political upheavals and changes in government have created uncertainty and complicated long-term cooperation projects.
- ❖ **Chinese Influence:** China's growing economic presence in the Maldives, evidenced by investments in infrastructure projects and debt-trap diplomacy, is perceived as a challenge to India's strategic interests in the region.
- ❖ **Military ambitions:** Chinese naval expansion and potential military ambitions in the Indian Ocean with the active support from Maldives has raised concerns for India.
- ❖ **Trade imbalance:** The significant trade imbalance between India and the Maldives could lead to resentment and calls for diversifying trade partnerships.

### Way Ahead

- ❖ The evolution of India-Maldives relations reflects a combination of geopolitical dynamics, changes in leadership, and shared regional interests.
- ❖ India is steadfast in its commitments towards Maldives and has always walked the extra mile towards building relations.

By acknowledging and addressing the ongoing issues, India and Maldives can navigate the complexities of their relationship and build a stronger, more resilient, and mutually beneficial partnership for the future.

## INDIA-EFTA TRADE DEAL: A NEW BEGINNING

**Context:** Recently, it has been observed that the India-EFTA trade deal is a major step forward for India in its approach to bilateral trade agreements.

- ❖ It creates a template worth emulating in the ongoing negotiations with the U.K, the EU, and other countries.

### India-EFTA Trade Deal

#### About:

- ❖ In March 2024, India signed a landmark free trade deal with the European Free Trade Association (EFTA), which represents Iceland, Liechtenstein, Norway and Switzerland.
  - ✓ The EFTA was set up in 1960 to promote closer economic cooperation and free trade in Europe.

**Features:**

- ❖ The agreement comprises of 14 chapters with main focus on market access related to goods, rules of origin, trade facilitation, trade remedies, sanitary and phytosanitary measures, technical barriers to trade, investment promotion, market access on services, intellectual property rights, trade and sustainable development and other legal and horizontal provisions.
- ❖ For the first time, India has allowed coverage of non-trade aspects in a trade agreement, including labour standards, social development, and environmental protection.
- ❖ A unique component in the agreement is the chapter on investment, where the EFTA bloc has made a binding commitment to invest US\$100 billion in India over 15 years.
  - ✓ The investments, mostly from the private sector, will be aimed at manufacturing and industries such as chemicals, pharmaceuticals, machinery, food processing, infrastructure and transport.
  - ✓ The EFTA countries are legally obligated to make an honest effort to invest \$100 billion and generate one million jobs in India.

**Importance**

- ❖ It is a modern and ambitious Trade Agreement and It marks a significant incremental step in the long-standing relationship between India and the EFTA states
- ❖ It will give impetus to **“Make in India”** and Atmanirbhar Bharat by encouraging domestic manufacturing in sectors such as Infrastructure and Connectivity, Manufacturing, Machinery, Pharmaceuticals, Chemicals, Food Processing, Transport and Logistics, Banking and Financial Services and Insurance.
- ❖ It would accelerate the creation of a large number of direct jobs for India’s young aspirational workforce in the next 15 years in India, including better facilities for vocational and technical training.
- ❖ It also facilitates technology collaboration and access to world leading technologies in precision engineering, health sciences, renewable energy, Innovation and R&D.
- ❖ The FTA will provide a window to Indian exporters to access large European and global markets.”
- ❖ The India-EFTA FTA, which contains an investment chapter within the trade agreement, assumes pivotal significance.

**Issues**

- ❖ The biggest hurdle for the FTA to come into force is pending ratifications by the four EFTA countries, especially Switzerland.
- ❖ Despite the deal being touted as a win-win for all countries involved, for India, the benefits are limited in terms of trade in goods, given pre-existing low tariff rates in the EFTA bloc and most imports already receiving tariff-free treatment.
- ❖ The deal would more positively impact EFTA’s exports to India rather than Indian exports, given the reduction of Indian tariffs and enhanced market access.
- ❖ The agricultural products remain outside the pact’s scope, besides the exclusion of several sensitive Indian products such as dairy, coal, and soya.
- ❖ India is likely to keep facing difficulties in exporting farm produce to Switzerland due to a complex web of tariffs, quality standards, and approval requirement

**Suggestions and Way Forward**

- ❖ India is increasingly integrating itself into the global economy, as evident in the recent trade agreements signed with Australia and the United Arab Emirates (UAE).
  - ✓ This momentum has been accompanied by wide-ranging internal reforms, and improved ease of doing business.
- ❖ India’s ties with European countries have strengthened in recent years, with cooperation spanning a wide range of areas.
  - ✓ A deepening of economic engagement is a natural progression.
- ❖ India should consider expanding the scope of investment issues from mere facilitation to effective protection, with an efficacious dispute settlement mechanism under international law.
- ❖ India needs a clear FTA policy, especially in dealing with international trade and foreign investment laws.

- ❖ A clear and comprehensive FTA policy is imperative for launching India to a higher economic growth trajectory.

## INDIA-IRAN CONTRACT ON CHABAHAR PORT

**Context:** India and Iran signed a 10-year contract for the operation of Chabahar Port.

### About

- ❖ The long-term agreement was signed between Indian Ports Global Ltd. (IPGL) and Port and Maritime Organisation (PMO) of Iran, enabling operation of the Shahid-Beheshti terminal.
- ❖ The pact replaces one-year contracts that were being signed to keep the port operational until now.
- ❖ India has also offered a credit window equivalent to \$250 million for mutually identified projects aimed at improving Chabahar-related infrastructure.

### Chabahar Port

- ❖ Iran's Chabahar port is located on the Gulf of Oman and is the only oceanic port of the country.
- ❖ It is situated in the city of Chabahar in Sistan and Baluchestan Province.
- ❖ Chabahar has two ports; Shahid Kalantari and Shahid Beheshti.
  - ✓ The former is an old port with limited water front to accommodate feeder vessels.
  - ✓ The Shahid Beheshti Port is being developed in four phases. On completion of all 4 phases, port capacity will 82 million tons per year.
- ❖ The port gives access to the energy-rich Persian Gulf nations' southern coast and bypasses Pakistan.
- ❖ Kandla port in Gujarat is the closest port at 550 nautical miles, while the distance between Chabahar and Mumbai is 786 nautical miles.

### Significance of Chabahar Port for India

- ❖ **Geopolitical Significance:** It is strategically located at the crossroads of South Asia, Central Asia, and the Middle East. It provides India with direct sea access to Afghanistan and Central Asia, bypassing Pakistan.
  - ✓ The port also offers an alternative route from the Strait of Hormuz for cargo traffic between Central Asian countries and Afghanistan. This diversification strengthens India's strategic position in the region.
- ❖ **Gateway to INSTC:** Chabahar port will boost India's access to Iran, the key gateway to the International North-South Transport Corridor (INSTC) that has sea, rail and road routes between India, Russia, Iran, Europe and Central Asia.
- ❖ **Countering China:** Chabahar port is beneficial to India in countering Chinese presence in the Arabian Sea which China is trying to ensure by helping Pakistan develop the Gwadar port.
  - ✓ Gwadar port is less than 400 km from Chabahar by road and 100 km by sea.
- ❖ **Trade Benefit:** With Chabahar port becoming functional, there will be a significant boost in the import of iron ore, sugar and rice to India.
  - ✓ The import cost of oil to India will also see a considerable decline.

### Brief on India and Iran Relations

- ❖ **Political Relations:** India and Iran signed a friendship treaty in 1950. The two countries have in place several Bilateral Consultative Mechanisms at various levels including the Joint Committee Meeting (JCM), Foreign Office Consultations (FOC), Security Consultations at the level of National Security Advisers.
- ❖ India and Iran also have Joint Working Groups to facilitate cooperation in various important sectors.
- ❖ **Economic Relations:** India-Iran bilateral trade during the FY 2022-23 was \$2.33 billion, registering a growth of 21.76%.
  - ✓ India and Iran have also been trying to diversify their channels of payment to increase bilateral trade.
- ❖ **Energy Cooperation:** India has consistently been among the top importers of Iranian oil, although this relationship has faced challenges due to international sanctions on Iran.

- ❖ **Regional Stability:** India and Iran share concerns and interests in the stability of the region, especially in the context of Afghanistan.
  - ✓ The two nations have collaborated on various initiatives to address common security challenges.

### Areas of Concerns

- ❖ **International Sanctions:** Iran has faced international sanctions, particularly in relation to its nuclear program.
  - ✓ These sanctions have affected economic relations between India and Iran, especially in the energy sector.
  - ✓ India's ability to import oil from Iran has been impacted, leading to uncertainties in their energy cooperation.
- ❖ **Geopolitical Challenges:** The geopolitical landscape in the Middle East and South Asia has been complex, and both countries need to navigate carefully to balance their regional interests.
- ❖ **Security Concerns:** The security situation in the region, including the volatile conditions in Afghanistan, has implications for both India and Iran.
  - ✓ India has expressed concern as tensions rise in the region. It has maintained a diplomatic dialogue with Iran on issues of concern, such as attacks on India-linked ships by Yemen's Houthi rebels, who are believed to have links to Iran.
- ❖ **Chabahar Port Development:** While the development of the Chabahar Port is a significant project, progress has been slower than anticipated.
- ❖ **Impact of External Powers:** Both India and Iran have relationships with external players that may not align with each other's interests.
  - ✓ The influence of external powers in the region can complicate their bilateral dynamics and create challenges for mutual cooperation.
- ❖ **Nuclear Deal Uncertainties:** The uncertainties surrounding the Iran nuclear deal (JCPOA) and the potential for changes in the international approach toward Iran's nuclear program can impact the diplomatic and economic relations between India and Iran.

### Way Ahead

- ❖ Although India has followed a balancing act in the Middle East, the evolving geopolitical realignments could pose newer challenges for India to deepen its cooperation with Iran amid escalating tension between Iran and the West.
- ❖ However, both countries continue to explore opportunities for collaboration and economic partnership.
- ❖ India has major investment plans in Iran, largely centered around the Chabahar Port as it gives India a strategic advantage over both China and Pakistan.

## NEED OF A FARMER-FRIENDLY AGRI-EXPORT POLICY

### Context

- ❖ Agriculture is still a crucial source of livelihood for a significant portion of the Indian population.

### About the Export Policy

- ❖ The agricultural export policy was announced in 2018 to transform the ecosystem of India's agricultural exports.
- ❖ This has led to agricultural exports reaching up to Rs. 4 lakh crore.
- ❖ **Objectives:** To diversify our export basket, destinations and boost high value- and value-added agricultural exports, including focus on perishables.
  - ✓ To promote novel, indigenous, organic, ethnic, traditional and non-traditional Agri products exports.
  - ✓ To provide an institutional mechanism for pursuing market access, tackling barriers and dealing with sanitary and phytosanitary issues.
  - ✓ To strive to double India's share in world agri exports by integrating with global value chains.
  - ✓ Enable farmers to benefit from export opportunities in overseas markets.

### Agriculture's Economic Impact

- ❖ India is one of the largest agricultural producers in the world, and its agricultural exports are an important part of its economy.
- ❖ The agricultural sector is estimated to constitute 18 percent of India's GVA in FY24.
- ❖ The total food grains production for FY23 was 329.7 million tonnes, marking a rise of 14.1 million tonnes compared to the previous year.
  - ✓ Rice, wheat, pulses, Nutri/coarse cereals, and oilseeds witnessed record increases in production.
- ❖ India's global dominance extends across agricultural commodities, making it the largest producer of milk, pulses, and spices worldwide.
- ❖ Additionally, India ranks second-largest producer of fruits, vegetables, tea, farmed fish, sugarcane, wheat, rice, cotton, and sugar.
- ❖ The horticulture production was 355.25 million tonnes which is the highest ever for Indian Horticulture (as per third advance estimates).

### Concerns

- ❖ Besides global price dynamics, export restrictions and outright bans on sensitive agricultural commodities like wheat, rice, sugar, and onions lately have significantly impacted agri-exports, driven primarily by the concerns of domestic food inflation.
- ❖ The ambiguities in the policy by citing empirical data on trade policy instruments used for export restrictions.
- ❖ Food losses and waste, and most importantly dwindling farmers income.
- ❖ There are also concerns related to depleting groundwater, especially in the Punjab-Haryana belt.
- ❖ Free power and highly subsidised fertilisers are leading to an ecological disaster.
- ❖ Sometimes, Government policy has a consumer bias, which implicitly discriminates against the farmer.

### Benefits of New Agriculture Export Policy

- ❖ **Export Diversification:** A farmer-friendly policy can encourage the export of a wider variety of agricultural products, reducing dependence on a few staple crops and promoting diversification within the agriculture sector.
- ❖ **Improved Quality Standards:** To meet international export requirements, farmers might be incentivized to adopt better agricultural practices and improve the quality of their produce. This can benefit domestic consumers as well.
- ❖ **Increased Investment:** A supportive policy environment can attract investments in agricultural infrastructure, processing facilities, and value addition, leading to overall growth in the agriculture sector.
- ❖ **Job Creation:** Growth in agri-exports can create new job opportunities in related sectors like logistics, packaging, and quality control.
- ❖ **Improved Market Access:** The policy can help farmers connect with international buyers, opening up new markets and reducing dependence on local markets that might be saturated or offer lower prices.
- ❖ **Enhanced Risk Management:** By diversifying export destinations, farmers can spread their risk and become less vulnerable to price fluctuations in the domestic market.
- ❖ **Increased Foreign Exchange Earnings:** Higher agri-exports can contribute to a positive trade balance and generate foreign exchange reserves, strengthening the Indian rupee.
- ❖ **Economic Growth:** A thriving agriculture sector with a strong export component can contribute to overall economic growth and development.

### Steps of Government

- ❖ The policy initiatives, such as Pradhan Mantri Kisan Maandhan Yojana (PM-KMY), Pradhan Mantri Kisan Samman Nidhi (PM-KISAN), and Pradhan Mantri Fasal Bima Yojana (PMFBY), have been instrumental in offering financial and income assistance to farmers.
- ❖ Every year, under the PM-KISAN Samman Yojana, direct financial assistance is provided to 11.8 crore farmers, including marginal and small farmers.
- ❖ The government has actively promoted digital inclusion and mechanization to foster productivity.

- ✓ The launch of the digital platform e-NAM (National Agriculture Market) in 2016 has facilitated the integration of Agriculture Produce Marketing Committees (APMC) mandis and has provided multi-faceted benefits to farmers, farmer-producer organizations (FPOs), buyers, and traders.
- ❖ The budget set aside for agriculture increased 5 times from ₹1.37 lakh crore during 2007-14 to ₹7.27 lakh crore during 2014-25.
- ❖ Pradhan Mantri Fasal Bima Yojana (PMFBY) has become the largest crop insurance scheme in the world in terms of farmer enrolments as well as the third largest scheme in the world in terms of insurance premiums.
- ❖ Since the inception of the Agriculture Infrastructure Fund, Rs 35,262 Crores have been sanctioned for 48,352 projects
- ❖ A historic MSP increase was announced where, for the first time, the minimum support price of all 22 crops was set at a minimum 50% more than the cost.

### Conclusion and Way Forward

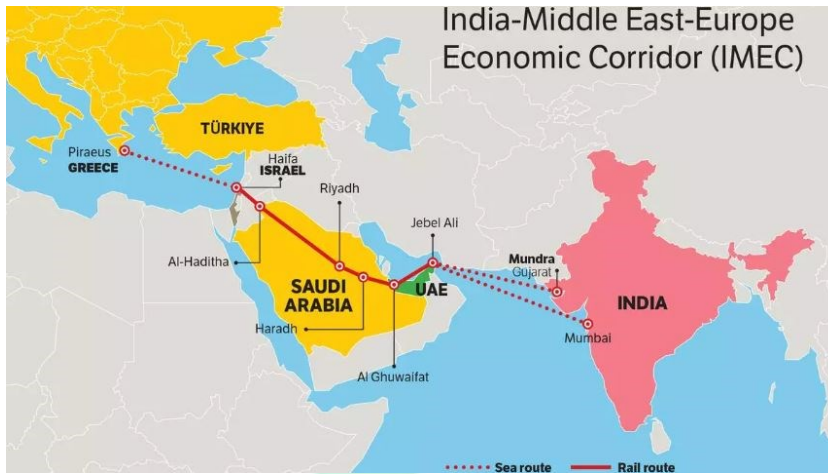
- ❖ India is constantly improving its market share therefore policymakers must use agricultural exports to speed up economic development, generate employment, eliminate food losses and waste, and most importantly, increase dwindling farmers income.
- ❖ Policy consistency and continuity that expand market and production choices for farmers, which, at the same time, keep the larger environmental and ecological considerations and natural resources availability and demand in the country, will be useful in encouraging farmers to adopt new technologies and practices.
- ❖ There is a need for significant investments across agriculture, including research and development, seeds, irrigation, fertilisers and adopting resource-efficient farming practices like precision agriculture, fertigation etc.
  - ✓ These strategic investments can drive down per-unit costs, enhance global competitiveness, increase agricultural exports, improve farmers' profitability, as well as protect the environment.

## INDIA-MIDDLE EAST EU ECONOMIC CORRIDOR (IMEC) PROJECT

### Context

- ❖ With uncertainty gripping the ambitious India-Middle East EU Economic Corridor (IMEC) project due to the deepening of the West Asia crisis, India is examining the possibility of beginning work on the eastern leg of the corridor.
- ❖ **Background:** The IMEC, a proposed 4,800 km long route was announced in 2023 on the sidelines of the G20 Summit.
  - ✓ This followed a meeting between the leaders of India, the US, the United Arab Emirates, Saudi Arabia, Italy, France, Germany, and the European Commission.
- ❖ **Members:** India, European Union, France, Germany, Italy, Saudi Arabia, UAE and US announced the India-Middle East-Europe Economic Corridor (IMEC).
- ❖ **Aim:** Integration of Asia, Europe and the Middle East.
- ❖ The IMEC will comprise of two separate corridors:
  - ✓ The east corridor connecting India to the West Asia/Middle East and
  - ✓ The northern corridor connecting West Asia/Middle East to Europe.





### Ports Which are Part of IMEC

- ❖ **India:** Ports in Mundra (Gujarat), Kandla (Gujarat), and Jawaharlal Nehru Port Trust (Navi Mumbai).
- ❖ **Europe:** Piraeus in Greece, Messina in Southern Italy, and Marseille in France.
- ❖ **Middle East:** Ports include Fujairah, Jebel Ali, and Abu Dhabi in the UAE, as well as Dammam and Ras Al Khair ports in Saudi Arabia.
- ❖ **Israel:** Haifa port.
- ❖ **Railway Line:** The railway line will link Fujairah port in the UAE to Haifa port in Israel, passing through Saudi Arabia (Ghuwaifat and Haradh) and Jordan.

### Significance

- ❖ **Economic Development:** By linking Asia, West Asia, the Middle East and Europe through enhanced connectivity and economic integration, the corridor aims to give a boost to economic development in the regions.
- ❖ **Connectivity:** The corridor will include a rail line, which, upon completion, will provide a reliable and cost-effective cross-border ship-to-rail transit network.
  - ✓ The rail line will supplement the existing multi-modal transport routes enhancing trans-shipment of goods and services from South East Asia through India to West Asia/Middle East and Europe.
- ❖ **Eco-friendly Infrastructure:** It places emphasis on developing environmentally friendly infrastructure.
- ❖ **Transformative Integration:** It intends to increase efficiency, reduce costs, secure regional supply chains, increase trade accessibility, enhance economic cooperation, generate jobs and lower greenhouse gas emission, resulting in a transformative integration of Asia, Europe and the Middle East (West Asia).

### Concerns

- ❖ **Gaza War:** Long-term trend towards greater trade and strategic links between Israel and Arab nations that was championed by the Abraham Accords will suffer a blow due to the Gaza war.
  - ✓ Connecting Al Haditha in Saudi to Haifa in Israel is at the core of IMEC but it is going to be challenging now.
- ❖ The security challenges in the region have made other partners reluctant to invest in the project.
  - ✓ The instability in the Middle East has given a fatal blow to the project which aimed to radically quicken trade, reduce port costs and aid India's National Logistics Policy.
  - ✓ The delay in the project could negatively impact the aspirations of India to deepen ties with Arabian Peninsula and Europe.

### Way Forward

- ❖ The geopolitical concerns need to be managed by striking a delicate balance in accommodating the geopolitical interests of the participating nations and addressing potential political sensitivities.

There is also a need to maintain the required security apparatus as the project passes through certain unstable regions of the world.

## INDIA-NEPAL TIES IN CHANGING TIMES

**Context:** Nepal recently announced the printing of a new Rs 100 currency note featuring a map that includes the Indian territories of Lipulekh, Limpiyadhura, and Kalapani.

- ❖ Lipulekh, Kalapani, and Limpiyadhura had been included in India's November 2019 map.

### India-Nepal Relations

#### Historical and Cultural Connections:

- ❖ **Longstanding Ties:** The relationship between India and Nepal stretches back centuries, marked by cultural exchange, religious affinities, and political interactions.
- ❖ **Open Border:** A unique feature is the open border policy allowing free movement of people between the two countries.
- ❖ **Shared Heritage:** Both nations share a rich Hindu and Buddhist heritage, evident in pilgrimage sites, religious practices, and cultural celebrations.
- ❖ **Friendship Treaty:** The India-Nepal Treaty of Peace and Friendship of 1950 forms the bedrock of the special relations that exist between India and Nepal.

#### Strategic Partnership:

- ❖ **Security Cooperation:** India and Nepal have close security ties, with India providing training and equipment to the Nepali Army. The 'Indo-Nepal Battalion-level Joint Military Exercise SURYA KIRAN' is conducted alternately in India and in Nepal
  - ✓ The Gorkha regiments of the Indian Army are raised partly by recruitment from hill districts of Nepal.
- ❖ **Hydropower Development:** India is a major partner in Nepal's hydropower development projects, crucial for Nepal's energy needs.

#### Economic & Humanitarian Ties:

- ❖ **Economic Interdependence:** India is Nepal's largest trading partner and a significant source of foreign investment.
  - ✓ Both countries signed MoUs for a cross-border petroleum pipeline, cross-border payments, infrastructure development for check posts, and cooperation between foreign service institutes.
  - ✓ India remains a major trade and transit partner, where a number of Nepalis continue to earn a living or pursue higher education.
    - They also renewed the Transit Treaty, virtually inaugurated integrated check posts, and flagged the inaugural run of a cargo train from India to Nepal.
- ❖ **Humanitarian Assistance:** In the wake of the 2015 earthquake in Nepal, GoI was the first responder and carried out its largest disaster relief operation abroad (Operation Maitri).
- ❖ **Power Exchange:** India and Nepal have had a Power Exchange Agreement since 1971 for meeting the power requirements in the border areas of the two countries, taking advantage of each other's transmission infrastructure.

#### Challenges and Tensions

- ❖ **Border Disputes:** There are unresolved territorial disputes concerning certain border areas. Nepal maintains that not just the Kalapani region, but Limpiyadhura and Lipulekh are parts of its territory as demarcated in the 1816 Treaty of Sugauli.
  - ✓ India has stated that the 1950 Treaty of Peace and Friendship between India and Nepal annulled the Sugauli Treaty.
- ❖ **Water Sharing:** Issues related to water sharing of transboundary rivers can lead to occasional tensions.
- ❖ **Security Issues:** There was an escalation of the smuggling of drugs, arms and terrorist-related cross-border activities masterminded from Pakistan against India, from Nepalese soil.
- ❖ **Political Instability:** Accompanied by frequent changes of government (a result of political opportunism), facilitated the spread of a Maoist insurgency within Nepal which later established its headquarters in a jungle hideout in India.

- ❖ **External Influences:** Nepal might be cautious of becoming overly reliant on India and may seek to diversify its foreign relations (Playing China Card)

### Conclusion and Way Forward

- ❖ India and Nepal must do more than merely resolve boundary issues.
- ❖ They must return to the core strengths of their unique social, cultural, strategic, political, and economic bonds and modernize ties to directly connect its people, markets, finance, and technology.
  - ✓ Good ties with Nepal, meanwhile, help India address security and geopolitical issues in its neighbourhood more smoothly.
- ❖ India could consider offering a new and holistic development road map which would excite public imagination and attract cross-party political consensus.

## ON CHABAHAR AND INDIA-IRAN TIES

**Context:** India's agreement with Iran to develop and operate the Chabahar port represents a significant step in enhancing infrastructure and trade ties between the two nations.

### About the Recent Deal

- ❖ India and Iran signed a 10-year development and operation contract for Chabahar Port in southeastern Iran, on the Gulf of Oman.
- ❖ India will invest \$120 million and offer a credit facility of \$250 million to further develop the terminal it operates in Chabahar's Shahid Beheshti port and related projects.
- ❖ The landmark agreement replaces the 2016 operation agreement that was renewed annually. The new contract is aimed at strategically augmenting and diversifying value chains for India and Iran.

### Background

- ❖ India-Iran cooperation in developing Chabahar Port dates back to 2003.
- ❖ Conceived in 2003, the project did not take off for years after the U.S. and the UN imposed sanctions on Iran over its nuclear programme.
- ❖ India signed a memorandum of understanding in 2015 after Washington eased sanctions on Iran following that year's nuclear agreement, and in 2016, the contract was executed during Prime Minister Narendra Modi's Iran visit.
- ❖ The U.S.'s unilateral withdrawal from the nuclear deal in 2018 and reimposition of sanctions on Iran raised questions on India's continued cooperation with Tehran.

### Strategic Importance of Chabahar Port for India

- ❖ **Alternative Route to Afghanistan and Central Asia:** By bypassing Pakistan, Chabahar provides a direct trade route to Afghanistan and Central Asia.
  - ✓ This enhances India's connectivity and trade prospects in the region.
- ❖ **Integration with the International North-South Transport Corridor (NSTC):** Chabahar's connection to the NSTC facilitates trade between India, Iran, Azerbaijan, and Russia.
  - ✓ The NSTC offers an alternative to the Suez route, reducing time and costs for intercontinental trade.
- ❖ **Geopolitical Influence and Competition with China:** Chabahar's proximity to China's Gwadar port (part of the Belt and Road Initiative) allows India to expand its influence in Central Asia.
  - ✓ India must remain committed to Chabahar despite changing geopolitical dynamics and focus on improving connectivity projects with Central Asia.

### Critical Issues

- ❖ **Potential Sanctions Risk:** The US has cautioned countries against engaging in business deals with Iran due to ongoing sanctions. This raises concerns about potential repercussions for India and businesses involved in the Chabahar project.
- ❖ **Geopolitical Implications:** The agreement strengthens India's ties with Iran and provides a strategic foothold in the region, bypassing Pakistan. However, it could also complicate relations with the US and its allies.

- ❖ **Security Concerns:** The region surrounding Chabahar Port has been prone to instability and security threats. Ensuring the safety and security of the port and its operations will be crucial for its success.

### Conclusion and Way Forward

- ❖ Despite U.S. sanctions on Iran, India has managed to operate Chabahar through ad hoc measures. Balancing its interests between Iran and the U.S. India seeks to maintain the project's momentum.
- ❖ Through active and visionary diplomacy and efficient implementation and operations of the project, India can overcome existing challenges and should be able to maintain the Chabahar project as a viable transit hub and link.

## FIRST ROUND OF TALKS ON INDIA-MIDDLE EAST-EUROPE ECONOMIC CORRIDOR

**Context:** The Indian delegation concluded its first round of talks with UAE officials on developing the ambitious India-Middle East-Europe Economic Corridor (IMEEC).

### India-Middle East-Europe Economic Corridor (IMEC)

- ❖ **Participants:** During the Delhi G20 Summit, India, USA, UAE, Saudi Arabia, France, Germany, Italy and the European Union signed a Memorandum of Understanding (MoU) to establish the India-Middle East-Europe Economic Corridor.
- ❖ **Objective:** The corridor will encourage and provide impetus to economic development through enhanced connectivity and economic integration between Asia, West Asia, the Middle East and Europe.

### Components

- ❖ The India-Middle East-Europe Economic Corridor will consist of two separate corridors,
  - ✓ The East corridor connecting India to West Asia/Middle East and
  - ✓ The Northern corridor connecting West Asia/Middle East to Europe.
- ❖ The project would involve the building of a railway line across the Arabian Peninsula through the United Arab Emirates and Saudi Arabia and develop shipping connectivity to India and Europe on either end of this corridor.
- ❖ The corridor could be further developed to transport energy through pipelines and data through an optical fiber link.

### Ports Which are Part of IMEC

- ❖ **India:** Ports in Mundra (Gujarat), Kandla (Gujarat), and Jawaharlal Nehru Port Trust (Navi Mumbai).
- ❖ **Europe:** Piraeus in Greece, Messina in Southern Italy, and Marseille in France.
- ❖ **Middle East:** Ports include Fujairah, Jebel Ali, and Abu Dhabi in the UAE, as well as Dammam and Ras Al Khair ports in Saudi Arabia.
- ❖ **Israel:** Haifa port.
- ❖ **Railway Line:** The railway line will link Fujairah port in the UAE to Haifa port in Israel, passing through Saudi Arabia (Ghuwaifat and Haradh) and Jordan.

### Significance

- ❖ **Economic Development:** By linking Asia, West Asia, the Middle East and Europe through enhanced connectivity and economic integration, the corridor aims to give a boost to economic development in the regions.
- ❖ **Connectivity:** The corridor will include a rail line, which, upon completion, will provide a reliable and cost-effective cross-border ship-to-rail transit network.
  - ✓ The rail line will supplement the existing multi-modal transport routes enhancing transshipment of goods and services from South East Asia through India to West Asia/Middle East and Europe.
- ❖ **Eco-friendly Infrastructure:** It places emphasis on developing environmentally friendly infrastructure.
- ❖ **Transformative Integration:** It intends to increase efficiency, reduce costs, secure regional supply chains, increase trade accessibility, enhance economic cooperation, generate jobs and lower

greenhouse gas emission, resulting in a transformative integration of Asia, Europe and the Middle East (West Asia).

### Opportunities for India

- ❖ **Alternative to BRI:** It is an alternative to China's Belt and Road Initiative (BRI), which seeks to establish trade and infrastructure networks connecting Asia, Europe, and Africa.
- ❖ **Bypassing Pakistan:** IMEC breaks Pakistan's veto over India's overland connectivity to the West. Since the 1990s, India has sought various trans-regional connectivity projects with Pakistan. But Pakistan was adamant in its refusal to let India gain access to land-locked Afghanistan and Central Asia.
- ❖ **Indo-US collaboration in the Middle East:** This project has broken the myth that India and the United States might work together in the Indo-Pacific but not in the Middle East.

### Hurdle before IMEC

- ❖ The Israel-Palestine conflict has put a pause on the normalization of Arab-Israel relations which is a key element of the multi-nation initiative.
- ❖ **Vulnerability of the Strait of Hormuz:** The entire trade of the IMEC architecture flows through the Strait of Hormuz and with Iran's proximity and control over the strait, the risk of disruptions remain very high.
- ❖ The security challenges in the region have made other partners reluctant to invest in the project.

### Way Forward

- ❖ The geopolitical concerns need to be managed by striking a delicate balance in accommodating the geopolitical interests of the participating nations and addressing potential political sensitivities.
- ❖ There is also a need to maintain the required security apparatus as the project passes through certain unstable regions of the world.

## BIMSTEC CHARTER CAME INTO FORCE

**Context:** The Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) will now be open to new members and observers after a historic first charter of the grouping came into force.

### Background

- ❖ The seven members of BIMSTEC first signed the charter in 2022 at the fifth BIMSTEC summit held virtually in Colombo, Sri Lanka.
- ❖ However, it could come into force only after every country ratified the document, which finally happened in April 2024.

### What is BIMSTEC?

- ❖ BIMSTEC is a regional organization that was established in 1997 with the signing of the Bangkok Declaration.
- ❖ Permanent Secretariat: Dhaka, Bangladesh
- ❖ Members: Bangladesh, Bhutan, Sri Lanka, Nepal, Thailand, Myanmar and India.
- ❖ Significance: The BIMSTEC countries are home to 22 percent of the total world population and have a combined gross domestic product (GDP) of about \$3.6 trillion.

### About Charter

- ❖ The charter establishes a legal and institutional framework for cooperation among the seven countries surrounding the Bay of Bengal.
- ❖ The document also gives the organization a legal personality, establishes a mechanism for admitting new members and observers, and enables negotiations and agreements with countries and other regional and international groupings.

### Significant aspects of charter

- ❖ According to the charter all decisions will be taken by consensus among current members.

- ❖ The charter gives the institution a clear process for the admission of new members, including adding the criteria of geographical contiguity or “**primary**” dependence on the Bay of Bengal for trade and transport purposes.
- ❖ The charter also highlights that the leaders’ summit will be held every two years and indicates the procedure for the rotational chairmanship of the organization.
- ❖ It also empowers the **BIMSTEC** ministerial meeting to set up any further criteria as required.

### **BIMSTEC and SAARC**

- ❖ The idea of BIMSTEC also gained prominence after the 2016 Uri attack when India was able to get SAARC (South Asian Association for Regional Cooperation) nations on its side to boycott the organizations’ summit, which was to be held in Pakistan.
- ❖ SAARC and BIMSTEC focus on geographically overlapping regions. But, they are not equal alternatives.
  - ✓ SAARC is a purely regional organization, whereas BIMSTEC is inter-regional and connects both South Asia and ASEAN.
  - ✓ Unlike SAARC, which is burdened by India-Pakistan hostilities, BIMSTEC is relatively free of sharp bilateral disagreements and promises to provide India with a co-operative sphere of its own.
- ❖ India is often accused by Nepal for deactivating SAARC in favor of BIMSTEC due to the membership of Pakistan in the former organization.

### **Way Ahead**

- ❖ The BIMSTEC Charter is a testament to the shared commitment of the Member States to promote regional cooperation in key sectors such as security, connectivity, trade, agriculture, environment, science and technology, agriculture and people to people contact.
- ❖ It is an important step towards promoting regional cooperation and allowing for agreements to be signed with other countries and regional organizations.

### **Key Findings of report**

- ❖ Almost half of the world’s rangelands are degraded due to climate change, population growth, land-use change and growing farmlands.
- ❖ Pastoralists are a marginalized community with little influence on policy decisions, resulting in uncertainty over access to common land and land rights.
- ❖ Grasslands have been virtually overlooked in environmental conservation and ecosystem restoration policies in favor of forestry-based interventions, which includes converting natural grasslands into plantation forests or other uses.
- ❖ Degradation: Less than 5 percent of India’s grasslands fall within protected areas, and the total grassland area declined from 18 to 12 million hectares between 2005 and 2015.

### **What are Rangelands?**

- ❖ Rangelands are characterized by low vegetation and comprise grasslands, shrublands, wetlands, desert, semi-arid land, mountain pastures, plateaus and tundra.
- ❖ They cover 80 million sq km, which is 54 percent of the earth’s land surface.
- ❖ These rangelands are an important ecosystem to fight against climate change as they act as carbon sinks and prevent soil erosion, land degradation and desertification.
- ❖ Rangelands in India
- ❖ Rangelands occupy about 121 million hectares in India and a large part (around 100 million hectares) of these is considered underutilized.
- ❖ The report highlighted that around 120 million hectares of land in India is degraded due to water erosion (82 million hectares), wind erosion (12 million hectares), chemical contamination (25 million hectares), and physical degradation (1 million hectares).

### **Pastoralist communities in India**

- ❖ Pastoralists contribute to the economy through livestock rearing and milk production.
- ❖ The population of pastoralist communities, comprising groups such as Maldharis, Van Gujjars and Rabaris, among others, is estimated to be 20 million or more.

- ❖ The livestock sector of the economy contributes 4 percent of national gross domestic product and 26 per' cent of agricultural gross domestic product.
- ❖ India accounts for 20 percent of the world's livestock population.

### **Government measures**

- ❖ Forest Rights Act 2006 has helped pastoralists obtain grazing rights across states in the country.
- ❖ Government through welfare schemes has provided assistance to pastoralists under the National Livestock Mission, Animal Husbandry Infrastructure Development Fund and the Rashtriya Gokul Mission on sustainable dairy production.
- ❖ India has launched several programmes to combat land degradation including the National Afforestation Programme, Green India Mission, and Watershed Development Component.
- ❖ Suggestion
- ❖ Integrated climate change mitigation and adaptation strategies with sustainable rangeland management plans are needed to increase carbon sequestration and storage while boosting the resilience of pastoralist and rangeland communities.
- ❖ Avoid rangeland conversion that diminish the diversity and multifunctionality of rangelands, especially on indigenous and communal lands.
- ❖ Adopt and support pastoralism-based strategies that help mitigate harms to rangeland health, such as climate change, overgrazing, soil erosion, invasive species, drought, and wildfires.



CivilsTap Himachal

# GENERAL STUDIES 3.

## ECONOMY

### KEY FINDING AND RECOMMENDATIONS OF THE INDIA EMPLOYMENT REPORT 2024

**Context:** The India Employment Report 2024, analyzes job trends over 22 years using surveys. It highlights improvements in job quality, higher female job participation, recovery after COVID-19, and challenges like youth unemployment, informal jobs, and the need for better education and job policies. Key finding and recommendations of the India Employment Report 2024

#### What improvements are noted in the job market?

##### Pre COVID-19 Improvements

- ❖ From 2000 to 2019, there was a significant shift from agricultural jobs to non-farm sectors, indicating economic progress.
- ❖ A steady increase in regular employment was noted, with a decrease in unorganized sector jobs.

##### During COVID-19 Changes

- ❖ Temporary halt in the growth of regular employment and rise in unorganized sector jobs.
- ❖ A significant 9% yearly increase in farming jobs during the pandemic.
- ❖ Non-farm jobs also increased by more than 2.6%, surpassing growth rates from 2012 to 2019.

##### Post COVID-19 Recovery

- ❖ Recovery in regular and casual wages, with casual wages increasing even more from 2019 to 2022.
- ❖ Decrease in unemployment rates from 6% in 2018 to 3.2% in 2023.
- ❖ Female workforce participation rose significantly, from 24.5% in 2019 to 37% in 2023.

#### What are the current employment challenges?

- ❖ **High Agricultural Employment:** About 46.6% of workers are still employed in agriculture as of 2022, a slight increase from 42.4% in 2019, indicating a need to boost non-farm employment.
- ❖ **Skill and Job Mismatch:** The increasing capital and skill intensity of jobs has led to a surplus of unskilled and semi-skilled workers, despite higher educational attainments.
- ❖ **Low Women's Participation:** Women remain primarily in less remunerative agricultural roles, and the labor market demands more diverse job opportunities for them in non-farm sectors.
- ❖ **Youth Unemployment:** Educated youth face high unemployment rates, with 28% of graduates unemployed in 2022, showcasing a significant mismatch between education levels and job opportunities.
- ❖ **NEET Challenges:** Around 28% of youth were not in employment, education, and training (NEET) in 2022, with females disproportionately affected, highlighting a critical area for policy intervention.

#### What are the key recommendations of the India Employment Report 2024?

1. Boosting production to create more jobs, focusing on labor-intensive manufacturing, services, and agriculture;
2. Enhancing job quality;
3. Addressing labor market disparities, especially by increasing women's employment and formulating effective strategies for NEET;
4. Improving training systems and labor market policies to better match job supply and demand, with significant private sector involvement; and
5. Developing accurate statistics to understand labor market changes due to rapid technological advances.

### PRIORITIZING HUMAN DEVELOPMENT

**Context-**The recently published HDI report and a paper published by the World Inequality Lab in March 2024 reports do not reveal very encouraging trends for India. Thus, the article highlights the need for an



alternate growth strategy that accords primacy to human development and converts it as a route to accelerate growth.

### **What is the performance of India in various development reports?**

#### **1. Human Development Index-**

- A. According to the United Nations Development Programme's Human Development Report 2023-24, India ranked 134 out of 193 countries in the Human Development Index (HDI) in 2022. This is a marginal improvement from its rank of 135 in 2021.
- B. India's HDI value increased from 0.633 in 2021 to 0.644 in 2022, placing it in the medium human development category. However, India still lags behind neighboring countries like Bhutan, Bangladesh, Sri Lanka, and China in terms of HDI.
- C. When adjusted for inequality, India's loss in HDI is 31.1%, higher than Sri Lanka, Bangladesh, Nepal, and Pakistan.

#### **2. Gender Inequality Index –**

- A. India improved its ranking from 122 out of 191 countries in 2021 to 108 out of 193 countries in 2022. However, India has one of the largest gender gaps in labor force participation, with a 47.8% difference between women (28.3%) and men (76.1%).

### **What is the status of income and wealth Inequality in India?**

1. According to the World Inequality Lab study, the bottom 50% of India's population received only 15% of the national income in 2022-23. The top 1% earned an average of 5.3 million rupees, 23 times the average Indian income of 0.23 million rupees.
2. The richest 10,000 individuals (out of 920 million Indian adults) earned an average of 480 million rupees, which is 2,069 times the average Indian income.

### **What are its implications?**

1. This stark income inequality has implications for aggregate demand, consumption, and human welfare.
2. During 2014-2022, the incomes of the middle 40% of the income distribution has grown slower than the bottom 50%. This indicates a reduction in the size of the 'middle class'.
3. When growth mostly benefits the wealthy, economic division speeds up. This leads to the emergence of two classes-Have and Have not.

### **What is the status of household debt and savings in India?**

1. Household debt levels in India reached a record high of 40% of GDP by December 2023, while net financial savings plunged to 5.2% of GDP.
2. Annual borrowings of households surged to 5.8% of GDP in 2022-23, the second-highest level in independent India.

### **Way forward**

1. Considering the inadequate human development, significant inequality, minimal savings, and substantial debt, there's a necessity for an alternative approach to growth that prioritizes enhancing human development.
2. This approach needs strong political commitment and long-term vision, looking beyond immediate electoral benefits. As a first step, the narrative of development needs to be recast.

## **SMART CITIES MISSION**

**Context:** The Smart Cities Mission (SCM), a flagship programme has taken a back seat in this year's list of poll promises and achievements.

### **About**

- ❖ Smart cities were defined by urban practitioners as new Silicon Valleys built with a strong integration of a network of airports, highways, and other types of communications, a so-called intellectual city with advanced ICT.
- ❖ It is an initiative of the Union Housing and Urban Affairs Ministry, launched in 2015.

- ❖ 100 cities have been selected to be developed as Smart Cities through a two-stage competition for five years.
- ❖ The Mission is operated as a Centrally Sponsored Scheme.
- ❖ **Objective:** To promote cities that provide core infrastructure, clean and sustainable environment and give a decent quality of life to their citizens through the application of 'smart solutions'.
- ❖ The six fundamental principles on which the concept of Smart Cities is based are:

### Key Features

- ❖ **The SCM had two main aspects:** area-based development consisting of three components — redevelopment (city renewal), retrofitting (city improvement), and green field projects (city extension); and pan-city solutions based on ICT.
- ❖ These further comprised some six categories that would include e-governance, waste management, water management, energy management, urban mobility, and skill development.
- ❖ **Four pillars:** Social Infrastructure, Physical Infrastructure, Institutional Infrastructure, Economic Infrastructure.
- ❖ **Integrated Command and Control Centre:** These ICCCs are designed to enable authorities to monitor the status of various amenities in real time.
  - ✓ The ICCC acts as a smart city and acts as a “nerve center” for operations management.
- ❖ Other steps taken under the SCM for digital infrastructure are;
  - ✓ Adaptive Traffic Control System (ATCS), Red Light Violation Detection (RLVD), and Automatic Number Plate Recognition System (ANPR),
  - ✓ Digital assets for solid waste and waste-water management and water distribution management,
  - ✓ CCTV surveillance systems, smart education and smart health systems.

### Status of the SCM

- ❖ 8,033 projects sanctioned under the SCM have seen a fall in the total outlay from the expected ₹2 lakh crore, which is 16% less than the projected capital flow in 100 cities.
- ❖ The SCM grant funded 5,533 projects have been completed, while 921 projects are still ongoing.
- ❖ As many as 400 projects being undertaken by about 10 cities under the Mission are unlikely to meet the extended deadline of June 2024.
- ❖ The funding pattern shows that not more than 5% has come through the PPP route.

### Challenges

- ❖ **Diversity in Urban India:** The selection of 100 cities on a competitive basis was flawed due to the diversity in existing urban realities.
  - ✓ The scheme was divorced from the ground realities of urban India — the urbanisation here is dynamic and not static like the West.
- ❖ **Financial Constraints:** Keeping the funds and finances flowing in for the smart cities mission is a challenge. Most Urban Local Bodies are not even financially self-sustainable.
  - ✓ According to McKinsey, to make Indian cities liveable, a capital expenditure of \$1.2 trillion is required by 2030. In this context, ₹1,67,875 crore is less than \$20 billion in nine years.
- ❖ **Displacement:** Urban India, according to the World Bank has more than 49% of the population living in slums.
  - ✓ There was displacement of people living in poorer localities. Street vendors, for example, were displaced and urban commons were disrupted.
- ❖ **Infrastructure Development:** Many Indian cities lack basic infrastructure, such as efficient public transportation, waste management systems, and reliable water and electricity supply.
  - ✓ Implementing smart solutions requires significant upgrades to existing infrastructure.

### Way Ahead

- ❖ **Data protection:** A robust system is required to protect digital platforms from cyber attack and safeguarding sensitive public and private data adequately.
- ❖ **Pan city projects:** SCM should emphasize more on pan city projects to ensure comprehensive and holistic development.

- ❖ **Strengthening ULBs:** A plan should be made to strengthen ULBs' capabilities in small cities.
- ❖ **Public Private Partnerships:** The government should analyse the reasons behind low private investments and take remedial steps towards the same.
- ❖ **Completion of Projects:** The Committee recommended that the ministry's role should not be confined to transfer of share and asked them to remain watchful to ensure execution and completion of the projects by intervening to facilitate with inputs and expertise.

## DECLINING POVERTY RATIO

**Context–** The Household Consumption Expenditure Survey for 2022-23 (HCES) by the National Sample Survey Office (NSSO) led to estimations of poverty and inequality trends by researchers.

### What are the trends in poverty and inequality according to some studies?

1. Based on the Rangarajan Committee's poverty lines, the estimated poverty ratio declined from 29.5% in 2011-12 to 10% in 2022-23 (1.77% points per year).
2. Based on the Tendulkar Committee's poverty lines, the poverty ratio declined from 21.9% in 2011-12 to 3% in 2022-23 (1.72% points per year).
3. Between 2011-12 and 2022-23, the Gini coefficient declined from 0.278 to 0.269 for rural areas and from 0.358 to 0.318 for urban areas, indicating a decrease in inequality.
4. This means poverty declined significantly between 2011-12 and 2022-23, though the rate of decline was lower compared to the 2004-05 to 2011-12 period. Inequality declined between 2011-12 and 2022-23 particularly in urban areas. It is to be noted that all these estimates depend on where the poverty line is drawn.

### What changes have been made regarding the data collection methodology?

1. The NSSO has changed the reference or recall period of data collection over time, leading to three estimates of consumption: Uniform Reference Period (URP), Mixed Reference Period (MRP), and Modified Mixed Reference Period (MMRP).
2. The Tendulkar Committee used MRP for 1993-94 and 2004-05, while the Rangarajan Committee used MMRP for 2009-10 and 2011-12, making the 2022-23 estimates (based on MMRP) not strictly comparable with earlier years.
3. Changes in methodology, such as coverage of more items and multiple visits, may provide better estimates but raise comparability issues.

### What are the issues regarding the data collection methodology?

- ❖ The NSSO altered the reference or recall period of data collection over time to enhance the accuracy of consumption reporting. Changes in methodology, such as coverage of more items and multiple visits, may provide better estimates but raise comparability issues.

### What are the measurement issues discussed regarding poverty lines?

- ❖ There has been a discussion on the appropriateness of calorie norm-based poverty lines.
- ❖ The Tendulkar Committee adopted the official urban poverty line of 2004-05 based on the Lakdawala methodology, which indirectly used calorie norms.
- ❖ The Rangarajan Committee estimated a new poverty basket, including a food component for adequate nourishment, essential non-food items, and behaviorally determined non-food expenditure.

### How does public expenditure affect poverty measurements?

- ❖ The poverty line is based on private consumption expenditure, but public expenditure also impacts household well-being. The Household Consumption Expenditure Survey 2022-23 tried to estimate the value of some things the government provides for free or at low prices. However, this survey didn't fully account for the government's help. Thus, there is a need to capture these values better as public expenditure on these items is substantial.

**Conclusion–** Overall, there has been a decline in poverty and a slight reduction in consumption expenditure inequality. However, it's noted that there isn't a single method for measuring poverty, and the number of poor varies depending on the poverty cut-off used.

## TRADE IMBALANCE: ON INDIA'S MERCHANDISE EXPORTS

**Context:** India's merchandise exports witnessed a slight improvement in April 2024, showing a modest increase of 1.07% compared to the same month the previous year.

### Key Analysis

#### ❖ Export Trends:

- ✓ In 2023-24, India's merchandise exports declined by over 3% due to geopolitical and logistical disruptions.
- ✓ However, in April 2024, there was a marginal uptick of 1.07% (worth \$370 million) compared to the previous year.
- ✓ Key contributors to export growth last month were pharma, chemicals, electronics, and petroleum products (recovering from a 35% contraction in March).

#### ❖ Trade Deficit and Import Bill:

- ✓ Despite export growth, India's goods import bill surged by 10.25% to over \$54 billion in April.
- ✓ Consequently, the trade deficit reached \$19.1 billion, the highest in four months.
- ✓ Rising oil and gold prices played a role in increasing the import bill.

#### ❖ Global Trade Outlook:

- ✓ Global trade volumes are expected to rise by 2.6% in 2024 after a 1.2% decline in 2023 (according to the World Trade Organization).
- ✓ India aims to capitalize on this trend by targeting key markets in the western world with lower inflation and improved growth rates.

#### ❖ Challenges and Opportunities:

- ✓ India needs to address challenges in labour-intensive sectors like garments and footwear, where it faces competition from countries like Bangladesh and Vietnam.
- ✓ Quality concerns (e.g., spices, drugs) and environmental issues (related to shrimp exports) need attention.
- ✓ Reviving agricultural exports, considering healthy monsoon prospects, is crucial.

### Negative Impact of trade imbalance on the Indian economy

- ❖ **Currency Depreciation:** A trade deficit often leads to a weakening of the Indian rupee against other currencies. This makes imports more expensive and can fuel inflation.
- ❖ **Increased External Debt:** To finance the deficit, India might need to borrow from foreign sources, leading to an increase in external debt and interest payments.
- ❖ **Reduced Domestic Production:** A reliance on imports can discourage domestic production, leading to job losses and a slowdown in economic growth.
- ❖ **Balance of Payments (BoP) Issues:** A persistent trade deficit can strain the BoP, making it difficult to manage foreign exchange reserves and meet international financial obligations.
- ❖ **Measures Needed to keep the trade imbalance in acceptable limits**
- ❖ **Export Diversification:** Expanding the range of exported products and services to reduce dependence on a few key sectors. This can be achieved by promoting sectors like agriculture, pharmaceuticals, engineering goods, and services like IT and tourism.
- ❖ **Market Access:** Negotiating and securing favorable trade agreements with other countries to reduce barriers to Indian exports. This includes addressing non-tariff barriers like technical standards and regulations.
- ❖ **Export Infrastructure:** Investing in infrastructure like ports, airports, and logistics to facilitate efficient movement of goods. This will reduce transaction costs and make Indian exports more competitive.
- ❖ **Export Promotion:** Providing financial and technical assistance to exporters, particularly small and medium enterprises (SMEs). This can include export credit, insurance, and marketing support.
- ❖ **Skill Development:** Enhancing the skills of the workforce to meet the demands of global markets. This includes training programs in areas like manufacturing, design, and technology.
- ❖ **Import Substitution:** Encouraging domestic production of goods that are currently imported. This can be achieved through incentives like tax breaks, subsidies, and easier access to credit for domestic manufacturers.

- ❖ **Tariff and Non-Tariff Measures:** Judicious use of tariffs and non-tariff measures to protect domestic industries from unfair competition. However, this should be done carefully to avoid escalating trade tensions.

### Way Forward

- ❖ **Lowering Trade Tariffs and Simplifying Procedures:** NITI Aayog CEO BVR Subrahmanyam emphasized the need to reduce trade tariffs and simplify procedures.
  - ✓ Lower tariffs and streamlined processes encourage trade and attract global value chains.
- ❖ **Focus on Domestic Industries:** India aims to reduce reliance on imports by developing its domestic industries.
  - ✓ Incentives can be provided to local companies to manufacture goods currently imported, creating employment opportunities.
- ❖ **Shift in Trade Policy:** India shifted focus from the Regional Comprehensive Economic Partnership (RCEP) to Western and West Asian free trade agreements.
  - ✓ The goal is to avoid further trade imbalances and attract global value chains.
- ❖ **Enhancing Services Sector:** India's advantage lies in the services sector due to its skilled manpower and education system.
- ❖ Removing stringent regulations and promoting services exports can contribute to balanced trade

### SUPREME COURT LIMITS ED'S POWER TO ARREST PMLA ACCUSED

**Context:** The Supreme Court held that a person summoned by a designated special court under the Prevention of Money Laundering Act (PMLA), is presumed to be not in custody and need not apply for bail.

### About Prevention of Money Laundering Act (PMLA) 2002

- ❖ The Parliament enacted the PMLA as a result of international commitment to deal with the menace of money laundering.
- ❖ **Provisions:**
  - ✓ Sec. 3 of PMLA defines the offense of money laundering as any process or activity connected with the proceeds of crime and projecting it as untainted property.
  - ✓ **Prescribe obligation:** PMLA prescribes the obligation of banking companies, financial institutions and intermediaries for verification and maintenance of records of the identity of all its clients.
  - ✓ **Empowerment of officers:** PMLA empowers Directorate of Enforcement to carry out investigations in cases involving offense of money laundering and also to attach the property involved in money laundering.
  - ✓ **Special Courts:** It envisages the designation of one or more courts of sessions as Special Court to try the offenses punishable under PMLA.
  - ✓ **Agreement for Central Government:** It allows the Central Government to enter into an agreement with the Government of any country outside India for enforcing the provisions of the PMLA.

### Stringent norms of PMLA

- ❖ The twin conditions of bail under Section 45 of the PMLA pose stringent thresholds for an accused.
- ❖ For one, the person has to prove in court that he or she is prima facie innocent of the offense.
- ❖ Secondly, the accused should be able to convince the judge he would not commit any offense while on bail. The burden of proof is entirely on the incarcerated accused.
- ❖ The twin conditions make it almost impossible for an accused to get bail under the PMLA.

### Supreme Court Judgment

- ❖ The judgment limits the power of arrest by the Directorate of Enforcement (ED) after a special court takes cognisance of a case.

- ❖ The ED would have to separately apply for the custody of a person who appears in court. The Central agency would have to show specific grounds that necessitated custody.
- ❖ However, when the ED wants to conduct a further investigation concerning the same offense, it may arrest a person not shown as an accused in the complaint filed under Section 44(1)(b) of the PMLA, provided the requirements of Section 19 (procedures of arrest) under the Act were fulfilled.
  - ✓ Section 19 of the PMLA allows ED officers to arrest an individual “on the basis of material in possession (and) reason to believe (to be recorded in writing) that the person is guilty”.
- ❖ An accused, who appears in a special court pursuant to its summons, could be exempted from personal appearance in the future.
  - ✓ On the other hand, if an accused does not appear after a summons is served, the special court could issue a bailable warrant followed by a non-bailable one.

## QUARTER (Q1) PERIODIC LABOUR FORCE SURVEY

### Context

- ❖ Recently, the Ministry of Statistics and Programme Implementation (MOSPI) released the Periodic Labour Force Survey (PLFS) for the first quarter (Q1) of 2024.

### About the Periodic Labour Force Survey (PLFS)

- ❖ It was launched by the National Sample Survey Office (NSSO) in April 2017, considering the importance of availability of labour force data at more frequent time intervals.
- ❖ The data on Employment and Unemployment is collected through Periodic Labour Force Survey (PLFS).

### Objectives:

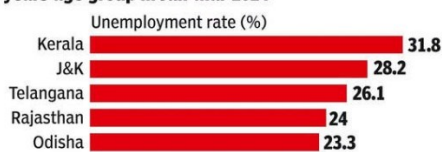
- ❖ To estimate the key employment and unemployment indicators (viz. Worker Population Ratio, Labour Force Participation Rate, Unemployment Rate) in the short time interval of three months for the urban areas only in the ‘Current Weekly Status’ (CWS).
- ❖ To estimate employment and unemployment indicators in both ‘Usual Status’ (ps+ss) and CWS in both rural and urban areas annually.

### Key Findings of PLFS

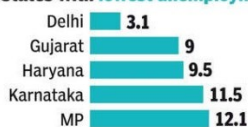
- ❖ **Unemployment Rate (UR) in Urban Areas:** It decreased from 6.8% (Q1 2023) to 6.7% (Q1 2024) for persons of age 15 years and above.

### J&K TOPS IN FEMALE UNEMPLOYMENT

States with the **highest unemployment rates** in 15-29 years age group in Jan-Mar 2024



States with **lowest unemployment rates**



(Jan-Mar 2024)

High female unemployment rate		High male unemployment rate	
J& K	48.6	Kerala	24.3
Kerala	46.6	Bihar	21.2
Uttarakhand	39.4	Odisha	20.6
Telangana	38.4	Rajasthan	20.6
Himachal Pradesh	35.9	Chhattisgarh	19.6
Low female unemployment rate		Low male unemployment rates	
Delhi	5.7	Delhi	2.5
Gujarat	10.9	Gujarat	8.5
Madhya Pradesh	13.5	Karnataka	10.1
Haryana	13.9	Himachal Pradesh	10.2
Karnataka	15	Madhya Pradesh	11.7

Source: MOSPI

- ❖ **For Male:** It increased from 6.0% to 6.1%

- ❖ Female UR decreased from 9.2% to 8.5%
- ❖ **Labour Force Participation Rate (LFPR) in Urban Areas:** It has shown an increasing trend from 48.5% (Q1 2023) to 50.2% (Q1 2024) for persons of age 15 years and above.
  - ✓ Male LFPR: It increased from 73.5% to 74.4%
  - ✓ Female LFPR: It increased from 22.7% to 25.6%
- ❖ **Worker Population Ratio (WPR): Increasing** Trend in WPR for persons of age 15 years and above from 45.2% (Q1 2023) to 46.9% (Q1 2024).
  - ✓ For Male: It increased from 69.1% to 69.8%
  - ✓ For Female: It increased from 20.6% to 23.4%

### State Wise Data on Unemployment

- ❖ Kerala had the highest unemployment rate in the 15-29 age group in urban areas in Q1 2024, while Delhi had the lowest joblessness rate among 22 states and Union territories.
- ❖ J&K, Telangana, Rajasthan and Odisha were among the five states with the highest unemployment rates in the 15-29 years category.
- ❖ Three out of the 22 states and UTs recorded unemployment rates in single digits – apart from Delhi (3.1%), the other states were Gujarat (9%) and Haryana (9.5%).
  - ✓ The other two states among the five with low joblessness rates were Karnataka (11.5%) and Madhya Pradesh (12.1%).
- ❖ PLFS data showed that the unemployment rate for women was the highest in J&K at 48.6%, followed by Kerala (46.6%), Uttarakhand (39.4%), Telangana (38.4%) and Himachal Pradesh (35.9%).
- ❖ **Related government initiatives to boost overall employment scenario in India:**
- ❖ **Atmanirbhar Bharat Rojgar Yojana (ABRY):** Launched as part of the Atmanirbhar Bharat package 3.0, to incentivise employers for creating new employment along with social security benefits and restoration of loss of employment during the Covid-19 pandemic.
- ❖ **Pradhan Mantri Rojgar Protsahan Yojana (PMRPY):** To incentivize employers for the creation of new employment.
- ❖ **National Career Service (NCS) Project:** It provides a variety of career-related services like job matching, career counselling, vocational guidance, information on skill development courses, apprenticeships, internships, etc.
- ❖ **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA):** It provides at least 100 days of guaranteed wage employment in a financial year to every rural household whose adult members volunteer to do unskilled manual work.
- ❖ **Pradhan Mantri Garib Kalyan Rojgar Abhiyaan (PMGKRA):** To boost employment and livelihood opportunities for returnee migrant workers and similarly affected persons in rural areas.
- ❖ Pradhan Mantri Mudra Yojana (PMMY): It facilitates self-employment by providing collateral-free loans up to Rs. 10 lakh to micro/small business enterprises and individuals.
- ❖ **Garib Kalyan Rojgar Abhiyaan (GKRA):** To provide immediate employment and livelihood opportunities to the distressed and to saturate the villages with public infrastructure and creation of livelihood assets.
- ❖ **PM GatiShakti:** It is a transformative approach for economic growth and sustainable development, driven by seven engines, namely, Roads, Railways, Airports, Ports, Mass Transport, Waterways, and Logistics Infrastructure.

### MAKING HIGHER EDUCATION IN INDIA WORLD-CLASS

**Context:** The University Grants Commission (UGC) has recently unveiled regulations to facilitate the entry of Foreign Higher Educational Institutions (FHEIs) in India.

#### About

- ❖ India has surpassed China with a greater number of universities featured in the prestigious QS World University Rankings.
- ❖ FHEIs' entry can be likened to India's 1991 market reforms, when the government dismantled barriers to trade and foreign investment and promised a level-playing field for all players.

- ❖ Technically, universities like Oxford, Cambridge, or Harvard can now open campuses in India.
  - ✓ But it will ultimately depend on whether those universities find the Indian market attractive enough to invest in a branch campus in the country.
  - ✓ Higher Educational Institutes in India ( All-India Survey of Higher Education (AISHE), 2021-22)
- ❖ The total number of Universities / University level institutions registered is 1,168, Colleges 45,473 and Standalone Institutions 12,002.
- ❖ 341 Universities/University level institutions have been established since 2014-15.
- ❖ 17 Universities (of which 14 are State Public Universities) and 4,470 Colleges are exclusively for women.
- ❖ A total of seven Indian institutions feature in the top 100 ranks of QS World University Rankings.
- ❖ The Indian Institute of Technology Bombay (IIT Bombay) grabbed the top spot in India with the 40th position followed by IIT-Delhi at the 46th position and IIT-Madras at the 53rd position.

### Major Flaws in Higher Education in India

- ❖ **Limited Access:** Despite efforts to improve access to higher education, many students in India still face barriers such as financial constraints, lack of infrastructure, and limited availability of quality institutions, particularly in rural areas.
- ❖ **Quality Disparities:** There is a significant gap in the quality of education between top-tier institutions and others.
  - ✓ The premier institutes like the IITs (Indian Institutes of Technology) and IIMs (Indian Institutes of Management) are world-renowned, but the majority of colleges and universities struggle with outdated curriculum, inadequate faculty, and insufficient resources.
- ❖ **Outdated Curriculum:** The curriculum in many institutions often lags behind industry requirements and global standards. There is a need for regular updates to ensure graduates are equipped with relevant skills for the job market.
- ❖ **Youth Migration:** In 2022, nearly 4.5 lakh Indian students went abroad for studies, this means a huge outflow of capital from India and this also shows that there is a huge interest among Indian students to study in foreign universities.
- ❖ **Lack of Research and Innovation:** Indian universities typically prioritize rote learning over research and innovation. There is a need to foster a culture of research and provide adequate funding and infrastructure to support it.
- ❖ **Teacher Shortage and Quality:** There is a shortage of qualified faculty in many disciplines, leading to a reliance on temporary and underqualified teachers.
  - ✓ Additionally, the quality of teaching varies widely, affecting the learning outcomes of students.
- ❖ **Employability Gap:** Despite having a large pool of graduates, there is a significant gap between the skills possessed by graduates and the skills demanded by employers.
  - ✓ This results in high rates of unemployment and underemployment among graduates.
- ❖ **Overemphasis on Degrees:** The focus on obtaining degrees rather than acquiring practical skills often leads to a disconnect between education and employment.
  - ✓ Many students pursue higher education solely for the credential rather than for the knowledge and skills gained.
  - ✓ Government Initiatives to Improve Higher Education in India
- ❖ **National Education Policy (NEP) 2020:** The NEP 2020 is a comprehensive reform document aimed at transforming the entire education system, including higher education, to meet the needs of the 21st century.
  - ✓ It focuses on aspects such as holistic and multidisciplinary education, flexibility in curriculum, promotion of research and innovation, and increased access and equity.
- ❖ **Rashtriya Uchchar Shiksha Abhiyan (RUSA):** Launched in 2013, RUSA aims to improve the overall quality of state higher educational institutions by providing strategic funding, infrastructure development, faculty improvement, and governance reforms.
- ❖ **SWAYAM (Study Webs of Active-Learning for Young Aspiring Minds):** SWAYAM is an online platform that offers free courses from high school to postgraduate level across various disciplines.



- ✓ It provides access to quality education resources to students, especially those in remote areas, and promotes lifelong learning.
- ❖ **Institutions of Eminence (IoE) Scheme:** Under this scheme, certain higher education institutions are identified as “Institutions of Eminence” with the aim of granting them greater autonomy and financial assistance to achieve world-class status.
  - ✓ These institutions are expected to compete globally and attract top faculty and students.
- ❖ **National Institutional Ranking Framework (NIRF):** NIRF was launched to rank higher education institutions in India based on various parameters such as teaching, learning, research, outreach, and inclusivity.
  - ✓ This initiative aims to promote healthy competition among institutions and encourage them to improve their overall quality.
- ❖ **National Research Foundation:** NRF aims to get colleges and universities involved in scientific research. Less than one per cent of the nearly 40,000 institutions of higher learning in the country were currently engaged in research.
  - ✓ NRF plans to address this lacuna by encouraging active researchers, whether serving or retired, to take up NRF professorships at universities and colleges to start or improve their research cells in collaboration with the existing faculty.

### Way Ahead

- ❖ Merely having more universities than China will not suffice. The core purpose of our higher education system must seek excellence.
- ❖ A robust and thriving research culture is the backbone of higher educational institutes to become world-class.
- ❖ India’s higher education system is at the cusp of a transformative change. The sustained efforts and effective implementation are essential to ensure meaningful progress and positive outcomes.

## CLIMATE PHENOMENA AND FOOD SECURITY

**Context:** El Niño and other climate phenomena affect rainfed agriculture in many ways, leading to the challenge of food insecurity.

### About Recently Observed Climate Phenomena

- ❖ **Western disturbances:** There has been a series of disruptive weather and climate phenomena in India, demonstrating the complexity of the precipitation system.
  - ✓ There was the Western disturbance, which usually brings much-needed moisture from European seas to the western Himalayas and parts of northern India in the winter and spring.
  - ✓ But this year, the Western disturbance remained active late into the summer, snapping at the heels of the southwest monsoon.
- ❖ **El Niño:** An El Niño phase of the quasi-periodic El Niño Southern Oscillation (ENSO) — a phenomenon in the eastern and central tropical Pacific Ocean — was intensifying and likely to affect the southwest monsoon.
  - ✓ Studies have found that 43% of heavy rainfall events in the northeast monsoon (including the 2015 Chennai floods that caused widespread devastation) coincided with an El Niño.
- ❖ **Declining but intensifying monsoon precipitation:** The amount of monsoon precipitation has been declining since the 1950s, attributed by some climate scientists to the reduction in land-sea thermal gradient due to the warming of the seas.
  - ✓ However, indications of increased frequency of intense rain events and greater heat and moisture stress for people and ecosystems align with predictions of warming’s impact on the atmosphere’s water-holding capacity and acceleration of the hydrological cycle.

### Challenges of Food Security

- ❖ **Climate phenomenon affecting plant growth:** The El Niño and other climate phenomena affect rainfed agriculture in many ways, from delaying the start of rains, and affecting sowing, to hot temperatures that may negatively influence plant growth and soil moisture.

- ❖ **Rainfed agriculture:** Our daily diet in India — from cooking oil to diverse foods — also requires 3,268 litres of water per person per day on average, subject to regional variability.
  - ✓ Some 75% of this footprint is green water, demonstrating the importance of rainfed agriculture to our food and nutritional security.
- ❖ **Issues in irrigated areas:** Even in irrigated areas, many dominant crops require green water for different extents.
  - ✓ For example, in kharif season, rice paddy under irrigation uses green water to the tune of 35%.
  - ✓ Many staple crops like tur dal, soybean, groundnut, and maize also rely considerably on green water at this time. In the 2015-2016 El Niño year, soybean production in India declined by 28% from the 2013-2022 average.
- ❖ **Increased cost of preparing food:** While the cost of preparing a thaali at home has risen by 65% in the last five years, in this period, the average wage of a manual worker rose by 38% and that of a salaried worker by 28%.
  - ✓ The implied reduction in purchasing power is considerable, and it would be reasonable to expect that food consumption has been impacted.

### Suggestions

- ❖ **Reducing dependence on water-intensive crops:** In terms of agriculture and food security, there is now an emphasis on reducing dependence on water-intensive crops, with millets being the crops of choice.
  - ✓ Shifting to less water-intensive crops may reduce vulnerability of our food systems to phenomena like El Niño.
- ❖ **Focussing on increasing Agricultural yield:** Agricultural yield is lower in India than in East Asia, pointing to the potential for an increase.
  - ✓ It is necessary to intervene on the supply side to ensure that food is produced at a steady price by raising the yield on land.
  - ✓ Attention is needed to extend irrigation to 100% of the net sown area, an end to restrictions on leasing of land, a quickening of agricultural research and the re-institution of extension.
- ❖ **Improving weather forecasts:** The government, both at the Centre and in the States, along with farmers, benefit from forecasts of phenomena like El Niño and their impact on the monsoon, and improvements in short-term weather forecasts and early warning systems for both intense rain and dry spells.
- ❖ **Efficient management of water reservoirs:** Based on decades of experience, it is clear that alternative short-term and long-term management of our dams and reservoirs is required to reduce the risk of dam-based flood disasters and ecological damage to aquatic ecosystems.
- ❖ **Green Revolution:** Reeling under extreme food shortage following two successive droughts, the government orchestrated (by framing Green Revolution) a supply-side response by providing farmers with high-yielding seeds, cheap credit, and assured prices through procurement.
  - ✓ This succeeded spectacularly. Within a few years India was no longer dependent on food imports.
- ❖ **Correcting the mistakes of Green Revolution (GR):** Mistakes made while implementing GR, among them the rampant use of chemical fertilizer, fuelled by subsidy, which degraded the soil.
  - ✓ There was also the reliance on procurement prices rather than productivity increase to ensure farm incomes, which fuelled inflation.
  - ✓ We also see that the policy was almost exclusively focused on cereals rather than pulses, the main source of protein for most Indians.
  - ✓ However, rather than arguing on the errors made in an extraordinarily successful economic policy intervention, we should be correcting them now.

### Way Ahead

- ❖ How we respond as a society and in terms of governance to the water and climate change crisis, which links food, water, and ecological security through diversifying our agro-food systems, a lower

dependence on blue water, rejuvenating our rivers, and sustainable water-sharing between humans and nature will to a great extent determine the well-being of 1.4 billion people.

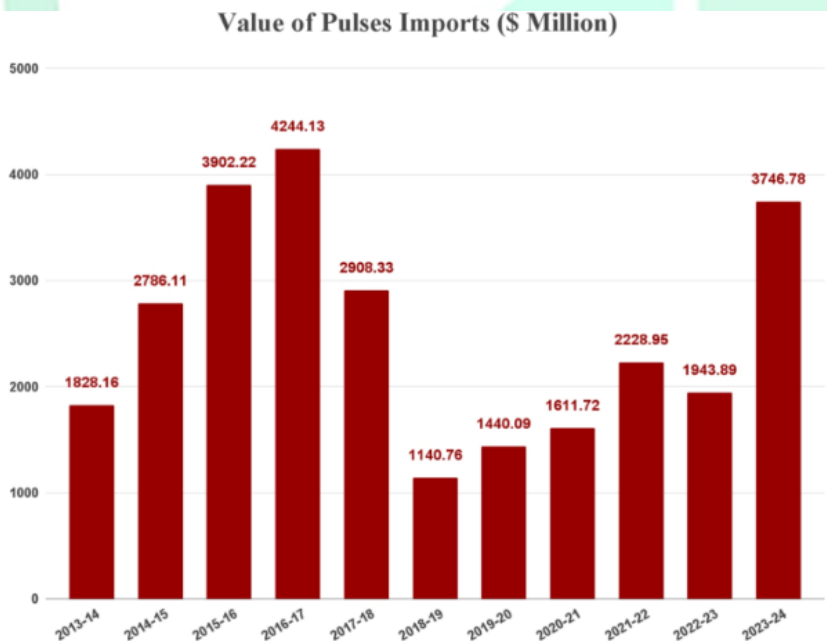
### PULSES IMPORTS HAVE HIT A SEVEN-YEAR HIGH

#### Context

- ❖ In April 2024, the annual retail inflation for pulses was 16.84% and the imports hit a seven-year high.
- ❖ Production of Pulses in India
- ❖ India is the largest producer (25% of global production), consumer (27% of world consumption) and importer (14%) of pulses in the world.
- ❖ Pulses account for around 20 percent of the area under food grains and contribute around 7-10 percent of the total foodgrains production in the country.
- ❖ Though pulses are grown in both Kharif and Rabi seasons, Rabi pulses contribute more than 60 percent of the total production.
- ❖ Gram is the most dominant pulse having a share of around 40 percent in the total production followed by Tur/Arhar at 15 to 20 percent and Urad/Black Matpe and Moong at around 8-10 percent each.
- ❖ The regions with high productivity are Punjab, Haryana, Western Uttar Pradesh, West Bengal delta region, coastal Andhra Pradesh, Tamil Nadu, Kerala, coastal and eastern Karnataka and some parts of Maharashtra.

#### Surge in imports of Pulses

- ❖ India’s pulses imports were valued at \$3.75 billion in 2023-24 (April-March), the highest since the record \$3.90 billion and \$4.24 billion of 2015-16 and 2016-17.
- ❖ In quantity terms, import of major pulses totaled 4.54 mt in 2023-24, up from 2.37 mt and 2.52 mt in the preceding two fiscals, although lower than the all-time-highs of 5.58 mt, 6.36 mt and 5.41 mt in 2015-16, 2016-17 and 2017-18 respectively.
- ❖ **Domestic production:** There is a decline in domestic pulses production from 27.30 million tonnes (mt) in 2021-22 and 26.06 mt in 2022-23 to 23.44 mt in 2023-24, as per the Agriculture Ministry’s estimates.



#### Reasons for Low Production in India

- ❖ **Low Productivity:** Pulses have traditionally been a neglected crop because of the instability of its yields.
- ❖ **Climate Variability:** Pulses are often grown in rainfed areas where they are highly susceptible to climate variability, like erratic rainfall, droughts etc. which lead to yield fluctuations and lower production.

- ✓ The El Niño-induced patchy monsoon and winter rain, is causing a decline in domestic pulses production in 2023-24
- ❖ **Residual Crop:** Pulses in India are considered a residual crop and grown under rain-fed conditions in marginal/less fertile lands, with very little focus on pest and nutrient management.
- ❖ **Preference for Cash Crops:** Farmers may prefer cultivating cash crops such as rice, wheat, and sugarcane over pulses due to assured procurement, higher market prices, and perceived lower production risks.
- ❖ **Post Harvest Losses:** There are post-harvest losses during storage, due to excessive moisture and attack by stored grain pests especially the pulse beetle
- ❖ With the advent of the Green Revolution, which promoted rice and wheat, pulses were pushed to the marginal lands. This resulted in decline in productivity and land degradation.
- ❖ Penetration and adoption of high yielding varieties (HYV) seeds are also low.

### Measures taken by government to increase production

- ❖ **PM-AASHA:** To ensure remunerative prices to farmers, Government implements an umbrella scheme PM-AASHA comprising Price Support Scheme (PSS), Price Deficiency Payment Scheme (PDPS) and Private Procurement Stockist Scheme (PPSS) in order to ensure Minimum Support Price (MSP) to farmers for their produce of notified oilseeds, pulses and copra.
- ❖ Integrated scheme of Oilseeds, Pulses, Oil Palm and Maize (ISOPOM) was launched in 14 major pulses growing states.
- ❖ **National Food Security Mission:** The Department of Agriculture & Farmers Welfare is implementing the National Food Security Mission (NFSM)-Pulses with the objectives of increasing production through area expansion and productivity enhancement in all the districts.
- ❖ **Research and Development:** Indian Council of Agricultural Research (ICAR) is undertaking basic and strategic research in collaboration with State Agricultural Universities for developing location-specific high yielding varieties of Pulses.
- ❖ **Rashtriya Krishi Vikas Yojna:** It was launched under which states can undertake Pulses Development Programmes.

### Way Ahead

- ❖ Pulses offer a range of social, economic, and environmental benefits, making them valuable components of sustainable agriculture.
- ❖ Also consistent efforts are being made to attain self-sufficiency in pulses by 2027.
- ❖ Further enhancing farmer awareness and capacity-building initiatives can help improve productivity and production levels in the pulses sector.

## TRADE DEFICIT OF INDIA

**Context:** India has recorded a trade deficit, the difference between imports and exports, with nine of its top 10 trading partners, including China, Russia, Singapore, and Korea, in 2023-24

### Key Highlights

- ❖ The data showed that the deficit with China, Russia, Korea, and Hong Kong increased in the last fiscal compared to 2022-23, while the trade gap with the UAE, Saudi Arabia, Russia, Indonesia, and Iraq narrowed.
- ❖ China has emerged as India's largest trading partner with \$118.4 billion of two-way commerce in 2023-24, edging past the U.S.
- ❖ India's total trade deficit in the last fiscal narrowed to \$238.3 billion as against \$264.9 billion in the previous fiscal.

### What is the trade deficit ?

- ❖ A trade deficit occurs when a country imports more than it exports. In other words, when a country buys more than it sells, it has a trade deficit.

### Causes

- ❖ There are multiple factors that can be responsible.
- ❖ One of them is some goods not being produced domestically.
- ❖ In that case, they have to be imported.
- ❖ This leads to an imbalance in their trade.
- ❖ A weak currency can also be a cause as it makes trade expensive.

### **Impacts**

- ❖ A bilateral trade deficit with a country isn't a major issue unless it makes us overly reliant on that country's critical supplies.
  - ✓ However, a rising overall trade deficit is harmful to the economy.
- ❖ A rising trade deficit, even from importing raw materials and intermediates, can cause the country's currency to depreciate because more foreign currency is needed for imports.
  - ✓ This depreciation makes imports more expensive, worsening the deficit
- ❖ More imports than exports, according to economists, impact the jobs market and lead to an increase in unemployment
- ❖ To cover the growing deficit, the country might need to borrow more from foreign lenders, increasing external debt and this can deplete foreign exchange reserves and signal economic instability to investors, leading to reduced foreign investment.

### **Steps of India for reducing trade deficit**

- ❖ Government has taken several steps to reduce import reliance so as to curb the trade deficit.
  - ✓ These include creating/enhancing of domestic capacity,
    - Incentivizing domestic manufacturing through Production Linked Incentive (PLI) schemes,
    - Phased manufacturing plans,
    - Timely use of trade remedy options,
    - Adoption of mandatory technical standards,
    - Enforcement of FTA Rules of Origin (roo) and
    - Development of import monitoring system
- ❖ Government launched the Foreign Trade Policy 2023 which aims at process re-engineering and automation to facilitate ease of doing business for exporters

### **Suggestions**

- ❖ A deficit is not always bad, if a country is importing raw materials or intermediary products to boost manufacturing and exports.
  - ✓ However, it puts pressure on the domestic currency.
- ❖ Cutting the trade deficit requires boosting exports, reducing unnecessary imports, developing domestic industries, and managing currency and debt levels effectively.

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## AGRICULTURE

### ROLE OF AGRITECH IN TRANSFORMING THE INDIA'S AGRICULTURE SECTOR

**Context:** The Government of India has been increasingly adapting to the ongoing innovations and changes in the agricultural sector to keep up with the pace at which the sector is developing globally.

#### About AgriTech

- ❖ It is a term used for agricultural technology, which involves the use of technology to improve farming and agriculture across different value chains.
- ❖ It includes sophisticated technologies that drive the so-called 'fourth agricultural revolution,' akin to the industrial 4.0 revolution, shaping the future of the sector.

#### Status In India

- ❖ In India, AgriTech has continued to grow with startups using innovation and digital technologies like precision farming, quality management, production, supply- chain/market linkage, and digital traceability to name a few.
- ❖ The Agritech industry has experienced a remarkable tenfold growth in the past three years, propelled by four pivotal factors:
  - ✓ The expanding digital reach throughout India, supply chain disruptions due to COVID,
  - ✓ Rising consumer demand for high-quality produce, and
  - ✓ Growing interest from private equity and venture capital.
- ❖ Currently, there are nearly 2800[Startup India Database as on 31st December 2023] AgriTech startups recognised by Startup India.
- ❖ The Economic Survey of India 2022-23 highlighted that India's agriculture sector has grown 4.6 per cent over the last six years with over 1000 agri-tech start-ups having emerged in the sector.

#### Need and Importance

- ❖ With over 70% of India's rural population still being dependent on agriculture for their livelihood, the need for innovation in the sector has always remained high.
- ❖ Satellite data has given Indian farmer optimal sowing times, weather warnings, and better use of irrigation and pesticide
- ❖ The positive impact of AgriTech is not only evident in increased productivity and income for farmers but also in the potential to reshape the entire agricultural landscape of India for the better.
- ❖ Steps
- ❖ Indian Finance Minister Nirmala Sitharaman, in her 2023 budget speech, announced a 703 million rupee (\$8.42 million) accelerator fund to boost agritech startups.
  - ✓ In March 2023, the government said the fund was supporting 1,138 such companies.
- ❖ The Digital Agriculture Mission (DAM) initiative was launched in September 2021 to help agri-tech start-ups by leveraging advances in cloud computing, earth observation, remote sensing, data, and AI/ML models.
- ❖ National Agricultural Market (e-AM) scheme offers free software as well as financial support of INR75 lakh each to the Agriculture Produce Market Committee (APMC) mandi for associated hardware, such as quality-assuring tools and the establishment of infrastructure for cleaning, grading, sorting, packing, composting, etc
- ❖ The government has also incentivised drones and artificial intelligence for advanced farming activities.
- ❖ The Indian government, which just relaxed foreign investment rules for the space sector, is leaning heavily into the use of satellite data to solve problems on the ground, with agriculture a key focus.

#### Challenges

- ❖ The lack of an integrated database on crop loss, crop images, food shortages, insufficient formal channels to aggregate advisory recommendations for farmers and incomplete data and inconsistency were highlighted as major bottlenecks in the implementation.
- ❖ The average landholding size for farmers in India is just 1.08 hectares.

- ✓ That fragmentation, coupled with poverty and low levels of literacy, pose challenges for tech adoption, industry experts said.
- ❖ Agriculture has never been a tech-forward sector and often farmers want to rely on traditional practices, or the wisdom of their forefathers

### **Conclusion**

- ❖ AgriTech startups are ushering in a new era for Indian agriculture by integrating agriculture practices with artificial intelligence and machine learning.
  - ✓ Through the integration of cutting-edge technologies and innovation, these startups are addressing age-old challenges, empowering farmers, and fostering change.
- ❖ India's path to leadership in the new space race lies in utilizing the power of data, and applications within the agricultural sector offer immense potential.
- ❖ The digitalisation of agriculture and the launch of an Agriculture Accelerator Fund will usher in new opportunities for businesses and individuals in the country and for the global community at large.
- ❖ India offers huge scope for investment in the agri-tech sector, for AgriTech start-ups, digital infrastructure aids, and innovative technologies.



CivilsTap Himachal

## CYBER SECURITY

### PHISHING ATTACKS IN INDIA

**Context:** According to the 2024 Data Breach Investigations Report by Verizon Business, India is one of the key countries affected by phishing attacks.

#### Key Findings

- ❖ The espionage attacks dominate Asia-Pacific's (APAC) cyber security landscape, including that of India.
- ❖ Some 25% of APAC cyberattacks are motivated by espionage, significantly greater than the 6% and 4% in Europe and North America, respectively.
- ❖ System intrusion, social engineering, and basic web application attacks represent 95% of breaches in APAC.
  - ✓ The most common types of data compromised are credentials (69%), internal (37%), and secrets (24%).

#### What is a Phishing Attack?

- ❖ Phishing is a type of cyberattack which attempts to steal sensitive information, typically in the form of usernames, passwords, credit card numbers, bank account information or other important data in order to utilize or sell the stolen information.
- ❖ By pretending as a reputable source with an enticing request, an attacker lures in the victim in order to trick them.

#### Reasons for phishing attacks

- ❖ The report mentioned that In 2023, 15 percent of breaches involve a third party, including data custodians, third-party software vulnerabilities, and other direct or indirect supply chain issues.
- ❖ About 68 percent of breaches, whether they include a third party or not, involve a non-malicious human element, which refers to a person making an error or falling prey to a social engineering attack.

#### Steps taken by Government

- ❖ **Information Technology Act, 2000:** Section 43, 66, 70, and 74 of the IT Act, 2000 deal with hacking and cyber crimes.
- ❖ Indian Computer Emergency Response Team (CERT-In) issues alerts and advisories regarding latest cyber threats/vulnerabilities and countermeasures to protect computers and networks on a regular basis.
- ❖ National Cyber Coordination Centre (NCCC) has been set up to generate necessary situational awareness of existing and potential cyber security threats and enable timely information sharing for proactive, preventive and protective actions by individual entities.
- ❖ Cyber Swachhta Kendra (Botnet Cleaning and Malware Analysis Centre) has been launched for detection of malicious programs and provides free tools to remove the same.
- ❖ **Bharat National Cyber Security Exercise 2023:** Bharat NCX will help strategic leaders to better understand cyber threats, assess readiness, and develop skills for cyber crisis management and cooperation.
- ❖ **Chakshu Facility:** It is a newly introduced feature on the Sanchar Saathi portal that encourages citizens to proactively report suspected fraudulent communications received via call, SMS, or WhatsApp.

#### Concluding Remarks

- ❖ India is one of the key countries affected by phishing attacks, where employees often click on malicious links or attachments, often leading to severe financial losses.
- ❖ However, there's a silver lining as reporting practices have improved, with 20 percent of users now identifying and reporting phishing during simulation tests.

### CYBERCRIME SURGE IN INDIA



**Context:** Recently, the CEO of the Indian Cyber Crime Coordination Centre (I4C) highlighted that India has witnessed a sharp increase in cybercrime incidents.

### About the Cyber Crime

**Do You Know?**

- Cyber Crime is **not defined in Information Technology Act 2000** nor in the I.T. Amendment Act 2008 **nor in any other legislation in India.**
- However, the IT Act defines a computer, computer network, data, information and all other necessary ingredients that form part of a cyber crime.
- It is interpreted as **any offence or crime in which a computer is used is a cyber crime.**

- ❖ It is the use of digital technologies such as computers and the internet to commit criminal activities.
- ❖ It includes financial fraud (credit card fraud, online transaction fraud), crime against women and children with regard to sexually explicit material, and deep fake content etc.
- ❖ **Reasons for increase in Cybercrime: Rapid** Digitalisation, Large Internet User Base, Inadequate Cybersecurity Infrastructure, Insider Threats, Payment Systems Vulnerability, and Vulnerable population because of Low digital literacy etc.

### Rise in Cybercrime in India

- ❖ **Daily Complaints:** India is facing a rise in cybercrime, averaging more than 7,000 complaints daily up to May this year.
- ❖ **Cyber Fraudsters' Locations:** Many cyber fraudsters targeting India are believed to be operating from key locations in Southeast Asia, including Pursat, Koh Kong, Sihanoukville, Kandal, Bavet, and Poipet in Cambodia; Thailand; and Myawaddy and Shwe Kokko in Myanmar.
- ❖ **Upward Trend in Cybercrime:** Complaints surged by 113.7% from 2021 to 2022 and 60.9% from 2022 to 2023. The number of complaints has steadily increased over the years.

### Cyber Fraud Incidents in 2024

- ❖ **Types of Scams:** Most cyber fraud incidents involve fake trading apps, loan apps, gaming apps, dating apps, and algorithm manipulation.

### CHINA CONNECTION?

- **6L+ complaints involving ₹7,061cr** received on India's national cyber crime portal
- **3.2L mule accounts frozen** in last 4 months & **over 3k URLs and 595 apps blocked**
- **5.3L SIM cards** and over **80,000 IMEI numbers suspended** since July 2023
- India doesn't rule out China's involvement in these scams as many Chinese people work in these hubs

- ❖ **Reported Scams:** Between January and April, the I4C received 4,599 complaints about digital fraud amounting to Rs 1,203.06 crore.
  - ✓ Additionally, trading scams, investment scams, and dating scams were reported.

### Modus Operandi of Fraudsters

- ❖ **Contact Method:** Victims are contacted via normal call from India number using call spoofing.
- ❖ **Impersonation:** The fraudsters also make calls posing as officers of various law enforcement agencies.

### Challenges and Necessities

- ❖ **Alarming Trend:** This surge in cybercrime cases suggests an alarming trend and underscores the increasing challenges related to cybersecurity in the country.
- ❖ **Need for Enhanced Cyber Defence:** This also highlights the necessity for enhanced cyber defence mechanisms, public awareness, and robust legal frameworks to tackle the burgeoning issue of cybercrime.
- ❖ Challenges and impacts of cyber-crime are multifaceted that include Financial Losses, Data Breaches, Identity Theft, Disruption of Services, Loss of Intellectual Property, Reputational Damage, and National Security Concerns etc.

### Actions Taken by Law Enforcement

- ❖ **Freezing of Mule Bank Accounts:** The I4C and various law enforcement agencies have frozen nearly 325,000 mule bank accounts in the past four months.
- ❖ **Blocking of SIM Cards and Social Media Accounts:** Additionally, 530,000 SIM cards and 3,401 social media accounts, including WhatsApp groups, have been blocked.

### Related Key Provisions

- ❖ **Constitution of India:** According to the Seventh Schedule of the Indian Constitution, cybercrimes are within the purview of State Subjects.
- ❖ **Information Technology Act, 2000:** Section 43, 66, 70, and 74 of the IT Act, 2000 deal with hacking and cyber-crimes.
- ❖ Indian Computer Emergency Response Team (CERT-In) issues alerts and advisories regarding latest cyber threats/vulnerabilities and countermeasures to protect computers and networks on a regular basis.
- ❖ National Cyber Coordination Centre (NCCC) has been set up to generate necessary situational awareness of existing and potential cyber security threats and enable timely information sharing for proactive, preventive and protective actions by individual entities.

### Indian Cyber Crime Coordination Centre (I4C)

- ❖ It is an initiative of the Union Ministry of Home Affairs (MHA) to deal with cyber crime in the country in a coordinated and comprehensive manner.
- ❖ It focuses on tackling all the issues related to Cybercrime for the citizens, which includes improving coordination between various Law Enforcement Agencies and the stakeholders.

### Objectives

- ❖ To act as a nodal point to curb Cybercrime in the country.
- ❖ To strengthen the fight against Cybercrime committed against women and children.
- ❖ Facilitate easy filing Cybercrime related complaints and identifying Cybercrime trends and patterns.
- ❖ To act as an early warning system for Law Enforcement Agencies for proactive Cybercrime prevention and detection.
- ❖ Assist States/UTs in capacity building of Police Officers, Public Prosecutors and Judicial Officers in the area of cyber forensic, investigation, cyber hygiene, cyber-criminology, etc.

## VERTICALS OF I4C



### Strengthening the Cyber Security

- ❖ **Data localisation:** Most cyber crimes are trans-national in nature with extra-territorial jurisdiction. Therefore, 'data localisation' is required, so that enforcement agencies are able to get timely access to the data of suspected Indian citizens.
- ❖ **Upgrade cyber labs:** The cyber forensic laboratories of States must be upgraded with the advent of new technologies.
- ❖ **Cyber insurance:** Designing cyber insurance policies tailored to the unique requirements of diverse businesses and industries is essential.
- ❖ **Stringent Data Protection Law:** Data necessitates a robust data protection framework in India. India's Personal Data Protection Bill, 2019 is a good step in the right direction.

### Related International Measures

- ❖ **Budapest Convention:** It is the 1st international treaty to address cybercrime.
  - ✓ India is not a signatory to the treaty.
- ❖ **Internet Corporation for Assigned Names and Numbers (ICANN):** It is a US-based not-for-profit organisation for coordinating & maintenance of several databases.
- ❖ **Internet Governance Forum:** It is the United Nations forum for multi-stakeholder policy dialogue on Internet governance issues.

### Conclusion

- ❖ As the digital landscape continues to evolve, so does the nature of cyber threats. It is crucial for individuals, businesses, and the government to stay vigilant and proactive in the face of these challenges.
- ❖ With collective efforts and robust cybersecurity measures, we can hope to mitigate the risks and safeguard our digital space.

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## SCIENCE AND TECHNOLOGY

### ISRO TESTS 3D-PRINTED ROCKET ENGINE

**Context:** Indian Space Research Organisation (ISRO) successfully tested a liquid rocket engine made with the help of Additive Manufacturing Technology — commonly known as 3D printing.

#### About Rocket Engine

- ❖ The PS4 engine, designed for the fourth stage of the Polar Satellite Launch Vehicle (**PSLV**), was redesigned by ISRO for production using 3D printing.
  - ✓ The PS4 engine uses a bipropellant combination of nitrogen tetroxide as the oxidizer and monomethyl hydrazine as the fuel
- ❖ Laser Powder Bed Fusion technique used in the manufacturing process. Laser Powder Bed Fusion (**LPBF**) is a metal 3D printing technique where a laser selectively melts and fuses metal particles together, building up a 3D object layer by layer.
- ❖ The technology helped ISRO bring down the number of parts in the engine from 14 to a single piece.

#### What is 3D Printing?

##### About:

- ❖ The term 3D printing is typically used to refer to all types of additive manufacturing.
- ❖ It refers to the transformation of a digital CAD (Computer-Aided Design) file into a three-dimensional physical solid object or part.
- ❖ It typically does this by depositing material layer by layer in precise geometric shapes using a printhead, nozzle, or other printing technology.
  - ✓ It is an additive process, in which layers of a material like plastic, composites or bio-materials are built up to construct objects that range in shape, size, rigidity, and colour.

##### Process:

- ❖ The process of 3D printing a building involves the use of computer-aided design (CAD) software to create a digital blueprint.
  - ✓ This blueprint is then converted into a format the 3D printer can understand, typically a.STL or .OBJ file.

##### Application:

- ❖ It has widely been applied towards the agricultural, biomedical, automotive, and aerospace industries
- ❖ There are numerous applications of 3D printing technology for producing biomedical products such as drugs, artificial skin, bone cartilage, tissue, and organs, and in cancer research and education.
- ❖ It is used widely in the manufacturing industry and medical education field.
- ❖ It has been used to create complex walls, endodontic guides, sport shoes, engine parts for the aviation industry, and tumour reconstruction.

##### Benefits

- ❖ 3D printing technology, which has the potential to revolutionize the construction industry, offers unprecedented design freedom, reduces material waste, and significantly reduces construction time.
- ❖ It enables the creation of complex architectural forms that would be challenging to achieve with traditional methods.
- ❖ It allows for the customization and optimization of building components.
- ❖ The layer-by-layer approach of 3D printing allows precise control over material distribution and structural integrity, resulting in highly efficient and robust structures.

##### Challenges

- ❖ The slow adoption in India can be attributed to the lack of understanding about 3D printing.
- ❖ In the 3D printing industry, parts to build the printer are still very expensive.

- ❖ Lack of investment and fewer R&D centres for 3D printing are some of the additional factors that are holding back large scale adoption.

### **Future Outlook**

- ❖ 3D printing technology has emerged in recent years as a flexible and powerful technique in advanced manufacturing.
- ❖ The future demand for 3D printing lies in its capability to perform different print functions and “print-it-all” structures.
  - ✓ These functions are progressively perceived as the driving force for researchers and practitioners.
- ❖ A better understanding of 3D printing technology and its applications among users will definitely help increase its adoption
- ❖ The successful hot testing of the 3D printed PS4 engine is a significant step in leveraging additive manufacturing technology for rocket engines in the future.
  - ✓ This paves the way for the induction of the additively manufactured PS4 engine into the regular PSLV program, ushering in a new era of advanced manufacturing techniques for India’s space endeavours

## **NISAR SATELLITE WILL MONITOR TECTONIC MOVEMENTS**

**Context:** Recently the ISRO Chairman S. Somanath said that the NISAR satellite will be able to monitor tectonic movements accurately and can fully map the earth twice a month.

### **NISAR Satellite**

- ❖ NISAR is an Earth-observation satellite that stands for (NASA-ISRO Synthetic Aperture Radar).
- ❖ It is Jointly developed by the National Aeronautics and Space Administration (NASA) and the Indian Space Research Organisation under a partnership agreement signed in 2014.
- ❖ It will be launched into a polar Sun-synchronous dawn-dusk orbit.
- ❖ NISAR is the first satellite mission to collect radar data in two microwave bandwidth regions, called the L-band and the S-band.
  - ✓ The S-band payload has been made by the ISRO and the L-band payload by the U.S.

### **Monitoring of Earth Surface**

- ❖ The NISAR system comprises a dual frequency, fully polarimetric radar, with an imaging swath greater than 150 miles (240 km).
- ❖ This design permits complete global coverage every 12-days, allowing researchers to create time-series interferometric imagery and systematically map the changing surface of Earth.
  - ✓ It can monitor various aspects in very high resolution.
- ❖ After a 90-day commissioning period, the mission will conduct a minimum of three full years of science operations with the L-band radar to satisfy NASA’s requirements,
  - ✓ ISRO requires five years of operations with the S-band radar.

### **Objectives of the Mission**

- ❖ NISAR can measure tectonic plate movements accurately. So a lot of geological, agricultural and water-related observations can be obtained from this satellite.
- ❖ It can study the water-stressing, climate change-related issues, agricultural changes through patterns, yield, desertification and continental movements precisely with respect to annual water cycle movements.
- ❖ NISAR’s data can help people worldwide better manage natural resources and hazards, as well as providing information for scientists to better understand the effects and pace of climate change.

## SPACE

### PRIVATE SECTOR PARTICIPATION IN SPACE ACTIVITIES

**Context:** New Space India Limited (NSIL), invited applications from private firms for “end-to-end” manufacturing of Launch Vehicle Mark-III or LVM3, the rocket that was used in the Chandrayaan-2 and Chandrayaan-3 lunar missions.

#### About space sector

- ❖ The Indian Space Sector was valued at \$9.6 Bn in 2020, contributing 2%-3% of the global space economy.
- ❖ The size of the sector is expected to reach \$13 Bn by 2025, and by 2030 India further aims to capture a larger share of close to 10% of the global economy.

#### Private Sector's Participation

- ❖ India's space sector has entered a new era of growth and innovation with the government's decision to open up the sector to private enterprises.
  - ✓ This strategic move is aimed at boosting the development of the segment and increasing India's share in the global space economy.
- ❖ The Department of Space (DOS) desires to encourage the participation of private companies in space activities.
- ❖ ISRO's role has shifted from being the sole operator to becoming a facilitator for private sector growth.
  - ✓ The organisation is now focused on supporting private enterprises through technology transfer, sharing expertise, and providing access to infrastructure.
- ❖ The successful landing of Chandrayaan-3 on the moon's south pole has acted as a catalyst, encouraging private sector investment in space.

#### Benefits

- ❖ **Innovation and Competition:** With private companies like Skyroot Aerospace making headlines for their achievements, the sector is poised for a surge in innovation and healthy competition.
- ❖ **Global Collaboration:** The influx of FDI not only brings in capital but also fosters international collaborations, enhancing India's global standing in space technology.
- ❖ **National Development:** A strong space sector contributes to national development by improving connectivity, especially in remote areas, and aiding in disaster management and climate monitoring.
- ❖ **Cost competitive:** 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

#### Challenges

- ❖ Regulatory hurdles,
- ❖ Technology transfer complexities, and
- ❖ The need for a skilled workforce are some of the issues.

#### Governments steps

- ❖ In February, 2024, Centre amended its FDI policy, allowing up to 74% FDI for satellite manufacturing and operation, up to 49% FDI for launch vehicles, spaceports and associated systems and 100% FDI to manufacture components and systems/sub-systems for satellites, ground and user segments.
  - ✓ Beyond the above-mentioned limits investment is allowed in these segments via the government route.
- ❖ The investment in Indian Space Start-Ups has increased to \$ 124.7 Million in 2023.
- ❖ In 2020, the Indian National Space Promotion and Authorisation Centre (IN-SPACe) was established to promote, authorise and supervise various space activities of non-governmental entities (NGEs).
  - ✓ IN-SPACe has been instrumental in facilitating the entry of private players into the space sector.

- ❖ In February 2021, Centre issued guidelines for private companies to acquire all geospatial data and maps from government agencies without licences, and permission or clearances for collection, use and dissemination, except certain categories.
- ❖ The Centre unveiled the National Geospatial Policy on December 28, 2022, laying down a framework for the development of a geospatial ecosystem, allowing democratisation of data and a strengthened integrated interface for all digital data that have location.
- ❖ **The Indian Space Policy 2023:** The Union Cabinet's approval of the Indian Space Policy 2023 outlines the roles and responsibilities of key organisations like the Indian Space Research Organisation (ISRO), NewSpace India Limited (NSIL), and private sector entities, providing clarity and direction for future endeavours.

### Conclusion

- ❖ The privatisation of the Indian space sector is a bold step towards harnessing the potential of private enterprises.
- ❖ 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
- ❖ Therefore, 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.
- ❖ With the government's supportive policies and ISRO's collaborative approach, India is poised to make significant strides in the global space industry.
- ❖ Addressing the existing issues will be crucial for sustaining the momentum and ensuring the long-term success of India's privatised space sector.

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## ENVIRONMENT

### WARMING OF INDIAN OCEAN

**Context:** According to the Indian Institute of Tropical Meteorology (IITM), From 1950-2020, the Indian Ocean had become warmer by 1.2°C and climate models expect it to heat up a further 1.7°C–3.8°C from 2020–2100.

#### Key Highlights

- ❖ **Marine heatwaves:** Marine heatwaves are expected to increase tenfold from the current average of 20 days per year to 220–250 days per year. The tropical Indian Ocean will likely be in a “near-permanent heatwave state.
  - ✓ It causes habitat destruction through coral bleaching, seagrass loss and the degradation of kelp forests, adversely affecting the fisheries sector.
- ❖ The heat content of the Indian Ocean, when measured from surface to a depth of 2,000 meters, is currently increasing at the rate of 4.5 zetta-joules per decade, and is predicted to increase at a rate of 16–22 zetta-joules per decade in the future.
  - ✓ Joule is a unit of energy and one zetta-joule is equal to one billion-trillion joules ( $10^{21}$ ).
- ❖ **Thermal expansion:** Rising heat content causes the volume of water to increase, called the thermal expansion of water.
  - ✓ It is responsible for more than half of the sea-level rise in the Indian Ocean -larger than the changes arising from glacier and sea-ice melting.
- ❖ The frequency of extreme dipole events is predicted to increase by 66% whereas the frequency of moderate events is to decrease by 52% by the end of the 21st century.

#### Consequences of extreme heating

- ❖ It has significant repercussions for the southwest monsoon season, which provides about 70 per cent of India’s annual rainfall.
- ❖ The warming could also lead to more frequent and intense extreme weather events, such as tropical cyclones and floods, as well as a rise in sea levels due to thermal expansion.
- ❖ The Indian Ocean Dipole (IOD), is also expected to change due to the warming of the Indian Ocean.
  - ✓ In the positive phase of the IOD, when the western parts of the Indian Ocean are warmer than the eastern parts, monsoon rainfall generally increases across many regions in India and the rest of South Asia.
  - ✓ In the negative phase, when the western parts of the ocean are cooler than the eastern parts, less than normal rainfall is observed during the post-monsoon period in northwestern India.
- ❖ The pH levels of the ocean’s waters are projected to decrease from about 8.1 currently to 7.7 by the end of the century.
  - ✓ Changes in pH may be detrimental since many marine organisms are sensitive to the change in ocean acidity.

#### Way Ahead

- ❖ Addressing the impending challenges in the Indian Ocean demands a multifaceted approach. Reducing GHG emissions and building climate-resilient infrastructure are the most effective strategies to mitigate the current and future impacts of warming.

### G7 COUNTRIES AGREE TO END USE OF COAL POWER BY 2035

**Context:** Energy and climate ministers from the G7 group of industrialized nations have agreed to phase out by 2035 the use of coal power where the emissions have not been captured.

#### About

- ❖ The non-governmental organization had called for the G7 to set an earlier 2030 phaseout date for power generation by coal, and a 2035 deadline for gas-fired supplies.



- ❖ Together the G7 makes up around 38 percent of the global economy and was responsible for 21 percent of total greenhouse gas emissions in 2021.

### Coal Sector in India

- ❖ **Coal Reserves:** India has significant coal reserves, and it is one of the world's largest coal producers.
  - ✓ The major coal fields in India are located in the eastern states of Jharkhand, Odisha, and West Bengal, as well as in central states like Chhattisgarh and Madhya Pradesh.
- ❖ **Coal Production:** India is among the top 3 leading coal producers globally. The Coal India Limited (CIL) is the state-owned coal mining company and the largest government-owned-coal-producer in the world.
- ❖ **Coal Consumption:** The power demand in India is surging. In 2022, the requirement grew about 8 – 9%.
  - ✓ Industrial and commercial activity are among the biggest consumers of energy in the country.
- ❖ **Import and Export:** Despite being a significant coal producer, India has also been importing coal to meet the growing demand.
  - ✓ This is due to issues such as transportation challenges and the need for specific types of coal for certain industries.

### Concerns in phasing Out of Coal Power Plants

- ❖ Currently, out of the total energy produced in the country, only 22% is from renewable sources. Fossil fuels, mainly coal, still provide 75% of India's power supply.
- ❖ **Dependency on Natural Factors:** Energy sources like solar and wind are variable as they rely on natural factors like sunlight, wind and water availability.
  - ✓ To ensure a steady supply, India has to heavily invest in battery storage.
- ❖ **Concerns in Hydropower Projects:** Numerous hydropower projects are under construction or in the planning stages in the Himalayan region.
  - ✓ But they have come under fire as the projects have caused ecological damage and raised concerns about the potential conflicts over water resources in the area.
- ❖ **Nuclear Energy:** The country's plans to generate energy with the help of nuclear power plants have not really taken off.
  - ✓ During 2021-22, the plants produced about 3.15% of the total electricity generated in India.
- ❖ **Infrastructure Development:** The transition to renewable energy requires significant infrastructure development.
  - ✓ The speed and scale of this infrastructure development can be a challenge for a country as large and diverse as India.
- ❖ **Grid Integration:** Integrating renewable energy into the existing power grid is a complex task.
  - ✓ The grid must be flexible and capable of handling fluctuations in supply.

### Steps Taken by Government for Transition to Renewable Energy Sources

- ❖ India aims to reach 500 GW of renewable energy capacity by 2030, about three times the current capacity of about 180 GW.
- ❖ **National Solar Mission (NSM):** It was launched in 2010, it has set ambitious targets for solar capacity installation, including grid-connected and off-grid solar power projects.
- ❖ **Green Energy Corridors:** The Green Energy Corridor project focuses on enhancing the transmission infrastructure to facilitate the integration of renewable energy into the national grid.
- ❖ **Renewable Purchase Obligation (RPO):** This requires power distribution companies and large electricity consumers to procure a certain percentage of their power from renewable sources, encouraging the demand for renewable energy.
- ❖ **Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan (PM-KUSUM):** It includes the installation of solar pumps, solarization of existing grid-connected agricultural pumps, and the establishment of solar power plants on barren or fallow land.
- ❖ **International Solar Alliance (ISA):** India played a key role in establishing the International Solar Alliance, a coalition of solar-resource-rich countries to address their energy needs through the promotion of solar energy.

## Concluding Remark

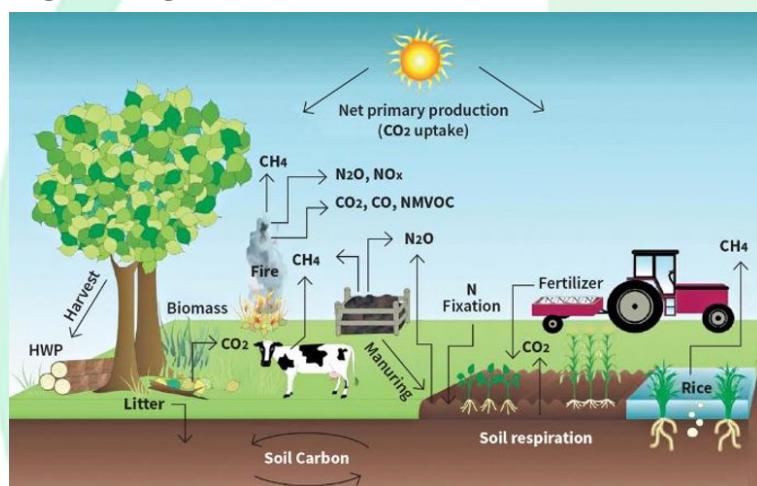
- ❖ The agreement marks a significant step in the direction indicated last year by the COP28 United Nations climate summit for a transition away from fossil fuels, of which coal is the most polluting.
- ❖ It helps accelerate the shift of investments from coal to clean technology in particular in Japan and more broadly in the whole Asian coal economy, including China and India.

## CARBON FARMING

**Context:** Techniques within carbon farming can reduce greenhouse gas emissions.

### About

- ❖ Carbon farming, also known as carbon sequestration farming or regenerative agriculture, refers to a set of agricultural practices designed to capture carbon dioxide from the atmosphere and store it in the soil or biomass.
  - ✓ The goal is to mitigate climate change by reducing the concentration of greenhouse gases in the atmosphere.
- ❖ Regions with long growing seasons, sufficient rainfall, and substantial irrigation are best suited to practise carbon farming because they provide the best conditions in which to sequester carbon, through vegetation growth.



### Common Techniques used in Carbon Farming

- ❖ **Cover cropping:** Planting cover crops like legumes or grasses during fallow periods helps to protect and enrich the soil, promoting carbon storage.
- ❖ **No-till farming:** Avoiding or minimizing tillage helps to preserve soil structure and organic matter, preventing carbon loss from the soil.
- ❖ **Agroforestry:** Integrating trees and shrubs into agricultural landscapes not only sequesters carbon but also provides additional ecosystem services such as shade, windbreaks, and habitat for wildlife.
- ❖ **Biochar:** Biochar is a type of charcoal produced from organic materials like agricultural waste. When added to soil, biochar can enhance fertility and carbon sequestration.
- ❖ **Perennial crops:** Planting perennial crops instead of annuals helps to minimize soil disturbance and increase carbon storage over time.
- ❖ Integrated nutrient management practices promote soil fertility and reduce emissions by using organic fertilizers and compost.
- ❖ Livestock management strategies including rotational grazing, optimising feed quality, and managing animal waste can reduce methane emissions and increase the amount of carbon stored away in pasture lands.

### Significance

- ❖ **Climate Change Mitigation:** By increasing carbon storage in agricultural lands, carbon farming helps mitigate climate change by reducing the concentration of greenhouse gases in the atmosphere.

- ❖ **Soil Health Improvement:** Many carbon farming practices, such as cover cropping, crop rotation, and no-till farming, enhance soil health and fertility.
- ❖ **Biodiversity Conservation:** Carbon farming methods often prioritize the preservation and restoration of natural habitats within agricultural landscapes.
  - ✓ These practices provide crucial habitat for native species, support pollinators, and enhance overall biodiversity, contributing to ecosystem resilience.
- ❖ **Resilience to Climate Change:** Climate-resilient agriculture practices, such as agroforestry and diversified cropping systems promoted within carbon farming, help farmers adapt to the impacts of climate change.

### What are the Opportunities in India?

- ❖ **Agro-Ecological Practices:** Grassroots initiatives and pioneering agrarian research in India are demonstrating the viability of organic farming to sequester carbon.
  - ✓ In this regard, agro-ecological practices in India could yield significant economic benefits, with the potential to generate \$63 billion in value from approximately 170 million hectares of arable land.
  - ✓ This estimate includes an annual payment of around ₹5,000-6,000 per acre for farmers to provide climate services by adopting sustainable agricultural practices.
- ❖ **Topography of India:** Regions with extensive agricultural land, such as the Indo-Gangetic plains and the Deccan Plateau, are well suited to adopt carbon farming whereas the mountainous terrain of the Himalayan region is less so.
  - ✓ Coastal areas are prone to salinisation and have limited access to resources, thus limited the adoption of traditional farming practices.
  - ✓ Carbon credit systems can incentivise farmers by providing additional income through environmental services.
  - ✓ Studies have shown agricultural soils can absorb 3-8 billion tonnes of CO<sub>2</sub>-equivalent every year over 20-30 years.
  - ✓ This capacity can bridge the gap between feasible emissions reductions and the indispensable stabilisation of the climate.
  - ✓ So carbon farming could also be a sustainable strategy to mitigate climate change and enhance food security in India.

### Challenges to Carbon Farming

- ❖ **Dependent on Other Factors:** Carbon farming effectiveness varies depending on multiple factors — geographical location, soil type, crop selection, water availability, biodiversity, and farm size and scale.
  - ✓ It can be challenging in hot and dry areas where the availability of water is limited, and prioritised for drinking and washing needs.
  - ✓ Limited water availability can hinder the growth of plants, thus restricting the potential for sequestration through photosynthesis
  - ✓ Selecting which plants to grow also becomes crucial because not all species trap and store carbon in the same amounts or in an equally effective manner.
  - ✓ Fast-growing trees and deep-rooted perennial grasses tend to be better at this task — but on the flip side, these types of plants may not be well-suited to arid environments.
- ❖ **Financial Assistance:** Adoption of carbon farming practices require financial assistance for farmers to overcome the costs of implementing them.
  - ✓ In the context of developing countries like India, small-scale farmers lack the resources to invest in sustainable land management practices and environmental services.

### Conclusion

- ❖ Scaling up Carbon Farming requires concerted efforts to address several challenges, including limited awareness, inadequate policy support, technological barriers, and an enabling adoption environment.
  - ✓ **Yet promoting carbon farming is in India's interests** — to mitigate climate change while improving soil health, enhancing biodiversity, and creating economic opportunities for its adopters.

- ❖ In sum, while carbon farming holds promise as a mitigation strategy, addressing these challenges is essential to realise its full potential in combating climate change.

## MONITORING OF URBAN HEAT ISLANDS

**Context:** The role of tech is in providing data-driven insights into the nature and intensity of heat stress in urban heat islands.

### Tech Innovations for Monitoring Weather and Heat Risks

- ❖ In India, several tech innovations have enhanced weather and heat risk monitoring.
  - ✓ There is the soft infrastructure of remote sensing satellites which provide data for tracking weather patterns, land surface temperatures and urban heat islands.
  - ✓ Hard infrastructure sensors are deployed in cities to gather real-time data on several parameters like temperature, humidity, precipitation and air quality.
- ❖ **Challenges:** India's tech adoption in weather and heat risk monitoring is improving but is not at par with other developed countries.
  - ✓ The leading Indian cities have seven to eight India Meteorological Development weather stations on an average, a comparable city like San Francisco would have more than 100 weather monitoring stations.
  - ✓ **Data:** India focuses more on water risk and security and hence have more granular data on precipitation, while heat is not a consistent part of the monitoring process.
    - In developed economies, weather tracking is done by a variety of actors, from academic and research institutions to government bodies to the private sector. All of this rich data provides a much more nuanced understanding of scenarios.

### What is an Urban Heat Island?

- ❖ An Urban Heat Island (UHI) is an area in which the temperature is higher than in surrounding rural areas due to human activities and infrastructure.



### International Organization for Migration (IOM)

- ❖ Urban heat islands could lead to temperature differences of up to six degrees centigrade within a given area or neighbourhood.
- ❖ Urban heat islands result from complex interactions between built environments, natural factors, and human activities.

### Factors Responsible for Urban Heat Islands

- ❖ **Built Environment:** The materials used in urban construction, such as concrete and asphalt, absorb and retain heat, raising local temperatures.
- ❖ **Reduced Vegetation:** Urban areas typically have fewer trees and green spaces compared to rural areas, which reduces the cooling effect of shade and transpiration.
- ❖ **Human Activities:** Activities like transportation, industry, and energy consumption release heat into the environment, further elevating temperatures.

- ❖ **Altered Surface Characteristics:** Urbanization often involves replacing natural surfaces with artificial ones, which alters the surface reflectivity (albedo) and thermal properties, contributing to increased heat absorption.
- ❖ **Ecological Factors:** According to a 2014 Indian Institute of Science report, the ideal tree-human ratio should be seven trees for every person. The lack of trees increases the risk of exposure to higher temperatures.
  - ✓ In Indian cities there are places with such poor density of trees as one tree for 50 people.
  - ✓ Also the lack of water bodies can add to the heat effect.

### Concerns

- ❖ **Health Risks:** Elevated temperatures in urban areas lead to heat-related illnesses such as heat exhaustion and heatstroke, particularly among vulnerable populations like the elderly, children, and individuals with pre-existing health conditions.
- ❖ **Energy Consumption:** Higher temperatures in urban areas lead to increased demand for cooling, which escalates energy consumption and associated greenhouse gas emissions.
- ❖ **Water Management:** UHIs disrupt local water cycles by altering evaporation rates and reducing groundwater recharge.
- ❖ **Social Inequity:** Vulnerable populations, including low-income communities and people living in inadequate housing, are often disproportionately affected by UHIs due to limited access to cooling resources and healthcare services.

### Suggestions

- ❖ **Increasing Vegetation:** Planting trees and creating green spaces can help reduce the urban heat island effect by providing shade and evaporative cooling.
- ❖ **Cool Roofs:** Using materials with high solar reflectance on roofs can reduce heat absorption and lower surface temperatures. White or reflective roofing materials can significantly decrease the amount of heat absorbed by buildings.
- ❖ **Urban Planning and Design:** Incorporating UHI mitigation strategies into urban planning and design can help create cooler and more livable cities.
  - ✓ This includes designing streetscapes with wider sidewalks, shade structures, and strategic placement of buildings to maximize shade and airflow.
- ❖ **Water Bodies and Fountains:** Incorporating water bodies such as ponds, lakes, and fountains into urban areas can help cool the surrounding environment through evaporative cooling and creating microclimates.
- ❖ **Community Engagement and Education:** Educating residents about the urban heat island effect and ways to mitigate it can foster community involvement in UHI reduction efforts.

### Way Ahead

- ❖ The role of tech is in providing data-driven insights into the nature and intensity of heat stress, providing early warning, and at the mitigation end look at the larger gamut of materials and coming up with 'cooler' materials.

But more importantly, the urban heat islands issue is an urban design and development issue, which needs to be looked at from a bigger lens of economic policy, city management and sustainable living in cities.

## VENEZUELA LOSES ITS LAST GLACIER

**Context:** According to the International Cryosphere Climate Initiative (ICCI), Venezuela's only remaining glacier — the Humboldt, or La Corona, in the Andes has become "too small to be classed as a glacier".

### About

- ❖ The Venezuela had been home to six glaciers in the Sierra Nevada de Mérida mountain range
  - ✓ Five of the glaciers had disappeared by 2011, leaving just the Humboldt glacier, also known as La Corona. But it shrank so much that scientists reclassified it as an ice field.

- ❖ Venezuela has lost all of its glaciers because The Andes has witnessed a temperature increase in the past seven decades.
  - ✓ Andes is the world's longest continental range of mountains running through parts of Argentina, Bolivia, Chile, Colombia, Ecuador, Peru, and Venezuela .

### Glaciers

- ❖ They are essentially large and thick masses of ice that are formed on land due to the accumulation of snow over centuries.
- ❖ They usually exist and form in areas where
  - ✓ Mean annual temperatures reach near the freezing point;
  - ✓ Winter precipitation leads to significant snow accumulations; and
  - ✓ Temperatures throughout the remaining year do not cause the complete loss of the previous winter's snow accumulation.

### Why are glaciers disappearing?

- ❖ Since the industrial revolution, carbon dioxide and other greenhouse gas emissions have raised temperatures, even higher in the poles, and as a result, glaciers are rapidly melting, calving off into the sea and retreating on land.

### Scenario In India

- ❖ India is also at the risk of losing its glaciers.
  - ✓ They are melting at unprecedented rates across the Hindu Kush Himalayan mountain ranges and could lose up to 80% of their volume this century if GHG emissions are not drastically reduced, according to a 2023 report.

### Impacts of glacier loss

- ❖ Glaciers are a crucial source of freshwater, especially during hot, dry periods, for local communities, plants, and animals.
  - ✓ Their disappearance would mean that one would have to be entirely dependent on spot rainfall for freshwater.
- ❖ Melting glaciers add to rising sea levels, which in turn increases coastal erosion and elevates storm surge as warming air and ocean temperatures create more frequent and intense coastal storms like hurricanes and typhoons.
- ❖ The cold water that runs off glaciers keeps downstream water temperatures cooler. This is crucial for many aquatic species in the region as they need cold water temperatures to survive,
  - ✓ Glacier loss directly impacts such species, which are an essential part of the food web.

### Measures

- ❖ **Enact regulations:** Limit or prohibit activities such as mining, drilling, development, and tourism in glacier zones.
  - ✓ There should be a complete ban on economic development projects in environmentally sensitive areas, with local people and geologists actively involved to voice their concerns for any future proposals for developments in these areas or their vicinity.
- ❖ **Research and scientific studies:** Conduct ongoing research to understand glacier dynamics, climate impacts, and potential consequences of glacial retreat.
  - ✓ Use AI and e-DNA techniques to monitor and analyze glacier data, predict behavior, and identify potential risks.
- ❖ **Reduce greenhouse gas emissions:** Implement measures to mitigate climate change, which is the primary driver of glacier loss.

**Glacier augmentation:** Explore techniques to increase ice accumulation, such as artificially enhancing snowfall or spraying water vapor.

**Context:** The 26th meeting of the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA-26) of the Convention on Biological Diversity (CBD) has concluded recently.

### About

- ❖ The SBSTTA, is a multidisciplinary body open to all Contracting parties, which provides scientific and technical assessments of the status of biodiversity.
- ❖ It recommended fully implement The Biodiversity Plan adopted at Montreal in 2022.
- ❖ They would be deliberated upon further at the 16th meeting of the Conference of the Parties (COP16).
  - ✓ The conference will be held in the Colombian city of Cali from October 21-November 1, 2024.

### Issues Discussed at the Meeting

- ❖ Scientific and technical needs to support the implementation of the Kunming-Montreal Global Biodiversity Framework.
- ❖ Detection and identification of living modified organisms.
- ❖ Risk assessment and risk management.
- ❖ Synthetic biology.
- ❖ **Marine and coastal biodiversity:** Ecologically or biologically significant marine areas and Conservation & sustainable use of marine and coastal biodiversity.
- ❖ Biodiversity and health.
- ❖ Monitoring framework for the Kunming-Montreal Global Biodiversity Framework.
- ❖ The meeting set the stage for a potential agreement on how the world defines — and consequently protects — ecologically or biologically significant marine areas (EBSA).

### Convention on Biological Diversity (CBD)

- ❖ CBD is the international legal instrument for “the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources”.
- ❖ It was signed by 150 government leaders at the 1992 Rio Earth Summit, it has been ratified by 196 nations.
- ❖ Its overall objective is to encourage actions, which will lead to a sustainable future.
- ❖ It has two supplementary agreements, the Cartagena Protocol and Nagoya Protocol.
  - ✓ Cartagena Protocol on Biosafety seeks to protect biological diversity from the potential risks posed by genetically modified organisms resulting from modern biotechnology.
  - ✓ Nagoya Protocol aims for the fair and equitable sharing of benefits arising out of the utilization of genetic resources.
- ❖ The CBD’s governing body is the Conference of the Parties (COP).
- ❖ All parties that have ratified the treaty meets every two years to review progress, set priorities and commit to work plans.
- ❖ The Secretariat of the CBD is based in Montreal, Canada.

### GLOBAL LAND OUTLOOK THEMATIC REPORT ON RANGELANDS AND PASTORALISTS

**Context:** According to the report by the UN Convention on Combating Desertification (UNCCD), pastoralists in India, who rear livestock and depend on grasslands, need better recognition of their rights and access to markets.

### Key Findings of report

- ❖ Almost half of the world’s rangelands are degraded due to climate change, population growth, land-use change and growing farmlands.
- ❖ Pastoralists are a marginalized community with little influence on policy decisions, resulting in uncertainty over access to common land and land rights.
- ❖ Grasslands have been virtually overlooked in environmental conservation and ecosystem restoration policies in favor of forestry-based interventions, which includes converting natural grasslands into plantation forests or other uses.

- ❖ **Degradation:** Less than 5 percent of India's grasslands fall within protected areas, and the total grassland area declined from 18 to 12 million hectares between 2005 and 2015.

### What are Rangelands?

- ❖ Rangelands are characterized by low vegetation and comprise grasslands, shrublands, wetlands, desert, semi-arid land, mountain pastures, plateaus and tundra.
- ❖ They cover 80 million sq km, which is 54 percent of the earth's land surface.
- ❖ These rangelands are an important ecosystem to fight against climate change as they act as carbon sinks and prevent soil erosion, land degradation and desertification.

### Rangelands in India

- ❖ Rangelands occupy about 121 million hectares in India and a large part (around 100 million hectares) of these is considered underutilized.
- ❖ The report highlighted that around 120 million hectares of land in India is degraded due to water erosion (82 million hectares), wind erosion (12 million hectares), chemical contamination (25 million hectares), and physical degradation (1 million hectares).
- ❖ Pastoralist communities in India
- ❖ Pastoralists contribute to the economy through livestock rearing and milk production.
- ❖ The population of pastoralist communities, comprising groups such as Maldharis, Van Gujjars and Rabaris, among others, is estimated to be 20 million or more.
- ❖ The livestock sector of the economy contributes 4 percent of national gross domestic product and 26 percent of agricultural gross domestic product.
- ❖ India accounts for 20 percent of the world's livestock population.

### Government measures

- ❖ Forest Rights Act 2006 has helped pastoralists obtain grazing rights across states in the country.
- ❖ Government through welfare schemes has provided assistance to pastoralists under the National Livestock Mission, Animal Husbandry Infrastructure Development Fund and the Rashtriya Gokul Mission on sustainable dairy production.
- ❖ India has launched several programmes to combat land degradation including the National Afforestation Programme, Green India Mission, and Watershed Development Component.
- ❖ Suggestion
- ❖ Integrated climate change mitigation and adaptation strategies with sustainable rangeland management plans are needed to increase carbon sequestration and storage while boosting the resilience of pastoralist and rangeland communities.
- ❖ Avoid rangeland conversion that diminish the diversity and multifunctionality of rangelands, especially on indigenous and communal lands.
- ❖ Adopt and support pastoralism-based strategies that help mitigate harms to rangeland health, such as climate change, overgrazing, soil erosion, invasive species, drought, and wildfires.

## WATER FOR SHARED PROSPERITY REPORT

**Context:** The World Bank has released the Water For Shared Prosperity report at the 10th World Water Forum in Bali, Indonesia.

- ❖ World Water Forum
  - ✓ The World Water Forum is organized every three years between the World Water Council and a host country.
  - ✓ The Forum provides a unique platform where the water community and key decision makers can collaborate and make long-term progress on global water challenges.
  - ✓ The Forum brings together participants from all levels and areas, including politics, multilateral institutions, academia, civil society and the private sector, among others

### About



- ❖ It highlights the global inequalities in water access and recommends pro-poor and inclusive interventions to improve water security and boosting shared prosperity.
- ❖ The report emphasises the widening gap in access to water resources and services, with implications for human and economic development worldwide.

### Major Highlights of the Report

- ❖ **Water determines prosperity through three primary channels:** as safe drinking water, as an essential input for various economic sectors, and as a critical support for ecosystems.
- ❖ **Access to Safe Water:** In 2022, 2.2 billion people lacked access to safely managed drinking water services, while 3.5 billion lacked access to safely managed sanitation.
  - ✓ Low-income countries, in particular, have seen regression in access to safe drinking water, with an additional 197 million people lacking access since 2000.
- ❖ **Rural – Urban Gap:** Eight out of ten people who do not have access to basic drinking water and sanitation services live in rural areas, and little progress has been made in closing the rural-urban access gap in low-income countries over the last two decades.
- ❖ **Most Water Stressed:** Hotspots in the Sahel, Southeastern Africa, and South and Central Asia are the most water stressed.
  - ✓ The Democratic Republic of the Congo has more than half of Africa's total water resources.
- ❖ **Climate change:** Climate change is also increasing water-related risks.
  - ✓ Between 2000 and 2021, developing countries experienced more severe droughts and longer-lasting floods than advanced economies, which had long-term consequences for nutrition, school attendance, and economic welfare.
- ❖ **Risk of Drought:** Globally, over 800 million people are at high risk of drought, with twice as many living in flood-prone areas.
- ❖ **Employment:** Water-intensive sectors account for 56 percent of jobs in low-income countries but only 20 percent in high-income countries.
  - ✓ In Sub-Saharan Africa, where water-dependent jobs account for 62 percent of total employment, low rainfall availability frequently results in significant negative gross domestic product or GDP growth.
- ❖ **Poor Water, Sanitation and Hygiene (WASH):** At the global level, during 2019 alone, poor WASH conditions contributed to between 1.4 and 4.2 million deaths.
  - ✓ Lack of access to WASH also affects optimal cognitive development, school attainment, labor productivity, and income.

### Recommendations

- ❖ Enhancing resilience to extreme hydro-climatic risks for the poorest by
  - ✓ Setting up robust and inclusive early-warning systems.
  - ✓ Developing insurance programs for weather risks.
  - ✓ Scaling up social protection schemes to assist vulnerable communities impacted by floods, droughts, or both.
- ❖ Improving water resources development, management, and allocation by
  - ✓ Scaling up nature-based solutions through innovative financing schemes and evidence-based approaches.
  - ✓ Enabling coordination of and cooperation for water allocation through information sharing and financial incentives.
  - ✓ Adopting water accounting to inform water allocation decisions.
- ❖ Improving equitable and inclusive service delivery by
  - ✓ Scaling up financing through institutional and tariff reforms.
  - ✓ Creating an enabling regulatory and policy environment to promote innovations.
  - ✓ Improving coordination of institutions responsible for water, health, education, and urban planning.

**Context:** After 25 years of negotiations, the World Intellectual Property Organization (WIPO) Treaty, associated with the genetic resources and traditional knowledge was concluded in Geneva.

### **What are Genetic Resources and associated Traditional Knowledge?**

- ❖ Genetic resources (GRs) are present in things like medicinal plants, agricultural crops, and animal breeds.
  - ✓ While genetic resources themselves cannot be directly protected as intellectual property, inventions developed using them can, most often through a patent.
- ❖ **Associated Traditional Knowledge:** Some genetic resources are also associated with traditional knowledge through their use and conservation by Indigenous Peoples as well as local communities, often over generations.
  - ✓ This knowledge is sometimes used in scientific research and, as such, may contribute to the development of a protected invention.

### **About the treaty**

- ❖ The treaty will establish in international law a new disclosure requirement for patent applicants whose inventions are based on genetic resources and associated traditional knowledge.
- ❖ The treaty after entering into force will require contracting parties to put in place mandatory disclosure obligations for patent applicants to disclose the country of origin or source of the genetic resources when the claimed invention is based on genetic resources or associated traditional knowledge.
- ❖ This will offer added protection to Indian Genetic Resources and Traditional Knowledge, which while currently protected in India are prone to misappropriation in countries, which do not have disclosure of obligations.

### **Significance**

- ❖ This is the first WIPO treaty to address the interface between intellectual property, genetic resources and traditional knowledge
- ❖ It is also the first WIPO treaty to include provisions specifically for indigenous peoples and local communities.

### **Way Ahead**

- ❖ The treaty on intellectual property, genetic resources and associated traditional knowledge at the World Intellectual Property Organization (WIPO) is a “significant win” for India and the global South, comprising mainly low-income and developing countries.
- ❖ It paves the way for bridging conflicting paradigms within the Intellectual Property (IP) system.

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