

WEEKLY CURRENT AFFAIRS MAGAZINE for

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**Topic 1. NEED TRILLIONS OF DOLLARS TO MEET THE NET-ZERO TARGET  
BY 2070: INDIA AT COP27**

*Important for subject: Environment*

India would require "tens billions in 2050" to transition to the sustainable development pathway which would lead it to zero-carbon status by 2070..

**Long-term Strategy document (LT-LEDS)-**

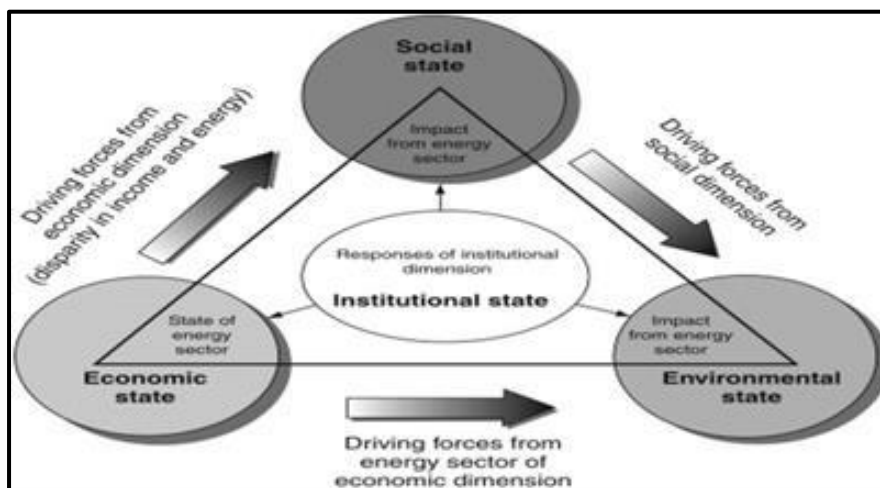
- Each country is required to present its long-term strategy and outline how it will reach the goal of net-zero. However, there are only 57 states (including India) have submitted the strategy.
- The developed countries must reach net-zero by 2050, China in 2060 and India in 2070.
- The climate goal of India is not until 2030.
- A little over 2 trillion dollars will be needed to meet adapting purposes for the short-term from now until 2030.
- Concepts such as "climate justice" and "sustainable lifestyle" were incorporated into the plan.
- The concept of climate justice refers to a notion which addresses the equitable parting, fair sharing and equitable distribution of impacts and benefits of climate change, as well as the responsibility to tackle climate change.
- It examines concepts like equality and rights of the individual, collective rights, as well as the historical responsibility to combat climate change.
- sustainable living is a way of life which aims to limit the consumption of the Earth's natural resources by either an individual or a society.
- It is often referred to as "zero waste lifestyle" as well as "net zero-living".
- By 2020 as of 2020, the OECD report states that developed nations have raised and have provided 83.3 billion dollars in climate finance to meet the pledge to mobilize 100 billion dollars by 2020.
- It is reported that the Oxfam study claims that it's only one-third of what is claimed to be the sum (21-24.5 billion US dollars).
- In its NDC (nationally-determined contributions) in 2015, India

emphasised the need of around 206 billion USD (at 2014-15 prices) between 2015 and 2030 for implementing adaptation actions in agriculture, forestry, fisheries, infrastructure, water resources and ecosystems.

- Differentiation Between Long Term Strategy (LTS) and NDCs NDCs have specific goals or actions which must be met by the year 2030.
- The long-term plans must identify the low-carbon pathways estimated to will eventually lead to a country becoming net-zero.

**Topic 2. INDIA'S LONG-TERM STRATEGY TO TRANSITION TO A 'LOW EMISSIONS' PATHWAY INVOLVES MORE NUCLEAR POWER, MORE ETHANOL**

*Important for subject: Environment*



India revealed its long-term plan to move to the concept of "low emission" way to go for that of the United Nations Conference of Parties (COP) which is currently taking place in Sharm el-Sheikh, Egypt, which is based on expanding the capacity of its nuclear power plant at least three times over the next 10 years, apart from being an international center for the production of green hydrogen as well as growing the proportion of gasoline containing ethanol.

**What are India's LT -LEDS (Long-term Low-Emission Development Strategies) (Long-term low emission development strategies)?**

- Among the 195-member countries, there are only the 57 members have

provided their long-term documents including India.

- Make the most of electric vehicles with the blending of ethanol to be 20 percent in 2025 (currently 10 percent) and a major move to public transport for freight and passenger traffic.
- The focus should be on improving energy efficiency through the Perform achieve and Trade (PAT) scheme as well as the National Hydrogen Mission, increasing electrification, improving the efficiency of materials recycling, and other methods to cut emissions.
- The forests and cover of trees in India are an effective carbon sink, absorbing 15 percent of CO<sub>2</sub> emissions 2016 and the country is well on its way to meet the Nationally Determined Contributions (NDC) commitment of 2.5 to 3 billion tonnes of further carbon capture in trees and forests until 2030.

### **PAT scheme**

- It's a mechanism based on market forces to further speed up and encourage efficiency in energy use in the vast energy-intensive sectors.
- The Energy Savings Certificates (ESCerts) were launched by India in 2011, under the PAT, of the Bureau of Energy Efficiency (BEE) under the National Mission of Energy Efficiency.
- NMEEE is among the national mission eight that are part of the National Action Plan on Climate Change (NAPCC) initiated under India's Government of India in the year 2008.

### **Energy Savings Certificates (ESCerts):**

- This market-based method is made possible by transactions in Energy Savings Certificates (ESCerts) that are given to facilities that have exceeded their goals.
- Underachievers can purchase ESCerts via two power exchanges namely Indian Energy Exchange (IEX) and Power Exchange India Limited (PXIL).
- Industries that participate in the scheme are known as designated



consumers (DC).

### Sectors Covered:

- **PAT included about 13 industries that require energy:** Thermal power plants (TPP) cement, aluminum iron and steel pulp and paper, fertilizer chlor-alkali refineries for petroleum, petrochemicals railways, distribution companies, commercial and textile buildings (hotels and airfields).

### Additional initiatives that Promote Energy Conservation and Energy Efficiency:

- Standards and Labelling
- Energy Conservation Building Code (ECBC)
- Demand Side Management
- SAATHEE Portal

## Topic 3. INDIA TO UNVEIL ITS LONG-TERM LOW CARBON STRATEGIES

### TODAY

*Important for subject: Environment*

## India's road to 'net zero'

At COP-27, India announced its long-term strategy to transition to a 'low emissions' pathway to become carbon neutral by 2070

**KEY MILESTONES**

- The National Hydrogen Mission, launched in 2021, aims to make India a green hydrogen hub
- At least a three-fold increase in nuclear capacity by 2032
- Achieving an ethanol blending target of 20% by 2025

- Maximising the use of electric vehicles, increase public transport
- Increased climate finance to be provided by developed nations
- The long-term strategy aims at keeping global temperatures well below 2 degrees Celsius and, ambitiously, 1.5 degrees Celsius by the century-end



Environment Minister  
Bhupender Yadav at the COP-27 summit in Egypt on Monday.  
REUTERS

In the climate-change summit in Egypt, India will unveil its long-term decarbonization strategies in pursuit of its ambition to achieve a net-zero state in



2070.

- In the Paris Agreement, countries are required to submit long-term actions plans with low emission plans by 2050, which conform to the goal of keeping the temperature rise to 1.5 degrees, or 2 degrees Celsius from pre-industrial levels.
- This is apart from the short-term action plans, called nationally-determined contributions or NDCs, that the countries have to submit, detailing the climate actions they are taking over five- or ten-year periods.

### The long-term strategies



- The long-term plans for action were expected to be presented before 2020 however, they were not possible because of the pandemic.
- So far, 62 nations have presented their long-term plans which include the three biggest emitters -three of them - China and China, the United States and the European Union.
- India is the 4th largest emitter of greenhouse gas emissions.

- It will include details of the major sectors that will be able to transition to low-carbon until the goal of net zero being reached by 2070.

### **What makes it unlike NDCs?**

- Strategies for the long-term are distinct from non-derivative contracts.
- NDCs contain specific goals or actions which must be met by 2030.
- The longer-term strategies must identify the low-carbon pathways estimated to can lead to a nation becoming net-zero.

### **How India intends to achieve Net-Zero Target?**

- India stated that achieving targets for climate change required the phase-out off of fossil fuels in general, not just coal.
- Selected singling out of sources of emissions, with the intention of either identifying them as more harmful or "green and sustainable" even when they all have the potential to generate greenhouse gas emissions did not have any basis in the most reliable science available.
- The Indian proposals did not include coal, but they did use the most recent IPCC report to stress the need for the elimination for any fossil fuel was needed.
- In the last Glasgow meeting last year, India was able to force an untimely change to one of the resolutions concerning the elimination of coal. The phrase "phase-out" changed to "phase-down".

### **India's position on the mitigation work program**

- India supported by a few other nations, has obstructed an attempt to introduce a plan from the developed countries to concentrate an entirely new mitigation programme on the most prolific emitters of greenhouse gases.
- There are many developing nations among those in the top twenty emitters who have no obligation in the past to cut their emissions.
- They are opposed to the possibility of reopening the Paris Agreement which clearly stipulates that the climate obligations of nations must be at

the national level and not imposed by external forces.

### India's dependence on Coal:

- About 55% all of India's electricity demands are derived directly from coal-based power sources, even after the massive expansion of Renewable energy market.
- India will be able to depend on coal as a significant generator of electricity for up to three years even when new power plants that are coal-fired aren't likely to emerge.

## **Topic 4. COP27: HOPES FOR A SUSTAINABLE GLOBAL TRANSPORT SYSTEM AT AN ALL-TIME HIGH**

*Important for subject: Environment*



The leaders at the COP27 discuss the transportation area, which is one of the most polluting sectors in the world.

- While the shift to low-carbon transportation is an important goal however, it is necessary to find solutions that satisfy the other requirements of transportation, like accessibility to all, efficiency and security.

### **Promise made by major players in the transportation sector:**

- The Union International des Transports Publics (UITP), an international

group of public transport, anticipates the COP27 will bring sustainable transportation to the top in this year's climate negotiations.

### **Realistic, but ambitious goals:**

- The International Maritime Organization (IMO) has committed to reducing GHG emissions in shipping.
- The IMO's strategic plan to be implemented for 2018-2023 is a firm supporter of the implementation of United Nations' Sustainable Developments Goals and highlights the goals as one of the major directions for IMO.
- Shipping is responsible for more than 3 percent in the greenhouse gases released by global industries annually.
- It is crucial in it to be a vital part of the world economy and accounts for 90% of commerce carried out by ships.
- In order for the industry to reach its 1.5 degree Celsius requirement as per the Paris Agreement, the sector must achieve its 2030 goal of achieving scalable zero emission fuels that comprise 5 percent of the global transportation fuel mix.
- The IMO's mission is to reduce the carbon intensity for transport work by at least 40 % by 2030.
- They are also working toward 70 per cent by 2050.
- The goal is to reduce the total annual GHG emissions from international shipping to at least 50 percent in 2050.
- A group of correspondence was created by MEPC 1978 to create draft guidelines for the intensity of GHG emissions over the life cycle for marine-based fuels (LCA Guidelines).
- In October of this year The International Civil Aviation Organization's meeting sets the target of "net-zero carbon emissions by 2050".
- Sustainable Aviation Fuel (SAF) commitments from COP26 The significant decision was made by a group to accept the International Aviation Climate Ambition Declaration.
- Its primary goals are to maximize the efficiency that can be achieved through its Carbon Offsetting and Reduction Scheme for International

Aviation (CORSIA), and to facilitate the development and use for sustainable air fuel (SAF).

- Global airlines have demonstrated their commitment to SAF in the lead-up to the COP27 with British Airways, Air France-KLM and Qatar Airways leading the way.

#### **Initiatives taken are:**

- British Airways, Lanza Jet and Nova Pangaea Technologies have signed an agreement to speed up development of the Project Speed bird initiative to develop efficient SAF for commercial applications.
- Air France and KLM signed multiple-year agreements with SAF suppliers Neste and the DG Fuels for a total amount that is 1.6 million tonnes.
- The contracts are a first step for the Group to reach its 10 percent SAF incorporation goals in 2030 and will provide about 3 per cent of that 10%.

#### **What is Green Transport?**

- Green transportation (Sustainable transportation), refers to methods of transport that do not adversely impact the ecological balance and environment and also human health.
- Components to assess sustainability are: Vehicles (car bus, aeroplane and ships, etc.)
- The source of power (wind as well as solar energy) electricity and biomass, etc.)
- Infrastructure (roads railways, roads airways, waterways, etc.)

#### **Benefits:**

##### **Improves Air Quality:**

- Replacing a variety of emission-producing vehicles by fewer transport vehicles that typically emit less pollutants on a per-person basis.

##### **Reduces Greenhouse Gas Emissions:**

- With the ability to transport more people and less cars, the public transport system could lower the greenhouse gases emissions. Public transportation generates significantly less carbon dioxide emissions for each mile than private vehicles.

### **Reduces Congestion:**

- In addition to the reduction of greenhouse gas emissions through encouraging small-scale development, public transportation helps reduce traffic and congestion on roads.
- In addition, by reducing congestion, the transit system reduces the emissions of vehicles that are that are stuck in the traffic.

### **Promotes Health:**

- Since sustainable transportation helps reduce emissions and pollution from the air and improves the community's health.
- Other green modes of transport, like biking and walking, provide fitness to commuters, without releasing any emission. This improves their health as well as the health of the community as a whole.

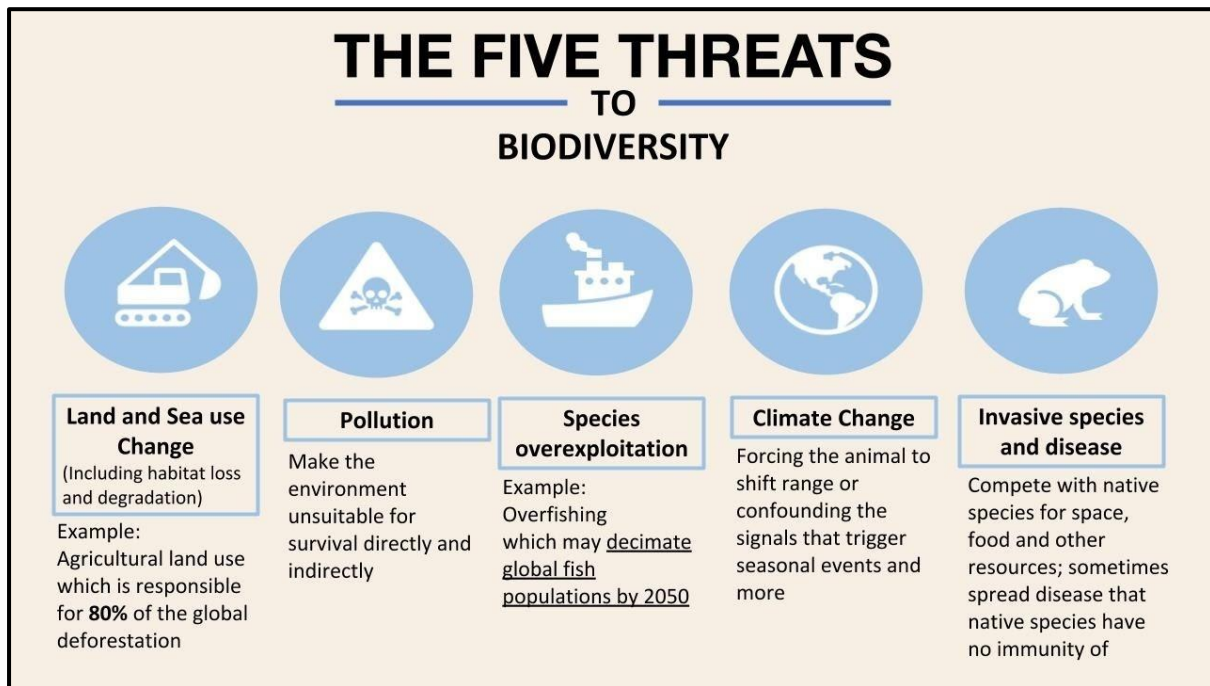
### **E- Mobility:**

- Electromobility involves an electric vehicle that is used in vehicles and electric bicycles or pedelecs, motorbikes, electric buses and e-trucks.
- The most common characteristic devices is the fact that they're entirely or partially driven by electrical energy as well as have a method to store energy on board, and get their energy via the grid.
- E-mobility is characterized by very low or zero tailpipe emissions of local air pollutants, and significantly less noise it is an one of the more ingenious clusters in the automotive industry it can give a significant boost to industrial and economic competitiveness and attract investment particularly in the countries.



## Topic 5. LAND; SEA USE CHANGES ARE DRIVERS OF BIODIVERSITY LOSS

*Important for subject: Environment*



A fresh analysis of research released since 2005 suggests that the use of land and sea change is the main driving force behind the loss of biodiversity across the globe.

- Direct extraction of natural resources is the second largest driving force on land, but the primary one for oceans.

### The many elements:

- It is estimated that the Asia Pacific region lost 45 percent of its vertebrate population within four and a half decades.
- The global average is 68 percent.
- Five major causes for the loss of biodiversity around the globe Changes in land and marine use(habitat destruction and loss), Excessive exploitation of wildlife A invasive species along with illness,Pollution and Climate change.
- The Asia Pacific region including India Habitat loss is the most significant reason for the decline in habitat, followed by species overexploitation and



the spread of invasive species and diseases.

- The WWF factsheet noted that more than one third of Indian wetlands are being affected by the pressure of agriculture, urbanisation and pollution.
- The fragmentation of habitats and the pollution that comes from it, particularly from insecticides and pesticides are affecting the biodiversity status of the country.
- The company also posted figures to demonstrate the extent to which forest land is being removed and has impacted the biodiversity.
- Around 43 percent of forests that is recommended to be diverted for diversion in 2019 is in areas of wildlife habitats that are sensitive to ecological change.

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### **Topic 6. WHY ARE TALKS ON 1.5°C AT A CLIFF EDGE AT COP27?**

#### ***Important for subject: Environment***

Research reports from the UN indicate the very small window that is that is available to close the emissions gap and prevent the increase in temperature averages above 1.5degC.

#### **What is it that makes the 1.5degC target not being met?**

- Its Emissions Gap Report for 2022 states that even if all conditions of nationally determined contributions (NDCs) that are followed by targets to cut emission to zero net met Global warming is predicted to increase to 1.8degC with an average of 66.
- The report also states that global emissions in 2021 will be 52.8 Gigatonnes (GtCO<sub>2</sub>e), represents an small increase over the year of 2019, the year prior to COVID.
- Important tipping points include the possibility of Greenland collapse of the ice sheet West Antarctic ice sheet collapse and the thawing of boreal permafrost, as well as the death of coral reefs in tropical areas All of these are predicted to occur at 1.5degC.
- Tipping points refer to instances that can trigger irreparable changes, and

an effect that can be seen in other elements like monsoons or heat waves.

### **What is the consensus of scientific studies about the impact of the storm?**

- It is the COP27 is described as the Implementation CoP.
- The official reports of the Intergovernmental Panel on Climate Change (IPCC) highlights countries whose national commitments are far from the reductions required.
- The most recent Sixth Assessment Report (SAR) of the IPCC declares that the loss of biodiversity, Arctic ice loss, threats to coastal settlements, and infrastructures will all be felt as conflicts, displacement of people affected and urban issues with water and energy access may also occur.
- After 2040, and until the at the end of the century with a 2 degree Celsius rise in global average temperatures as high as 20% reduction in the amount of snowmelt used to be used for irrigation, less irrigation water for agriculture and human settlements as a result of the loss of glacier mass, and an increase of twofold in flood damages could occur and the possibility of 18% or more the species that live on land could become extinct.
- In tropical areas there could be an increase in intensity and frequency of extreme weather phenomena such as storms.

### **What will be the central issue of the negotiations at COP27?**

- The countries most affected by the consequences of a changing climate are seeking compensation for damages and losses from industrialized nations that are wealthier which have contributed the most carbon dioxide in the atmosphere.

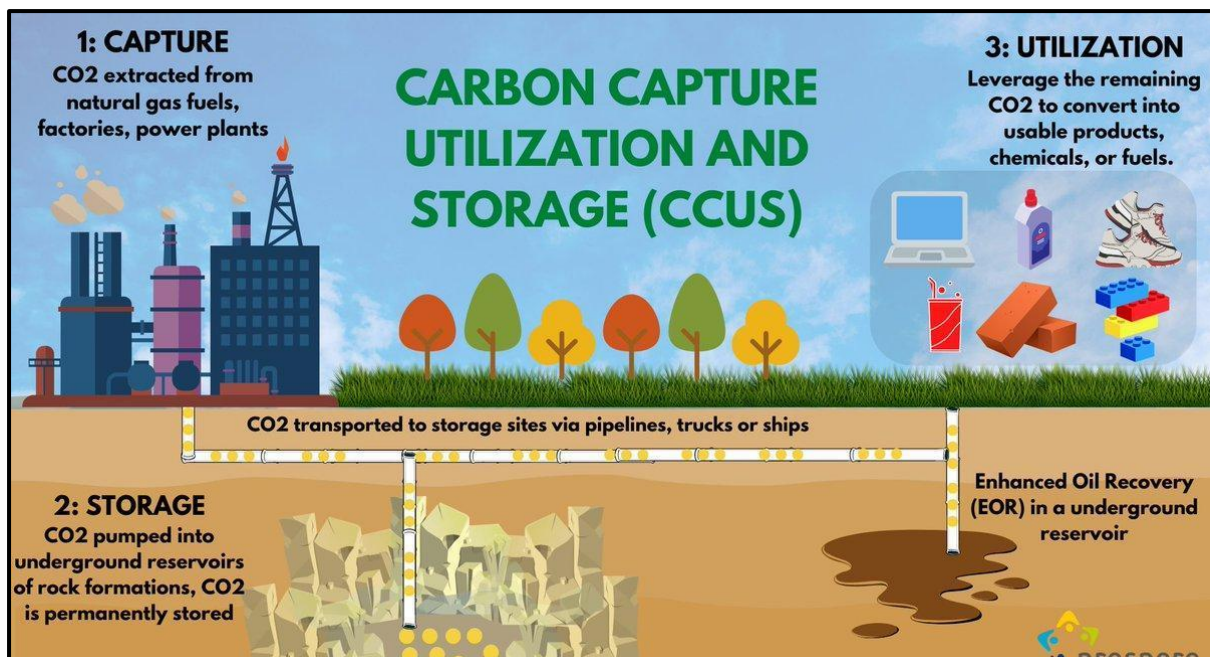
### **The background of emissions is described in the following manner:**

- CO2 levels at the Mauna Loa observatory in Hawaii was 416.22 parts per million (ppm) on November 11.
- The concentration reached 315 ppm in the year 1958 as well as that level in pre-industrial revolution average was 282 per milliliter.

- The emerging economies as well as small climate-affected nations assert that they were not at fault for the accumulation of CO<sub>2</sub>. Many would like a huge damages and loss fund to be established independent of the \$100 billion per year that was agreed upon under the Paris Agreement.

## Topic 7. CARBON CAPTURE UTILISATION AND STORAGE (CCUS)

*Important for subject: Environment*



Carbon Capture, Use and storage (CCUS) include methods and techniques to remove CO<sub>2</sub> from flue gas as well as from the atmosphere, then recycling the CO<sub>2</sub> to be used and determining secure and long-lasting storage alternatives.

- CO<sub>2</sub> captured by the CCUS technology converts to fuel (methane and Methanol) refrigerants, building materials.
- The gas captured is used for fire suppression food and beverage, pharmaceutical industries, as well as in the agriculture sector.
- CCU technologies could be a significant factor in achieving net zero goals, including as one of the only solutions to reduce emissions generated by industries that are heavy and to reduce carbon emissions from the air.
- The CCUS program is regarded as an essential instrument to assist countries in halving their carbon emissions by 2030 and achieve net zero

by 2050.

- These goals are essential to achieve those Paris Agreement targets for limiting the global temperature rise to 2° Celsius (degC) and more preferable up to 1.5degC, over preindustrial levels.
- The CCUS technologies provide the base for carbon removal as well as "negative emission" when the CO<sub>2</sub> comes from bio-based processes or directly from the atmosphere.
- There are approximately 35 facilities commercially that apply the CCUS to process industrial operations, transformation of fuels, and power generation.
- Facilities for CCUS currently capture nearly 45 Mt of CO<sub>2</sub> in the world, but this needs to be increased.

#### **Carbon Avoidance:**

- Carbon avoidance is a method of aiming to stop carbon from becoming released in the atmosphere.
- Carbon avoidance may occur through carbon offsets or direct measures for reducing carbon.
- A variety of human activities leave significant carbon footprint but especially significant is the industrial combustion of fossil fuels as well as the destruction of carbon sources like forests.
- Carbon avoidance initiatives seek to reduce the emissions of carbon dioxide by focusing on the activities that cause them and then capturing the carbon they produce or stopping the activities entirely.

#### **The impacts of carbon reduction on emissions:**

- Carbon avoidance through offsets doesn't address the fundamental issue of reducing CO<sub>2</sub> emissions overall.
- Carbon avoidance using direct carbon reduction measures can accomplish the goal of reducing CO<sub>2</sub> emissions overall.
- The efficiency of carbon reduction through carbon offsets is contingent upon the nature of the project and whether the project is in a way that is

permanent is in line with certain requirements and standards for the project and doesn't engage in greenwashing.

- Carbon reduction through direct measures to reduce carbon emissions is highly effective since it reduces emissions right at the source.

**The most significant advantages of carbon reduction:**

- Carbon avoidance helps in the fight against climate change and improves air quality and helps protect ecosystems.

**The major disadvantages of carbon reduction:**

- Limitations on carbon offsets and the dependence on fossil fuels worldwide are disadvantages of carbon reduction strategies.

**Topic 8. A SATELLITE DATA SYSTEM WILL HELP DETECT AND ACT ON METHANE EMISSIONS**

*Important for subject: Environment*

The infographic is divided into two main sections. The left section features a central image of Earth with several circular insets showing satellite data, including a methane plume over a region and a map of methane concentration. A color scale for methane (ppb) ranges from 0 to 1930. The right section is titled 'MARS HAS FOUR COMPONENTS' and lists the following:

- 1 METHANE Detect and Attribute:** IMEO will coordinate with the Committee on Earth Observation Satellites and work with existing global mapping satellites (EU/ESA Copernicus Sentinel 5/TROPOMI) to identify very large methane plumes and methane hot spots and conduct further analysis using other satellites (e.g. ASI PRISMA; EU Copernicus Sentinel-2; NASA Landsat; DLR EnMAP) and datasets to enable attribution of the event to a specific source.
- 2 ALERT Notify and Engage Stakeholders:** IMEO will work directly and through partners to notify relevant governments and companies to large emission events happening in or near their jurisdictions or operations and will continue this engagement as more information becomes available.
- 3 RESPONSE Stakeholders Take Abatement Action:** It will be up to the notified stakeholders to determine how best to respond to the notified emissions and share their actions with MARS to show initiative. As appropriate, MARS partners will be available to provide support services at this stage, e.g. assistance with assessing mitigation opportunities and/or support for mitigation actions.
- 4 SYSTEM Track, Learn, Collaborate, Improve:** IMEO will continue to monitor the event location for future emissions as mitigation efforts proceed. Once the MARS system is fully operational, IMEO and partners will make data and analysis publicly available between 45 and 75 days post detection. IMEO will foster collaboration across the MARS ecosystem to draw lessons from these notified events that can be applied to improve MARS and methane action in general.

At the bottom, it states: 'In implementing MARS, IMEO will collaborate with various institutional partners, including the International Energy Agency and the Climate and Clean Air Coalition.'

An innovative technology based on satellites can help authorities to detect methane-related emissions and address methane emissions and tackle.



### **About Methane Alert and Response System (MARS)-**

- The Methane Alert and Response System (MARS) was launched at the 27th of July
- Conference of Parties (COP27) to the United Nations Framework Convention on Climate Change in Sharm El-Sheikh, Egypt.
- MARS is part of the global effort to stop the pace of climate change by combating the global warming gas.
- The platform that converts data into action was established as an element of United Nations Environment Program's (UNEP) International Methane Emissions Observatory (IMEO) strategy to provide relevant and policy-relevant information to the right people to help reduce emissions.
- It's the first global, publicly accessible system that connects methane detection and notifications in a transparent manner.
- It will utilize the most up-to-date Satellite data to determine significant emissions events, alert important stakeholders, and assist and track progress towards mitigation.

### **Methane as a Greenhouse gas:**

- Methane makes up only a tiny portion of human-generated greenhouse gas emissions when compared to carbon dioxide.
- It is believed to be eight times more effective in comparison to carbon dioxide in trapping heat from the atmosphere over 20 years. two decades after its release.
- The temperature of the world's average in 2022 is estimated to be around 1.15 degC higher than the pre-industrial average of 1850-1900. United States National Aeronautics and Space Administration's (NASA) scientists have recently discovered fifty "super-emitters" that emit methane across central Asia and West Asia and the southwest United States.
- Super emitters identified through The Earth Surface Mineral Dust Source Investigation instrument (EMIT)(EMIT)
- EMIT discovered the plume within the Permian Basin, New Mexico. It was approximately 3.3 kilometers across. The Permian is among the

largest oilfields in the world covers a large portion of the southern part of New Mexico and western Texas.

- Within Turkmenistan, EMIT identified 12 plumes of gas and oil infrastructure within The Caspian Sea port of Hazar. Certain plumes extended more than 32 kilometers.
- The majority of these sites are associated with the fossil fuel and agriculture industries.

### **Methane status emissions worldwide:**

- In the 27 countries of Europe, EU is the biggest gas consumer, while the United States is the world's largest oil and gas producer.
- Agriculture is the primary emitter of methane in the world However, experts believe that the energy sector could cut emissions more quickly and at a affordable costs.
- Methane is the principal element in natural gas. It releases into the air from gas wells that leak and oil pipelines.
- Despite that motivation to reduce emissions methane from the atmosphere, methane concentrations increased last year to the highest level since records started in the 1980s.

### **About Global Methane Pledge:**

- It was adopted in both the United States and EU in 2021 in order to cut methane-related emissions to 30 percent by 2030 from levels of 2020.
- The agreement has been signed by 119 nations including 13 of the most prolific methane emitters, including Brazil, Indonesia, Mexico and Nigeria.
- 40 countries are expected to present plans for the COP27 summit outlining how they plan to comply with the Global Methane Pledge that is voluntary, but is designed to create legally binding policies.
- The pledge does not mention China, the largest methane emitter in the world, and Russia that was Europe's biggest gas importer prior to its



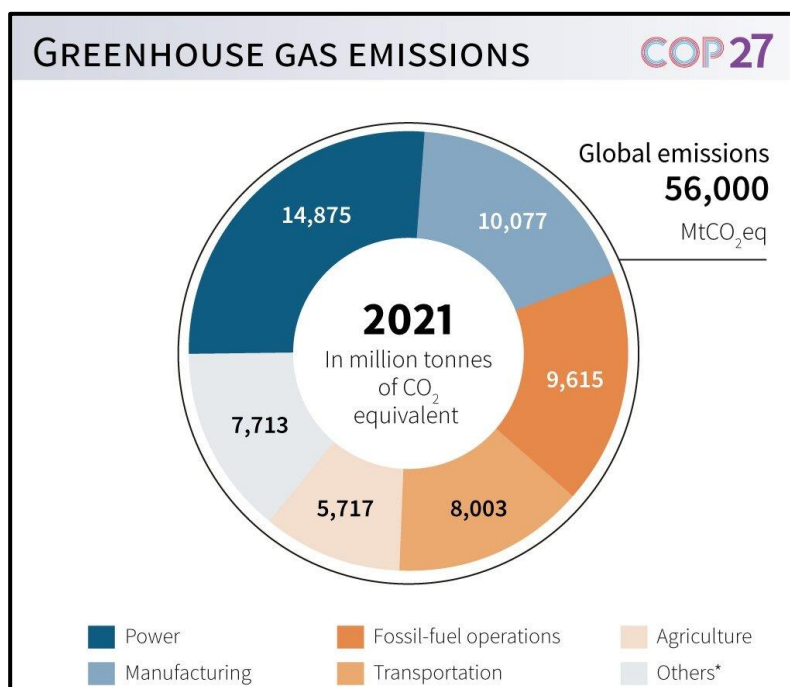
invasion of Ukraine on February.

### The top emitting countries for methane:

- The five biggest methane emissions emitters (from any source) include China, India, the United States, Russia and Brazil.
- Together, they account for nearly half of the methane emissions in the world.
- Of those just two countries, the United States and Brazil are included in the Global Methane Pledge.
- Focusing on emissions related to energy the five most polluting country include China, Russia, the United States, Iran and India.
- Of all of them of these, only that of the United States is part of the Pledge.

### Topic 9. COP27: REPORT SEES SLIGHT RISE IN 2022 GLOBAL EMISSIONS; HIGHEST IN INDIA

*Important for subject: Environment*



Carbon emissions in the world are predicted to rise marginally by 2022 compared to the year before the highest increase is expected in India in the future, according to according to a report issued in the 27th Conference of Parties

(COP27) to the United Nations Framework Convention on Climate Change in Sharm El-Sheikh.

**The analysis of this report:**

- The United States is predicted to record the second-highest growth in carbon emissions.
- If the current patterns of emissions continue it is estimated that there is a 50 percent chance global warming will surpass 1.5 to 1.5 degrees Celsius within 9 years.
- Carbon Budget 2022 an annual report released by the Global Carbon Project proved that global emissions are increasing.
- The annual update provides an scientific evaluation of the carbon cycle in the world..
- The atmospheric carbon dioxide level is expected to reach 417.2 part per million by 2022, 51 per cent higher than levels pre-industrial..
- The emission levels will increase by 2022.
- The global CO2 emissions from fossil fuels are predicted to increase 1 percent in 2022 (range 0.1to 1.9 percent) driven by an increase in the use of oil, which will reach 36.6 gigatonnes.
- In the year 2019, the global emissions total of the world was 36.3 Gt; which got down by 34.5 Gt in 2020, and then increased by 36.3 Gt in 2021.
- Emissions are predicted to fall in China (0.9 percent) and in the EU (0.8 percent) and rise within the US (1.5 percent) in addition to India (6 percent) and India (6 per cent), with an 1.7 percent increase across the world.
- The 2022 projected emission levels generated by the oil and coal industries are over levels in 2021, with oilcontributing the largest share of total emissions growth.
- Petroleum emissions- which account for a third of the global emissionsforecast to increase by 2.2 percent,and top the global rise in CO2 emissions from fossil fuels.

## Coal is driving India's emissions

- The carbon emissions of India are expected to rise by 6 percent (range 3.9-8 percent) and is driven by a five per cent increase in the amount of coal used.
- India is already responsible for more than a twelfth of global emissions.
- It is third worldwide in terms of gross emissions volume, however far from the top of per-capita emissions.
- The emission from oil are expected to rise to 10% and could increase to level of.
- Emissions generated by natural gas are predicted to fall by 4 percent but are not a significant part of the overall change since gas makes up a small portion that makes up the majority of energy consumed in India.
- The emissions generated by emission from cement which account for 5 percent from global emission is projected to reduce in general however, they are expected to rise to a greater extent in India.
- In the period 2000-21 in the period 2000-2021, the carbon emissions from India's coal industry in India were three times higher, reaching 1.80 gt equivalent CO2 emissions, in the oil sector, they increased by a third in size to 0.62 Gt and tripled from the gas (0.04 to 0.13 gt) and cement (0.05 to 0.15 gt) sectors.

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### **Topic 10. PERMISSION FOR GM MUSTARD IMPORTANT FOR SUBJECT TO STRICT TERMS AND CONDITIONS, CENTRE TELLS SC**

#### ***Important for subject: Environment***

The Centre has advised to the Supreme Court it has authorization in "environmental releases of GMO mustard, "environmental dispersal of mustard genetically altered" is crucial to the subject of "stringent conditions and terms" to guarantee environmental security of the country.

#### **Legal actions**

- In the time of approval, a Post-release monitor committee (PRMC) will be put in place in the GEAC consisting of Important experts in the field and a

nominee from the Review Committee on Genetic Manipulation (RCGM) and GEAC.

- The PRMC will visit sites where seeds are being examined at least one time during the season, and then submit a rapport to GEAC regarding compliance.

### **Honey Bee data**

- Any use that is permitted with the permission from the Central Insecticide Board Regulations and Regulation
- Committee (CIBRC) could be the subject of legal actions in accordance with the Central Insecticide Act of 1968 and the rules 1971 as well as Environmental Protection Act 1986.
- The ICR will oversee the cultivation according to its guidelines, rules and regulations following which commercial cultivation will commence.
- Commercial use is important for compliance with the Seed Act of 1966 and the related laws and rules.
- Honey bee data and others pollinators are expected to be collected in the next two-year period under ICAR supervision in order to generate additional data about the effect on the impact of GM mustard in these species.
- The cultivation of canola across Canada and Australia that is part of the family known as the mustards, has increased the number of honeybee colonies to 4.73 million in 1974, and to 7.73 lakhs in 2018., with the area of canola growing 7 multiples up to 21.4 9 million during the time.

### **Genetically Modified Mustard (DMH-11)-**

- The CGMCP researchers have applied technology known as barstar-barlase GM technique to develop what they claim is a strong and reliable hybridisation technology in mustard.
- This method was employed to create DMH-11 by crossing a well-known Indian mustard variety called 'Varuna' (the barnase line) with an East European 'Early Heera-2' mutant (barstar).

- DMH-11 is believed to have produced an average yield of 28% improvement over Varuna in controlled field tests conducted through the Indian Council of Agricultural Research (ICAR).

**Advantages:**

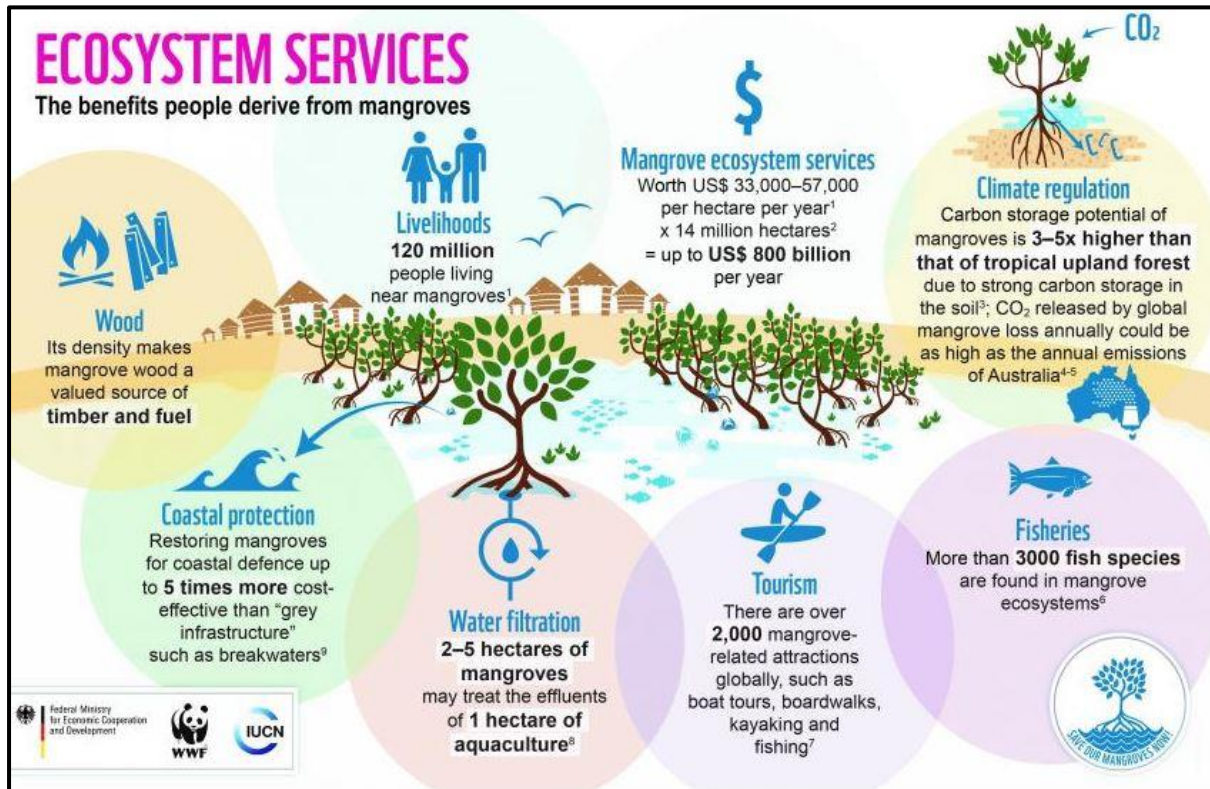
- Genetically altered seeds boost productivity from the plants to 28 percent. In reducing India's import bills.
- Aids in limiting food inflation

**Disadvantages:**

- A handful of firms are responsible for developing or selling seeds that have been modified. With almost monopoly control it is clear that there are only a few options for those who purchase seeds.
- Seeds cannot be planted again i.e. every plantation has to be purchased new seeds.
- They may reduce the diversity of species.
- Another concern is GM mustard that could be threatening or destroying the honey bee population.
- Mustard flowers provide a source of nectar for honeybees as well as numerous other insects that pollinate.
- Development is required for an Genetically Modified variety of Mustard
- The main reason for this is India's rising consumption of edible oil. India produces 8.5-9 millions tonnes (mt) in edible oils per year, while it imports 14-14.5 millimetric tonnes which led to record-breaking foreign exchange earnings of \$18.99 billion during the year-end fiscal year, which ended March 31, 2022.

## Topic 11. WHAT IS THE MANGROVE ALLIANCE FOR CLIMATE, WHICH INDIA JOINED AT COP27?

*Important for subject: Environment*



In the 27th Session of the Conference of Parties (COP27) the COP27, in this year's UN climate summit was the first time that the Mangrove Alliance for Climate (MAC) was officially launched with India as the partner.

- The move, aligned with India's aim to expand its carbon sink will result in New Delhi collaborating with Sri Lanka, Indonesia and other countries to conserve and restore mangrove forest in the region.

### **The MAC**

- A project led by the United Arab Emirates (UAE) and Indonesia and Indonesia, the Mangrove Alliance for Climate (MAC) comprises India, Sri Lanka, Australia, Japan, and Spain.
- Its goal is to inform and increase awareness worldwide about the importance of mangroves in reducing global warming as well as the



potential of mangroves as a solution to climate change.

- It is an international alliance works on the basis of a non-binding basis meaning that it has no actual controls and checks to hold its members responsible.
- They will also collaborate and assist each other in analyzing, managing and protecting coastal zones.

### **The present state of mangroves**

#### **Geographical Location:**

- Mangroves are only found on protected coastlines in subtropical or tropical zones because they can't withstand freezing temperatures.
- They have the distinct advantage of growing in the range of the tides that run through the salty soil.

#### **Area Covered**

#### **Global Mangrove Cover:**

- The mangrove area around the globe is approximately 1,50,000 sq km.
- Asia is home to the highest number of mangroves globally.
- South Asia comprises 8 percent of the mangrove forest.
- India's contribution is 8% of the total mangrove coverage throughout South Asia.

#### **Mangroves in India:**

#### **Coverage:**

- As per the India State of Forest Report in 2019, the mangrove cover in India is 4,975 square kilometers, which represents 15 percent of the entire geographical area. West Bengal has 45% of the mangrove forest in India which is then followed by Gujarat at 23.66 percent, as well as A&N Islands with 12.39 percentage.



### **Largest Mangrove Forest:**

- the Sundarbans region in West Bengal is the largest mangrove forest region anywhere in the world. It is classified as an UNESCO World Heritage Site.
- The forest is the home of the Royal Bengal tiger,
- Gangetic dolphins as well as Estuarine Crocodiles.
- Bhitarkanika Mangroves The second-largest mangrove tree located in India is Bhitarkanika located in Odisha formed by Two river deltas River Brahmani and Baitarani.
- It is among the largest Ramsar wetlands in India.
- Mangroves in Godavari-Krishna, Andhra Pradesh: The mangroves of Godavari-Krishna extend across Odisha up to Tamil Nadu.
- Deltas in the Ganges, Mahanadi, Krishna, Godavari, and the Cauvery rivers include mangrove forest.
- The backwaters of Kerala are dotted with a large amount of mangrove forest.
- Pichavaram located in Tamil Nadu has a huge expanse of water dotted by mangrove forests. It is the home of many species of aquatic birds.

### **Significance of Mangroves**

- Mangroves in the ecological sense are crucial to creating and maintaining soil as a reservoir in the process of tertiary digestion of waste.
- They offer protection from cyclones.
- Facilitates land accretion, stabilization of the mud banks, and dissipation of the waves, tidal, and wind energy.
- The extensive roots let the trees take on the rise and decrease of the tides.
- Mangrove forests help stabilize the coast, helping to prevent erosion due to waves, storm surges waves and tides.
- Mangroves help improve the quality of water by absorption of nutrients from runoff which could otherwise trigger harmful algal blooms in the ocean.

- The two coral reefs as well as seagrass bed depend on the mangrove forest to ensure that the water is clean and healthy.
- Mangroves account for less than 2 percent of marine ecosystems however, they are responsible for 10-15 percent in carbon-bearing.
- When the leaves and older trees are gone, they drop to the seafloor and take the carbon stored with the rest to be buried in the soil.
- The carbon buried in the ground is known by the name of "blue carbon" because it is located underwater in coastal ecosystems such as the mangroves, seagrass habitats, and salt marshes.
- supports an amazing variety of animals which includes some animals exclusive in mangrove forest.
- They are a refuge and habitat for a myriad of wildlife, including fish, birds, invertebrates, mammals, and plants.

### Threats Faced by Mangroves

- Commercialisation of coastal Areas: Aquaculture, rice, coastal development, palm oil cultivation and industrialisation are quickly replacing the salt-tolerant trees and the ecosystems they sustain.
- Mangrove coverage has decreased to half over the last 40 years. Just 1 percent of the tropical forests contain mangroves.
- Shrimp Farms: The development of these farms led to at minimum 35 percent of the destruction of mangrove forests.
- Temperature-related Issues: A fluctuation of 10 degrees within a brief period of time can cause enough stress to cause damage to the plant. Low temperatures for one or two hours could end the life of some mangrove species.
- Soil-related Issues: The soil where mangroves are located poses a challenge for plants since it is deficient in oxygen.
- Excessive Human Involvement: During past changes in sea levels mangroves were able to advance further into the inland. However, in many locations the human impact is currently an obstacle that restricts the distance that a mangrove tree can travel.

- Mangroves also suffer from oil spills.

### Conservation of Mangroves

- **UNESCO Designated Sites:**The inclusion of mangroves within Biosphere Reserves
- World Heritage sites and World Heritage sites of UNESCO and Geoparks aids in improving the understanding, management and protection of mangrove ecosystems across the globe.
- **International Society for Mangrove Ecosystem (ISME):**The ISME is an non-governmental organization established in 1990 to further study of mangroves for the goal of enhancing their conservation, rational management , and sustainable use.
- **Blue Carbon Initiative:** The International Blue Carbon Initiative is dedicated to reducing the effects of climate change through the protection and rehabilitation of marine and coastal ecosystems.
- It is managed with Conservation International (CI), IUCN as well as the Intergovernmental Oceanographic Council-UNESCO (IOCUNESCO).
- **International Day to Protect the Mangrove Ecosystem** UNESCO celebrates the day of celebration on the 26th of July with the intention of promoting awareness of mangrove ecosystems as well as promote their sustainable management as well as conservation.
- **Mangroves for the Future Initiative:** IUCN and UNDP developed an original initiative to increase the conservation of coastal ecosystems known as" Mangroves for the Future" or "Mangroves for the Future (MFF)".
- The member countries comprise Bangladesh, Cambodia, India, Indonesia, Maldives, Myanmar, Pakistan, Seychelles, Sri Lanka, Thailand and Vietnam.
- **National Mangrove Committee:** The Government of India created an National Mangrove Committee in 1976 that advises the government on the conservation and expansion of mangroves.

## Topic 12. WHAT THE LATEST UN SCIENCE SAYS ABOUT CLIMATE CHANGE

*Important for subject: Environment*



The meeting of COP27 at the COP27 conference in Egypt participants are able to access years of research on warming trends published from the UN agency for climate science to help them make their choices. It is the Intergovernmental Panel on Climate Change (IPCC) produces reports about every five years, which provide a consensus of scientists from around the world regarding climate change, its causes, and its effects.

### The Report

- The report from last year focused on the primary causes of global warming, as well as the fundamental aspects that comprise climate research.
- Then came two major reports in the year. One in February, which discussed the ways in which the world needs to adjust to the impacts of climate change including rising seas and declining wildlife, and another in April that focused on ways to reduce emissions from climate change.

- These are the of the most important learnings to consider Humans are unambiguously to blame.
- The weather extremes that were once rare are becoming more frequent and certain areas are more susceptible than other regions.
- The first time ever, there is an appeal for urgent action to stop methane. Up until now the IPCC has been focusing on carbon dioxide, which is the most prevalent greenhouse gas.
- This report supports the notion of studying the benefits and drawbacks of geoengineering or massive-scale interventions like adding particles to the air to block solar radiation.
- The world's nations, which includes the most prosperous, must begin preparing for the impacts of climate change in order to adapt for the warmer climate.
- Need to be urgently adapted to storms, heatwaves, sea level changes
- Climate change is already causing extreme weather around the world and causing extreme weather across the globe, the report called on nations of all kinds to be ready for changes that could result in more frequent heatwaves, greater storms, and higher sea levels.
- The report clarified that regions have various risks.
- It also provided localised forecasts on the risks to be prepared for.
- Many millions of people are facing food insecurity and poverty over the next few years, due to climate change that has a negative impact on the water and crops, and could affect trade and labour markets.
- The bleak outlook of the poorest people in this world resurfaced. calls for the creation of a "Loss and Damage" fund by which wealthy nations could be reimbursed for expenses incurred by countries that suffer due to climate-related catastrophes.
- "Now or never" Individual action is important.
- The report examined how different emission scenarios could translate into future temperature increases.
- Cities make up a large portion of the emission problem, but they are also a source of hope and solutions.
- The transition towards renewable energy sources and clean-burning fossil

fuels is not happening fast enough.

- It went further than focusing only on manufacturing and fossil fuels to call for a strong climate change actions in the field of agriculture, where improved farming methods and improved forest protection could reduce emissions.
- The report cautioned that the climate crisis is threatening economic growth and at first, it highlighted the need for action on the individual level.
- It called for governments to come up with guidelines to improve consumption and transportation practices to help reduce waste.

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### **Topic 13. COP27: AFRICAN COUNTRIES LAUNCH 'GAME-CHANGING'**

#### **CARBON CREDITS INITIATIVE**

*Important for subject: Environment*

African Carbon Markets Initiative (ACMI) An initiative that puts carbon credits up to purchase across African countries was unveiled at the 27th Conference of Parties (COP27) to the United Nations Framework Convention on Climate Change in Sharm El-Sheikh, Egypt.

- **African Carbon Markets Initiative (ACMI)** aims to bring the world together for more aggressive climate action, increase the participation of Africa in carbon markets for carbon that are voluntary, and create new jobs while conserving biodiversity.
- **carbon markets** will unlock billions in climate finance, which is needed to help economic growth of African nations.
- Leaders announced their goals to expand the African carbon markets that are voluntary at the time of the launch, by generating 30 million credits of carbon per year until 2030, as well as 1.5 billion credits each year by 2050.
- This will generate an estimated \$6 billion (Rs 49,041 crore) in earnings and help support over 30 million job opportunities.
- Large carbon credit buyers and financiers, such as Exchange Trading Group and Standard Chartered have announced ambitious plans to create



an advanced market commitment (AMC) to ensure top-quality African carbon credit.

- Nigeria is committed to carbon credits as this sector is expected to soon be an industry of immense importance and will be beneficial to the citizens.

### **Concerns in the ACMI-**

- There are concerns and questions about the reality of frontline victims, such as regular African farmers who benefit from this initiative.
- **ACMI** requires political will and the support of experts in the field to adopt best practices internationally from the most reputable European carbon markets.
- ACMI must work together with the other carbon market platform regionally, as well as global integrity initiatives, such as the Voluntary Carbon Markets Integrity Initiative. Demands for regulation of market-based voluntary transactions, that are frequently not regulated.
- It is imperative to enforce strict rules to monitor social safeguards to ensure that human rights violations are not averted as well as green washing loop holes that corporations use to claim to be green without reducing the emissions required.

### **What is carbon credit?**

- Carbon credits are a type of permit that grants the buyer or user carbon credit is an specific permit that grants the buyer or buyer the express right to emit a certain quantity of carbon dioxide and different greenhouse gases.
- Carbon credit trading is among the numerous technical solutions employed to reduce the amount or the concentration of greenhouse gases in the air.
- Carbon credits are constructed upon their ancestors in the "cap-and-trade" model, which was utilized to decrease sulfur emissions in the 1990s.
- The value of one carbon credit is equivalent to one metric tons of carbon dioxide or in certain markets carbon dioxide equivalent gas (CO<sub>2</sub>-eq).
- The negotiators during the Glasgow COP26 climate meeting in the month

of November decided to establish an international carbon credit off-trade market.

- Kyoto Protocol Kyoto Protocol provides for three mechanisms that allow the operators of advanced countries, to obtain credits for greenhouse gas reduction:
- In the context of the Joint Implementation (JI), a country that is developed and has relatively expensive costs for greenhouse reduction would establish the project in a developing country.
- In the Clean Development Mechanism (CDM), a developed nation could "sponsor" a project to reduce greenhouse gases in the emerging countries where costs of greenhouse gas reduction activities is typically less, yet the impact is global.
- The developed country will receive credits for achieving its emission reduction goals, and the developing nation would get capital investment as well as environmentally friendly technology or a positive alteration in the use of land.
- According to International Emissions Trading (IET) nations can trade on the carbon credit market on an international scale to pay for their deficit with assigned Amount Units (AAUs).
- Countries that have surplus units can trade them with countries who have exceeded their emission targets in Annex B of Kyoto Protocol. Kyoto Protocol.

### **Carbon Markets:**

- An carbon market transforms emission reductions and eliminations into assets that can be traded and creates incentives to cut the amount of carbon dioxide released or to improve efficiency.
- Carbon markets can be voluntary or compliance.
- Carbon trading was officially introduced in 1997 as part of the United Nations' Kyoto Protocol on climate change, which included more than 150 nations as signatories.
- Parties who signed the agreement were able to reduce or limit the greenhouse gases they emit from 2008 and 2012 to 5.4 percent which was

lower than the levels of 1990.

- The trading of emissions as described in Kyoto Protocol, permitted nations to sell surplus capacity in emissions units to countries with levels that were well above their target.
- Many countries such as Kenya, Malawi, Gabon, Nigeria and Togo announced their commitment to expand carbon markets on a voluntary basis at COP27.

## **Topic 14 COP27: THE FORGOTTEN SUSTAINABLE DEVELOPMENT GOALS**

*Important for subject: Environment*



The event took place in Sharm El-Sheikh, meanwhile the spotlight is focussed on that 27th Conference of Parties (COP27) to the United Nations Framework Convention on Climate Change. An exhibit organized by the United Nations is getting considerable attention because it is focusing on its UN Sustainable Development Goals (SDGs).

### **About the SDGs**

- Sustainability can be identified as development that is able to meet the current needs without compromising the capacity of the next generation to satisfy their requirements.

- The most well-known term of Sustainable Development was given by the Brundtland Commission in its report Our Common Future (1987).
- The 17 SDGs (169 targets and 304 indicators) are broad, covering four broad areas - human rights, labor, environment and anti-corruption.
- This replaces Millennium Development Goals as the post-2015 development agenda.
- It was the Summit Rio+20 (2012) in Rio de Janeiro produced the SDGs, which are non legally binding documents.

### **Evaluation Of These Goals**

- In the past nine years, close to 15,000 businesses around the world have started reporting regularly on their progress towards meeting the SDGs by participating in the
- United Nations Global Compact (UNGC) is a global network consisting comprising 71 national secretariats as well as an international directorate with a central office.
- A recent study has examined SDG reporting practices of Swedish businesses and small-medium enterprises (SMEs) It was observed that SDGs regarding gender equality as well as responsible consumption and production as well as climate action as well as economic development were frequently reported on.
- Organizations are not often reported on objectives that address poverty and hunger eradication and also the lives of those living beneath the water.

### **What is the reason why certain SDGs draw significantly less attention and less resources from corporations?**

- The reporting of a couple of SDGs can be a hassle or could result in poor public relations.
- Reporting is contingent on how businesses evaluate the value of an SDG in their business plan or the importance of the SDG in relation to its significance to their stakeholder.

- This demonstrates how companies provide detailed information on the results of their activities.
- The main institutional goals of The UN itself.
- The HeForShe campaign, which is the most prominent campaign of UN Women, was launched in the same year as SDGs for 2015.
- The HeForShe material for the campaign specifically made reference to SDG 5 (gender equalization).
- It's easy to speculate that the focus of the UN on gender equality could have prompted more organizations to pay special attention to the SDG.
- Another reason is that of cultural priorities. Organizations are able to align their annual reports with state-wide regulations, initiatives, and practices of culture.
- For instance, the country of Denmark is a country where extreme hunger and poverty don't have a negative impact on the people. Thus, one could expect less companies to provide reports about these SDGs.
- To tackle this issue Denmark began an initiative for 2020 to figure out what the SDGs should be adjusted to be able to fit all aspects of to a
- Danish context, and the report "Make Global Goals Our Objectives".
- This report aims in translating seventeen SDGs into the 197 Danish indicators. This is why SDG 1 which focuses in ending poverty has been transformed into an array of indicators designed to help end poverty the extent of relative poverty as well as establishing mechanisms to prevent poverty and build resilience. One is likely to see more coverage on the Important for the topic in Denmark.

### **Ensuring more complete reports regarding SDGs-**

- The reporting on SDGs will continue to be a challenge. SDGs is likely to remain in a sporadic fashion.
- The UNGC government, NGOs and the governments can ensure that the goals are thoroughly reported on.
- The companies must be able to explain the data collection process, the data sources and the limitations that they have discovered through their study. They should explain who their key stakeholders are and explain

how their needs and priorities demands were identified and evaluated.

- Organizations must be required to submit a report on each SDG.
- In the event that there is a reason that an SDG doesn't apply to the organization it is their responsibility to explain the reasons why in their reports.

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**Topic 15. COP27: AGRICULTURE FINALLY ON TABLE; BEWARE OF GREENWASHING THOUGH, WARN EXPERTS**

*Important for subject: Environment*

Agriculture and food systems are now on the agenda of the Conference of Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC).

**About the Food and Agriculture Pavilion at the COP-27-**

- The Pavilion is organized by the United Nations' Food and Agriculture Organization, CGIAR and The Rockefeller Foundation at the climate conference.
- CGIAR (formerly it was known previously as Consultative Group for International Agricultural Research) is an international collaboration that connects international research organizations working on food security.
- There will be special discussions regarding food and agriculture at the inaugural formal Food and Agriculture Pavilion at the 27th COP which started on the 6th of November, 2022 in Sharm El-Sheikh, Egypt.
- The Food and Agriculture Pavilion will place the change in agrifood systems in the center of the COP agenda for the first time in an essential element in the solutions to climate change.

**Agenda of the Pavilion**

- The range of discussions includes adaptation for resilience in agriculture across Africa and the security of climate for deserts, the vulnerability for food system systems the global food crises, conflicts, or trade shocks as well as low emissions climate-resilient development strategies. This



announcement comes at an important moment in.

- The extreme drought conditions that is sweeping across Europe, the United States and Africa, the heat storm that hit India's grain harvest and the flooding and droughts that hit Pakistan as well as China are all clear examples of how food production is under threat due to extreme weather extremes.
- Previous attempts to address the the food and agriculture system at the COPs--
- Agriculture is one of the main victims of climate change. It is also accountable of more than one third of greenhouse gases emitted.
- Food Systems are not addressed in a comprehensive manner in any climate conference and the majority of nations are not in a climate plan that contain plans for actions regarding food systems.
- The sole program under UNFCCC which focuses on food security and agriculture included the Koronivia Joint Work on Agriculture (KJWA) that was created in 2017 at the COP23 conference at Bonn, Germany.
- The Koronivia decision addresses six interconnected issues related to soils, nutrient usage, livestock, water, methods to assess adaptation, and the social and food security aspects of climate change in the agricultural sector.
- This decision aligns with FAO's main mission of eliminating the hunger and food shortages, and malnutrition, decrease rural poverty and to improve the efficiency of agriculture, forestry and fishing more efficient and sustainable.
- The KJWA is now thought to be the official mechanism to discuss food issues at the COP.
- It did organize certain events during the COP26 meeting at Glasgow, but as usual its voice and its visibility was muted.

### **Who is responsible for the failure in food security?**

- Experts attribute the majority of the carbon emissions from this sector on industrial agriculture . insist on the urgent necessity to switch towards the field of agroecology.

- Concerning the production system, agricultural models that rely on Agrichemicals or monoculture crops are not working for people and the environment.
- They have not succeeded in ending hunger and are decreasing natural resources, which is accelerating climate changes in turn making them very susceptible to extreme events whether they come from supply chains or due to extremes in the climate.
- Small-scale traditional and biodiversity-rich varieties of agriculture contribute little contribution to greenhouse gas emissions. However, small-scale farmers are significantly affected by climate change, despite having done very little to contribute to the climate crises.

### **What are the most likely solutions?**

- Collaboration with local communities and nature to ensure food security and livelihoods, biodiversity and aid in reducing extreme temperatures and store carbon.
- We must fundamentally change our eating habits and farm, as well as distribute food.
- We must build robust different food and farming systems that are based on agroecology.
- This emphasized the urgency of urgent climate justice actions and shifting the food system towards less industrial agriculture.
- UN warns about Greenwashing industrial agriculture
- An increasing number of buzzwords relating to green are being used to block the reform of the food system at climate COP.
- The process of creating the impression that a business's products are environmentally friendly is referred to by the term "greenwashing."
- "Greenwashing" is the practice of making false claims that make consumers believe that the products of a company are more eco-friendly or that they have more positive impact on the environment as they really are.
- One specific term, 'nature-based solutions', is rapidly gaining momentum at international summits however, it is not a standard term, a transformative vision and is employed to keep agribusiness operating like

it is.

- A report titled Smokes & Mirror, released by IPES-Food on October 27, examined the narratives from The 2021 United Nations Food Summits, at COP26.
- It discovered that Agrifood companies and international philanthropic institutions as well as some governments are making use of the term "nature-based solutions" in order to "hijack the sustainability agenda for the food system", bundling it with carbon offset schemes that have not been proven which could be risky for agriculture competition, the climate and enshrine the power of big agribusiness.
- With the cover of 'nature-based' and 'climate intelligent' solutions They are sustaining the centralised, polluting and vulnerable system of monoculture agriculture in industrialised monoculture.
- For example For instance, The United States and United Arab Emirates-led Agriculture Innovation Mission for Climate (AIM4C) has been accused of favoring large firms and promoting untested technological solutions.
- The mission was officially launched at the COP26.
- A large part of the work to promote the concept of climate smart farming that AIM4C is pursuing is not proven technological solutions like feed additives, and other items like better utilization of fertilisers, agrochemicals and pesticides, and other chemicals.
- All of these practices we are aware of as not causing to different results, but can pollute water and land.

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## **Topic 16. COP27: DROUGHT-STRUCK NATIONS JOIN HANDS TO COMBAT WATER WOES**

*Important for subjects: Environment*

### **International Drought Resilience Alliance (IDRA)-**

The IDRA was announced first by Spain during the 77th session UN General Assembly in September 2022. It will be officially announced during the UNFCCC.

- Spain and Senegal were the leaders of the way for 30 nations and 20 groups in launching the International Drought Resilience Alliance (IDRA) on the 7th of November, during the 27th Conference of Parties (COP27) to the United Nations Framework Convention on Climate Change (UNFCCC) in Sharm El-Sheikh.
- The alliance will assist each other be better prepared for droughts in the future.
- This alliance also plans to cooperate on other platform, such as the initiative that was launched in the name of United Nations Secretary-General and the World Meteorological Organization to achieve the universal coverage of early warning systems as well as regional initiatives that will reap the greatest advantages of working together in drought resilience.

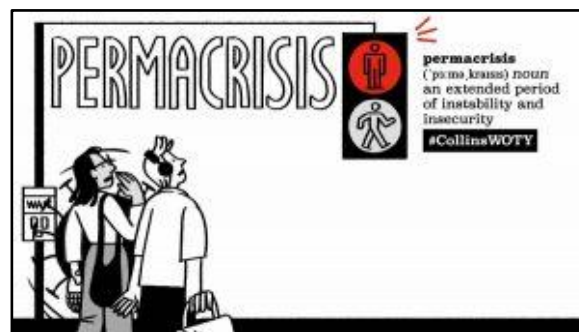
### Goals and obligations of the IDRA

- The purpose for the coalition is to provide political an incentive to make the resilience of the land to climate change and drought an actual fact in 2030.
- The group also committed to change the way the world manages the rising drought risk: Moving away from immediate response to building long-term resilience.
- The political commitments include the creation of a five million euro (Rs 40.76 millions) seed fund provided by Spain, to support the collaboration's work and to mobilize more resources.
- The president of Kenya William Ruto made a pledge to plant 5 billion trees over 5 years. He also promised 10 billion trees within 10 years.
- The significance to the Alliance
- This Alliance is significant because it is the only way to get no international convention on land that is not a separate one.
- UNCCD that focuses mainly on the issue of desertification.
- The alliance is being thought of as an "specific solution" that will help the United Nations to the effects on climate change.
- The joining of the 30 nations alliance is a powerful way to increase the

- importance of drought resilience for national development. It also allows us to collaborate on technology and knowledge among themselves.
- The severity of drought is increasing all over the world
  - Drought is the most dangerous risk to crops and livestock across the majority of the globe.
  - It is as one of the most serious challenges to sustainable development particularly in developing nations and, increasingly, in developed nations as well.
  - Recent episodes have revealed that drought events have increased by almost a third since 2000.
  - Droughts increase in frequency 29 percent since 2000, affecting around 55 million people affected each year, as per the most recent Drought in Numbers report compiled by the United Nations Convention to Combat Desertification (UNCCD).
  - Economic losses caused drought between 1998 through 2017 totaled 124 billion dollars
  - (Rs 1,011.57 million) around the globe (Rs 1,011.57 crore) across the globe, not forgetting the price of human suffering and lives.
  - 2022 droughts 2022 droughts that hit Europe as well as Europe, the United States, Australia, Chile and in the Horn as well as southern Africa, showed that no nation or region is unaffected from their effects.

## Topic 17. PERMACRISIS

*Important for subject: Economy*



"Permalacrisis," the word of Collins Dictionary's Word for 2022's

year"permacrisis "permacrisis".

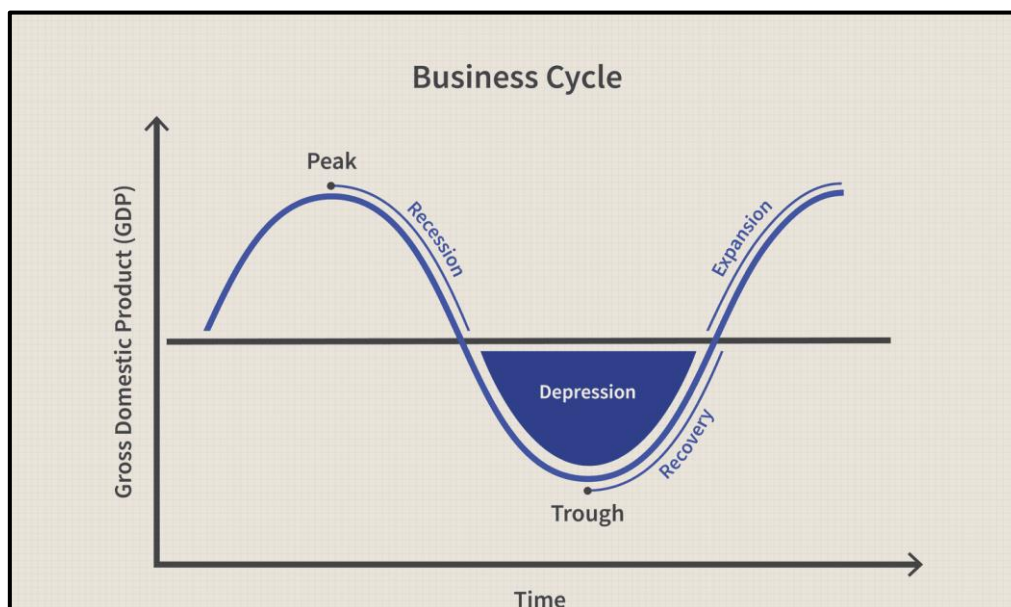
- In April 2021, analysts across Europe considered it to be the beginning of the time we live.
- Permacrisis was the British term of the year in 2022. It is a phrase that refers to the prolonged period of uncertainty and instability.
- According to -David Shariatmadari -
- "Permacrisis" is an ideal term to describe the eerie feeling of speeding from one awe-inspiring event to another, while we contemplate how terrifying new events could be just around the edge."
- "Permacrisis" is a term used to describe living a time that is constantly changing;
- It was an frequently used term throughout Britain, reflecting the instability brought on by the Brexit process, the COVID-19 epidemic extreme weather conditions conflict in Ukraine and politics in turmoil within the UK and the price of living in the crisis.
- Morin uses the word "**polycrisis**" to describe this situation---- accumulation of problems the world currently faces - from conflict and the climate crisis to the pandemic and rising inflation.
- The change to "**polyresins**" and "**perm crisis**" signifies that we consider our crises as ones that are best managed and not solved.
- In fact, "perm crisis" suggests that any decision that accelerates the situation to try to emerge from the other side of it is a risk for something more dangerous.
- The word is the top of the list of words that symbolize the year 2022.
- Other vocabularies included in Collins's annual collection of 10 words that reflect our times include:
- Carolean The Latin spelling of Charles which signifies this current British monarch's reign.
- **Kyiv**: Capital of Ukraine. Kyiv is the preferred spelling of Kyiv, which is the Russian pronunciation of Kiev.
- The choice of this spelling signifies the British's commitment to Ukraine in the midst of its involvement in the Russian invasion.



- Lawfare Use of court proceedings strategically to deter or deter an opponent. party.
- Partygate A Political scandal that occurred in Britain which involved the organization of public gatherings at government offices between the years 2020-2021.
- Quiet Quitting The procedure of not performing additional work that is not specified within the agreement.
- Splooting The method of lying flat on the stomach , with legs extended.
- Sportwashing Act in the form of sponsoring, or promotion of sporting events to enhance an image that has been damaged or distract public focus from a controversial issue.
- **A shift in vibes:** A notable change in the current culture or trend.
- **Warm Bank:** A heated building for those who can't afford to heat their homes due to rising energy costs.

### Topic 18. WHAT EXPLAINS REBOUND IN CREDIT GROWTH

*Important for subject: Economy*



With the rate of credit growth exceeding that of deposit growth, the credit-deposit ratio has been increasing.

- The growth in credit to agriculture and related activities Industrial-large

and microsmall industries, the Services sectors, Personal loans have seen an increase.

### **What does the above pattern could it be indicating?**

- The ratio of deposits to credit has been rising and reaching 73.5 percent in June 2022, compared to 70.5 percent a year earlier, which indicates the revival of business activity and higher levels of investment.

### **Why does it rise despite the rising the cost of borrowing?**

- rise in interest rates is on the rise
- The Marginal Efficiency of Capital (MEC) is very high.
- MEC is the anticipated rate of return on capital investment, or capital asset.
- It is an important determinant of demand for capital investment.
- Marginal efficiency for capital shows the expected return on investment at the time of investment.
- In the event of a decrease in consumption and rising inflation will result in a decrease in capital's marginal efficiency and, consequently, the investment demand will fall, which will cause the growth rate to slow.
- The increase in credit support is despite the the RBI's monetary policy being a strict approach.
- This central bank increased repo rates, leading to an increase in the Marginal Price of Funds Based Lending Rate (MCLR).
- The MCLR rate a benchmark interest rate is the lowest lending rate that banks are not allowed to lend.

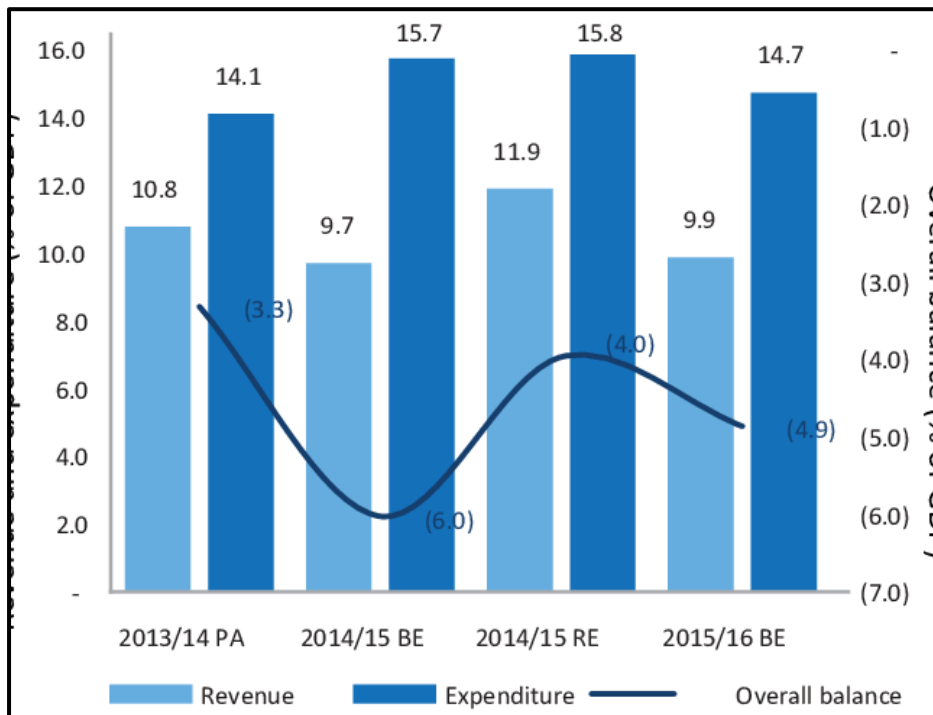
### **Credit Deposit Ratio**

- It's the amount the bank is able to lend out of the money it has collected.
- It reveals the percentage of the bank's funds are used for lending, which is the principal banking process.
- To determine the ratio between deposit and loan divide the bank's total loan amount by the total number of deposits over the same time period.

- The regulatory body (RBI) is not able to specify a maximum or minimum amount of the percentage.
- A very low ratio means that banks aren't making full utilization the resources they have.
- If the ratio is higher than an amount this indicates a strain on resources.
- Typically, the best ratio of loan-to-deposit is between 90% to 80%.
- A 1 the ratio of loan-to-deposit of 100 percent means that a bank has loaned one dollar to customers in exchange for every dollar in deposits received.
- A ratio of credit-deposits that exceeds 70 percent is a sign of pressure on resources, as they have the obligation to save funds to keep an amount of cash reserves of 4.5 percent and a statutory ratio of liquidity of 23 percent. Under this situation, banks may lend from their capital reserves, however it isn't considered wise to do so.
- The ratio provides the first clue to the bank's health.
- A ratio that is extremely high is considered to be alarming since it may indicate an increase in resources, it can be a sign of the inadequacy of capital, which could force banks to raise capital.
- Additionally, the balance sheet could be in danger of being sloppy due to inconsistencies between liability and asset.
- The ratio of deposit-to-loan can be used to determine the liquidity of a bank by comparing the bank's total loans with its total deposits during the same time period.
- LDR can help to demonstrate how a bank is engaging and retaining customers.
- The LDR will help investors figure out whether a bank is being managed correctly.
- If the bank isn't growing its deposits, or if its deposits are declining then the bank has less cash to lend.

## Topic 19. RE, BE, ACTUALS

*Important for subject: Economy*



The Revised Estimate will be released along alongside the budget Estimate (BE) of Fiscal Year 2023-23 (FY24).

- Usually, RE for the fiscal year is determined on the basis of the expenditure which was made in the initial six months of the year, whereas BE for the the next fiscal year is calculated using the amount of spending made in the initial 9 months of year.
- The first indicator of RE is that is reflected in the first series of Supplementary Demands for Grants. The data released through CGA. Controller General of Accounts (CGA) has shown that the Centre spent 12.15 percent more during the beginning six month (April-September) time frame of FY23 than in the same period in FY22 in addition to 46.2 percentage of its total budget.
- The spending patterns in the first six-month period indicate that there won't be any significant reduction in budget allocations and suggests savings through the 'just-in time' release of funds.
- This makes sure that money goes to different institutions only when the

time is right to spend it and when they reach certain milestones, and not immediately transferred to their accounts.

### **Office of Controller General of Accounts:**

- The Comptroller and Auditor General's (Duties, Powers and Service Conditions) Act of 1971 set the stage for the necessity for accounting and audit to be separate.
- The section 10. of the Act granted the President the power, following consultation with the CAG to delegate the Comptroller General and Auditor General of the responsibility of preparing financial statements from every Union Government department.
- In June 1975 in the month of June 1975, in June 1975, the Government of India approved a program for audit separation and accounting.
- The President issued an ordinance, which was followed by the passage of an Act amending the Comptroller and Auditor General's (DPC) Act 1971, relieving him of the responsibility of compiling accounts for Ministries/Departments of the Government of India.
- The Controller General for Accounts (CGA) within the Ministry of Finance leads the organization and is responsible in the running of the Management Accounting System.
- Through an integrated , government-wide finance information and reporting system, the aim is to provide accurate information that will promote transparency in the usage and reporting of public funds.
- The Office of the CGA prepares monthly and annually-based analysis of the Union's spending, revenue, borrowing and other indicators of fiscal performance.
- The authority that the Controller General has of Accounts is derived by Article 150 in the Constitution.
- The responsibilities and duties of CGA are described in this statutory directive, which is contained into the Allocation of Business Rules 1961.
- General principles of government accounting that pertain with Union or State Governments , and accounting forms, and the creation or revision of manuals and rules related to them.

- Reconciliation of the Union's cash balance to Reserve Bank Reserve Bank in general, and, more specifically, Reserve Deposits pertaining to Civil Ministries or Departments.
- Monitoring the upkeep of appropriate standards of accounting with the help of Central Civil Accounts Offices.
- The consolidation of the monthly account, and preparation of a a review of the trends in revenue realization and other significant aspects of expenditure, and the preparation for annual reports (including an overview of the account for Civil Appropriation) which show under the appropriate headings, the annual disbursements and receipts to government of the Union Government.
- Administration of Central Treasuries Rules and Central Government Account (Receipt and Payment Rules 1983).
- Coordinating and assistance with the development for management accounting and management reporting systems within Civil Ministries or Departments.
- Cadre management of Group 'A' (Indian Civil Accounts Service) and Group 'B' officers of the Central Civil Accounts Offices.
- Concerns related concern Central Civil Accounts staff belonging to the Groups 'C' and 'D'. I Pension distribution via Public Sector Banks (PSBs) with regard to Central Civil Pensioners, Freedom Fighter and judges of the High Court, ex-MPs and Ex-Presidents.

**RE, BE, and actuals:**

- Each year, the Finance Ministry determines the amount of revenue and expenditure for the next year.
- Revenues are projected based on estimated tax collection as well as the income from the disposal of property (such as public sector firms). Based on revenue and budget, the budget for various areas, like education, health, and police, is formulated.
- Spending can be higher than revenue while the distinction between spending and revenue is referred to as the revenue deficit, which can be paid for by credit from Reserve Bank of India, providing funds, or other

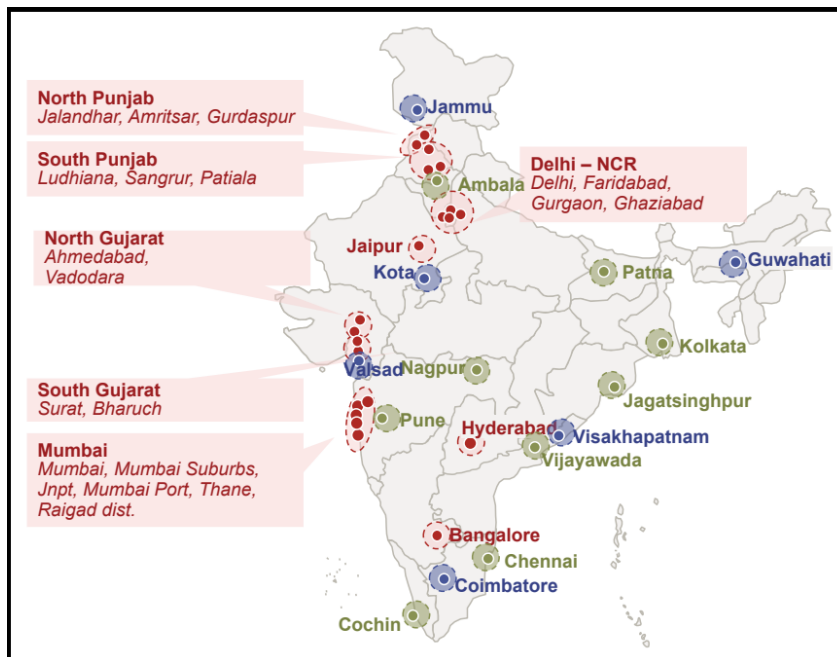


external organizations such as that of the World Bank.

- The 1st of February this year the budget will include estimations for the upcoming fiscal year. That is 2022-23.
- The Finance Ministry gives a sum for each scheme, department, ministry or department in the coming fiscal year. The Budget Estimate (BE). BE signifies what is the "intention to allocate funds" that the state. are not legally binding.
- The BE could be modified when the funds aren't sufficient or exceed the requirements of the scheme or the ministry.
- The ministry or department must ask for a second grant in November if they require more.
- This is based on the basis of which the finance ministry distributes additional funds.
- The amount that is allocated is known as "Revision Estimate" (RE).
- The numbers for RE are presented in the budget for this year. Thus, this budget will include the RE for 2021-22.
- Revised estimates, or RE, which will reveal how much of the budget was changed from the BE.
- Actual expenditure, as the name suggests, is the amount actually spent by the ministry/department/scheme.
- Because it is calculated from auditing receipts, they can be accessed only after the funds have been spent.
- The actual spending on the documents of budget will come from 2020-21.
- The actual amount of money that was spent, or the expenditure, is not available until 2020-21.
- Actual expenditure will be released within two years.
- A little variance between RE, BE and the actuals is expected since the estimates are that are made at the beginning each year.
- However, if there's huge differences and revisions this can undermine the credibility of the figures and impacts the implementation of government-sponsored schemes.

## Topic 20. BHARATMALA PARIYOJANA SCHEME

*Important for subject: Economy*



The coastal highway in Kerala that spans 625 kilometers that connects nine districts has been given a boost in the wake of a recent conference called by the Kerala State PWD Minister.

- This coastal road will travel through Thiruvananthapuram, Kollam, Alappuzha, Ernakulam, Thrissur, Malappuram, Kozhikode, Kannur and Kasargod.
- The project will be paid for by Kerala Infrastructure Investment Fund Board
- It is expected that the Kerala Road Fund Board project managing unit will construct 468 km of roads, with the remaining work is to be completed by National Highways Authority of India under the BharatMala Pariyojana Scheme.
- The project is possible to take up via the PPP option.
- This project is highly efficient in the easy transportation of container-laden trailers from the Malabar zone up to Vallarpadam Terminal or to the planned Vizhinjam terminal.

### **Bharatmala Pariyojana Scheme:**

- Bharatmala Pariyojana is an innovative umbrella program in the highways sector .
- It is focused on maximizing the efficiency of passenger and freight transport across the nation by creating crucial infrastructure gaps with innovative interventions, such as the creation of Economic Corridors, Inter Corridors and Feeder Routes, National Corridor Efficiency Improvement and Border and International connectivity roads, ports and Coastal Connectivity roads, and Green-field expressways.
- All the key elements that are part of this scheme will be handled in The Road Transport and Highways Ministry of the nation.
- The ambitious umbrella program will encompass all existing Highway Projects such as the most famous National Highways Development Project (NHDP) that was announced in 1998 by Atal Bihari Vajpayee government in 1998.

### **Highlights of Bharatmala Pariyojana:**

- Enhancing the efficiency of existing corridors by establishing Multimodal Logistics Parks and elimination of choke points
- Focus on enhancing connectivity in the North East and leveraging synergies with Inland Waterways
- The emphasis is on the use of the latest technology and scientific methods for Project Preparation and Asset Monitoring
- delegation of power to speed up the delivery of projects Phase I to be completed in 2022.
- Connectivity is improving across the North East

### **Components**

- **Economic Corridor-** According to the specifications in the project of road construction
- the construction of 9000 kms of economic Corridors will be supervised

through the Central Government.

- **Feeder Route or Inter Corridor** - The total length of the roads that fall in the Feeder Route or Inter Corridor category, is an impressive 6000kms.
- **National Corridor Efficiency Improvement** 5500km of roads constructed as part of the plan, will be included in that category as a National Corridor for the better connectivity between roads.
- **Border Road and International Connectivity** Connecting urban areas and the remote regions that are located in areas bordering the border The project has made the possibility of constructing 2000kms of roads that are in the Border Road or International Connectivity category.
- **Port Connectivity, and Coastal Road:** The Coastal Road and Port Connectivity to connect the various areas which are scattered along the shorelines and the ports of importance The central government has ordered construction of 2000 km of roads.
- **Green Field Expressway** - The emphasis will be placed to the development and construction of the Green Field Expressway for better administration of freight and traffic.
- **Balance NHDP Works** - Under the final section this project will result in construction and maintenance program of approximately 10,000kms of roads.
- In **Phase I** of Bharatmala Pariyojana the implementation of 34,800 kilometers of national highways over 5 years (from 2017 until 2022) was approved at an approximately the amount of Rs. 5,35,000 crore.
- **Phase II** envisages approximately 48,000 km of roads across India in 2024.

## Topic 21. DUMPING

*Important for subject: Economy*

# DUMPING

**DUMPING** is a business strategy followed by exporters while determining export price for international trade. In dumping, the exporting country drops the selling price (sometimes even below cost) to destroy local competition. Later on, when there is no local competition, the exporting nation raises the price.

EXAMPLE

Chinese manufacturer sells a mobile in U.S. for \$200, but in China for \$350. Production cost of this mobile is \$250. Such tactic could disrupt U.S. mobile industry.

### WHY DUMPING ?

- Helps to gain market share
- Destroying Local Market
- Minimizing Investment Risk (through larger market share)

- Helps to clear unsold stock
- Helps to reduce the price in domestic market
- Benefits in terms of export incentives, recognition, and cheap funds for exports.

### TYPES OF DUMPING

<b><u>SPORADIC</u></b> is practiced if company has large unsold inventory. It is temporary.	<b><u>PREDATORY</u></b> is where company regularly sell in foreign market at lower price	<b><u>PERSISTENT</u></b> is more permanent than predatory, where sales is consistently at lower price	<b><u>REVERSE</u></b> Company dumps in home market while selling at a higher price in foreign.
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Imposing Tariff duty, import quotas, import embargo, voluntary export resistant, & international stance are some of the **ANTI DUMPING MEASURES** practiced to protect local market.

The ministry of commerce has concluded an anti-dumping probe into the solar cells imported made from China, Thailand and Vietnam in response to a request by ISMA, the Indian Solar Manufacturers Association(ISMA).

### Anti-dumping and Dumping measures:

- In the world of trade, dumping happens when the firm or a country exports goods at a cost that is lower than that of the item on its own market.
- Dumping affects the price of the product in the country of importation impacting profits and margins of companies that manufacture it.
- Dumping is legal** Under World Trade Organization (WTO) rules Dumping is not illegal when the country of origin can be able to prove the negative impact the exporting company has caused to its domestic producers.
- Anti-dumping duty** are applied when it is established that an item is exported at a lower price than what is available on the local market of the exporter, and is creating disruptions in the domestic market, which is

causing injury to local producers.

- An anti-dumping tax is an example of a protective tariff that is imposed by a government in the United States on imports from outside which it believes are priced at a lower level than the fair market value.
- The obligation is enforced only after an extensive investigation conducted by a quasi-judicial entity the Directorate General of Trade Remedies in India. It is intended to guarantee fair trade practices and establishing an equal playing field for local producers.
- Following the inception of the probe The government may assess duties on customs..
- The DGTR recommends the duty while it is the Department of Revenue takes the final decision on whether to apply it.
- The imposing of anti-dumping duties is allowed in regulations of World Trade Organization (WTO) rules.
- Anti-Dumping Duty applies only during a specific time.
- If dumping continues to be a problem the business can request a sunset review by the end of five years.
- Worldwide, once a sunset review has been requested the duration of the review, the duty will be extended for one year, pending the outcome of an investigation.
- The India, industries have been requested to submit a request for sunset review nine months prior to the date of expiry of the duty.
- **Anti-dumping regulations,1995** allow for the termination of an investigation in specific circumstances, including the withdrawing the application of the domestic industry affected in the instance where the investigation was started.
- **A different form of Countervailing Duty - ADD** is an import duty that is customs-related that protects against duplication of goods at prices significantly lower than the value of the item while Countervailing Duty is duty imposed by customs on products that have received government subsidies in the country of origin or exporting nation.

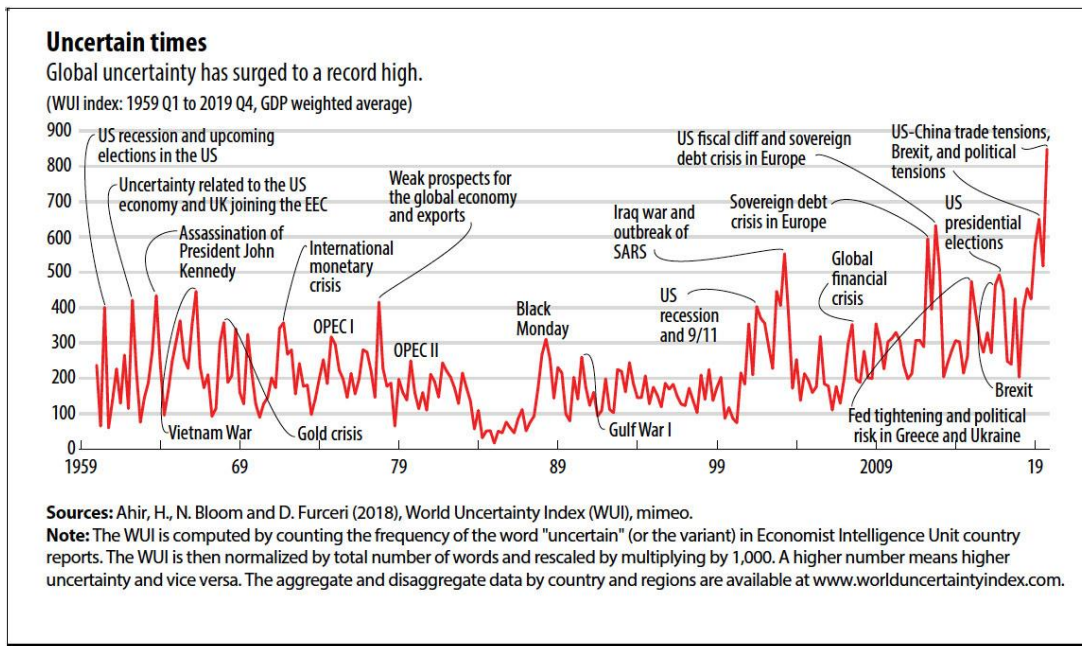
### WTO's Provisions Related to Anti-Dumping Duty:



- **Validity:** A duty against dumping is valid for a duration of five years starting from the date of enactment unless the duty is cancelled earlier.
  - **Sunset Review:** It can be extended for an additional time period of five years by an expiry or sunset review investigation.
  - A Sunset reviewor expiry review is a comprehensive assessment of the need for continuation of a program or agency.
  - It permits an evaluation of the performance and effectiveness of the agency or program.
  - A review of this kind can be initiated by suo-moto or based on an appropriately substantiated request by or on behalf of the industry in the country.
  - **Directorate General of Trade Remedies the Directorate General of Trade Remedies,** he supreme authority of the national level within the Ministry of Commerce and Industry oversees all trade remedial measures.
  - Trade remedial measures can include anti-dumping, countervailing duty and measures to protect the environment.
  - Its mission involves providing trade defense assistance to the industry in the country.
  - It offers protections to exporters to deal with the more frequent trade remedy inquiries imposed on them by countries that do not have a trade remedy.
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## Topic 22. WORLD UNCERTAINTY INDEX

*Important for subject: Economy*



The World Uncertainty Index and the Economic Policy Uncertainty (EPU) index are indicators of periods that are characterized by high levels of uncertainty.

### The World Uncertainty Index

- It is a quarterly measurement of uncertainty compiled by the International Monetary Fund.
- It is a measurement that measures global uncertainties through text mining of the nation reports from Economist Intelligence Unit.
- These reports provide information on the policies, economy and the political environment of each country.
- The WUI is calculated by counting the percentage of words "uncertain" (or the alternative) found in Economist Intelligence Unit country reports.
- It is then the WUI can then be scaled by multiplying it by 1,000,000.
- A higher number implies greater uncertainty, and the reverse is true.
- This index covers 143 nations-all of them with a population of minimum 2 million.
- It reflects the uncertainty arising from political and economic

developments,

- IMF also calculates the World Trade Uncertainty (WTU) index that evaluates uncertainty in trade for 143 nations on an annual basis.
- From 1996 and onwards, we use from 1996 onwards, using Economist Intelligence Unit (EIU) country reports from 1996 onwards.

### **The Global Economic Policy Uncertainty Index**

- The Economic Policy Uncertainty (EPU) index that is run by an academic group from the US is available worldwide and for a number of countries including India.
- It is an **GDP-weighted mean of EPU indices for the national EPU indexes for 20 countries:**
- Australia, Brazil, Canada, Chile, China, France, Germany, Greece, India, Ireland, Italy, Japan, Mexico, the Netherlands, Russia, South Korea, Spain, Sweden, the
- United Kingdom, and the United States.
- Every national EPU index is a reflection of the prevalence of local newspapers that use three terms that relate to economics (E) as well as the policy (P) and uncertainties (U).

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### **Topic 23. GENERAL NETWORK ACCESS (GNA)**

*Important for subject: Economy*

The framework of regulation -- known as General Network Access (GNA) regulations seeks to end an established point-to point transmission access.

- On the 16th of December on the 16th of December, on the 16th of December, Central Electricity Regulatory Commission came out with a draft plan to create an appropriate regulatory structure that would govern General Network Access (GNA).
- It is designed to ease the problem of transmission restrictions and encourage free access in order to create an electricity market that is seamlessly integrated.
- Presently the power generator is required to determine how power will be

delivered to the customer in the concept of point-to-point access.

- GNA allows GNA to supply at any location, as long as the amount they have agreed upon is fulfilled.
- The main concern is that these regulations on connectivity could favor the biggest players in the industry.

### General Network Access (GNA)?

- GNA refers to open access to the inter-state transmission system.
- Technically in the sense that GNA provides non-discriminatory connection for the transmission network between states to an estimated maximum infusion and also allows a user to draw for a certain time. This is in line with the notion of "one nation single grid".
- If the idea is made real, it will make sure that generators focus on producing power, and consumers focus on buying it. The method of transmission will no longer be a barrier or a problem.
- Power generators today have to figure out what method of supply completed due to the point-to point access idea, which according to the manufacturers are limiting.
- GNA allows the supply of goods from any location, so long as the amount they have agreed upon is fulfilled.
- **Eligibility requirements:** According according to this draft the following entities will be eligible to apply for the grant of GNA or enhancement of the quantity of GNA:
  - State Transmission Utility for the benefit of distributor licensees linked to the intra-State transmission system as well as other intra-State entities
  - A purchasing entity that is connected to the an intra-State transmission system Draft Central Electricity Regulatory Commission (Connectivity and General Network Access to the inter-State transmission System) Regulations 2021,
  - A distributor licensee or bulk consumer looking for a connection to ISTS directly, having a the capacity that is 50 MW or greater;
  - Trading licensees who engage in the cross-border trading of electricity under the Cross Border Regulations;

- The transmission licencee is linked to ISTS to draw additional power.
- The entities that are not included here however, as of the date of entry into the force of these regulations have been connected to inter-State transmission system or who have Connectivity as granted by Connectivity regulations is now in effect is eligible to apply for the the grant GNA. GNA for the transmission network of interstate states to the quantum that is equal to the amount of connectivity.

### What makes GNA differing from point-to-point access concept?

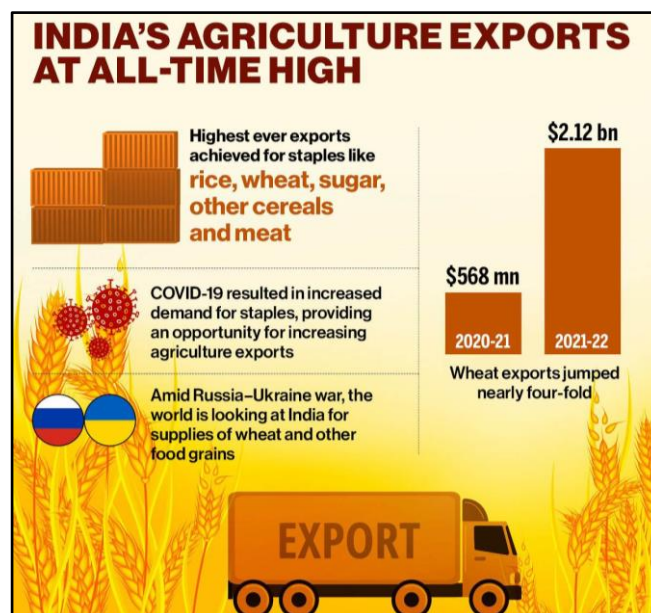
- Conceptually GNA is able to eliminate the pre-determined access point-to-point and permits draw-off or access throughout the beltway, which gives generators and buyers the option of injection or drawal.

### What is the rationale behind changing existing regulations?

- Properly planning the transmission system and the guaranteed collection of charges for transmission by the person who submitted.

## Topic 24. AGRICULTURE EXPORTS

*Important for subject: Economy*



Exports of Indian agriculture are increasing and could reach an all-time high

during the current fiscal year.

- Exports of Indian agriculture have increased by 16.5 percent year-on-year during the period April to September 2022-23 and will soon surpass the record of \$50.2 billion that was achieved in 2021-22 (April March).
- It is interesting to note that even commodities that have been deemed to be important for being restricted like rice, wheat and sugar -- also have seen incredible growth.
- The impressive increase in exports however is offset by imports. The resulting increase that was \$17.8 billion was significantly lower than that of \$27.7 billion surplus from the previous record-setting export year in 2013-14.

#### **Important information on the Ap-Sept (2022-23):**

- India has become an importer of net cotton.
- In the traditional plantation spices, such as cardamom and pepper the country has become more of an importer than an exporter.
- Another export item of which India has mostly become into an importer is cashew.
- Nearly 60 percent of India's total agricultural imports are accounted for by one single product which is vegetable oils.
- Vegetable oils are the fifth most-imported item, following electronics, petroleum gold, coal and gold.

#### **The Indian agricultural trade (april-sept 2022-23):**

##### **Top 5 agri commodities imported    Top 5 agri commodities-exported**

- Vegetable oil
- Marine products
- Cashew
- Non-basmati rice
- Fresh fruits
- Sugar



- Raw cotton
- Basmati rice
- Spices
- Spices
- In the past, Basmati rice is one of the most sought-after export commodities.
- However, in recent times, there has been an unusual rise in the demand for other types of rice.
- Indian Buffalo meat has been gaining an increase in demand on international markets because of its lead-based character and close organic character.
- The potential for export from buffalo meat enormous particularly in countries such as Vietnam, Hong Kong and Indonesia.
- Its Ministry of Food Processing Industries indicates that the share of processed and agricultural food products to the total exports of India is 11 11%.

### **Agri Export Initiatives:**

#### **Food processing and agriculture export development**

- **Authority (APEDA)** is an apex body which encourages the export of agriculture-related products from India.
- Established in 1985 by the Ministry of Commerce and Industry under the APEDA Act of 1985.
- APEDA is a government agency that has the task of promoting exports and the development of designated agricultural goods.
- APEDA has a number of initiatives.

### **APEDA:**

- **Hortinet** An integrative traceability technology that covers more than 40 vegetables.
- It offers Internet electronic services to all parties involved in facilitating registration of farms as well as testing and certification for Grape,

- Pomegranate and Vegetables to be exported to India towards Europe. European Union in compliance with guidelines.
- **A traceability system to trace Basmati rice:** (a registered GI product)
- Grapenet Grapenet a web-based certification and traceability software for monitoring the fresh grapes that are exported by India into Europe. European Union.
- **Farmer Connect Portal:** designed to assist farmers producers organizations, cooperatives, and exporters.
- It helps them make profiles and upload their sales offers on the platform. Exporters are also able to post their inquiries or requests and see similar sales offers.
- **Virtual Trade Fair:** A gathering place for visitors, exhibitors industry and exporters to share information about new products and develop new alliances.
- **SaaS Model:** The hybrid model combines the web-based traditional SaaS model for its users and a secure private Blockchain layer that provides additional security of data and authentication.
- **Other Agencies:** Marine the Products Export Development Authority (MPEDA), Tobacco Board, Tea Board, Coffee Board, Rubber Board and Spices Board to increase trade in agricultural goods.
- **agriculture Export Policy:** in 2018-Agriculture Export Policy in 2018 was introduced to increase the amount of agri-exports by doubling the current amount of \$ 30 billion to \$ 60 billion in 2022, and then \$ 100 billion after that, and also connect farmers to global chains.
- **Transport and Marketing Assistance for Specified Agriculture Products:** The scheme is designed to aid the international element of the marketing and handling of agricultural products.
- **100% FDI is permitted in certain agricultural activities:** by using the automated process.

**Topic 25. THE INTERNATIONAL FORUM FOR INDEPENDENT AUDIT REGULATORS (IFIAR)**

*Important for subject: Economy*



**Why is this happening in the news?**

The National Financial Reporting Authority (NFRA) has issued the guidelines for audit quality and inspection.

- Its goal is to improve the auditing profession's quality.
- The guidelines for inspections follow the same lines as the most effective methods used by International Audit Regulators.
- Inspections are designed to uncover potential areas for improvement and to identify the need for improvements to the audit company's quality control system.
- Inspections will comprise a company-wide audit quality review (SQC 1.) and individual review of files using a test-check method to determine the degree of compliance with auditing standards applicable to the audit and quality control procedures and policies.
- The audit quality inspections conducted by NFRA offer the opportunity to provide feedback and course corrections to audit firms as well as improve the understanding of the procedures and policies that govern the management of audit quality.

- The purpose of the inspections is to make improvements to the overall financial reporting framework of the country.

### **The International Forum for Independent Audit regulators (IFIAR)**

- It is a General Incorporated Association
- Headquarters-Tokyo, Japan
- It was founded at the end of the year 2006, in Paris
- Comprises independent auditors and audit regulators from 54 countries ranging from Africa, Asia, Europe, North and South America and Oceania.
- IFIAR has a plenary session every year to discuss the broad issues relating to audit quality concerns.
- It mandates that auditors be regulated by audit regulators.
- They must, at the minimum conduct regular checks of audit firms conducting audits of public interest organizations to determine the conformity of audit firms to applicable professional standards, independence standards and other laws, rules and regulations.
- In 2012 IFIAR is now conducting an Annual Inspect Findings Survey and releases its findings report.
- These reports present general trends in audit inspection results.

### **National Financial Reporting Authority (NFRA)**

- National Financial Reporting Authority (NFRA) is an independent regulator established to supervise the auditing profession as well as its Indian Accounting Standards under the Companies Act 2013.
- It was created in October of 2018.
- NFRA is accountable for recommending the policies and procedures for auditing and accounting and standards throughout the country, conducting investigation, and imposing sanctions against auditors who have not paid their dues and audit firms, in the form of financial penalties, as well as debarment from practice for a period of up 10-years.
- In accordance with the NFRA Rules of 2018, the authorities of NFRA were expanded to encompass the governing of auditors of companies that are

listed on any stock exchange either in India as well as outside India non-listed public companies that exceed certain thresholds, as well as other companies mentioned in the Rules.

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## **Topic 26. MARKET INFRASTRUCTURE INSTITUTIONS (MIIS)**

*Important for subject: Economy*

The Securities and Exchange Board of India solicited public feedback on a report that was submitted from one of its committees regarding improving the management of the market infrastructure organizations (MIIs).

- In April the market regulator established the committee headed by G. Mahalingam to improve governance standards within the MIIs.
- Functional classification and board independence, broadening the definition of a key manager and limiting their salaries, and increasing the criteria for net worth are among the most important suggestions made by the 13-member panel established by SEBI.

### **Market Infrastructure Institutes:**

- MIIs are organizations that provide the infrastructure for trading, settlement, and recording and also include stock exchanges, clearing companies and depository institutions.
- Depositories, stock exchanges and clearinghouses are all part of Market Infrastructure
- Institutions form a vital element of the nation's crucial economic infrastructure.
- MIIs help in the optimal utilization to make money work for the economic, and helped to boost economic development.
- They form the basis for the capital allocation process.
- They are essential for the growth of economics and have a positive net impact on society, just like any other infrastructure organization.
- That MIIs are fundamentally significant for the system of India is evident by the exponential expansion of these institutions in the market capitalization of listed firms, capital raised, the amount of investor

accounts that have depositories, brokers and brokers as well as the value of the assets that are held in depositories' accounts.

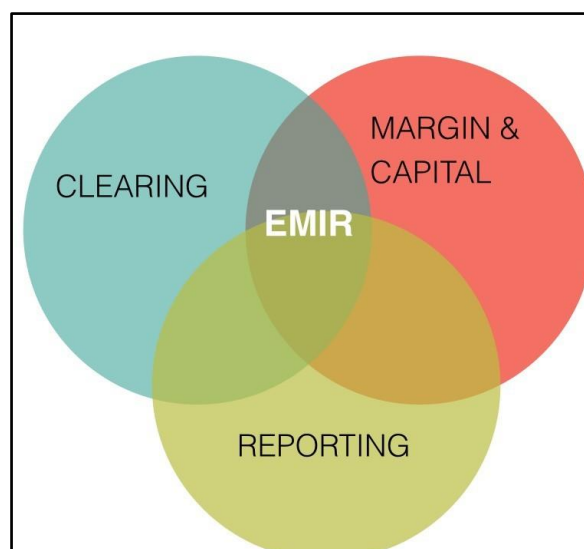
- At present, MIIs are required to have a net worth of no less than 100 crores on a daily basis.

### What are the establishments in India that can be considered MIIs?

- In the list of exchanges for stocks, the SEBI lists seven exchanges, which includes the BSE as well as the NSE and The Multi Commodity Exchange of India and the Metropolitan Stock Exchange of India.
- It is the case that there are two depository institutions which are that are responsible for the secure keeping of securities, as well as the transfer and trading of securities and are known as MIIs The Central Depository Services Ltd. and the National Securities Depository Ltd.
- The regulator provides seven clearing companies which include that of the Multi Commodity Exchange Clearing Corporation.
- Clearing houses, in turn assist in validating and completing trades in securities, and make sure that buyers and sellers respect their commitments.

### Topic 27. EUROPEAN MARKET INFRASTRUCTURE REGULATION (EMIR)

*Important for subject: Economy*



The European Securities and Markets Authority (ESMA) plans to de-recognize



the six Indian counterparty clearing companies CCPs because of non-compliance with specific requirements within the European Market Infrastructure Regulation.

- This implies that European banks won't be able clear or settle transactions in gilts, foreign exchange currency and interest rate derivatives based using Indian exchanges.
- ESMA intends to amend the agreement under the EMIR 2.0 that includes new requirements, such as supervisory power to conduct inspections of Indian clearing companies, which isn't a good idea for Indian regulators.

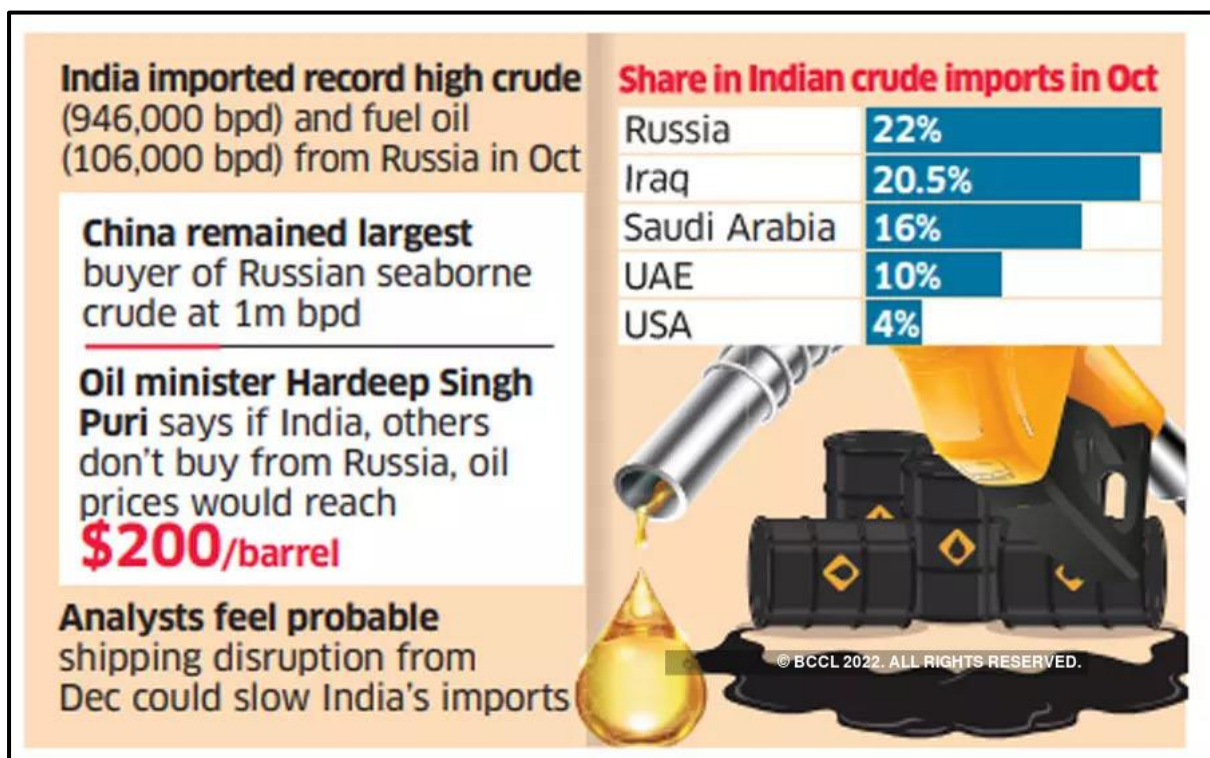
### **European Market Infrastructure Regulation (EMIR)**

- It was approved by the EU in August 2012 as an implementation of the G20 commitment to minimize counterparty, systemic and operational risks, as well as improve transparency within market transparency. OTC trading of derivatives.
- It was also created to be a preventative plan to avoid the fallout of any future financial crisis like the one that was the result of that Lehman Brothers bankruptcy in 2008.
- Its primary focus is the regulation of OTC (OTC) derivatives central counterparties, trade repository.
- It offers guidelines regarding the reporting requirements for derivative contracts, as well as the application of risk management standards, and common guidelines for central counterparties as well as trade repository.
- It sets out the common rules regarding central counterparties who interpose between parties in a contract, serving as the primary point for each trade, and trade repositories that store and manage all details of trades.
- It also provides three kinds of obligations that include the reporting, clearing and risk mitigation for applicable products
- It requires obligatory clearing obligations in certain OTC derivative contracts.
- The regulations require that over-the counter derivatives trades be cleared

- through central counterparties.
- EMIR stipulates that all companies that enter into derivative contracts report to their respective trade repositories, describing every transaction that occurs over the counter.
  - EMIR covers companies that qualify for derivative contracts related to equity, interest rate foreign exchange, commodities and credit derivatives.
  - The risk mitigation guidelines set out in the EMIR's Article 11 impose risk management regulations on bilateral derivatives because these derivatives aren't suitable for the standard central clearing of counterparties.
  - The article 25 in the EMIR requires CCPs from other jurisdictions around the world to provide services to
  - European banking institutions to get endorsed by ESMA.
  - India signed the agreement in 2017 and it expired at the end of March in 2022.

## Topic 28. WHY INDIA BUYING RUSSIAN OIL?

*Important for subject: Economy*



The fiscal year ended in FY22. India was able to purchase around 2.4 percent of

its total imports of oil in volume terms from Russia which was 1.7 percent in FY21.

### **Causes:**

#### **The price of oil has risen after the Ukraine War**

- With the price of oil rising and rising, more dollars are required to purchase oil. This boosts the demand for dollars and results in rupee depreciation and a growing current deficit in the account.
- Higher Inflation A weaker rupee with the higher cost of petroleum-based goods (imported inflation)-feeds into inflation in retail prices.
- The Ukraine conflict and subsequent economic sanctions against Russia from the West have improved the trade relations among India as well as Russia.
- India's imports into Russia between April and September soared by 410 percent to
- \$21.34 billion, and exports fell 18.8 percent in the range of \$1.3 billion.
- This is a major obstacle for trade in rupees between India and Russia. significant trade deficit Russia might be left with an enormous surplus in rupees that is derived from exports.
- Russia which is the third largest importer for crude oil after Saudi Arabia and Iraq, has taken over the UAE from third place.

#### **Price cap for G7:**

- The G7 wealthy nations - which includes the United States, Japan, Germany, Britain, France, Italy and Canada - as well as the EU are working on the details of the plans.
- Russian crude is sold at a bargain compared to the Brent benchmark.
- The international Brent benchmark, and the G7 would like to keep that spread as wide as possible, in order to limit Russian oil revenues.
- G7 along with EU countries will agree on an "price" that will be set by the G7 and EU countries.
- Russian Oil and petroleum buyers would submit "attestations" to the

- suppliers that they purchased Russian petroleum at or less than the limit.
- If they do not comply with the guidelines in violation, they'll be refused services, including brokerage, finance, insurance and navigation for oil cargoes that are priced over the limit.
  - Based in London, the International Group of Protection & Indemnity Clubs offers marine liability insurance for 95% of the world's oil shipping fleet
  - G7 is a group of countries. G7 is a grouping of countries that are wealthy - The G7 includes the United States, Japan, Germany, Britain, France, Italy and Canada.

### Topic 29. FARMER PRODUCER ORGANISATIONS (FPOS)

*Important for subject: Economy*



Govt steps to establish Fodder-based farmer producer associations.

The government has appointed that the National Dairy Development Board (NDDB) as the agency responsible for implementation, and has set the goal of 100 FPOs by 2022-23.

- It will be created in the framework of forming and promoting **the 10,000 Farmers Producer Organisations (FPOs)**
- Its goal is to create and encourage FPOs that are primarily fodder-centric as well as animal husbandry as a second task (fodder and model).
- The idea of establishing fodder-focused FPOs was first proposed from The

Ministry of Fisheries, Animal Husbandry and Dairying in the year 2020 in order to alleviate the fodder deficiency situation in the country.

- The high inflation of fodder directly affects the livelihoods of rural people.

### **National Dairy Development Board (NDDB)**

- It was established around the year 1965 to end exploitation and replace it with the empowerment of people, to replace tradition with modernity stagnation with growth, making dairying an instrument to help the rural Indian population.
- The National Dairy Development Board, originally registered as a society in the Societies Act 1860, was joined with the former Indian Dairy Corporation, a corporation that was established and licensed in the Companies Act 1956, by the NDDB Act 1987, with effective from the 12th of October 1987.
- The NDDB is an institution that is of national significance founded through an act of the
- Indian Parliament, and therefore an official body.
- National Dairy Development Board located at Anand, Gujarat (HQ)
- It's under the Ministry of Animal Husbandry, Dairying and Fisheries
- It was in the hands of Dr. Verghese Kurien. Kurien was sometimes referred to as 'India's Milkman'.
- The company was established to duplicate the Amul's success Amul to all of India.
- NDDB was established to help finance, support and assist the control and ownership of producer-owned companies within the dairy industry.
- The activities and programs are designed to enhance the farmer-owned institutions, and also helps with national policies designed to encourage the growth of these institutions.
- The most significant accomplishment was Operation Flood-which ran from the year 1970 to in 1996 (26 months) and turned India into the biggest milk producer worldwide. It is also known as "the White Revolution.
- The Board has joined over 1 lakh cooperatives of dairy into the "Anand

Pattern.".

- In this way, the village-level community is linked to the dairy federation at the state level through a three-tier system.
- The NDDDB is also in the process of implementing its National Dairy Plan (NDP) The NDDDB's subsidiaries comprise Mother Dairy, Indian Immunologicals Ltd., Hyderabad (IIL), Indian Dairy Machinery Company Ltd, Anand (IDMC) and NDDDB Dairy Services.

### **What are Farmer Producer Organisations (FPOs)?**

- It is an kind of Producer Organization (PO) with members who are farmers.
- The producer Organization (PO) A Producer Organization (PO) is an legal entity created by the primary producers which include. dairy producers, farmers fishermen and weavers and rural artisans.
- They also include craftsmen. PO can be a farmer, milk producer, fishermen, rural artisans, craftsmen. PO could be a producer-owned company as well as a cooperative society as well as any legal entity that allows for the profit sharing and benefits among its members.
- In certain forms, such as producer companies, the institutions of primary producers may be members of PO.
- FPOs are voluntary associations run by their farmers-members, who actively take part in the formulation of their policies as well as making decisions.
- They are open to everyone who are able to access their services and who are willing to accept the obligations of membership, without regard to gender or social, racial, religion or political discrimination.
- FPOs operate by providing the opportunity for education and training of their farmers-members and elected representatives, as well as employees and managers to enable them to be a part of the development and growth of the FPOs.
- Govt's Effort For Promotion of FPO Since 2011, the government has been promoting FPOs in a fervent manner under the Small Farmers' Agribusiness Collaboration (SFAC), NABARD, states and NGOs.



- The ongoing assistance for FPOs is mostly through the equity Grant Scheme-The Scheme is administered under the Small Farmer's Agribusiness Consortium (SFAC).
- It is designed to offer assistance for equity-based FPOs.
- The Farmer Producer Companies (FPCs) by offering equity grants that match up to 15 lakhs rupees, divided into two tranches.
- credit Guarantee Program-The scheme offers risk protection for banks who provide no collateral loans to FPCs that are up to 1 crore.
- Around 1 percent of producers registered with the scheme are able to benefit from the advantages.
- Central Sector Scheme of Formation and Promotion of 10,000 FPOs-The scheme was initiated in the Ministry of Agriculture & Farmers Welfare to create and encourage 10,000 FPOs that will be formed by 2027-28. The scheme is run through NAFED, the SFAC, National Cooperative Development Corporation (NCDC), NABARD, NAFED among others.
- When adopting a cluster-based strategy in the creation of FPOs, they will be focused upon "One District, One Product" for the development of product specification.

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### **Topic 30. WTO AND ENVIRONMENT**

*Important for subject: Economy*

The WTO could be an appropriate platform to discuss opening trade in environmentally-related products and services in accordance with the World Trade Report 2022: Climate Change and International Trade.

- Elimination of tariffs and reduction of non-tariff measures for particular environmental products would help reduce carbon emissions and contribute to an the growth of exports and GDP across all regions.
- India and a few other developing countries are not for:
- It could lead to a tariff reductions for goods that are dual-use and used in non-environmental purposes too which could be detrimental to the domestic manufacturing
- A majority of production of environmentally friendly goods is carried out

in the developed world.

### **WTO and Environment:**

- The WTO also provides trade-related technical assistance and capacity-building for LDCs and developing countries that can assist in helping to create climate-resistant trade capacity Examples-Aid for Trade as well as the enhanced Integrated Framework and the Standards and Trade Development Facility (STDE)

### **About the World Trade Report**

- The publication is done annually through the WTO.
- It is designed to increase understanding of the current trends in trade, issues, and policy.
- The 2022 World Trade Report explores the intricate interconnectedness between global trade and climate change and the ways in which trade and international trade regulations can help in the fight against climate change.

### **The Enhanced Integrated Framework (EIF)**

- It is the sole multilateral partnership that is exclusively dedicated to helping the least developed countries (LDCs) with using trade to be a catalyst to increase growth, sustainable development and reduction of poverty.
- The EIF collaboration of 54 countries with 24 donors, eight partners works closely with the governments, development organizations as well as civil society organizations and academics.
- The Integrated Framework (IF) was first established in the month of October 1997 during the High-Level Meeting of the LDCs' Trade Development held at the WTO.
- To join with the WTO were the IMF's other partners in the WTO: the International Monetary Fund (IMF) and the International Trade Centre (ITC) and The United Nations Conference on Trade and Development

(UNCTAD), the United Nations Development Programme (UNDP) and the World Bank.

- The Task Force on an Enhanced Integrated Framework made suggestions in 2006 that led to the present Enhanced Integrated Framework.
- The EIF establishes real partnerships between Least Developed Countries and partners, donors as well as EIF Trust Fund, the EIF Executive Secretariat as well as EIF Trust Fund, and the Executive Secretariat. EIF Trust Fund
- Other development partners and Manager are helping LDCs in their own determination to mainstream trading into their national developmental strategies up structures to coordinate the supply of technical assistance related to trade. Build capacities to trade. This also involves addressing crucial supply side issues.

### **EIF and Aid for Trade**

- LDCs may use the EIF as a means to coordinate the support of donors and also to leverage further Aid for Trade resources, and donors are able to join the EIF to meet the Aid for Trade commitments.

### **The WTO-led Aid-for-Trade Initiative**

- It encourages governments of developing countries and donors to acknowledge the significance that trade could be a key factor in the development process. Particularly, the initiative will mobilize resources to address trade-related issues identified by developing and less developed countries.
- Aid for Trade is the development of an overall trade package which is designed to assist developing countries in particular, the least developed ones, improve their trade-related skills and infrastructure needed to implement the WTO agreement and benefit from increased access to markets.

### **The Standards and Trade Development Facility (STDF)**

- It is an global alliance that helps to improve the safety of food and the capacity of animal and plant health in the developing world by promoting the use of best practices, including by using digital technologies to make trade more secure across the world.
- The STDF helps developing countries meet international phytosanitary and sanitary (SPS) standards that are described by the SPS of WTO.

### **Agreement.**

- The aim is to create lasting SPS capacities in the developing nations that will contribute to sustainable economic expansion, poverty reduction as well as food security.
- The STDF strives to accomplish this goal through two methods: funding collaborative, innovative SPS capacity-building projects at the regional, national as well as global levels. encouraging the use of effective methods to build SPS capacities.
- STDF founder partners include those of Food and Agriculture Organization (FAO) of the
- United Nations, which also hosts it's Codex and the Secretariats of IPPC as well as the World Organisation for Animal Health (WOAH) The World Bank Group, the World Health Organization (WHO) and the WTO.

### **The WTO-led Aid-for-Trade Initiative**

- It encourages the governments of developing countries and donors to acknowledge the importance that trade can be a key factor in the development process. Particularly, the initiative will mobilize resources to address trade-related challenges identified by the countries that are developing or least developed.
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## The Standards and Trade Development Facility (STDF)

- It is an global organization that strives to increase the food safety as well as capacities for animal and plant health in the developing world through the promotion of best practices - for example using digital technology - to make trade more secure across the world.
- The STDF helps developing countries meet international phytosanitary and sanitary (SPS) standards as laid out in the World Trade Organization's SPS Agreement.
- The aim is to develop lasting SPS capacity in the developing world that contribute to sustainable economic growth, reduction of poverty as well as food security. The STDF is working to reach this goal through two strategies: funding collaborative, innovative SPS capacity-building projects at the regional, local, and global levels , identifying and encouraging the application of effective practices to increase SPS capacity.
- STDF founder partners include those of Food and Agriculture Organization (FAO) of the United Nations, which also houses the Codex and IPPC Secretariats, as well as the World Organisation for Animal Health (WOAH) and that of the World Bank Group, the World Health Organization (WHO) and the WTO.

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### **Topic 31. G20 SUMMIT: WHAT'S AT STAKE**

#### ***Important for subject: Polity***

Governments and heads of state representing all 20 most emerging and advanced economies will kick off an two-day summit at Bali, Indonesia.

#### **What's the agenda for the summit in 2022:**

- It is expected that the Bali summit will include three main priorities:
- **Global Health Architecture:** It involves discussions on building resilience to global health and improving the healthcare system in the world more equitable, inclusive and responsive to the needs of crises.
- **Digital Transformation** The discussions here been focused on all the

potential that comes with speedy digitization of the global economy by establishing an entirely new environment of collaboration between nations.

- **sustainable Energy Transformation:** Under this rubric discussions have focused on the best ways to accelerate the transition to more sustainable power sources. Particularly, because any transition that requires significant investment, efforts have been focused on establishing an investment platform.
- After last Oct. 2021 Summit at Rome, prospects of the global economy have been deteriorating.
- The most recent report from the International Monetary Fund on G20 countries indicates that majority of G20 members have experienced substantial losses in output since the outbreak Covid-19, the pandemic. India, for instance, has lost nearly 14 percent of its output which is the largest loss of the G20 nations.

#### **What is G20 Summit:**

- G-20 was an collection of ministers from finance as well as governors of central banks from 19 separate countries as well as members of the European Union.
- It was founded in 1999, and then upgraded to a conference of heads of government in 2008, to be able to deal with the 2008 global economic crisis.
- G-20 is an international forum, not a legislative body and its agreements and decisions are not legally binding. effect, but they do affect the policies of countries as well as global cooperation..
- The G20 membership comprises two-thirds of the population of the globe, 85percent of the world's Gross Domestic Product, and 80 percent of the global investment, and 75% of the world's trade.
- Help contribute 70% of carbon emissions in the world.
- G20 is not home to an official Secretariat and headquarters.
- It is the G20 Summit is formally known as the "Summit on Financial



Markets and the World Economy".

### How G20 is working:

- The G20 is not a Permanent Secretariat. Its agenda and the work is overseen through representatives who are from G20 nations, referred to as "Sherpas".
- The G20's presidency G20 is rotated every year among members. The country that holds the presidency, along alongside the former and the next president, is referred to as the "Troika".
- Troika assures continuity for G20 agenda. G20 Agenda.
- In the course of India's presidency India, Indonesia and Brazil will make up the troika.

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### Topic 32. NINTH SCHEDULE

#### *Important for subject: Polity*

The Jharkhand assembly has unanimously passed a law of the Hemant Soren government to increase the number of education and government jobs for other backward communities in this state, from percent to 27 percent.

- The bill also increases the reservation of Scheduled Tribes for Scheduled Tribes to 26 percent to 28%, and for SCs from 10 percent to the current 12%. This means that the percentage of reservation total in Jharkhand will increase to 77%, which includes 10% reserved for economically less able segments (**EWS**) within forward castes, unless the law is repealed.
- The state government has advised that the bills be evaluated in accordance with the **Ninth Schedule** 9 of the Indian Constitution, to give the bills protection from legal scrutiny.
- However the 9-judge Constitution bench, headed by CJI YK Sabharwal has ruled in 2007 that any law that were enacted under the Ninth Schedule after April 24 1973, are able to be contestable in court if they violate Fundamental Rights. The decision was made in a case challenging the TN contingents. (**IR Coelho case**)

## Ninth Schedule:

- The Ninth Schedule **contains a list of state and central laws that are not able to be challenged in court.** At present, 284 of these laws are exempt from review by a judge.
- The majority of the laws covered by the Schedule relate to land and agricultural issues.
- The Schedule is the federal and state laws that are not able to be challenged in court and was included in the Constitution (First Amendment) Act, 1951.
- In the first Amendment **included 13 laws added** to the schedule. Later amendments have increased the number of laws that are protected to 284 today.
- It was enacted by Article 31B, the **amendment to law, Article 31B**, which along with Article 31A was introduced by the government to safeguard laws that pertain to agrarian reforms and to abolish the Zamindari system.
- While Article 31A gives protection to "classes" in laws, Article 31B protects specific laws or statutes.
- The majority of the laws regulated under the Schedule relate to land issues and agriculture The list also includes additional important topics.
- Article 31B also comes with retroactive effect, which means that if laws are placed into the Ninth Schedule after they are declared constitutionally unconstitutional, they are taken to be in the Schedule from the time of their introduction and therefore legal.
- While Article 31B doesn't permit judiciary review, the apex court has indicated it has said in past cases that laws that fall under the **Ninth Schedule could be subject review if the laws were found to violate Fundamental Rights or the basic structure of the Constitution.**

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### Topic 33. GOVERNOR AND CHIEF MINISTER: THE CONFLICT

*Important for subject: Polity*

Issue Recently, we've observed the differences of opinions on a variety of issues between the chief minister and governor, resulting in a sometimes-significant

constitutional issues.

- **Governor:** Article 155.
- Governor's Appointment The Governor of a state will be appointed by the President through a warrant with his signature and seal.

### How does the Governor relate with the States?

- The governor is the official head, but the actual power rests in the State Chief Minister.
- The President of India is "elected" and the Governor can be "selected" by the central government in power.
- Governor is the head of state in constitutional terms. of the state, as well as the key liaison between Union and the State government.

### What are the powers of discretion of the Governor?

- **Article 163-** There will be an Council of Ministers with the Chief Minister as the chief to advise and assist Governors in the execution of his duties, notwithstanding the authority given in the constitution.
- If there is any doubt as to whether a matter falls at the Governor's discretion or not the Governor's decision is to be definitive.
- The discretionary powers of the Governor is more extensive in comparison to the Presidential discretion because he has both the constitutional and discretionary powers in a situation, as opposed to the President who is granted only discretionary power in a situational sense.

### Constitutional discretionary power:

- **Article 167-** The Governor is able to get details from the Chief Minister regarding state legislative and administrative issues
- **Article 200-** The Governor may put aside the Bill to be considered by the President
- **Article 356-** The Governor is able to suggest to the President to enforce President's rules on constitutionally invalid machinery

- The governor is **not obliged to** follow the advice and guidance of the CM and the council of ministers in the course of doing his job as administrator of a neighboring union territory (in the event of an additional charge).
- **Sixth Schedule** The Governor can decide the amount due the autonomous Tribal District Council as royalty from mineral exploration licenses granted from the governments of Sixth Schedule zones (Assam, Meghalaya, Tripura and Mizoram)

### **Dispositional discretionary power**

- **During Hung Assembly-** The governor can nominate the chief minister if no political party has a clear majority
- **No-confidence** The Governor is able to remove the ministerial council in the event that it is unable to prove that it has the trust of the state legislature assembly
- The Governor may dissolve the state legislature in the event that the council of ministers are unable to maintain their majority.
- **Appointment of the caretaker government** The Governor may designate the caretaker government for a short time until the regular government is formed or elected.
- **Special provisions in relation to States:** The President can assign a specific responsibility to the Governor to create distinct development committees to oversee Vidarbha, Marathwada, Saurashtra and Kutch in accordance with Article 371.

### **Have any efforts been made to settle the issue between the governor and the Chief minister?**

- **The Administrative Reforms Commission (1968)**
- **President's Rule-** It was suggested that the governor's report concerning the
- The president's rules must be impartial and the governor has to use his discretion in this respect.

### **Rajamannar Committee (1971)**

- Role of the Governor the Rajamannar Committee stressed that the Governor of the State must not be viewed as an agent for the central government, but rather assume the role of the legal head of the State.

### **Sarkaria Commission recommendations- 1983**

- Hung assembly It outlined the order in which the Governor follows when selecting a CM in an instance. It also provided for the formation of alliances of parties that was established prior to the election.
- The biggest party that has staked claims to form the government, with the backing of other parties, including independents.
- A post-election coalition of all party leaders, all members of the coalition forming a government.
- A post-election alliance of political parties, with a portion of the parties of the alliance creating government, and the remaining parties and independents to support an outside government.
- Gov's appointment (CM) CM is to be in consultation with the CM when a Governor is appointed.
- The dismissal process for the Council of Ministers- The Governor cannot depose his Council of ministers when it has an overwhelming majority.

### **S.R. Bommai Judgment (1994):**

- President's rule Supreme Court Supreme Court classified the instances that lacked constitutionality into four groups: Political crises, internal subversion,
- Physical breakdown, non-compliance with the Constitutional directions of the Union Executive.
- The verdict permits for the Supreme Court to investigate claims of malafide in Governor's report.

### **Punchhi Commission recommendations (2007)**

- The Punchhi Commission on Centre-State Relations advised that the governor solicit the head of "a pre-poll alliance that commands the highest number of people" (or" the "largest one-party" to form a government in the event that no political group or pre-poll alliance is able to form a majority.

### **Topic 34. HIGHER EDUCATION COMMISSION OF INDIA (HECI)**

#### ***Important for subject: Polity***

It will combine it into the University Grants Commission (UGC) and All India Council for Technical Education (AICTE), is likely to be granted vast powers of penalization and the government contemplating to allow it to issue fines of up to 5 million and to also pursue the leaders of institutions who are that are found to have committed violations.

- The UGC is the supreme authority for higher education's regulatory bodies (non technical) is able to issue a maximum fine of \$1,000 for any violation that include the establishment fake universities.
- This is in accordance with an Act that was passed in 1956.
- HECI Bill is currently being developed through the Ministry of Education for tabling during the Winter session of the Parliament.
- HECI will include the proposed 15-member committee, apart from the chairperson and vice-chairperson.
- It is expected to include a vice-chancellor at central universities, a financial secretary of higher education an expert in legal matters and a well-known individual in the field.
- It could also include at minimum one vice chancellor from the state university as well as two faculty members from State Higher Education Councils.
- In 2018, the draft Bill included no provision for representation from **states on the Commission**, which has been criticized by a lot of.
- The new Bill contains a clause similar to the old version, which grants the Centre powers to dismiss the chairperson, vice-chairperson and any other commission member regardless of "moral turpitude" The new Bill also



stipulates that removals are carried out only following an inquiry by an active Supreme Court Judge.

- The provisions of the Bill are aligned to The National Education Policy, 2020 which had suggested that legal and medical education should be excluded from the proposed HECI's scope in which technical, general vocational, teacher and other professional training will be included.
- The commission will comprise four verticals that are independent National Higher
- Education Regulatory Council, National Accreditation Council, Higher Education
- Grants Council and General Education Council that will be led by one president for each.
- The HECI is tasked with the development of an integrated plan that will guide higher education's future in India and also transforming the existing institutions of higher learning into huge multidisciplinary research universities and multidisciplinary units.
- National Higher Education Regulatory Council will take actions against institutions that don't comply with accreditation standards and/or in violation of other standards, investigate the administration and financial practices and address complaints from those who are involved.
- **The National Accreditation Council** : will design the accreditation process.
- The Higher Education Grants Council will establish a transparent set of criteria for the funding of higher education institutions as well as administering the awarding of grants, scholarships and so on.

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### **Topic 35. WHY HAS ESMA DERECOGNISED SIX INDIAN CENTRAL COUNTERPARTIES**

***Important for subject: Polity***

The financial markets regulator of the EU, and supervisor The European Securities and Markets Authority (ESMA) had withdrawn recognition of six central counterparties of India (CCPs) as per the European Market Infrastructure

Regulation.

**What are six India's Central counterparties (CCPs):**

- Clearing Corporation of India (CCIL)
- Indian Clearing Corporation Ltd (ICCL)
- NSE Clearing Ltd (NSCCL)
- Multi Commodity Exchange Clearing (MCXCCL)
- India International Clearing Corporation (IFSC) Ltd (IICC)
- NSE IFSC Clearing Corporation (NICCL)

**What is the function in CCP?**

- CCPs fulfill two primary functions as intermediaries in an exchange Settlement and clearing the the conditions of trade.
- CCP functions as the name of a system provider that through innovation connects system participants in transactions admitted for settlement, thus changing from the buyer to each seller, and the seller to each purchaser, for the purpose of settling their transactions.
- CCP is licensed to operate by RBI to be operational in India in accordance with the Payment and Settlement Systems Act 2007.

**What is the motivation behind derecognition?**

- The decision to deny recognition to Indian CCPs was due to "no cooperation arrangements" with both the ESMA as well as Indian regulators, e.g. those of the Reserve Bank of India (RBI) as well as which is the Securities and Exchange Board of India (SEBI) and the International Financial Services Centres Authority (IFSCA).
- In accordance with the European Market Infrastructure Regulations (EMIR) the CCP located in a third-country is able to provide clear services for European banks, but only when it is deemed to be recognized as such by ESMA.
- The ESMA intends to regulate these CCPs that is something that the

Indian regulators aren't in favor of.

**What is the timeline ESMA provided:**

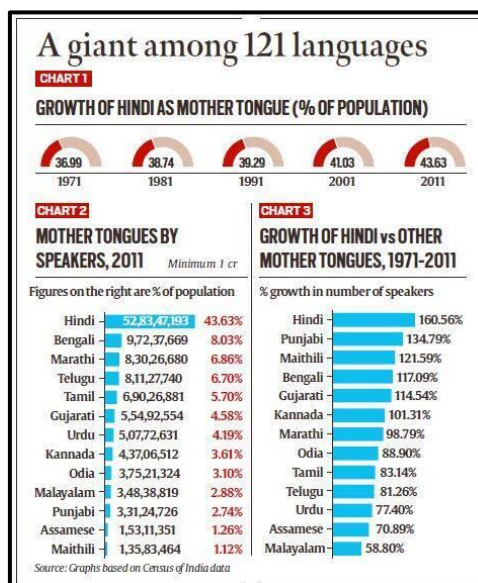
- It is expected that the EU regulator will postpone the implementation of the withdrawal decision to April 30th, 2023, to reduce the negative effects of the move EU traders.

**What will the decognition have an impact on European bank:**

- Third Country CCPs (TC-CCPs) will cease to offer the services in the EU to clearing members or trading venues that are based in the EU.
- A number of major European banks that deal in the forex forward, swap, commodities and equities markets are Societe Generale, Deutsche Bank and BNP Paribas will not be capable of providing services for clearing and settlement to their customers.
- These countries will also have to put aside funds for trading on the domestic market.
- From the entire foreign portfolio investor (FPI) who are registered in India more than 20% come from Europe.

**Topic 36. MOTHER TONGUE SURVEY OF INDIA**

*Important for subjects: Polity*



Recently, the Ministry of Home Affairs has completed the Mother Tongue

Survey of India with field videography of the 576 languages spoken by the nation.

### **What is Mother Tongue Survey of India:**

- The Mother Tongue Survey of India is an initiative that "surveys the mother tongues," that are consistently recited over two or more Censu years.
- It also provides information on the linguistic aspectsof the languages selected.
- The NIC as well as the National Film Development Corporation will collect the linguistic data of the mother tongues surveyed by recording audio files.
- Videographed speech dataof mother tongues can also be uploaded to NICsurvey to be archived for purposes.

### **What is the status of the mother language within India:**

- According to an analysis of the 2011 census of linguistics in the year 2018 over 19500 dialects or languages can be found by people in India as mother languages.
- The term "mother language" is a designation given by the respondent however it does not have to be in any way identicalwith what is the actual language medium.
- After Important in exposing the 19,569 return documents to linguistic examination editing, rationalisation and revision They were classified into 121 mother languages.
- According to the 2011 census of linguistics, Hindi is the most commonly spoken mother language and has 8 crore of people which is 43.6 per centof the population claiming it as their mother tongue.
- The second highest ranking is Bengalias the mother language of 7 millionindividuals with eight percentof the population.

## How do I know the state of Mother language in the schooling for children?

- The latest National Curriculum Framework for the elementary stages of education has recommended that mother language should be the main language to be taught in school for children ranging from to age eight.
- The latest NCF is a new NCF that covers pre-school as well as classes I-II, emphasizes the benefits of using the mother language to be the principal medium of instruction according to the NCF, stating that when children enter pre-school, they have acquired significant proficiency in their "home languages".
- As per The NCF, evidence from studies confirms that it is important to teach children their native language in the early years of their education and beyond.
- NCF further states that children acquire concepts the fastest and deeply in their native language, the most effective method of instruction should be the child's native language during the foundational stage.

## Topic 37. INDIA NEEDS TO INCREASE URBAN INFRASTRUCTURE INVESTMENTS TO \$55 BILLION A YEAR: WORLD BANK

*Important for subject: Geography*

<b>INFRA UPGRADE</b>	
<p>World Bank says need to spend <b>\$840 b</b> over next 15 years</p> <hr/> <p><b>600 m</b> people to live in urban cities by 2036</p>	<p><b>Policy interventions suggested:</b></p> <ul style="list-style-type: none"> <li>Improve revenue streams of urban local bodies</li> <hr/> <li>Enable commercial borrowing avenues for local bodies</li> <hr/> <li>Increase involvement of private sector in delivery of services</li> </ul>
	 <p>Switch to a more stable, formula-based &amp; unconditional fiscal transfer regime</p> <hr/> <p>Set up a dedicated structure like Cities Investment Support Unit</p>

The World Bank report is titled "Financing India's Infrastructure Needs:

- Limitations to Commercial Financing and Future Prospects to Policy

Action', estimated that India will require \$840 billion in the next 15 years.

### India's urbanization requirements:

- India requires to boost its investment in urban infrastructure by averaging \$10.6 billion per year over the last decade and to an average \$55 billion per year over in the coming 15 years.
- In 2036, 600 million people are expected to reside in cities in India which is about 40% of total population.
- Presently both the state and central government finance more than 75% of the city's infrastructure.
- Meanwhile, urban municipal bodies (ULB) provide 15% of the funding from their own surplus earnings.
- At present, just 5 percent of urban infrastructure projects were funded by companies in the private market.
- Current (2018) total annual infrastructure investment of \$16 billion.

### Urbanization prospects

- According to the World Urbanization Prospects, 2018 report released by the UN Department of Economic and Social Affairs (UN DESA) as a group, India, China and Nigeria will make up 35percent of expected increase in the global urban population between 2018 and 2050.
- In 2050, it's predicted that by 2050, India will add 416 million urban residents.
- At present, India's population was in the range of 12,101 million the year 2011, with an urbanisation rate of 31.1 percent (Census 2011). India 2011).

### State-wise Scenario:

- **More than 75 percent of the urban population of the nation is located in 10 states:** Maharashtra, Uttar Pradesh, Tamil Nadu, West Bengal, Andhra Pradesh, Gujarat, Karnataka, Madhya Pradesh, Rajasthan, and Kerala.



- Maharashtra is the top performer with 50.8 million inhabitants (13.5% of the urban population total of the nation).
- Uttar Pradesh accounts for about 44.4 million people, which is followed by Tamil Nadu at 34.9 million.
- Goa is one of the more urbanized State in the country with 62.2 percent of its population being urban.
- Tamil Nadu, Kerala, Maharashtra and Gujarat have reached over 40% urbanization.
- Within those in the North-Eastern States, Mizoram is the most urbanized , having 51.5 percent urban population.
- **State with low scores:** Bihar (11.6 percent), Assam (14.1%), Odisha (16.68%) and Uttar Pradesh (22.3%) continue to be at an lower urbanization rate as compared to the overall average.
- Within the Union Territories the NCT of Delhi and the UT of Chandigarh are the most urbanized, with 97.5 percent and 97.25 percent urban population, respectively being followed by Daman and Diu and Lakshadweep.

### **India's Global Commitments on the Urban Development:**

- It is believed that the Sustainable Development Goal 11 encourages urban development as one the suggested strategies for sustainable growth.
- The New Urban Agenda of UN-Habitat was adopted in 2016.
- New Urban Agenda was adopted at Habitat III in 2016.
- It provides guidelines for the design and development, construction management, and enhancement of urban areas.
- A report from United Nations Habitat (2020) suggests that the geographical conditions of a city may increase its capacity to create environmental, social and economic worth and improve well-being.
- **Paris Agreement:** India's National Determined Contributions (NDCs) includes the goal of reducing the intensity of emissions from the GDP of the nation by 33-35% in 2030, compared to the 2005 level.

## UN-Habitat:

- The United Nations Human Settlements Programme is the United Nations programme for human settlements as well as sustainable urban development.
- The organization was established in 1978 following the First UN Conference on Human Settlements and Sustainable Urban Development (Habitat I) that was held in Vancouver, Canada, in 1976.
- Headquarters at the United Nations Office at Nairobi, Kenya.
- It was enacted through the United Nations General Assembly to create ecologically sustainable and socially sustainable cities and towns, in order to provide enough shelter for all.
- It is an official member of the United Nations Development Group.
- The mission of UN-Habitat stems in the Habitat Agenda, which was adopted at the United Nations Conference on Human Settlements (Habitat II) in Istanbul, Turkey, in 1996.
- The **twin objectives** in Habitat Agenda are: Habitat Agenda include:
  - Adequate shelter for all.
  - The process of establishing human settlements that are sustainable in the midst of an increasing urbanization.

## India's Initiatives for Urbanisation:

### Schemes/Programmes Related to Urban Development:

- Smart Cities
- AMRUT (Atal Mission for Rejuvenation and Urban Transformation) Mission
- Swachh Bharat Mission-Urban
- HRIDAY (Heritage City Development and Augmentation Yojana)
- Pradhan Mantri Awas Yojana-Urban

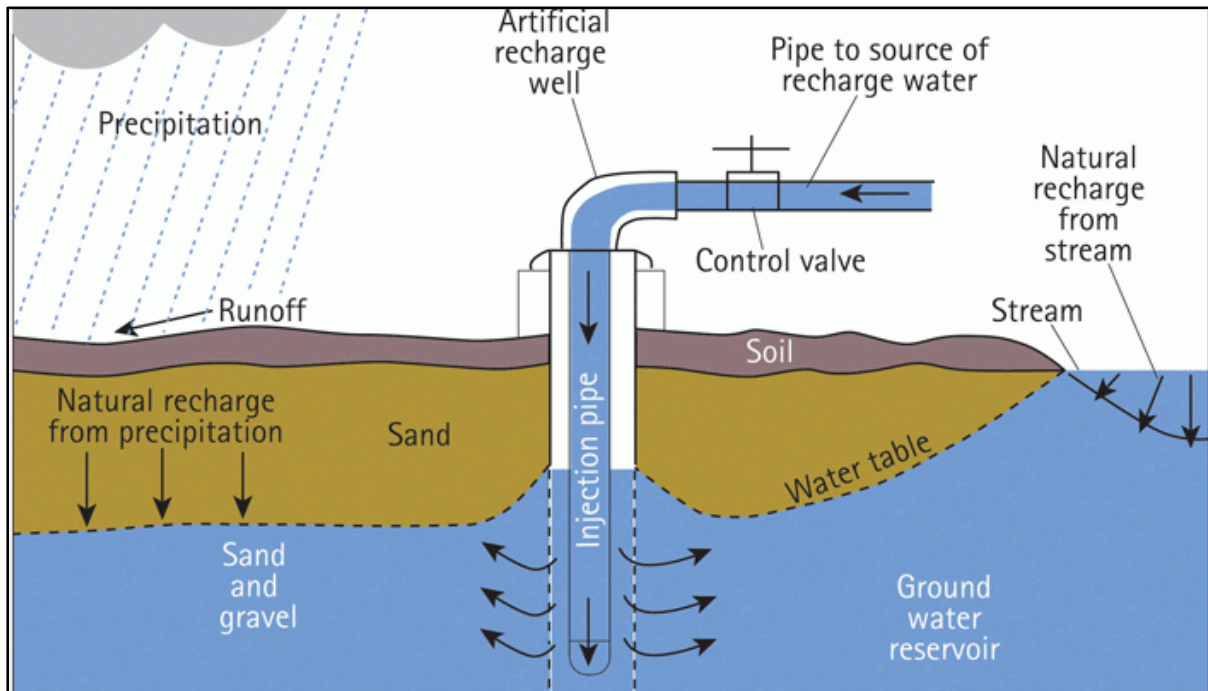
### Government Initiatives for Slum Dwellers/Urban Poor:

- Pradhan Mantri Garib Kalyan Yojana

- Atmanirbhar Bharat Abhiyan (self-reliant India)
- Affordable Rental Housing Complexes (ARHC)

## **Topic 38. RECHARGING GROUNDWATER BY WATER-HARVESTING MEASURES**

*Important for subject: Geography*



### **What is an Aquifer**

An Aquifer is a body made of impermeable stone or sediment that is saturated with groundwater.

- Groundwater flows into an aquifer after precipitation soaks into the soil. It may be able to move through the aquifer before it can come back to surface via wells and springs.

### **India and Groundwater**

- India is the biggest consumer of groundwater anywhere in the world, consuming groundwater up as high as 253 billion cubic metres (bcm) each year.

- It accounts for around 25% of worldwide groundwater harvesting.
- Of the 6584 assessment units 1034 are classified as 'Overexploited'. 253 as Critical 681 classified as 'Semi-Critical' and 4520 is rated as "Safe".
- The remaining assessment units are designated as "Saline' due the lack of fresh groundwater due problems with salinity.

### Availability of Water:

- India is home to around 1123 billion cubic meters of water resources to be used including 690 bcm of it is surface water, and the remaining 433 bcm are groundwater.
- From the total amount of groundwater that is available, **90%** of it is utilized for irrigation purposes , and is mostly for agricultural uses.
- Other 10% of the total is the industrial as well as industrial use together.

### Water Crisis in India:

- In the Composite Water Management Index (CWMI) report published from the NITI Aayog in 2018, 21 cities (Delhi, Bengaluru, Chennai, Hyderabad and others) are racing to achieve zero groundwater levels by the year 2020 which will affect access for 100 million inhabitants.
- The report further states the fact that, by **2030** in 2030, the nation's water demand is expected to exceed the available supply, leading to a serious water shortage for millions of people, and the possibility of a loss of 6% in GDP.
- Maharashtra in addition, almost half of the country are facing an acute shortage of water.
- In addition to Maharashtra, Tamil Nadu, Karnataka, and Rajasthan as well as areas from Gujarat,
- Punjab Haryana and Haryana are experiencing an unprecedented water shortage. levels.

### How do I take rainwater

- Catchmentis used to store and collect the collected rainwater.

- **System of conveyance**The system is used to move the collected waters from the catchment area to replenishment zone.
- **Flush**The purpose of this is to wash out the rain that has just started.
- **Filter**Filter is used to filter rainwater collected and for removing contaminants.
- **Recharge structures and tanks** They are used to store water that has been filtered and is ready for use.
- The process of harvesting rainwater involves the storage and collection of rainwater through the use of artificially-designed systems that drain naturally or artificially created catchment areas, such as the rooftop, compound rocks and hill slopes. They are also artificially improved semi-pervious or impervious surface of the land.

**The factors that have a significant impact on the quantity of water gathered include:**

- The amount of runoff
- The catchments' features
- The impact on the environment
- The technology is readily available
- The storage capacity of tanks
- The roof's types as well as its slope and materials
- The frequency, amount and quality of rain
- It is easy and quick at that rainwater is able to penetrate subsoil and recharges the ground water.

**What are the Initiatives Taken by the Government?**

**Central Government:**

- It is promoting the concept of conjunctive use of surface and groundwater based on the village/gram panchayat level water security plan prepared in a scientific manner through the participation of communities/stakeholders.

### **Atal Bhujal Yojana (Atal Jal):**

- It is a Rs. 6000 crore Central Sector Scheme with World Bank assistance for sustainable water management with the participation of communities.

### **Jal Shakti Abhiyan (JSA):**

- It was announced in 2019 in 256 districts with water shortages across the country in order to improve the supply of water and improve groundwater conditions in these regions.
- It focuses primarily on the construction in recharge infrastructure, the rejuvenation of old water bodies as well as intensive afforestation.

### **Aquifer Mapping and Management Programme:**

- The CGWB has taken on the Aquifer Mapping and Management Programme.
- The program is aimed to delineate aquifer disposition and their characterization for the preparation of aquifer/area-specific groundwater management plans with community participation.

### **Atal Mission for Rejuvenation and Urban Transformation (AMRUT):**

- The Mission focuses on creation of the basic infrastructure for urbanization in the
- AMRUT cities include drinking water distribution, sanitation and the management of septage, drainage for stormwater parks and green spaces, and non-motorized urban transportation.

### **State Government:**

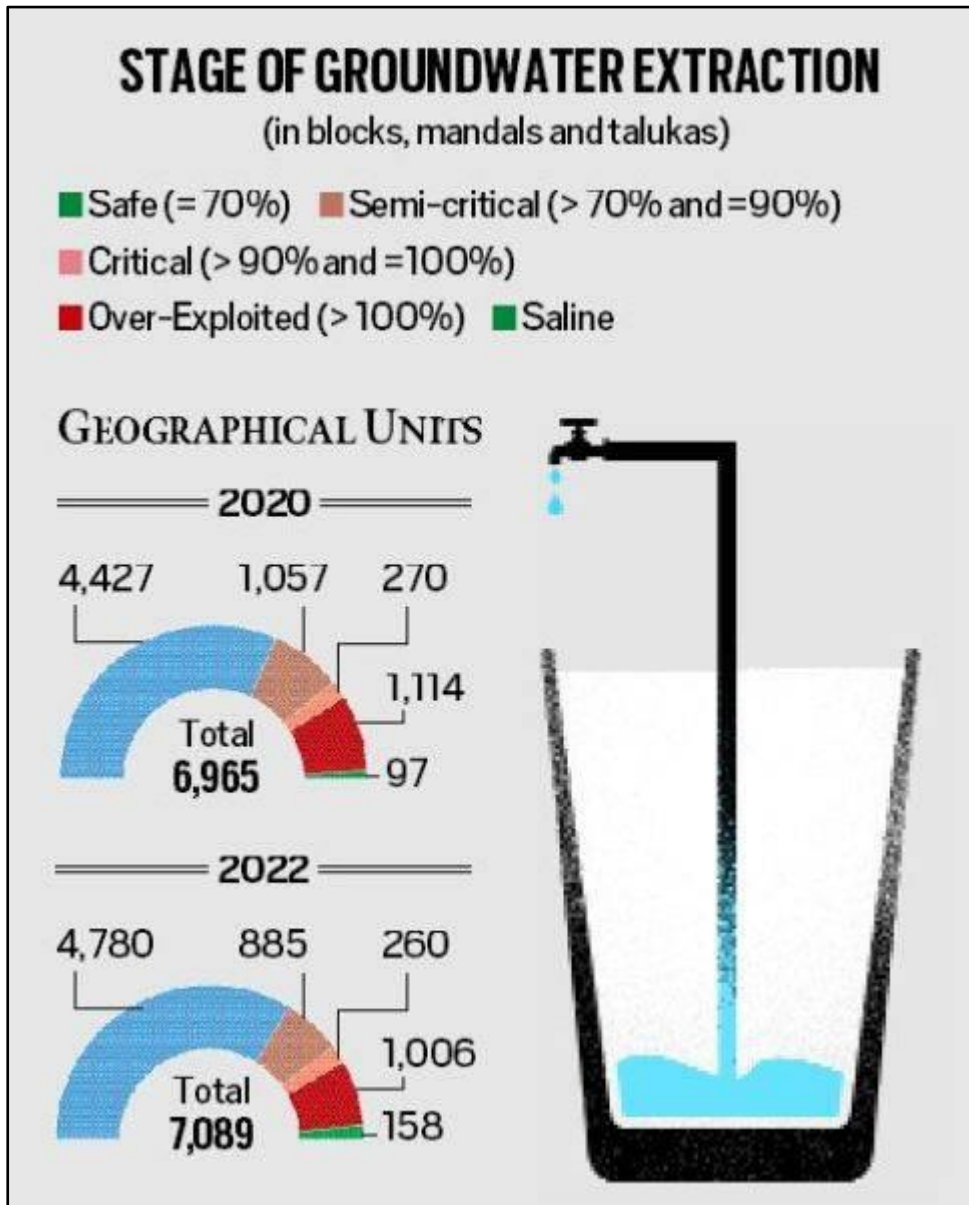
- Mukhyamantri Jal Swavlamban Abhiyan' in Rajasthan,
- 'Jalyukt Shibar' in Maharashtra,
- 'Sujalam Sufalam Abhiyan' in Gujarat,
- 'Mission Kakatiya' in Telangana,
- Neeru Chettu' in Andhra Pradesh,



- Jal Jeevan Hariyali in Bihar,
- 'Jal Hi Jeevan' in Haryana,
- Kudimaramath scheme in Tamil Nadu.

**Topic 39. GROUNDWATER EXTRACTION THIS YEAR DOWN 6 BILLION CUBIC METRES FROM 2020**

*Important for subject: Geography*



Groundwater extraction annually for irrigation, industrial and domestic usage has decreased by around 6 billion cubic meters (bcm) from 239 billion cubic metres from 2020 in 2022. This is the latest groundwater evaluation report

published from the Ministry of Jal Shakti.

- **Title of the report: National Compilation on Dynamic Ground Water Resources Of India, 2022, released by Ministry of Jal shakti**
- **The data is collected by the Central Groundwater Board (CGWB).**

#### **What is the report saying?**

- The total annual recharge of groundwater across the country in 2022 has grown by 1.29 Bcm when compared with the previous review (2020).
- The annual total of extractionable GW resources have also risen in 0.56 bcm.
- The annual extraction of groundwater for irrigation domestic and industrial use has declined by 5.76 Bcm during this time.
- Around eight-seven percent of the total groundwater extraction in a year i.e. 208.49 billion cubic meters is intended to be used for irrigation.
- The remaining 30.69 Bcm of it is used intended for industrial and domestic use that is around 13% of total extraction.
- The annual extraction of groundwater has been declining from 2017 when it was down 249 bcm from the record high of 253 billion cubic meters in 2013.
- Before 2013, the figures for groundwater extraction per year was on the rise with 231 billion cubic meters in 2004, 243 bcm by 2009, and 245 in 2013.
- There are no specific reasons stated in the report to explain an increase in extraction of groundwater for irrigation industrial and residential uses in 2022.
- The report says that these differences can be attributed to improvement of parameters, the improvement in the well census data, and changes in groundwater conditions.
- The annual recharge of groundwater was estimated to be 438 bcm by 2022 an increase from the 436 billion cubic centimeters in 2020 , and 432 in 2017.
- This was still less than the 447 billion cubic centimeter annual

groundwater recharge that was assessed in 2013.

### **Covid-19's impact on HTML0.**

- The report states that monitoring of sources of groundwater is affected because of Covid-19. COV-19 outbreak throughout the country.
- Between between 2020 between 2020 and 2021 in the years 2020 and 2021, as a result of the spread of Covid-19 across the country, field operations in the field of CGWB including monitoring of the levels of water were extremely affected.
- The levels of water could not be observed for consecutively two months prior to monsoon (April/May) seasons between the years 2020 and 2021.
- The levels of water could have to be watched in certain states until November 2020 due to the same reason.

### **Groundwater scenario in India**

- India is home to 16 percent of the world's total population however, it has only 4% of the fresh water resources.
- Based on the current consumption patterns, such as the rife extraction of groundwater, estimates suggest that by 2030 India will have only the half of the water it requires.
- India has been the biggest groundwater user around the globe, accounting for 25% of all global withdrawals of water; ~ 45 percent of the water consumed in the cities of India is drawn from groundwater.
- The Central Ground Water Board (CGWB) estimates that 17% of groundwater blocks in the United States are underexploited, and the extraction rate is greater than renewal.
- As per the CGWB, with 230 BCM (billion cubic meters) of groundwater drawn annually to water agriculture-related lands in India Many parts across the world are suffering the rapid loss of groundwater.
- The estimated total depletion of groundwater in India is between 122-199 BCM.
- The agricultural sector utilizes 89 percent of the groundwater used for

irrigation, while 11% is utilized by industrial and domestic sectors.

- At the state level at the State level, in Punjab, Haryana, Rajasthan and Delhi the extraction of groundwater is greater than 100%..

### **The groundwater resources and use in India Quick facts:**

- Total usable water resources: 1,123 BCM/year from which the portion that is the surface waters is 690 BCM annually and the share of groundwater is 433 BCM/year.
- In addition to 35 BCM per year to naturally discharged water, the total annual supply of groundwater for India totals 398 BCM.
- Natural discharge is a result of flooding of water bodies as well as oceans that are located in the coastal zones and transpiration of plants whose roots reach all the way to the surface of the waters.

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### **Topic 40. 'NO MONEY FOR TERROR' CONFERENCE (NMFT)**

*Important for subject: International relations*

The Ministry of Home Affairs will host this Third Ministerial "No Money for Terror Conference this week, where attendees from more than 75 nations are scheduled to take part.

#### **The NMFT conference?**

- The Ministerial No Money for Terror (NMFT) Conference aims to provide a the international platform for discussion about tackling the issue of the financing of terror.
- The "No Money for Terror" conference is organized by Financial Intelligence Units (FIUs) in more than 100 countries collectively referred to as The Egmont Group.
- Recognizing that the significance of global collaboration in the fight against the financing and laundering of terrorists, a group of FIUs came together a few years back at Egmont Anenberg Palace in Brussels, Belgium, and decided to create an informal FIU network to encourage international cooperation.

- The Egmont Group was created to give FIUs across the world with an opportunity to exchange confidential information to fight money-laundering and financing of terrorists and other crimes of the predicate.
- The conference will be discussing the legal, technical, regulatory and co-operative aspects of financing terrorism.
- Its goal is to set the pace for further high-level official and political discussions on financing terror.
- The first edition of this conference took place in Paris, France, in 2018.. In the second year of NMFT was held in Melbourne, Australia, in the year 2019.
- Third edition 3rd edition was scheduled to take place within India by 2020 but was delayed because of the COVID-19 pandemic which caused global travel restrictions.

**What will be the main themes of the third conference of the NMFT:**

- The discussions during this 3rd conference of the NMFT will be focused on the global trends in terrorist financing and the financing of terrorism, new technologies' role in terrorist financing, and the importance of international cooperation to tackle similar issues.
- The conference will focus on international cooperation to tackle the problems in combating terrorist money that comes through both informal and formal channels.
- The focus will be on the importance of cryptocurrency in financing the financing of terrorist acts. It will also discuss problems arising from the nature of cryptocurrency that is decentralized and lack of regulation over cryptocurrencies.
- The spotlight will be on the dark web's contribution to the promotion of the transfer of terrorist funds.
- It is also will help strengthen the position of Financial Action Task Force (FATF) in setting global standards to be used to create a dependable system to stop terror financing.

**Topic 41. INTERNATIONAL ATOMIC ENERGY AGENCY (IAEA)**

*Important for subject: IR*



Recently, IAEA has said that it did not consider the recent explosion of an BrahMos missile as a cause of "specific concerns" and added that the incident did not pose any concerns about the security of nuclear weapons or other materials in India

**What is IAEA:**

- The International Atomic Energy Agency is the world's largest intergovernmental forum to promote scientific and technical cooperation in the nuclear field.
- The Statute of the IAEA was adopted on the 23rd of October, 1956 by the Conference on the Statute of the International Atomic Energy Agency that was held at the headquarters of the United Nations.
- It entered into effect on the 29th of July in 1957. It was created in the year 1957 in the year 1957 as an **autonomous entity** within the United Nations system.
- IAEA report for both General Assembly and the Security Council of the United Nations.
- It is located in its headquarters at the UN Office at Vienna, Austria.

**What is the story behind and the origins of IAEA.**

- The S. Acceptance of the Statute by President Eisenhower on the 29th of



July 1957, marked the official launch of the International Atomic Energy Agency.

- "Atoms For Peace" is the first name of the organization when it was officially established in the year 1957.
- The main objective of the organization was and is to promote safe, secure, and peaceful nuclear technology.
- The IAEA is charged with the duty of ensuring the fundamentals in the Nuclear Non-Proliferation Treaty of 1970.
- The IAEA as well as its former Director General Mohamed ElBaradei, was awarded the Nobel Peace Prize in 2005.
- Its headquarters for the IAEA is located in Vienna, Austria.
- The IAEA has regional offices in Geneva, New York, Toronto and Tokyo and research labs located in Austria, Italy and Monaco.
- It currently is home to 175 members..
- The most recent members include Saint Kitts and Nevis; and Tonga, which joined the IAEA in 2022..
- India was a member of the IAEA in the year 1957.

#### **What are the purpose of the International Atomic Energy Agency:**

- Work in conjunction with it's Member States and multiple partners around the world to promote and assist research, development and practical applications of nuclear technology.
- Establishing and administering safety guards to ensure that such research/development, by the IAEA is not used for military purposes.

#### **What is that? IAEA Governance structure?**

- **General Conference of the IAEA:** It is made by all of the IAEA's member states which meet every year for its regular session. The annual budget for the year is formulated at the General Conference and it also oversees extrabudgetary budgets and willingly contributes towards the Technical Cooperation Fund.
- The Board of Governors is comprised of 35 members. Each member is

entitled to one vote. The Board typically meets five times per year. Its primary duties include recommending for the General Conference on IAEA activities and the budget. Responsible for the publication of IAEA standards.

- Responsible for implementing the majority of the policy decisions for the IAEA.
- Nominates the Director General Important dependent on General Conference approval.
- Secretariat Vienna International Centre, located in Vienna, Austria, serves as the headquarters for the IAEA Secretariat.
- The Director-General as well as six Deputy Director-General oversee the agency's **six main divisions**. The administrative and professional personnel of the IAEA comprise the Secretariat

## BRAHMOS

- BRAHMOS the supersonic cruise missile with Indian propulsion system and power supply, an airframe as well as other key indigenous components has been successfully fired.
- BRAHMOS is an initiative of both the Defence Research and Development Organisation of India (DRDO) and the NPOM of Russia.
- Brahmos is named after two rivers: Brahmaputra as well as Moskva.
- It's an double-stage (solid propellant engine in first stage, and liquid ramjet on the second stage) air-to-surface missile that has a range approximately 300 kilometers.
- Brahmos is the most powerful weapon used on the Su-30 MKI fighter aircraft and weighs 2.5 tonnes.
- Brahmos is an all-platform missile it is able to be launched from air, land as well as from the sea. It is a multi-capability missiles with pinpoint accuracy .
- It can be used at night and day regardless of the weather conditions.
- It is based in accordance with principles of the " Fire and Forgets" principlee it does not need additional guidance following launch.
- Brahmos is among the fastest cruise missiles currently in use with

speeds at Mach 2.8, which is 3 times faster than that of the sound. Advanced versions with a range of over 1000 km and speeds up to Mach 5 are under development.

## Topic 42. G20 MEET IN BALI

*Important for subject: IR*



Recently, the Prime Minister travels to **Bali** for the G-20 meeting.

### **What is G20 Summit:**

- **G-20** was an **Group of Finance Ministers** as well as **central bank governors representing 19 different countries as well as members of the European Union.**
- It was first established in 1999, and then upgraded to a conference of heads of state in 2008, to be able to deal with worldwide financial crises of 2008.
- G-20 is an international forum, not a legislative body and its agreements and decisions do not have any legal influence, but they do affect the policies of countries as well as global cooperation..
- The G20 members include USA, Canada, Mexico, Argentina, Brazil, EU, Germany, France, UK Italy, South Africa Saudi Arabia and Turkey, India; Indonesia; Australia, Russia, China, South Korea and Japan
- It is the G20 membership is the reason for

- The HTML0 code is used by two-thirds percent of people living in the world,
- 85 percent of the world's gross domestic product 80 percent of global investment , 75 percent of the global trade.
- Help contribute to 79% of carbon emissions in the world.
- G20 has not an official secretary and headquarters.
- It is the G20 Summit is formally known as the "Summit on Financial Markets and the World Economy".

### How G20 functions:

- The G20 is not a permanent secretary.
- The schedule and the work are managed through representatives from the G20 countries, referred to as "Sherpas".
- The G20's presidency G20 is rotated every year among its members. The country that holds the presidency, along with previous presidents and the subsequent presidents, form the "Troika".
- Troika assures continuity for G20 agenda. G20 Agenda.
- In the course of India's presidency India, Indonesia and Brazil will be part of the troika.

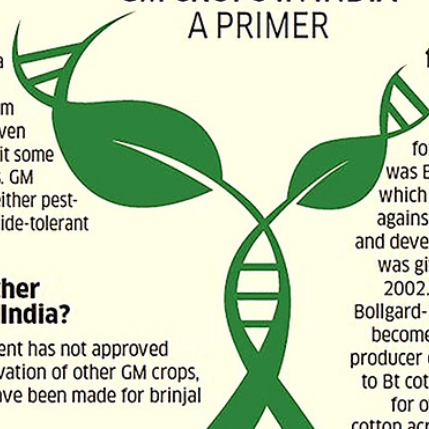
## Topic 43. THE GENE REVOLUTION

*Important for subject: Science and Technology*

**What is a GM crop?**

A crop which has a gene artificially inserted into it from another species, even unrelated, to give it some desired properties. GM crops are mostly either pest-resistant or herbicide-tolerant

**GM CROPS IN INDIA**  
A PRIMER



**When did India get its first GM crop?**

The first GM crop variety approved for commercialisation was Bt cotton. Bollgard-I, which provided immunity against the pink bollworm and developed by Monsanto, was given the go ahead in 2002. Monsanto released Bollgard-II in 2006. India has become the world's largest producer of cotton partly due to Bt cotton, which accounts for over 90% of the total cotton acreage in the country

**Are there other GM crops in India?**

No, the government has not approved commercial cultivation of other GM crops, though efforts have been made for brinjal and mustard

When the government decided to allow india's very first genetically modified

(GM) agricultural crop called Dhara Mustard Hybrid 11 (DMH-11)-- for "environment release", some activists sought to the Supreme Court to ban it due to a variety of reasons.

- The opposition to GM food crops isn't anything new.
- There was an worldwide campaign on this issue by a number of activists.
- However, GM crops have spread across the globe since.
- In 2019, the world's 190 million hectares had been planted under GM crops which included corn, soybeans throughout the US, Brazil, Argentina as well as canola (rapeseed/mustard) within Canada without causing any negative impacts on animal or human well-being or on the natural environment.

#### **The status of GM crops all over the world:**

- Bangladesh is moving forward through the Bt-Birjal.
- In excess of 70 nations have embraced that the acceptance of GM crops. More than 70 countries have accepted the use of GM.
- Then, in India, the first GM crop Bt cotton was launched in 2002.

#### **India's exposure GMOs:**

- GMOs are present present in the system of food production for many years.
- India extensively relies heavily on imports of oil product 55-60 percent of India's demand domestically is imported.
- Around three to four million tonnes each year come mostly from Argentina, Brazil, Canada as well as the US and more, and is all derived from GM technology (in canola and soybeans).
- We eat a lot from our cotton seeds (binola) oil approximately 95 percent of the cotton we grow is GM.
- Cotton seeds are used to feed cattle and provides the milk with its fat amount.
- The feed for poultry, including soya and corn, is being imported.

- Lessons learned from Bt cotton's decision in Bt cotton case
- The amount of cotton produced increased dramatically from 13.6 millions bales (1 bale = 170 kilograms) between 2002 and 2003 and to 39.8 millions bales by 2013-14.
- This was an growth of 192 percent within just 12 years. This was the beginning of the well-known "gene revolution".
- The cotton productivity was increased from 302 kg per hectare in 2002-03.
- rising to 566 kg/ha in the 2013-14 season. This is an growth of 76 percent and the area that was cultivated with cotton increased by 56 percent, of which 95 percent is Bt cotton.
- Farmers' earnings increased substantially.
- Bt cotton was the key ingredient in the Gujarat's "agrarian miracle" with a high (above 8 percent) per year growth for Agri-GDP from 2002-03 until 2013-14.
- It created India the second largest producer behind China, and the second-largest exporter behind that of the US, of cotton around the globe today.
- Some of the concerns expressed by environmentalists
- Improved sucking damage to pestsin the Bt variety of cotton
- The increase the number of other bugssuch like the mired bug as well as Spodoptera;
- The emergence of resistance to pests;
- Health and environmental implications regarding the toxicity and allergenicity that could cause hematotoxin-related reactions in the human body. Farmers have a higher risk of monopoly within the business of seed. The decline of the Honey Bee population.

**Probable solution:**

- The most effective way to accomplish this is through improving productivity in a sustainable fashion.
- The field tests of GM mustard at various locations have shown a 25-28 percent higher yield and higher resistance to disease when compared with native varieties.
- This could be a significant step in increasing local mustard oil supply and



the farmers' earnings.

- It was believed to be the case that India would be in an early stage of gene revolution and become an important exporter to other Asian as well as African countries.
- However, once all security tests have been completed after which it is clear that the science agency (GEAC) has issued the green signal what is required is political leadership in order to keep the process of decision-making based on science.

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**Topic 44. ISRO, FOR THE FIRST TIME, DELIVERS FTS PACKAGES TO SPACE-TECH START-UPS FOR SUB ORBITAL MISSION**

*Important for subject: Science and Technology*

Agnikul cosmos, a Chennai-based start-up in space technology Agnikul with the help by the Indian National Space Promotion and Authorisation Centre (IN-SPACe), has received a Flight Termination System (FTS) package from the Indian Space Research Organisation (ISRO) in the preparations for a fully controlled sub-orbital mission out of SHAR, Sriharikota.

- It could be also first time in the only time that the same system employed by ISRO's vehicles is used to support the private launch vehicle that was built in India.
- Agnikul's very first mission is an controlled flight that follows the flight's predetermined path.
- In the last few days, as part of the preparations for its launch, ISRO helped with the test firing of Agnikul's one-piece 3D-printed rocket engine - Agnilet at the Vertical Test Facility Thumba Equatorial Rocket Launching Site (TERLS) located situated at Vikram Sarabhai Space Centre (VSSC), Thiruvananthapuram.

**What exactly is suborbital plane?**

- Sub-orbital flight as similar to the ones that are being conducted by Jeff Bezos and Richard Branson, are these vehicles traveling slower than the orbital velocity which means it's quick enough to travel into the outer

space, but not enough to remain within an orbit around Earth.

### **The Indian space sector:**

- In the Indian Space Sector has been recognized globally for its efficient satellites that are cost-effective and for sending foreign satellites into space.
- At present, India constitutes 2-3% of the space economy, and it is expected to increase its share to over 10% by 2030.
- In the context of its commitments to the Geneva Conference on Disarmament, the country continues to promote peaceful and civil use of space and reject any form of weaponization of space-related capabilities or programs.

### **Open Space in the Private Sector:**

- The space market was opened to private sector participation by 2020 and after that, in the year 2021 Skyroot became one of the first company in the space industry to sign an MOU in cooperation with ISRO to share the facilities and know-how.
- At present, the 53 start-ups in space technology across the nation have together raised funds to the amount of around \$220 million.
- Skyroot Aerospace leads the pack and is then AgniKul and the maker of satellites Pixxel.
- Isro's Small Satellite Launch Vehicles (SSLV) are also likely to be developed for private parties in the near future.
- In terms of private satellites ISRO's biggest launcher Mark III launched 36 OneWeb satellites (India's Bharti is one of the stake holders).
- The space agency is planning on in the process of launching another collection comprised of 36 satellites for the company too.

## Topic 45. ALL YOU NEED TO KNOW ABOUT VIKRAM S AND WHY IT IS A BIG DEAL

*Important for subject: Science and Technology*

The country's first privately-developed launch vehicle will soon make its debut flight from the Indian Space Research Organization's (ISRO) launchpad at Sriharikota. mission Prarambh. In this mission, Vikram-S will transport three satellites from customers in an orbital suborbital flight.

- Suborbital spacecraft move slow that orbital speed they're quick enough to travel into the outer space, but not fast enough to remain within orbit around the Earth.
- Additionally, Spacekidz, a Chennai-based aerospace company, will fly the 'Fun-Sat' 2.5 kg payload designed with students of India as well as in the US, Singapore and Indonesia on the Vikram-S.
- The Vikram-S launch features vehicle Sky root was the first company to sign an memorandum of agreement in conjunction with ISRO for the launch of its rockets.
- The launch vehicles are specially designed to meet the needs of the tiny satellite market.
- They are available in three forms, Vikram I, II and III.
- More than 22,000 tiny satellites are anticipated to be launched over the next decade and the Vikram range will facilitate this with massive mass production and affordable prices.
- Vikram-S provides a variety of services, including multi-orbit insertion as well as mission interplanetary as well as customized, specialized and ride-sharing options covering the entire spectrum of small satellite requirements.
- Sky root promises the Vikam rocket can be built and launched within 24 hours from any launch location and also has one of the " lowest cost in the payload segment".
- **The necessity of satellite launchers, such as Vikram**
- The demand for the launch small satellites (anything that weighs somewhere between **5 and 1,000kg**) has increased rapidly over the past 8-

10 years.

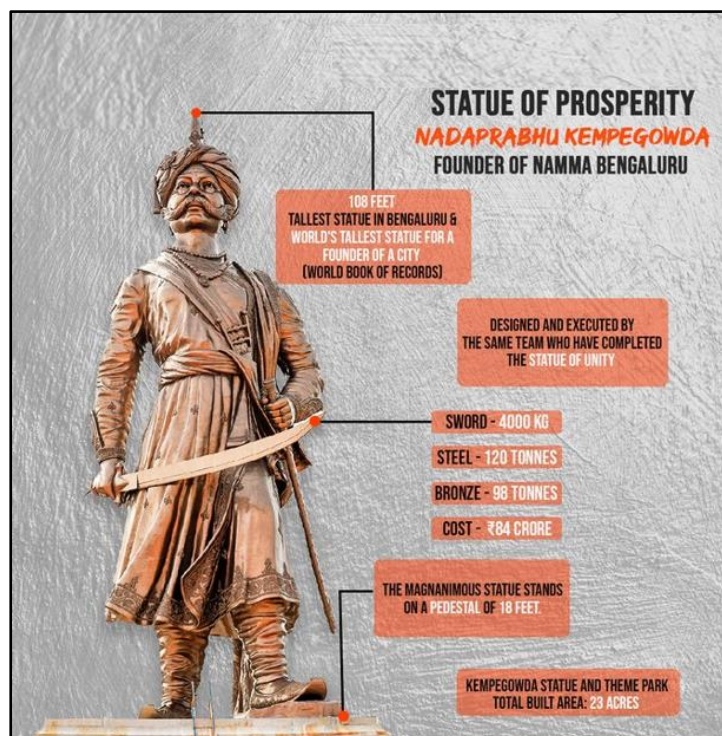
- The primary customers for small satellite launches include companies, government agencies even research institutes and universities due to the growing demand for space-based data, communications images, surveillance commercialization, space technology as well as agriculture, weather transportation and urban development.

### Participation of the private sector:

- At present there is only ISRO provides this satellite launch capability however, the growing demand exceeds its capacity.
- The industry is opening up to private players and with ISRO aiding them with facilities and information.
- Recently, the Vikram Sarabhai Centre for Space (VSSC), ISRO's principal center for the development of rocket vehicles was able to facilitate the test of the rocket engine developed by Indian space company Agnikul Cosmos.

### Topic 46. WHO WAS NADAPRABHU KEMPEGOWDA?

*Important for subject: History*



Nadaprabhu Kempegowda was a chieftain in the 16th century from the Vijayanagara empire is considered to be the founder of Bengaluru. According to legend, he had the idea for the city in his hunt alongside their minister and later mapped the area of Bengaluru by building towers around the four corners of the planned city.

- He was a member of the predominant agriculture Vokkaliga group in the south of Karnataka.


### **His Achievements:**

- **For a Socially Responsible Society:** Nadaprabhu Kempegowda abolished the custom of cutting fingers on one's left hand a woman who is not married as part of a custom called Bandi Devaru.
- Kempegowda's infrastructure is famous for having developed more than 1,000 lakes within the city to meet demands for drinking water and agriculture.
- **Literature:** He spoke many languages, including Kannada and wrote the Yakshagana drama in Telugu called Gangagaurivilasa.
- The older Mysuru district in South Karnataka is comprised of regions which were all part of the once-in-a-time kingdom of Mysore Mysore. Mysuru, Mandya, Chamarajanagar, Tumkur, Hassan, Chikmagalur, Kolar, Bengaluru and is not comprised of coastal areas or Kodagu.



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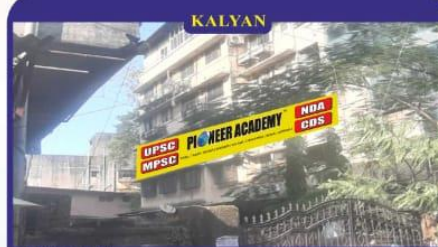
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