

UPSC COACHING THAT GIVES YOU UNIVERSITY DEGREE



# TATHASTU

Institute of Civil Services



CURRENT AFFAIRS December Month 2022

## Table of Contents

<b>Editorials of the Month</b>	
1.	New Frontiers in Space
2.	Appaling state of Undertrials
3.	Path towards productive Soil Management
4.	India-China Tawang Crisis
5.	Benchmark for ECs' appointments
6.	Criminalizing Consensual Relationships
7.	Gujarat leads the way in Solar Energy

<b>GENERAL STUDIES - 1</b>	
<b>HISTORY &amp; CULTURE</b>	
1.	Babasaheb of the Bahujans
2.	Ikki Jathre
3.	UNESCO Tentative List
4.	Pandit Madan Mohan Malviya
5.	Veer Bal Diwas
6.	Petroglyphs
<b>SOCIETY</b>	
1.	Global Minority Index
2.	Why liquor ban is bad- and good
<b>GEOGRAPHY</b>	
1.	Coastal Red Sand Dunes of Vizag
2.	Vizhinjam port project protest
3.	National Bamboo Mission
4.	The Arctic Region
5.	Black Corals
6.	Earthquakes

<b>GENERAL STUDIES - 2</b>	
<b>POLITY &amp; GOVERNANCE</b>	
1.	Women in Judiciary
2.	BCCI's Gender Equality and Gender Pay Parity Drive
3.	Exit Polls
4.	CAG Data on Pension Bills
5.	Report on Forced Displacements
6.	NJAC vs Collegium System
7.	Anticipatory Bail
8.	Family Pehchan Patra for J&K residents
9.	J&K Land Grant Rules 2022
10.	When Courts go on Vacation
11.	Recusal of Judges
12.	OROP
13.	CAG report on Assam NRC
14.	e-Sports gets official recognition
15.	Good Governance Day
16.	Kerala University Laws (Amendment) Bill
<b>SOCIAL JUSTICE</b>	
1.	Nai Chetna - Pahal Badlav Ki

2.	International Day of Persons with Disabilities
3.	Nirbhaya Fund
4.	PM SVANidhi Scheme Extended
5.	National Policy For Rare Diseases
6.	Gender Responsive Urban Mobility
7.	What is the Law on Acid attacks in India?
8.	National Policy to Combat Viral Diseases
<b>INTERNATIONAL RELATIONS</b>	
1.	4th India-France Annual Defense Dialogue
2.	Wassenaar Arrangement
3.	China-Indian Ocean Region Forum
4.	India hosts Central Asia Security Meet
5.	SAARC Charter Day
6.	India assumes UNSC Presidency
7.	Urban 20
8.	India-China Trade Relations

<b>GENERAL STUDIES - 3</b>	
<b>ECONOMY</b>	
1.	How to read Q2 GDP Data?
2.	E-Rupee
3.	Circular Trading
4.	India's slowing exports
5.	Indian footwear and Leather Development Programme
6.	Internationalization of Rupee
7.	India's economy in 2023
8.	India Development Report
9.	National Food Security Act
<b>SCIENCE &amp; TECHNOLOGY</b>	
1.	What's the hurry for GM Mustard?
2.	Carbon Capture Utilization and Storage (CCUS) Technology
3.	Are Ransomware attacks increasing in India?
4.	Measles outbreak in Maharashtra
5.	End to End Encryption
6.	Power of Fusion
7.	Whole Genome Sequencing
8.	World's First operation using Stem Cells
9.	Srinivasa Ramanujan
10.	LVM3-M2
11.	Uncontrolled re-entry of Satellites
12.	Dark patterns on Internet
<b>ENVIRONMENT &amp; ECOLOGY</b>	
1.	Green Cooling solutions in India

2.	The Future of Food and Agriculture Report – FAO
3.	Earthshot Prize 2022
4.	Biodiversity targets – Why have countries failed?
5.	Pharmaceutical Pollution
6.	National Mission for Clean Ganga
7.	Fertilizers usage on the rise
8.	Mainstreaming Biodiversity in Forestry
9.	National Energy Conservation Day
10.	COP15 Montreal
11.	GLAAS Report 2022
12.	World Bank Report on Air Pollution
13.	Measures taken to counter Black Carbon
14.	Post-2020 Global Biodiversity Framework
15.	India pushes for development of Biofuels

#### **INTERNAL SECURITY & DISASTER MANAGEMENT**

1.	Agni 5 missile
2.	Missile Destroyer INS Mormugao
3.	INS Vagir
4.	Anti-Maritime Piracy Bill
5.	Pralay Missile

#### **GENERAL STUDIES – 4**

1.	Personality Rights
2.	Civil Service officers of 2022

#### **SHORT NEWS FOR PRELIMS**

1.	Himalayan Yak
2.	Wet Leasing of Aircraft
3.	Semi-Automated Offside Technology
4.	Nuclear Icebreakers
5.	Agnikul Launchpad Facility
6.	Manipur Sangai Festival
7.	National Sports and Adventure Awards 2022
8.	Zombie Virus
9.	Joint Exercise Agni Warrior
10.	Gaslighting
11.	UNESCO Intangible Cultural Heritage
12.	Indian Navy Day
13.	International Cheetah Day
14.	Mount Semeru
15.	MAARG Portal
16.	Exercise Sangam
17.	JC Bose
18.	National Commission for Backward classes
19.	Black Soil
20.	Kaundinya Wildlife Sanctuary
21.	ChatGPT

22.	Himalayan Medicinal Plants
23.	Cyclone Mandous
24.	Currency Chest
25.	GHAR Portal
26.	Paris Club
27.	e-Sanjeevani Initiative
28.	Zika Virus
29.	Hakuto-R Moon Mission
30.	herStart initiative
31.	Ukrainian Borsch
32.	Pradhan Mantri Adi Adarsh Gram Yojana
33.	India Internet Governance Forum
34.	ECOSOC
35.	Surya Kiran
36.	T20 World Cup for Blind
37.	GI Tags for Kerala's 5 Agri Products
38.	FIFA World Cup Awards
39.	4 Tier regulatory norms for UCB's
40.	Global survey of earth's surface waters
41.	Business 20 (B20)
42.	B21 Raider
43.	Space Tech Innovation network
44.	Frontier Highway Project
45.	Global Lighthouse Network
46.	DMH-11
47.	Kirit Parikh Committee on Gas Pricing
48.	Gelbots
49.	National Farmers Day
50.	Joynagar Moa
51.	Lion@47: Vision for Amrutkal
52.	Incovacc
53.	Amrit Bharat Station Scheme
54.	Bomb Cyclone in US, Canada
55.	Cryomesh Technology
56.	Losar Festival
57.	Sahitya Akademy Awards
58.	UNSC Resolution 2593
59.	Brain eating Amoeba
60.	Krishi Decision Support System

# Editorials of the Month

## New Frontiers in Space

**Context** – This editorial talks about the Space domain, India’s space economy, private participation (Vikram-S rocket) and challenges pertaining to the sector.

### Background:

- India’s space economy is likely to be worth nearly USD 13 Billion by 2025, with the satellite launch services segment set to witness the fastest growth due to greater private participation.
- The launch of the Vikram S rocket has been rightly hailed as an important milestone in India’s outer space journey.

### How has India’s Space programme evolved over the years?

- India’s main objective was to leverage outer space to accelerate national development. Eventually, military and commercial dimensions began to envelop the Indian space programme.
- India’s space programme began with intensive cooperation with the Western countries and later with the Soviet Union.
- India is part of the Missile Technology Control Regime that regulates commerce in space related commodities and technologies.
- India is also part of the Wassenaar Arrangement that controls trade in dual use technologies that can be used for both civilian and military purposes.

### Why developments in Space sector is important?

- Space avenue is an integration of the aerospace, IT hardware and telecom sectors. It is thus argued that investment in this arena would foster positive carryover effects to other sectors as well.
- Satellites can be used for delivering broadband internet. It will help reach out to more remote areas where conventional networks would require a heavy complimenting infrastructure.
- Satellites provide more accurate information on weather forecasts and assess (and record) long-term trends in the climate and habitability of a region. This will eventually help the governments devise a practical plan of action to help farmers and industries.
- It will help real-time monitoring and early warning solutions against natural disasters.
- From space manufacturing we can shift to deep space exploration.

### What are the challenges concerning outer space?

- Approximately Rs. 15,000 crore is earmarked for ISRO's annual budget, most of which is spent on building rockets and satellites. Also, the private sector has a relatively small window of opportunity. Due to this, India's space economy is small, and its potential has not been fully realized.



**MAKING INDIA SELF-RELIANT IN SPACE SECTOR**  
Private Sector Participation in Space Activities Approved

- Reforms to help India leapfrog to next stages of space activities; to become a **Global technology powerhouse**
- To enhance socio-economic use of space assets & activities; **Large-scale employment opportunity in technology sector**
- **IN-SPACe\*** to provide level playing field for private companies to use Indian space infrastructure  
\*Indian National Space Promotion and Authorization Centre
- **NSIL\*\*** to reorient space activity models from 'supply driven' to a 'demand driven'  
\*\*New Space India Limited
- **Allow ISRO to focus more on R&D activities,** exploration missions & human spaceflight programme

- Increasing space exploration is causing more space debris to accumulate in the outer solar system, which can damage ongoing and future space missions due to high orbital speeds.
- China's growing presence and influence in space is a matter of concern for India.
- Commercialization of outer space is accelerating due to the development of satellite expeditions to provide Internet services (Starlink-SpaceX) and for space tourism (Jeff Bezos). If no regulatory framework is in place, rising commercialisation could lead to monopolization of space.
- The current Indian share of the global space economy is barely 2 percent. The PM has been demanding that India rapidly increase its share to 8 percent in the coming years.
- While startups like Skyroot can bring much needed innovation into space activity, it is only the large corporations that can bring much needed scale to make India an economic powerhouse in space.

#### Way Forward:

- To raise India's share in Global space economy we need private sector companies to play a larger role. We may take example from US Artemis' mission which has brought on board large number of private companies.
- Many Western aerospace companies will be eager to invest in India's space programme as it begins to open up. India needs to come to terms that international cooperation is not just an "add-on" to the national space programme, but must be an integral part of India's space strategy
- In order to effectively defend its space assets, including debris and spacecraft, India needs reliable and accurate tracking capabilities. Project NETRA, an early warning system in space to detect debris and other hazards to Indian satellites is a good step in this direction.
- Increase space awareness programmes in rural regions of the country, encourage more female students to take up internships or pursue a career in STEM field can be productive in years to come.

## Appaling state of Undertrials

**News:** Undertrials comprised **77.1%** of prisoners at end of 2021, Centre tells Parliament.

#### Background:

- The undertrial inmates are detained in prisons on the orders of the court by following the due process of law," the government said. It cited the data available with the National Crime Records Bureau as on December 31, 2021.

#### What are undertrials?

- An undertrial is a person who is currently on trial or who is imprisoned on remand whilst awaiting trial or a person who is on a trial in a court of law.
- Undertrial prisoners face considerable challenges and most of them belong to under-privileged communities. Multitude of reforms are required including in terms of procedures, implementation of existing provisions to address the issue.

#### What are reasons for high number of Undertrials in India?

- India has 21 judges per million population, while the Law commission has recommended 50 per million. This along with lack of infrastructure results in large pendency of cases which now has reached over 4.5 crore cases.
- A large number of under trials are poor, illiterate, belonging to the marginalized communities. This along with lack of financial resources leads to inability to get legal aid and pay the bail amount.
- Law Commission (268th Report) has highlighted that over 60% of arrests are unnecessary. The Commission report also highlighted that the rich and the affluent get bail with ease. However, poverty becomes the reason for incarceration of many prisoners, as they are unable to afford bail bonds or provide sureties.
- Investigation and trial process is often delayed by police and prosecution functionaries. This is due to poor 'Police-Population' Ratio.

#### What are issues faced by Undertrials?

- Prisoners are vulnerable to violence. Group violence is also endemic and riots are common.

- Overcrowding of prisons leads to shortage of adequate space to lodge prisoners in safe and healthy conditions. People are cramped in with each other in unhealthy conditions, infectious and communicable diseases spread easily. Example: Spread of Tuberculosis (TB).
- People booked under anti-drug laws constitute a substantial percentage of the prison population. Isolation inside prison leads to increased desperation to access banned substances. It also increases the danger of other prisoners being inducted into drug abuse.
- Many prisoners are sole breadwinners for their families. Arrest and incarceration leads to loss of income and susceptible to poverty. Also, social stigmatization post release impacts the ability to get employment. Often it leads to juvenile delinquency among suffering families.
- The 'Right to Speedy Trial' was recognized by the Supreme Court in Hussainara Khatoon vs. Home Secretary, State of Bihar (1979). Prolonged incarceration without bail violates the right.

#### How should we address the problem?

- Undertrials should be housed in open jails, where they can move around freely and earn a living.
- Undertrials should be given more opportunities to communicate with their families.
- Compensation to be provided upon release/acquittal.
- Steps should be taken for their rehabilitation after release, by providing them with self-employment skills, educational and vocational training etc.
- Government on its part can come up with comprehensive bail law to curb arbitrary arrests.
- Police functions should be separated into investigation and law and order duties and sufficient strength should be provided to complete investigations on time and avoid delays.
- Access to free legal aid shall be provided to under trials through NALSA by increasing its capacity and reach.
- Video conferencing between jails and courts should be encouraged and tried in all states beginning with the big Central jails and then expanding to District and Sub-jails.

## Path towards productive Soil Management

**News:** Recently, World Soil Day 2022 was celebrated on **5<sup>th</sup> December**. The theme of the event was '**Soil: Where Food Begins**'.

**Background** – In this editorial we will discuss about Soil management, importance, challenges and potential of the same.

#### What is Soil?

- It is a mixture of small rock particles/debris and organic materials/ humus which develop on the earth surface and support growth of plants.
- 87% of life forms on this planet – human beings, microbes, worms, insects, birds, animals, and plants on the planet are sustained by a thin layer of crust "soil".
- Soil plays a central role for economic and social development. It ensures food, fodder and renewable energy supplies to sustain human, animal and plant life.

#### Importance of Healthy Soil:

- They support healthy plant growth to enhance both our nutrition and water percolation to maintain groundwater levels.
- Soils help to regulate the planet's climate by storing carbon and are the second largest carbon sink after the oceans.
- They help maintain a landscape that is more resilient to the impacts of droughts and floods.
- Dust, chemicals, and other contaminants are removed from surface water by soils, making underground water some of the cleanest on earth.
- Soil supports buildings and highways thus contributing to the economy of our cities. For instance, the rich, deep fertile soils of the Ganga plain, especially its delta, and the coastal plains of Kerala support high population density through agricultural prosperity.

- Soil holds minerals, organic components, and organisms and needs to be protected from degradation to ensure nutrient-rich plant life on Earth. They support healthy plant growth and enhance its nutritional value.

### Challenges faced by Soil:

#### 1. Lack of Organic content

- For any soil to have agricultural potential, it must have a minimum of 3-6% organic content. But in large parts of the world, it is well below 1%. In fact, records show that across the planet, not a single country has soil with a minimum of 3% organic content.

#### 2. Soil Erosion

- It is the removal of soil by forces of nature, particularly wind & water, more rapidly than the soil forming process can replace it. It affects agricultural productivity and economy of country as whole,

#### 3. Water Erosion

#### 4. Wind Erosion

- The blowing wind removes the top soil layer, and wind erosion is accentuated when soil is dry, weakly aggregated and devoid of vegetation cover

#### 5. Human factors

- Deforestation, overgrazing, faulty agricultural methods such as ploughing, lack of crop rotation and practice of shifting cultivation.

#### 6. Overuse of Agrochemicals

- Degradation of soil health has also been reported due to long-term imbalanced use of fertilizer nutrients.
- The 54th report of the Parliamentary Standing Committee of Agriculture (2017-18) says that skewed subsidy policy in favor of urea and high prices of other fertilizers are behind the imbalance in the use of fertilizers in the country.
- The analysis of the Soil Health Card Scheme also shows alarmingly low levels of soil organic carbon (SOC) across India (an important indicator of soil health).

#### 7. Wasteland and urban development

- Soil toxicity through chemicals is increasing with urbanization.
- More municipal and industrial wastes are being dumped in the soil with heavy metals having carcinogenic effects

#### 8. Industrialization

- Industrialization is progressively taking away considerable areas of land from agriculture, forestry, grassland and pasture, and unused lands with wild vegetation.
- Example - Opencast mining is of particular focus because it disturbs the physical, chemical, and biological features of the soil and alters the socioeconomic features of a region.

### What needs to be done?

- If we want to reclaim soil, the first and foremost narrative that needs to change in the world is the popular perception of what soil is. It needs to be understood that soil is living, not dead material.
- Even now, many agricultural scientists, universities and agricultural departments appear to address soil as a 'material'. Their approach remains: 'It just needs a little more nitrogen, a little more potassium, a little more phosphorus.' No, what soil needs is living organisms.
- A handful of soil has over 5 billion organisms, sometimes over 7 billion. It is from this microbial life that all other life on this planet has evolved. If all these microbes were to die, we would be finished. But every year, on an average, 27,000 species in the soil habitat are going extinct.
- India needs to move towards smart and precision farming using sensors and other scientific tools to manage soil health and use appropriate herbicides and pesticides.
- There is need to practice carbon farming methods of agricultural management that can help the land store more carbon and reduce the amount of GHG that it releases into the atmosphere, in a way maintaining soil health and atmospheric stability.



- Other measures that can be incorporated could include agroforestry (inclusion of trees and shrubs into farming practice), regular soil audits and crop rotation and reforestation can always help.
- In addition, every nation could set up 3% organic content as a minimum average and then provide attractive incentives for farmers to aspire to get there.

#### Way Forward:

- Soil is in such a dangerous situation right now that in another 50-60 years, United Nations agencies say that there will be no agricultural soil left to grow anything, because the organic content of soil is in deep decline.
- If we act now, in the next 10–15 years, the world’s soil could be turned around significantly. But if we cross this threshold, it will become very difficult for future generations to meet their survival needs.

## India-China Tawang Crisis

**News:** Tensions are running high between India and China once again after the recent clashes between the troops of both armies at the Line of Actual Control (LAC) in **Yangtse area** of Tawang sector in Arunachal Pradesh.



#### Background of clashes between the 2 countries in recent years:

- In 2013, at **Depsang** in Ladakh, Chinese troops came across the LAC. They pitched tents and refused to move for several weeks until New Delhi threatened to cancel the planned visit of Premier Li Keqiang to India.
- In September 2014, the Chinese intruded at **Chumar** in Ladakh. It happened in the middle of Chinese President Xi Jinping’s first state visit to India.
- In 2017, China provoked India with infrastructure development in **Bhutan’s Doklam** territory.
- In, 2020, the Chinese PLA took advantage of pandemic and a lack of Indian military alertness to transgress across multiple locations on the LAC in eastern Ladakh.

#### What efforts were made to resolve Boundary disputes previously?

- The **2005 Agreement on the Political Parameters and Guiding Principles** between the two countries was a landmark treaty on the boundary dispute. It seemed to set benchmarks for the eventual resolution of the boundary dispute.



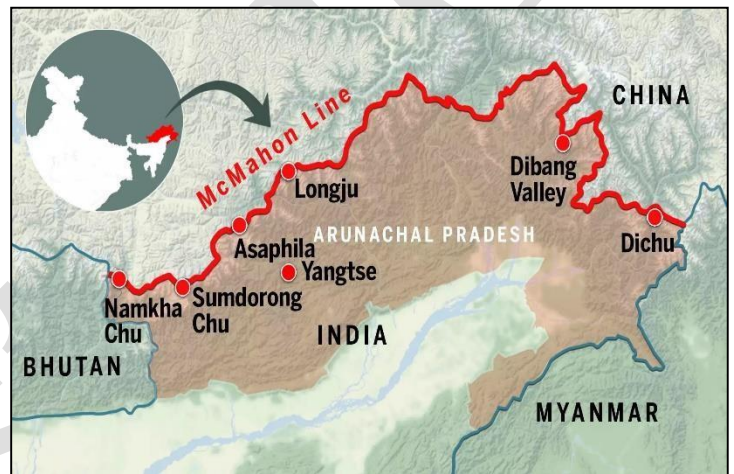
- However, in 2006, the Chinese Foreign Minister declared that the **status of Tawang** in Arunachal Pradesh was far from settled. It explicitly contradicts the principles outlined in the 2005 treaty.

### What are the reasons for increasing confrontation on LAC?

- LAC has not been jointly delineated or demarcated by India and China. In **some parts** of this mountainous geography, **each side's perception of the LAC is different** from the other's. There are pockets where these **conceptions overlap**. Yangtse is one such pocket where Indian and Chinese perceptions of the LAC differ.
- Another reason is creation of **buffer zones**. The area in between is currently not patrolled by either side at least until the two sides agree to a methodology for such patrols.
- **Expansion of territory** - It indicates a pre-planned operation to exploit a window of opportunity. The intent seems to have been to seize the post in an area claimed by the Chinese. The LAC would have been permanently altered.
- The Tawang incident was not the outcome of a local initiative. This operation could have only been conceived at the highest levels in China.

### Why has China set its sight on Tawang?

- Tawang is **strategically** and **culturally** significant to China.
- Tawang houses the Tawang monastery, which is the **second largest Tibetan Buddhist monastery** in the world only after the **Potala Palace**. Moreover, the Tawang monastery is where the present Dalai Lama stayed for weeks after escaping China in 1959.
- Therefore, from China's perspective, it becomes an important site in the history of Tibetan resistance to Chinese rule. If Tibet were to rise up against China, Tawang would emerge as an important center of resistance.
- Tawang holds strategic importance for China. The town provides a strategic entry into India's northeastern region.
- To the north of Tawang lies the important **Bum La Pass**, which is a border pass between India's Tawang district and the Chinese-occupied Tibet Autonomous Region (TAR). Incidentally, it was this pass that the Chinese troops used to invade India in 1962.



### Why is China not willing for Demarcation of LAC?

- There are apprehensions on the Chinese side that once there is a common idea of where the LAC lies, this line would then become the de-facto boundary between the two countries. It may be unacceptable to them.
- They desire to achieve such a result unilaterally, through use of force. This is exactly what they attempted in eastern Ladakh.

### What did Defense Minister Rajnath Singh say in the Lok Sabha regarding recent tussle?

- The Defence Minister told Lok Sabha that the Chinese troops carried out an incursion across the LAC in Yangtse area of Tawang sector in Arunachal Pradesh and attempted to unilaterally change the status quo.
- Indian troops resisted this attempt by China "with firmness" and there was a scuffle in this faceoff.
- Some soldiers on both sides sustained some injuries in the clash but no Indian soldier had been killed or had been seriously wounded.
- Subsequently, the local commander of the Army held a flag meeting with his Chinese counterpart where the Chinese side was asked to maintain peace on the border. The matter has been raised with the Chinese side at the diplomatic level as well.

### What should be the way forward as far as India's military preparedness is concerned?

- Resumption of robust economic growth is the only solution for India's "guns vs butter" dilemma.
- India must acquire absolute clarity about China's larger objectives and work on military to seek tactical advantage.

- India's diplomatic policy should shift from "reactive" to "proactive" and start working on reducing Sino-Indian trade deficit of \$70 billion.
- Despite India's advancement in military capabilities in the past 60 years, China has seen phenomenal economic, technological and military growth. While we do acknowledge China's global position, we must fix issues that are prevalent on our side. For example, working on ill-timed Agnipath scheme, ensuring light weight tanks are available physically and not just on paper as is questioned by some experts and we must continue to build on strengthening our infrastructure that will ease the movement of military equipment across the LAC.
- Not only does India lack a China specific strategy, but we are yet to formulate a national security strategy (NSS).

## Benchmark for ECs' appointments

**News:** This editorial talks about the evident issues in the appointment of the CEC and EC's.

### Background:

- A Constitution Bench of the Supreme Court heard a crucial case about the method by which the Election Commission of India (ECI) is constituted, and Election Commissioners

### What should govern the true Constitutional spirit that guides important offices like ECI?

- According to Rajendra Prasad "Whatever the Constitution may or may not provide, the welfare of the country will depend upon the way in which the country is administered. The Constitution, like a machine, is a lifeless thing. It acquires life because of the men who control it. India needs today nothing more than a set of honest men who will have the interest of the country before them."
- According to B.R. Ambedkar "However good a Constitution may be, it is sure to turn out bad because those who are called to work it, happen to be a bad lot. However, bad a Constitution may be, it may turn out to be good if those who are called to work it, happen to be a good lot. The working of a Constitution does not depend wholly upon the nature of the Constitution."
- Views of above leaders reflect true constitutional spirit and Constitutional makers are expected to follow this spirit while assigning duties for important constitutional posts.

### What are the inherent weaknesses in the system of appointment of ECs?

- One major weakness in the system of appointments of the ECs proposed is that it perpetuates the bureaucratisation of the ECI. It is not even mentioned in the Constitution anywhere. Two visible manifestations of this are the elevation of ECs to Chief Election Commissioner and the tenures of ECs and CEC.
- The elevation is a clear violation of the principle of primus inter pares (first among equals). Monopolisation of the positions of ECs and CEC by administrative services should be taken into consideration.

### What are possible solutions?

- The government must look beyond existing frameworks, propose reforms and be ready to take bold actions.
- What needs to be done? - An existing committee of Parliament or a new committee formed for this purpose should:
  - Propose the qualifications and requirements for persons to be appointed as ECs/CEC. These proposals and the selected candidates should be put to Parliament and should be approved by two-thirds majority of the members of Parliament present and voting,
  - Entrusted with the task of searching for and selecting individuals proposed to be appointed as ECs/CEC.
  - Invite nominations and applications of individuals appropriate for or interested in being appointed as ECs/CEC, and
  - Once Parliament approves the committee recommendations, they should be sent to the President for approving the appointments. Once appointed, such persons should stay in their positions for six years or the age of 75 years, whichever is earlier. Persons above the age of 69 years should not be appointed.

- Lastly, persons so appointed should be removable only by a process of impeachment as applicable to the Supreme Court judges.

#### **Way Forward:**

- If we want ECs to match the qualities stated by Dr. Ambedkar and Dr. Prasad we must go beyond how Article 324 of the Constitution and the Election Commission (Conditions of Service of Election Commissioners and Transaction of Business) Act, 1991, have been worked so far.

## **Criminalizing Consensual Relationships**

**News:** The blanket criminalization of consensual sexual acts among or with adolescents is in gross oversight of their sexual development and bodily integrity and autonomy.

#### **Background:**

- According to an analysis by Enfold Proactive Health Trust, 'romantic cases' (where the relationship was consensual, according to the girls, their family members, or the court) constituted 24.3% of the total cases registered and disposed under the Protection of Children from Sexual Offences (POCSO) Act between 2016 and 2020 by special courts in Assam, Maharashtra and West Bengal.

#### **What are the unintended consequences of Criminalizing consensual relationships under POSCO Act?**

- While POCSO's objective is to protect children below 18 years from sexual abuse, its unintended effect has been the criminal prosecution and the deprivation of liberty of young people in consensual relationships.
- The law is also used by parents of adolescent girls to safeguard family honour.
- The ensuing criminal investigation and trial and the simultaneous inquiry under the child protection system have an adverse impact on the adolescents' development, education, employment, self-esteem, social reputation, and family life.
- While the law casts adolescent girls as victims, thus rendering them voiceless. Adolescent boys are by default treated as children in conflict with the law and can even be tried as adults and subsequent inclusion in the sex offender's registry.
- Such blanket criminalization of consensual sexual acts among adolescents is gross oversight of their sexual development, bodily integrity and autonomy. It violates their right to life, privacy, and dignity.
- The penal approach also impedes adolescents' right to barrier-free access to sexual and reproductive health services.
- The mandatory reporting obligation under the POCSO Act deters girls from availing themselves of medical services and pushes them towards unsafe abortions.
- The inclusion of consensual and non-exploitative acts involving adolescents diverts time and resources from the investigation and trial of actual cases of sexual violence and exploitation.
- According to Crime in India, 2021, 92.6% of cases under the POCSO Act were pending disposal. Consensual cases among these are overburdening the criminal justice system. There are abnormally high acquittal rates of 93.8% in cases related to consensual relationships and the girl did not say anything incriminating against the accused in 81.5% of the cases.

#### **What are arguments in favor of consensual relationships?**

- In *Vijayalakshmi vs State Rep. (2021)*, the Madras High Court cited evidence that "adolescent romance is an important developmental marker for adolescents' self-identity, functioning and capacity for intimacy".
- Criminalization of adolescent relationships affects both parties.

#### **Way Forward:**

- The United Nations Committee on the Rights of the Child recommended that states should avoid criminalizing adolescents of similar ages for factually consensual and non-exploitative sexual activity.

- Comprehensive sexuality education is needed to bridge knowledge gaps, build positive skills and attitudes. It will enable adolescents to make informed decisions and navigate through interpersonal relationships.
- An amendment should be considered to the POCSO Act and the Indian Penal Code to decriminalize consensual acts involving adolescents above 16 years. It should also ensure that those above 16 years and below 18 years are protected against non-consensual acts.

## Gujarat leads the way in Solar Energy

**News:** In Gujarat, India, a quiet solar revolution is underway that is completely out of step with the rest of the country.

### Background:

- Gujarat has nearly two-thirds of all residential rooftop solar power in India, despite having just 5% of India's 1.4 billion population and 6% of its land mass.
- India needs a lot more solar power as part of its plans to get half of its electricity requirements from renewable energy sources by 2030, and ultimately reach net-zero emissions by 2070.
- Solar now accounts for around **7% of India's electricity generation** – according to the **Central Electricity Authority of India – at more than 60GW.**

### What steps were taken by Gujarat to become a leader in Rooftop solar installations?

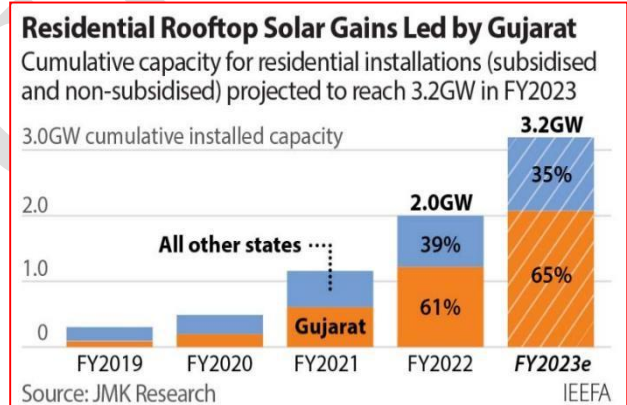
- It started in 2010 when the government launched its **National Solar Mission** policy to promote solar power, and provide residential rooftop subsidies.
- In 2019, Gujarat introduced its own subsidy system called **Surya** — named after the Hindu sun god — with a target of 1.6GW of solar capacity from 800,000 residential rooftop solar units by the end of March 2022.
- Gujarat built up a large number of preferred - or empaneled - vendors of solar power installation for residential consumers thereby ensuring adequate supply.
- A campaign of advertising the initiative through SMS, social media and other mediums got the message of rooftop solar subsidies out to the population which ensured adequate demand.
- The state created a single digital portal that makes the scheme easier for both consumers and vendors to navigate, from initial registration for the subsidy all the way to the final payment. And the digital portal also helps to keep transactions transparent.
- The digital portal also updates on the status of the subsidy on a daily basis, giving valuable updates to those involved.

### What is India's status of solar energy capacity at present?

- India's current installed capacity stands at 408 GW, of which renewable energy (Wind, Solar and other renewable energy) is 118GW. This is 67% of the 175 GW target set in 2014.
- In terms of **Solar Energy**, the installed capacity is **60 GW** which is 60% of the 100 GW target (2014). This has been a remarkable growth **from just 2.6 GW** of solar energy capacity in 2014.

### What are the challenges in maximizing solar energy capacity?

- Solar power costs have come down considerably but the costs of small solar power projects are higher than other sources. In order to solve this, the Union Government is facilitating establishment of large solar parks.
- However, large Solar Parks face hurdles in acquiring large tracts of land. Other challenges include high transmission and distribution losses, grid integration etc
- Despite significant growth in the installed solar capacity, the contribution of solar energy to the country's power generation has not grown at the same pace. The capacity expansion of rooftop solar projects has particularly low (< 20% of target by October 2022).



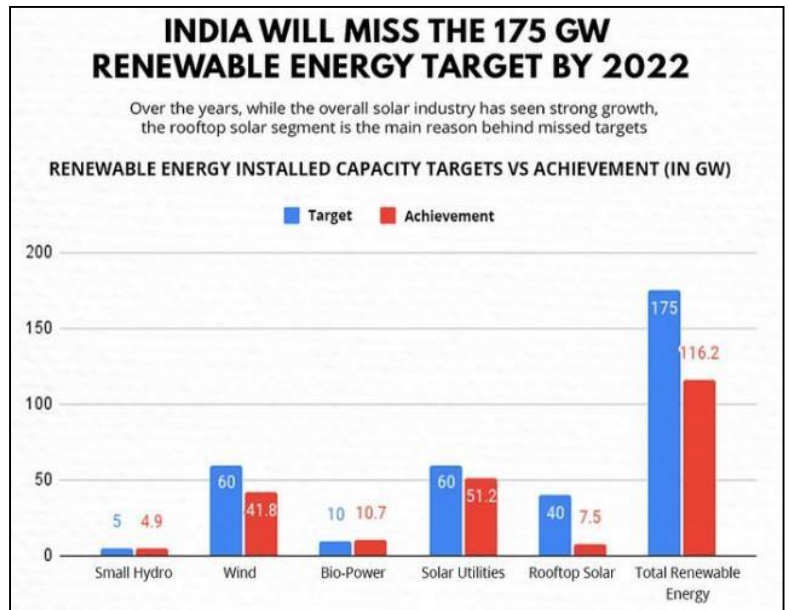
- Residential consumers and Small and Medium Enterprises (SMEs) who want to install solar rooftop projects face financial constraints as initial investments are generally high.
- India at present lags in producing solar wafers or polysilicon. During the fiscal year 2021-22, India imported solar cells and modules worth about US\$ 76.62 billion from China alone. This accounted for 78.6% of India's total imports (2021-22).
- There is a challenge to manage India's solar waste but the e-waste rules do not mandate solar cell manufacturers to recycle or dispose of waste from this sector.
- India's Domestic Content Requirement (DCR) clause has faced legal challenges at the World Trade Organization (WTO).

#### What are the steps taken by government to promote Solar energy?

- The MNRE made humble beginnings through the Jawaharlal Nehru National Solar Mission in 2010 to achieve 20 GW of grid connected solar power by 2022.
- PM-KUSUM scheme was launched for grid connected agricultural solar pumps.
- Atal Jyoti Yojana has been launched to provide solar street lighting systems for public use.
- Under the Solar Transfiguration of India (SRISTI) Scheme, financial incentives are provided to the beneficiary for installing solar power plant rooftop projects.
- The government through several financial incentives such as 10-year tax exemptions for solar energy projects, waiver of inter-state transmission system charges, 100% FDI under automatic route etc. has promoted expansion for solar energy.
- Most importantly, we are founding member of International Solar Alliance that has proposed the idea of "One Sun, One World, One Grid". Thus, we have set our footprints beyond our borders as far as Solar energy is concerned.

#### What should be the way forward?

- We must strive to develop entire manufacturing value chain ecosystem to become competitive because manufacturing of solar equipment as of now is concentrated in very few countries.
- We must promote R&D in renewable energy storage technology.
- In order to reach out remote locations we can focus on small solar installations by using domestically manufactured products.



# General Studies – 1

## **Indian Heritage and Culture**

1. Indian culture will cover the salient aspects of Art Forms, Literature and Architecture from ancient to modern times.

## **History**

2. Modern Indian history from about the middle of the eighteenth century until the present significant events, Personalities, Issues.
3. The Freedom Struggle — Its various stages and Important contributors / contributions from different parts of the country.
4. Post-independence consolidation and reorganization within the country.
5. History of the world will include events from 18th century such as Industrial revolution, World wars, Redrawing of national boundaries, Colonization, decolonization, Political philosophies like communism, capitalism, socialism etc.— their forms and effect on the society

## **Society**

6. Salient features of Indian Society, Diversity of India.
7. Role of women and women's organization, Population and associated issues, Poverty and developmental issues, Urbanization, their problems and their remedies.
8. Effects of globalization on Indian society.
9. Social empowerment, Communalism, regionalism & secularism.

## **Geography**

10. Salient features of world's physical geography.
11. Distribution of key natural resources across the world (including South Asia and the Indian sub-continent) Factors responsible for the location of primary, secondary, and tertiary sector industries in various parts of the world (including India).
12. Important Geophysical phenomena such as earthquakes, Tsunami, Volcanic activity, cyclone etc., Geographical features and their location-changes in critical geographical features (including water-bodies and ice-caps) and in flora and fauna and the effects of such changes

# History & Culture

## Babasaheb of the Bahujans

**News:** Mahaparinirvan Diwas is observed every year on December 6 to commemorate the death anniversary of B R Ambedkar. He is known as the Father of the Indian Constitution and was independent India's first law minister.

- In this article we will discuss about life of Babasaheb Ambedkar, his important works and his role in uplifting Dalit women.

### Who was Dr. BR Ambedkar?

- Born on 14 April 1891 in Mhow, Central Province (now Madhya Pradesh), Babasaheb was a social reformer, jurist, economist, author, orator, a scholar, and thinker of comparative religions.
- He was the Chairman of the Drafting Committee for the new Constitution.
- He was a well-known statesman who fought for the rights of the Dalits and other socially backward classes.

### Social Contribution:

- He led the Mahad Satyagraha in March 1927 to challenge some of regressive customs of orthodox Hindus. For example, not allowing Dalits to fetch water from lake/well where Non-Dalits would usually drink water from.
- The temple entry movement launched by Dr. Ambedkar in 1930 at Kalaram temple, Nasik.
- In 1932, Dr. Ambedkar signed the Poona pact with Mahatma Gandhi, which abandoned the idea of separate electorates for the depressed classes (Communal Award). However, the seats reserved for the depressed classes were increased from 71 to 147 in provincial legislatures and to 18% of the total in the Central Legislature.
- Ambedkar's major concern for women's status has been reflected in the Hindu Code Bill. He has even remarked that his work on the Hindu Code Bill would be as important as his work on the Constitution itself. Through the bill, women were to be granted absolute right regarding all property.
- The Hindu Code Bill challenged the base of patriarchy and awarded women the equal position as of men. Hence, the bill was against the structure of domination and suppression of women and, by way of this, challenged the very philosophy of Hinduism.
- Dr. Ambedkar's idea of minorities included Muslims, Christians and other religious minorities along with Dalits and weaker sections of society.
- Dr. Ambedkar advocated women to treat husband with equality, wear clean clothes and urged them to send their children to school.

### Political Contribution:

- He was the main architect of the Indian Constitution.
- He attended all the three Round Table Conferences (1930-32).
- In 1936 he founded the Independent Labor Party.
- His ideas before the Hilton Young Commission served as the foundation of the Reserve Bank of India (RBI).

### Other contributions:

- List of Important works by Dr. Ambedkar - Mook Nayak (weekly) 1920, Janta (weekly) 1930, The Annihilation of Caste 1936, The Untouchables 1948, Buddha or Karl Marx 1956.
- Bahishkrit Hitakarini Sabha was a central institution formed by Dr. Babasaheb Ambedkar for removing difficulties of the untouchables and placing their grievances before government.

## Ikki Jathre

**News:** Recently, a Kerala-based organisation, Thanal launched the Ikki Jathre or the Festival of Rice in tribal parlance whereby 300 climate-resilient varieties of traditional rice were planted at Panavally, Wayanad.

- Thanal initiated the Rice Diversity Block (RDB) at Panavally under the Save Our Rice campaign in 2009, with a collection of 30 varieties of rice which now expanded to 300.

### About Ikki Jathre:

- The Ikki Jathre initiative aims to sensitize people to the significance of conserving traditional crops that have the ability to withstand harsh climatic conditions.
- The festival also sets the stage for knowledge sharing and co-creation of knowledge between tribal farmers and experts.
- For the RDB, most of the varieties were collected from Kerala, Karnataka, Assam, Tamil Nadu, Arunachal Pradesh, Maharashtra and West Bengal.
- It also includes three traditional rice varieties from Vietnam and Thailand.

### About Save Rice campaign:

- Save our rice campaign is a people's movement to protect the diverse rice cultures, knowledge, and ensure food sovereignty. In India, it started in 2004, and empowers communities build sustainable food security and livelihood.
- It involves establishing community RDBs and seed banks, conserving and promoting indigenous varieties of paddy seeds.
- Creating awareness about value of rice diversity among urban consumers.
- Facilitating adoption of agro-ecological farming in rice ecosystems, and encouraging farmers, states and local governments to adopt indigenous seeds.
- Enabling active discussions in the media about indigenous seeds and agro ecological farming.

## UNESCO Tentative List

**News:** India has added 3 more sites to UNESCO's Tentative List – Vadnagar (Gujarat), Sun Temple (Modhera) and Rock-cut stone sculptures of Unakoti in Tripura.

### What is UNESCO tentative list?

- UNESCO tentative list is an "inventory of those properties" which each state party intends to consider for nomination. It takes at least a year before it is considered for the final nomination dossier (as per operational guidelines, 2019 of UNESCO).
- The country sends the list to UNSECO. The UNESCO then considers whether it should be added to the tentative list. After a year of adding to the tentative list, is sent to World Heritage Centre (WHC) for consideration to be added to the UNESCO World Heritage list India has 52 sites on the Tentative list now.

### About Modhera Sun Temple:

- As per Archeological Survey of India Modhera Sun Temple was built in 1026-27 CE during the reign of Bhima I of the Chaulukya dynasty.
- The Sun Temple at Modhera is located on the left bank of the river Pushpavati.
- The temple is made from sandstone and important features include Keerti Toran, Surya Kund, Sabha Mandapa and the main temple.
- The Sun temple is so designed that on the days of equinoxes i.e. 21st March and 21st September, the first rays of sun fall on the idol of Sun in Garbhagriha.



### About Vadnagar:

- Located in the Mehsana district in Gujarat, Vadnagar is a city with deep historical roots. It is also known as Chamatkarpur, Anandpur, Snehpur and Vimalpur, the city of Vadnagar was mentioned in the Puranas as well.
- Vadnagar is famous for its **torans**, a pair of 12th century Solanki-era columns, 40 feet tall and built in red and yellow sandstone to celebrate a war victory.
- In 640 AD, Chinese Buddhist traveller, Hiuen Tsang visited the city, and is said to have mentioned it in his travelogue.
- During excavations in 2008-09, ruins of a Buddhist monastery were also unearthed in Vadnagar.
- Vadnagar is home to Tanariri Performing Arts College, named so to honour the valour of two sisters, Tana and Riri, who had sacrificed their lives when asked by Akbar to sing in his court, which was against their custom.



### About Rock Sculptures of Unakoti:

- Unakoti is a Shaivite pilgrimage site which has distinct **mongoloid features**. It displays almost the same mystical charm as the figures in the Angkor Wat Temple of Cambodia.
- Unakoti means one less than a crore and it is said that these many rock cut carvings are available here.
- The images found at Unakoti are of two types, namely rock-carved figures and stone images. Among the rock cut carvings, the central Shiva head and gigantic Ganesha figures deserve special mention. The central Shiva head is known as 'Unakotiswara Kal Bhairava'. On each side of the head-dress of the central Shiva, there are two full size female figures – one of Durga standing on a lion and another female figure on the other side.
- In addition, three enormous images of Nandi Bull are found half buried in the ground.
- Every year a big fair popularly known as 'Ashokastami Mela' is held in the month of April which is visited by thousands of pilgrims.



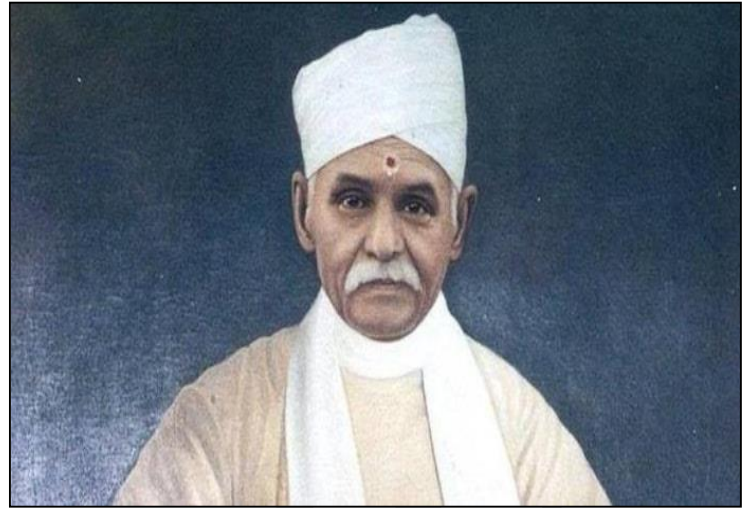
## Pandit Madan Mohan Malviya

**News:** PM Modi recently paid tributes to Pandit Madan Mohan Malaviya Ji on his Birth anniversary.

### About:

- Pandit Madan Mohan Malviya was born on December 25, 1861, in Allahabad, Uttar Pradesh. He is known for his contribution to India's education system and his role in the Indian Independence movement.
- He was given the title of '**Mahamana**' or great soul by Mahatma Gandhi, who considered him as an elder brother.
- He is remembered for establishing **Banaras Hindu University (BHU)** in 1916. BHU is one of the largest and oldest universities in Asia.

- One of the most famous slogans, 'Satyamev Jayate' was said by him in the session of 1918 when he was the President of the Indian National Congress.
- Pandit Malviya is known for his contributions to **journalism**. He was the chairman of the **Hindustan Times** from 1924 to 1946, and he also founded many Hindi and English newspapers, namely: **The Leader, Hindustan Dainik, Maryada, Abhyudaya**.
- He was posthumously awarded the prestigious Bharat Ratna on March 30, 2015, by the honorable President Pranab Mukherjee



#### His other contributions include:

- He setup the **Ganga Mahasabha** (1905) and helped establish the **Hindu Mahasabha** in 1915.
- Introduction of Devnagiri in British-Indian courts.
- He was the President of the Indian National Congress for four sessions (1909, 1913, 1919, and 1932)
- He played a big role in the Civil Disobedience and Non-cooperation movement which were led by Mahatma Gandhi.

## Veer Bal Diwas

**News:** In January this year, the Centre announced that **December 26** would be observed as 'Veer Bal Diwas' to mark the martyrdom of **Guru Gobind Singh's** younger sons, **Sahibzada Zorawar Singh** (9) and **Sahibzada Fateh Singh** (7).

#### Background:

- The two Sahibzade were killed in 1704, in events sparked by the attack on Anandpur Sahib by the armies of the Mughals and the hill kings of present-day Himachal Pradesh.

#### What led to the attack?

- Guru Gobind Singh was raising an army, which the neighbouring hill kings were not comfortable with. In 1699, Guru Gobind Singh had established the Khalsa, which the hill kings and the Mughal empire saw as a threat.
- The fateful attack of 1704 was led by Bilaspur King Bheem Chand and Handuria King Raja Hari Chand. They cordoned off Anandpur Sahib with support from the Mughal empire.
- It is said that the Hindu kings and Muslim Mughal governors finally reached an agreement with the Sikhs, and swore there would be no war if Guru Gobind Singh left Anandpur Sahib.
- Guru Gobind Singh agreed to the demands but their opponents violated their oath and the Guru and his followers were attacked near the **river Sarsa**, close to 25 kilometres from Anandpur Sahib.



#### What happened to the Chhote Sahibzade?

- Sahibzada Zorwar Singh and Sahibzada Fateh Singh along with their grandmother were staying in village Kheri at the house of one Gangu, who had served as a cook for the family.

- However, Gangu, tempted by the gold ornaments and coins Mata Gujari ji was carrying and the reward announced by the Mughal governor, handed over the children and their grandmother to Sarhind's Nawab Wazir Khan.
- The three were imprisoned in the Thanda Burj (cold tower), which had a river flowing next to it and was thus bitterly cold.
- When the children were presented in court, they were offered riches and gifts and told to convert to Islam. The Sahibzade refused to convert or to bow to Wazir Khan.
- After efforts to make them give up their religion failed, Wazir Khan decided that the boys would be bricked alive. There was resistance to this from some Muslim courtiers, like Nawab Sher Khan, who said it was against Islam to sentence two children to death.
- However, Wazir Khan prevailed. It is said that even as a wall was being erected around them, the Sahibzada stood unflinching. Two executioners then slit their throats, killing the younger, Sahibzada Fateh Singh, first. The same day, Mata Gujari ji died of shock.

#### What happened next?

- A few years later, Baba Banda Singh Bhadur avenged the execution of the Sahibzade, by attacking and capturing Sarhand.

## Petroglyphs

**News:** The site proposed for a mega oil refinery in **Barsu village** of **Maharashtra's Ratnagiri** district is at the centre of a row over whether it might damage ancient rock carvings found in the area.

#### What are Petroglyphs?

- In prehistoric art, the term "petroglyphs" (derived from the Greek word "petra" meaning stone, and "glyphein" meaning to carve) is used to describe any image created on a rock surface by scouring, scratching, engraving, chiseling, carving or any similar method.
- Note, however, that painted or drawn images on rocks are not classified as petroglyphs: instead, they are defined as pictographs.

#### About Petroglyphs in Ratnagiri:

- Petroglyphs are drawn by removing part of a rock surface by incising, picking, carving or abrading. Ratnagiri district has more than 1,500 petroglyphs, also called **katal shilpa**, spread across 70 sites.
- The carvings are in the shape of human figures, birds, animals and geometric forms, though they vary in shape and size from site to site.
- The Tentative List in UNESCO mentions seven sites with petroglyphs in Ratnagiri district — Ukshi, Jambharun, Kasheli, Rundhe Tali, Devihsol, Barsu and Devache Gothane, one in Sindhudurg district –Kudopi village, and nine sites at Pansaimol in Goa.



#### Do you know?

- While the Petroglyphs of Konkan region, spread across Maharashtra and Goa, are among the three Indian attractions that have been added to the Tentative List of UNESCO WHS.
- The other two Indian sites are **Jingkieng Jri**, the living root bridge in **Meghalaya**, and **Sri Veerabhadra Temple** in **Andhra Pradesh's** Lepakshi.

# Society

## Global Minority Index

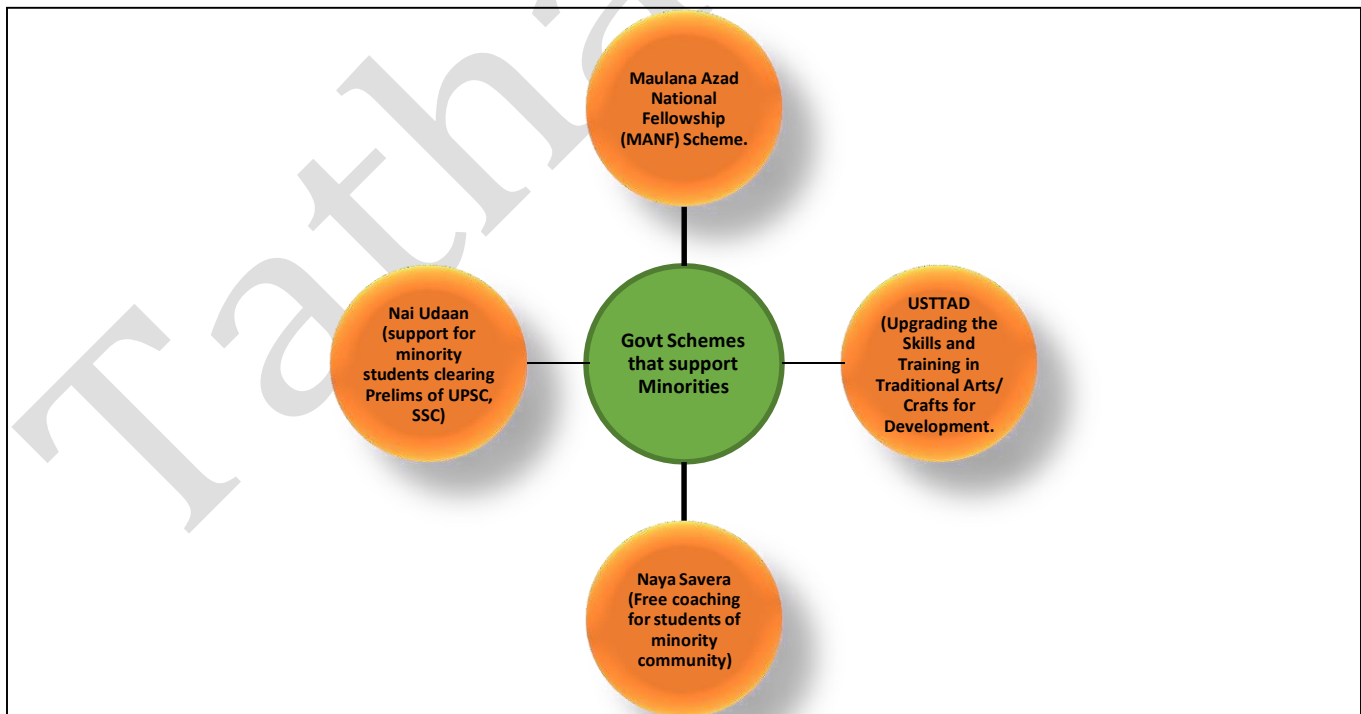
**News:** The Centre for Policy Analysis (CPA), a research institute based in Patna, ranked India first on the "global minority index", in its Global Minority Report. The report tallied data from 110 nations assessing how each state treated minority religions and the level of inclusivity it practiced.

### Key Highlights of Report:

- The approach of the study was mathematical, and it assesses how the minority religions were treated in each country.
- The factors for evaluating the countries were related to constitutional clauses, government policies, and other more general indicators, such as the law of the land.
- It is the first international study to assign a grade to nations based on their treatment of respective religious minorities and is also the first study conducted by non-Western and Afro-Asian countries to index nations based on specific criteria.

### Key Findings:

- India remains on top of the index, followed by South Korea, Japan, Panama, and the US. Maldives, Afghanistan, and Somalia figured at the bottom of the list. The UK is ranked 54, and the UAE 61.
- Regarding India's minority policy, the study claims its framework is centred on promoting diversity. The report adds that in contrast to several other nations, no sect of any religion is outlawed in India.
- There are specific and exclusive provisions in the Indian Constitution for advancing religious minorities in culture and education (For example Article 29 and 30 of Indian constitution), and provisions supporting linguistic and religious minorities (Article 350B which provides for a Special Officer for Linguistic minorities) do not exist in any other country's Constitution, says the study.
- Due to its inclusive nature and non-discriminatory nature respecting other religions and their sects, India's minority policy may be utilized as a model by the United Nations for other nations.



## Why liquor ban is bad- and good

**News:** The toll in Hooch tragedy in Bihar's Saran district jumped to 70 after more deaths more reported.

### When was liquor ban enforced in Bihar?

- Both the sale and consumption of liquor were completely banned by the state government in 2016, to keep a promise made to the women of Bihar ahead of the Assembly polls.
- Severe punishments were imposed on those found to be flouting the ban, including heavy fines and imprisonment.
- Earlier this year, the Bihar government amended its prohibition laws to reduce punishment for first-time "drinkers" and replaced imprisonment with a fine.
- This was done to free up Bihar's already overcrowded jails and to direct the government's attention away from consumers and toward sellers and distributors of liquor.

### Positive impact of Alcohol ban in Bihar:

- A plausibly direct consequence of this is a fall in domestic violence. Reported instances fell by 37 per cent in the state between 2016 and 2020.
- A woman in Muzaffarpur was quoted stating the alcohol ban was a brilliant move. She said men don't beat them any longer, they go to work on time and there is more money left over for their children.
- While law enforcement has been weak, but alcohol consumption has undeniably reduced which has mixed results on crime. The jail for once are not quiet overflowing.
- The revenue loss for state though substantial is not debilitating.

### Negative impact of Alcohol ban in Bihar:

- Loss in tax revenue for the state. Tax revenues from alcohol were Rs 3,100 crore in 2014-15, about 15 per cent of total tax revenues and 1 per cent of the state's GDP.
- The demand for substitutes of alcohol have skyrocketed – drug addiction among youth had increased.
- Rise in underground market activities that eventually lead to tragedy as seen recently.
- Strengthening organized crime groups (or mafias). For example, stories of children being roped into smuggle alcohol was seen.
- Spurious liquor disproportionately affects poorer sections.

### The Indian Constitution views on alcohol:

- According to **Article 47** the State shall make every effort to ban the consumption of intoxicating drinks and substances that are injurious to health. Though not legally enforceable, DPSPs set goals for the state so that citizens can lead a good life. Thus, alcohol is seen by the Constitution as an undesirable evil that needs to be regulated.
- **7th Schedule** of the Constitution puts alcohol on the state list therefore state legislatures have the right and responsibility to draft laws regarding it. Hence, alcohol regulations vary from state to state, spanning the entire range from prohibition to private sale.
- Currently, there are five states (Bihar, Gujarat, Lakshadweep, Nagaland, and Mizoram) with total prohibition and some more with partial prohibition.

# Geography

## Coastal Red Sand Dunes of Vizag

**News:** Geologists have suggested to protect the site of Coastal Red Sand Dunes of Visakhapatnam, Andhra Pradesh.

**About:**

- It spread across an area of about 20 sq km and is popularly known as 'Erra Matti Dibbalu'.
- It was declared as a geo-heritage site by the Geological Survey of India in 2014.
- It is about 18,500 years old and is a lively scientific evolution site, which depicts the real-time effects of climate change. It represents the late quaternary geologic age.
- Such sand deposits are rare and have been reported only from three places in the tropical regions in south Asia such as Teri Sands in Tamil Nadu, Erra Matti Dibbalu in Visakhapatnam and one more site in Sri Lanka.

**Key facts:**

- The red sediments are a part of the continuation of the evolution of the earth and represent the late quaternary geologic age.
- The top light-yellow sand unit, which is estimated to have been deposited around 3,000 years ago, could not attain the red colouration as the sediments were geochemically unaltered. These sediments do not contain fossils) and are deposited over the khondalite basement. Khondalite is a regional rock with high-grade metamorphism and granulite rock formation. It was named after the Khond tribe of Odisha.
- With a height of up to 30 m, they exhibit badland topography.

**Why protecting the site is crucial?**

- Its study can help understand the impact of climate change, as the site has seen both the glacial and the warm periods.
- It is about 18,500 to 20,000 years old and it can be related to the last glacial period.
- It is a lively scientific evolution site, which depicts the real-time effects of climate change.
- About 18,500 years ago, the sea (Bay of Bengal) was at least 5 km behind from the present coastline. Since then, it has been undergoing continuous active changes till about 3,000 years ago and still the changes are on.
- The site was home to the pre-historic man as the excavations at several places in the region revealed stone implements of three distinctive periods and also the pottery of the Neolithic man.

## Vizhinjam port project protest

**News:** Vizhinjam has been on the boil for the past four months with protesters mainly fisherfolk and their families laying siege to the under-construction Vizhinjam port. The protestors led by the Latin Archdiocese have been demanding the halting of the construction work of the port by Adani Vizhinjam Port Private Limited.

**About:**

- It is a Rs 7,525 crore port, being built under a Public Private Partnership (PPP) model with Adani Ports Private Limited at Vizhinjam near Thiruvananthapuram, Kerala.
- It was laid in December 2015 and has since missed its completion deadline.
- The port is to have 30 berths, and will be able to handle giant "megamax" container ships.

**Significance of the port:**

- Located on the southern tip of the Indian Peninsula, just 10 nautical miles from the major international sea route and east-west shipping axis, and with a natural water depth of more than 20m within a nautical mile

from the coast, the Vizhinjam port is likely to play a pivotal role in the maritime development of the country and Kerala.

- The port is expected to leverage the growth of minor ports in Kerala and other regional ports, creating thousands of employment opportunities.
- The port is expected to compete with Colombo, Singapore, and Dubai for a share of trans-shipment traffic.

#### **Why are Fishermen protesting?**

- According to protesters, the port work has aggravated the coastal erosion along the coast of Thiruvananthapuram.
- They have raised seven demands which include, a scientific study to assess the impact of the port work on the shoreline after stopping the construction of the port. Rehabilitation of families who lost their homes to sea erosion, Effective steps to mitigate coastal erosion, Financial assistance to fisherfolk on days weather warnings are issued, compensation to families of those who lose their lives in fishing accidents and Subsidized kerosene for boats.

#### **What is government's stand?**

- The Kerala Government made it clear that since the coastal erosion is due to climate change as reported by various agencies, the demand for stopping the port construction cannot be conceded.
- Officials argue that the Vizhinjam seaport is being constructed inside a natural sediment cell which is a pocket-like area in which interruptions to the movement of sand along the coast do not significantly affect the adjacent coastline.

## **National Bamboo Mission**

**News:** Recently, the Ministry of Agriculture has formed an Advisory Group for streamlining the development of the Bamboo sector under the restructured National Bamboo Mission (NBM).

#### **About:**

- The restructured National Bamboo Mission (NBM) was launched during 2018-19 as a Centrally Sponsored Scheme (CSS). NBM mainly focuses on the development of the complete value chain of Bamboo sector to link growers with consumers starting from planting material, plantation, creation of facilities for collection, aggregation, processing, marketing, micro, small & medium enterprises, skilled manpower and brand building initiative in a cluster approach mode.
- It intends to increase the area under bamboo plantation in non-forest Government and private lands to supplement farm income and contribute towards resilience to climate change.
- Connecting farmers to markets so as to enable farmer producers to get a ready market for the bamboo grown and to increase the supply of appropriate raw material to the domestic industry.
- It also endeavors to upgrade skills of traditional bamboo craftsmen as per the requirement of contemporary markets with a tie-up with enterprises and premier institutes.

#### **Importance of Bamboo:**

- Bamboo is a versatile group of plants which is capable of providing ecological, economic and livelihood security to the people
- Prime Minister Modi recently inaugurated the new terminal of the Bengaluru (Kempagowda) Airport in which the versatility of bamboo as an architectural and structural material has been proved and the destiny of this green resource defined as the 'green steel'.
- Apart from using in the construction sector as design and structural element, the potential of bamboo is multifaceted.
- Ecofriendly moldable granules from bamboo can replace the use of plastic.
- Bamboo is also a reliable source for the ethanol and bio-energy production due to its fast rate of growth and abundance.
- The market of Bamboo based lifestyle products, cutleries, home decors, handicrafts and cosmetics also is in a growth path.

## Bamboo in India – Climate requirements and Steps taken to promote Bamboo Industry

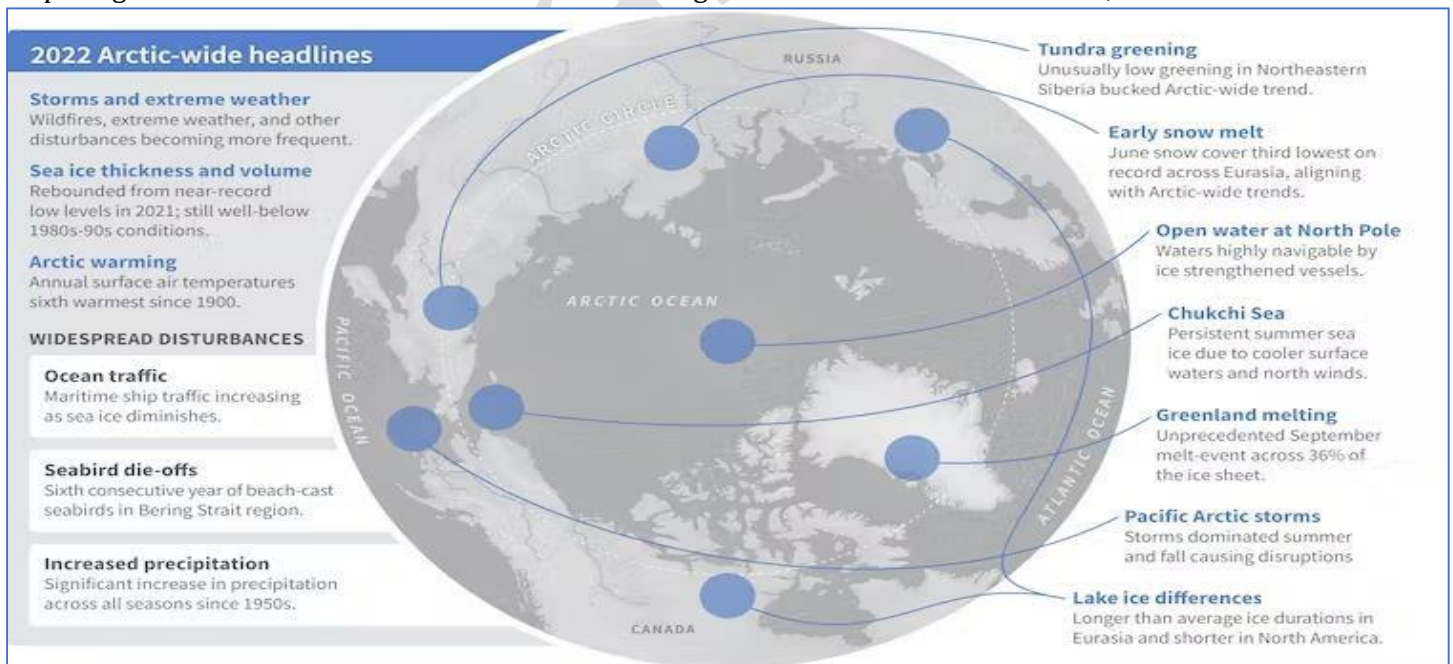
- India has the highest area (13.96 million ha) under bamboo and is the second richest country, after China, in terms of bamboo diversity with 136 species (125 indigenous and 11 exotic).
- Bamboo grows well in a warm, humid environment and is sensitive to cold temperatures. Anything less than 15 Degrees Celsius during summers is not favourable and can kill the plant. The wet and tropical conditions in India are best suited for Bamboo farming.
- Bamboo plants require a slightly acidic pH soil for the best possible health and growth. A pH of anywhere between 4.5 – 6.0 is good for the overall well-being of Bamboo grass. Although it can grow in a wide variety of soils, except of course rocky soils, well-drained sandy-loam and clay-loam are the best-suited soils for bamboo farming.
- Most of the Bamboo species are flood-tolerant and can withstand waterlogging for a considerably longer duration of time, making them extremely helpful in flood-hit areas.
- Bamboo plants are generally Nitrogen hungry species. They need a lot of Nitrogen for their rapid growth. Farmers mostly apply Urea or Neem Coated Urea in soils that are deficient in terms of Nitrogen content.
- The Union Minister for Agriculture and Farmers' Welfare has virtually inaugurated 22 bamboo clusters in 9 states viz. Gujarat, Madhya Pradesh, Maharashtra, Odisha, Assam, Nagaland, Tripura, Uttarakhand and Karnataka.
- The Indian Forest Act 1927 was amended in 2017 to remove bamboo from the category of trees. As a result, anyone can undertake cultivation and business in bamboo and its products without the need of a felling and transit permission.

### What are some commercially important species of Bamboo in India?

- Bambusa tulda, B. bambos, Bambusa balcooa, B. cacharensis, B. polymorpha, B. nutans, Dendrocalamus asper, Dendrocalamus hamiltonii, Thyrsostachys oliveri, Melocanna bacferra.

## The Arctic Region

**News:** Climate Change has brought existential peril to the planet. The Arctic region is among the most affected, outpacing trends from the rest of the world and showing drastic transformation in its air, land and seas.



### What are the points highlighted by US National Oceanic and atmospheric administration in its **Annual Arctic report 2022**?

- The Arctic has been warming more than twice as fast as the rest of the world.



- Between October 2021 and September 2022, the region recorded its sixth highest annual air temperatures since 1900. The past seven years have been the warmest in that time.
- Overall, mean sea surface temperatures continued to show warming trends for 1982-2022. This warming has led to a boom in phytoplankton-driven production of organic matter in the oceans.
- June 2022 recorded unusually low terrestrial snow cover; second lowest in recorded history in North America. Scientists attribute these to earlier than usual snow melt.
- Greenland Ice Sheet experienced its 25th consecutive year of ice loss. Unprecedented late-season warming created ice-melt conditions in over 36 per cent of the ice sheet.
- Overall Tundra greening declined from its record high values of the previous years. The North American Arctic showed a lot of greening whereas there was unusually low productivity in Siberia. Wildfires, and extreme weather events could be behind the variability of Tundra greenness.

#### Way Forward:

- Indigenous expertise needs to be augmented by scientific abilities to reconstruct past environments and to model and predict future changes.
- Decision-makers need to apply this experience and knowledge to help mitigate and adapt to a rapidly changing Arctic.

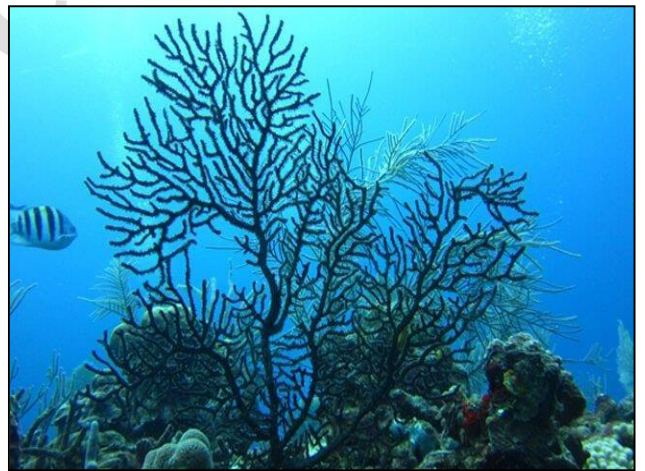
**Note – You can use some of the points from the above article to explain impact of Climate Change.**

## Black Corals

**News:** Five new species of Black Corals have been discovered that are found living as deep as 2,500 feet (762 metres) below the surface in the Great Barrier Reef and Coral Sea off the coast of Australia.

#### About:

- Black Coral, also known as **Thorn Coral** or **Antipatharia**, is a group of **soft coral** species. These corals, in the taxonomic order Antipatharia, have black or brown stem-like skeletons, hence the common name “black” coral.
- Many of these corals are branched and look like feathers, fans or bushes, while others are straight like a whip.
- Unlike their colourful, shallow-water cousins that rely on the sun and photosynthesis for energy, black corals are **filter feeders** and **eat tiny zooplankton** that are abundant in deep waters.
- Similarly, to shallow-water corals that build colorful reefs full of fish, black corals act as important habitats where fish and invertebrates feed and hide from predators in what is otherwise a mostly barren sea floor.



#### Habitat:

- The various species inhabit a wide range of different oceanic habitats. However, they do not live in freshwater habitats or brackish water.
- You can find these creatures in shallow seas or even the deepest oceans. In fact, the vast majority of species live only in deeper waters with low levels of light.
- You can find these corals in all of the various oceans in the world. The different species range throughout the world’s oceans. They live in the Atlantic Ocean, Pacific Ocean, Indian Ocean, Arctic Ocean, and the Southern Ocean.

#### Cultural Significance:

- In Hawaiian, Indonesian, and Chinese cultures, people historically believe this group has mythical powers and medicinal use. Some also believe that the coral wards away evil.

- People have harvested these corals for use in jewelry for many years. This practice was popular in Hawaii and Mexico in particular.

## Earthquakes

**News:** Around **59 per cent** of the landmass of India (covering all states) is prone to earthquakes of different shaking intensities, Jitendra Singh, Union minister of state (independent charge) for science and technology and earth sciences, recently told the Lok Sabha.

### Key Facts:

- India has been divided into four zones — II, III, IV and V — according to the seismic zoning map of India prepared by the Bureau of Indian Standards (BIS).
- Zone V is seismically the most active region, while Zone II is the least.
- Around 11 per cent of the country falls in Zone V, 18 per cent in Zone IV, 30 per cent in Zone III and the remaining in Zone II.

### What are Earthquakes?

- An earthquake is the shaking of the surface of the Earth resulting from a sudden release of energy in the Earth's lithosphere that creates seismic waves.
- It is tectonic in origin and results from the release of accumulated stress of the moving lithospheric or crustal plates.
- The earth's crust is divided into seven major plates (and several minor plates), which move slowly and continuously over the earth's interior.
- Causes of earthquakes can be natural (tectonic, volcanic) and anthropogenic (mining activities, construction of dams, nuclear-chemical explosions).
- The occurrence of an earthquake in a populated area may cause numerous casualties and injuries as well as extensive damage to property.

### What are the types of Earthquake waves?

- First is the Body waves which generated due to the release of energy at the focus and move in all directions travelling through the body of the earth. There are two types of body waves – i) P-Waves (Primary waves) and ii) S-waves (Secondary waves).
- Second are Surface waves. They are the last to report on seismograph. These waves are destructive. They cause displacement of rocks, and hence, the collapse of structures occurs.
- Shadow zone – They are locations where the earthquake waves are not reported.

### How are earthquakes measured?

- The earthquake events are scaled either according to the magnitude or intensity of the shock.
- The magnitude scale is known as the Richter scale (0-10), indicating energy released during the quake.
- The intensity scale is named after Mercalli an Italian seismologist. The intensity scale takes into account the visible damage caused by the event. The range of intensity scale is from 1-12.

### Why is India prone to earthquakes?

- Collision between Indo-Australian plate with Eurasian plate (along the Himalayan belt) causes lots of strain in underlying rocks' energy, which is released in the form of earthquakes.
- The Indian plate is driving into Eurasia at a rate of approximately 47 mm/year.
- Seafloor displacement and underwater volcanoes disturb the equilibrium of earth's surface as seen in Andaman and Nicobar Islands.
- Increasing population and unscientific land use for construction especially along earthquake prone regions make India a high-risk land for earthquakes.
- The emergence of a fault line and energy build-up along the fault line of the river Bhima (Krishna) near Latur and Osmanabad (Maharashtra).

# General Studies – 2

## **Polity & Constitution**

1. Indian Constitution—historical underpinnings, evolution, features, amendments, significant provisions and basic structure.
2. Functions and responsibilities of the Union and the States, issues and challenges pertaining to the federal structure, devolution of powers and finances up to local levels and challenges therein.
3. Separation of powers between various organs dispute redressal mechanisms and institutions
4. Comparison of the Indian constitutional scheme with that of other countries.
5. Parliament and State legislatures—structure, functioning, conduct of business, powers & privileges and issues arising out of these.
6. Structure, organization and functioning of the Executive and the Judiciary—Ministries and Departments of the Government; pressure groups and formal/informal associations and their role in the Polity.
7. Salient features of the Representation of People’s Act.
8. Appointment to various Constitutional posts, powers, functions and responsibilities of various Constitutional Bodies.
9. Statutory, regulatory and various quasi-judicial bodies.

## **Social Justice**

10. Government policies and interventions for development in various sectors and issues arising out of their design and implementation.
11. Development processes and the development industry —the role of NGOs, SHGs, various groups and associations, donors, charities, institutional and other stakeholders.
12. Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes; mechanisms, laws, institutions and Bodies constituted for the protection and betterment of these vulnerable sections.
13. Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources.
14. Issues relating to poverty and hunger.

## **Governance**

15. Important aspects of governance, transparency and accountability, e-governance, applications, models, successes, limitations, and potential; citizens charters, transparency & accountability and institutional and other measures.
16. Role of civil services in a democracy.

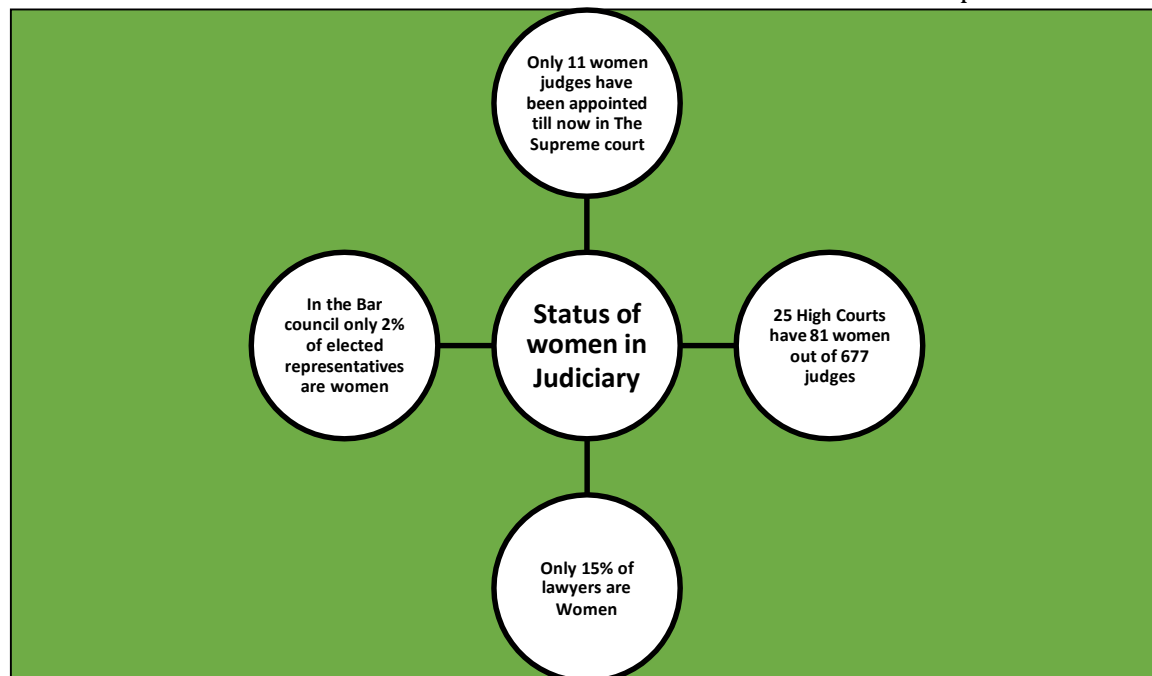
## **International Relations**

17. India and its neighborhood- relations.
18. Bilateral, regional and global groupings and agreements involving India and/or affecting India’s interests.
19. Effect of policies and politics of developed and developing countries on India’s interests, Indian diaspora.
20. Important International institutions, agencies and fora- their structure, mandate

# Polity & Governance

## Women in Judiciary

**News:** Recently, CJI constituted an all-women bench in SC to hear transfer petitions involving matrimonial disputes and bail matters. This is 3rd such bench. The 1st all-women bench was set up in 2013.



### Why women representation in Judiciary matters?

- A representative gender jurisprudence would raise willingness of women to seek justice and produce judgments that better reflect the diversity of Indian experiences. In India, women constitute about 50% of population but what we see is large number of women are seen in the Bar but the total number of women judges is relatively small.
- Increasing representation of women in the judiciary will give different points of view leading to inclusive policies.
- The entry of women judges into spaces from which they had historically been excluded has been a positive step in the direction of judiciary being perceived as being more transparent, inclusive, and representative of the people whose lives they affect.
- Through their presence, women judges will enhance the legitimacy of courts, sending a powerful signal that they are open and accessible to those who seek recourse to justice. For example, a transgender woman as a judge listening to the case of other trans women would inspire confidence in the litigant, as well.
- Women judges also face all the social and cultural challenges common women face. Women judges bring those experiences to their judicial actions, experiences that tend toward a more comprehensive and empathetic perspective that encompasses not only the legal basis for judicial action, but also awareness of consequences on the people affected.
- Such step will help more young women students to come forward and opt for law as a profession.

### What are the reasons for low women representation in the judiciary?

- Deeply ingrained patriarchy in society is one of the most important reasons.
- No Women Reservation in higher judiciary although many states have a reservation policy for women in the lower judiciary.
- In higher judiciary the power of appointment rests almost exclusively with the Supreme Court Collegium. The appointment process is not very transparent and the collegium over the year have been male dominated which might have resulted in low ratio of selection of women judges.

- Magistrates are made to transfer every three years. This can be seen as another challenge to fill the gender gap in the judicial system as the defined gender roles in the Indian society makes it difficult for women to stay away from their homes for their careers.
- According to a report by Vidhi Centre for Legal Policy in 2019, about 15 per cent of courts in India do not have a women's toilet.

#### Way Forward:

- Sensitising and giving emphasis on inclusivity to bring about institutional, social and behavioural change
- According to the UN Women, female judges could be improved in many cases by transparent selection and appointment processes. For example, we can begin with increasing transparency of working of the collegium system.
- Higher judiciary should also have horizontal reservation for women such as subordinate judiciary without diluting merit.

## BCCI's Gender Equality and Gender Pay Parity Drive

**News:** In the last month, the Board of Control for Cricket in India (BCCI) announced a "pay equity policy" for its contracted women cricketers in the country. Yesterday, BCCI said it is ready to introduce women umpires in the Ranji Trophy 2022-23 season. This is a historic moment as it will be the first time ever women umpires will officiate in a Ranji season.

#### What is Gender Pay Parity?

- Pay parity means ensuring that employees in the same job and location are paid fairly relative to one another, regardless of their gender or ethnicity.
- India ranked **135** among a total of 146 countries in the **Global Gender Gap Index 2022**. Men in India capture **82% of labour income**, while **women earn just 18%**, according to **World Inequality Report**.

#### What is the need for pay parity?

- To ensure women's independence and greater role in decision making. It will boost the confidence of women.
- As per World Economic forum (WEF), Gender parity can boost India's Gross Domestic Product, thus help achieve target of \$ 5 trillion economy.
- As per Article 38(2) of Constitution, government should strive towards minimizing inequalities in income among individuals and Article 39 promises equal pay for equal work for both men and women.
- The 2019 Oxfam Report has pointed that women in labor force get 34% less wage in comparison to men who are doing an equal amount of work. Women being part of labor force is also responsible for raising the future labor force (their kids). If women are paid equally, their health needs are looked after properly then they will also contribute in raising a future productive labor force.



#### Challenges associated:

- More than 90% of employment in India is in the informal sector where most female participation is seen. Informal sector is restricted to traditional jobs which are low paying and further widens the pay gap.
- Disproportionate time spent on unpaid work hinders women's ability to take up high remunerating jobs, thereby widening the pay gap.
- Slow wage growth has become an obstacle to achieving sustainable economic growth, and it is also affecting efforts to reduce the gender pay gap.
- Equal remuneration for work of equal value is a challenging concept for many enterprises to apply. This is because women are usually employed in jobs different to those of men.

## Way Forward:

- Raising the minimum wage would have an immediate effect in terms of narrowing the gender pay gap and lifting women out of poverty.
- Flexible work hours/style will give women the opportunity to handle household/childcare responsibilities, as well as maintaining a career and an income.
- More women should be encouraged to undertake studies and pursue occupations in the areas of science, technology, engineering and mathematics (STEM), which offer better paid employment opportunities and improve their career scope.

## Exit Polls

**News:** The exit poll results on Monday predicted a big majority for the BJP in Gujarat while most of them gave an edge to it in Himachal Pradesh, indicating re-election of the ruling party in both states.

### What are Exit Polls?

- Exit polls are a poll taken of a small percentage of voters as they leave the polls, used to forecast the outcome of an election or determine the reasons for voting decisions.
- In 1957, during the 2nd Lok Sabha elections, the Indian Institute of Public Opinion conducted such a poll for the first time.
- The exit polls are conducted by a number of organizations, often in tie-ups with media organizations.
- While exit polls are post-voting polls/surveys, opinion polls are held before the elections.

### What are the rules which govern exit polls?

- In 1998, the Election Commission of India (ECI) issued guidelines under Article 324 of the Constitution, restricting media from publishing results of opinion and exit polls during a prohibited period.
- In the following year, the Supreme Court stated that in the absence of a statutory sanction, the ECI cannot impose any guidelines prohibiting such polls.
- The inclusion of Section 126(A) in the Representation of the People Act, 1951, in 2010 imposed restrictions only on exit polls.
- Under Section 126(A) No person shall conduct any exit poll and publish or publicize its results through the print or electronic media, during such period as the ECI may notify in this regard.
- Any person who violates the provisions of this section shall be punished with imprisonment for a term up to 2 years/ a fine/ both.
- Currently, exit polls can be telecast only after the conclusion of the last phase of the election

### What are arguments in favor of exit polls?

- Voters have the right to know what other people's views are on critical electoral issues.
- They give a clear indication of who might secure the maximum votes at the same time they also help to understand the issues, people and reasons that have influenced the general public opinion.
- Regulating exit polls is seen as a curb on the fundamental right of freedom of speech and expression.

### Criticism of exit polls:

- Political parties often allege that these polls are motivated or financed by a rival party.
- The results can be influenced by the choice, wording, timing of the questions and by the nature of the sample drawn.
- They are often considered to be unreliable.
- They have a distorting effect on the choices voters make in a protracted election.

You can also watch our youtube content on the same topic here - <https://www.youtube.com/watch?v=teUe3srdsY>

## CAG Data on Pension Bills

**News:** As per the latest data by CAG - 'Union and State Finances at A Glance' for 2019-20, expenditure on the pension has emerged as one of the major components of the Committed Expenditure of the Centre and states in recent years.

## What is Committed expenditure?

- It is spending on unproductive and current heads such as salaries and pensions, interest payments and subsidies.
- Committed Expenditure mainly consists of interest payments, and expenditure on salaries, pensions and subsidies.
- If the committed expenditure is higher, it means the government has lesser flexibility to determine the purpose for which revenue expenditure is to be incurred.

## Key Findings:

- The report said that of the Centre's total Committed Expenditure of ₹9.78 lakh crore, ₹1.39 lakh crore was spent on 'salary and wages,' ₹1.83 lakh crore on pensions and ₹6.55 lakh crore on 'interest payments and servicing of debts.'
- TMC-ruled West Bengal, and BJP-ruled Gujarat and Karnataka were the three states that spent more on pensions than salaries and wages in 2019-2020.
- The findings come at a time when states like Jharkhand have gone back to the Old Pension Scheme, while the two Congress-ruled states of Rajasthan and Chhattisgarh have also decided to revert to the older scheme.
- Experts, however, say that a return to the older scheme will force states and the Centre to set aside a substantial part of the expenses towards pension from the Committed Expenditure, thus handicapping the government from spending on other fronts.

## Report on Forced Displacements

**News:** According to the **UNDP report "Turning the tide on internal displacement: A development approach to solutions"**, for the first time ever, more than **100 million people** were forcibly displaced in 2022, most of them within their own countries.

## What are Forced displacements?

- Forced displacement (also forced migration) is an involuntary or coerced movement of a person or people away from their home or home region.

## Key Findings:

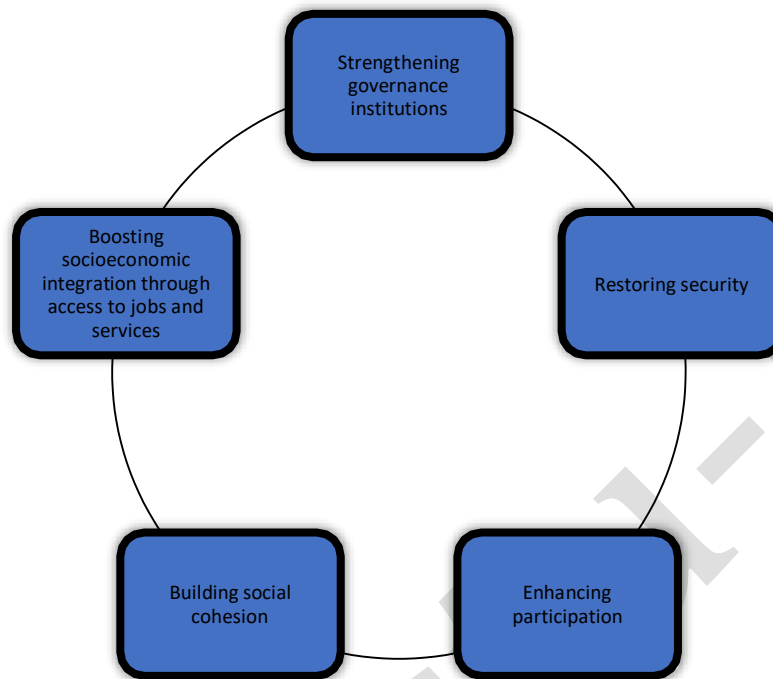
- At the end of 2021, there were over 59 million people forcibly displaced within their own countries due to conflict, violence, disasters and climate change.
- Before the war in Ukraine, 6.5 million people are estimated to have been internally displaced.
- By 2050, climate change may force more than an estimated 216 million people to move within their own countries.
- Disaster-related internal displacement is even more widespread, with new displacements recorded in over 130 countries and territories in 2021.
- Around 30% of professional lives became unemployed and 24% were not able to earn money the same way as before. 48% of the internally displaced households earned less money than before displacement.

## Impact of Forced Displacements:

- The internally displaced persons struggle to cover their basic needs, find decent work or have a stable source of income. 48 per cent of the internally displaced households surveyed earned less money than before displacement.
- Female and youth-headed households were impacted more.
- The direct impact of internal displacement globally was estimated at over \$21.5 billion in 2021 in the form of the financial cost of providing every internally displaced person with housing, education, health and security, and accounts
- Lack of Proper and Commonly Accepted Statistics about displacement has led to a lack of policies for displaced people.
- The term "climate refugee" does not exist in international law, and therefore international efforts/policies towards it have been lacking.

### Key Suggestions:

- Longer-term development action is needed to reverse record levels of internal displacement. Humanitarian aid alone cannot overcome record levels of internal displacement globally. There is a need to devise new ways to address the consequences of internal displacement through a development approach.
- Five key pathways to development solutions can be adopted which are:



### Some facts you must know:

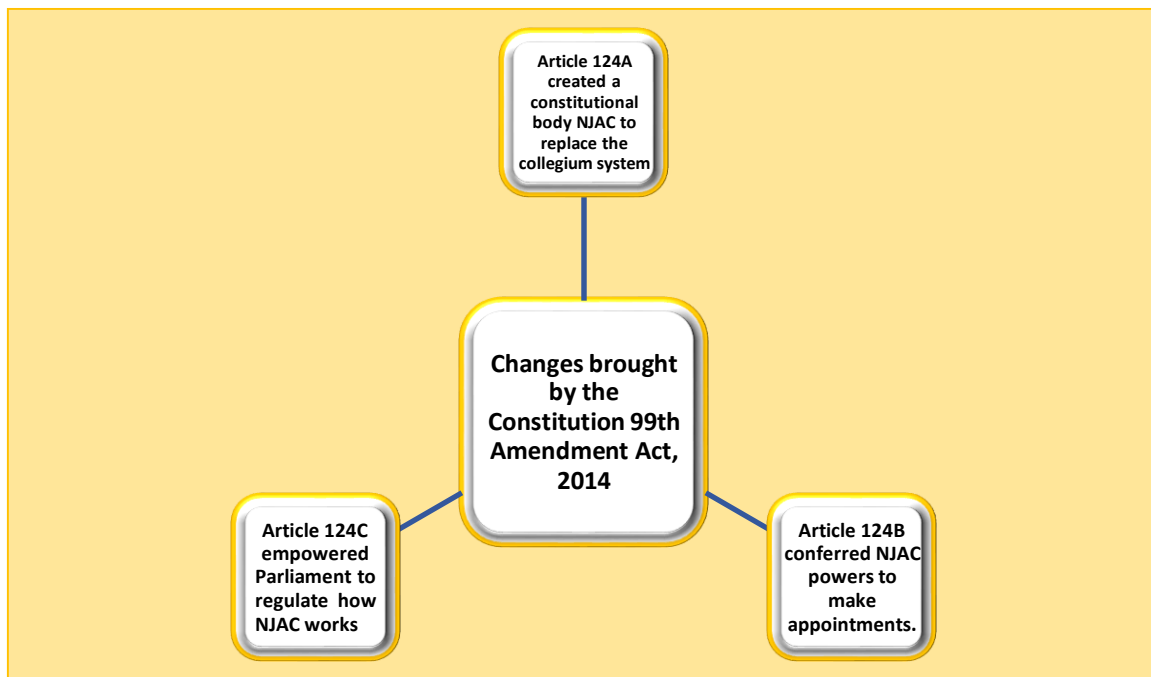
- The United Nations Development Programme (UNDP) is the UN's global development network. The UNDP was established in 1965 by the United Nations General Assembly, and became operational in January 1966.
- UNDP is central to the United Nations Sustainable Development Group (UNSDG), a network that spans 165 countries and unites the 40 UN funds, programmes, specialized agencies and other bodies working to advance the 2030 Agenda for Sustainable Development.
- June 20 is designated as World Refugee Day by the United Nations. The theme for World Refugee Day 2022 is whoever, whatever, whenever. Everyone has got a right to seek safety.
- United Nations High Commissioner for Refugees (UNHCR) was created in 1950, during the aftermath of the Second World War, to help millions of Europeans who had fled or lost their homes.
- 1951 Refugee Convention and its 1967 Protocol assert the principle of non-refoulement (a refugee should not be returned to a country where they face serious threats to their life or freedom).

## NJAC vs Collegium System

**News:** The Vice President of India recently commented on the ongoing heated debate between the Central government and the Supreme Court over the matter of judicial appointments.

- The Vice President questioned the SC's 2015 decision, which struck down the National Judicial Appointments Commission (NJAC) and the 99th Constitutional Amendment, 2014, on the grounds of endangering judicial independence.





### Details about appointment procedure under NJAC:

- The NJAC was to recommend the Chief Justice of India and Chief Justices of the HCs based on seniority, while SC and HC judges were to be recommended based on ability, merit and other criteria.
- Unlike the collegium system, the Act enables both executive and judicial members to serve on the NJAC and empowered any 2 members of the NJAC to veto a recommendation.

### Why was NJAC challenged?

- In 2015, the Supreme Court Advocates on Record Association (SCAORA) filed a plea arguing that – The NJAC took away the primacy of the judiciary’s collective opinion as it could be vetoed and the amendment “severely” damaged the basic structure (independence of the judiciary) of the Constitution.

### What was center’s argument?

- The collegium that worked on an “intra-dependence” structure has “no transparency.”
- The Act did not deprive the judiciary of its primacy but rather diminished the executive’s power because the NJAC had only 1 member (Law Minister), as compared to 3 SC judges.
- The amendment was “perfectly consonant” with the basic structure as it strengthened the independence of the judiciary, checks and balances and democracy.
- The NJAC came through an unanimously passed constitutional provision that reflected “the will of the people,” as both the bills were ratified by the required number of State Legislatures.

### What is the current status?

- The collegium system was restored however

## NJAC VS COLLEGIUM SYSTEM

WHAT'S COLLEGIUM SYSTEM	WHAT'S NJAC
<ul style="list-style-type: none"> <li>❶ Collegium system based on Three Judges Cases</li> <li>❷ Under it, appointment of judges are made by Chief Justice of India and four most senior Supreme Court judges.</li> <li>❸ Has no constitutional backing.</li> <li>❹ Constitution of India's Article 124 says appointments to be made by President in consultation with judges as President may deem necessary.</li> <li>❺ Critics say it is a closed-door system which lacks transparency</li> </ul>	<ul style="list-style-type: none"> <li>❶ NJAC was a body created to end the two-decade-old Supreme Court Collegium system of judges appointing judges.</li> <li>❷ Was passed by Lok Sabha on August 13, 2014. Was passed by Rajya Sabha a day later.</li> <li>❸ Will consist of six people – CJI, two senior-most Supreme Court judges, Law Minister and two 'eminent' persons.</li> <li>❹ Critics say judges in NJAC will need support of others to push a name through. They fear judicial independence being compromised.</li> </ul>

there was a memorandum of procedure agreed upon between the judiciary and the government (post NJAC) which outlines the criteria for appointing judges to the Supreme court and High court.

## Anticipatory Bail

**News:** The Supreme Court has recently granted anticipatory bail to Amazon Prime Video's India head Aparna Purohit in FIRs lodged over the web series "Tandav".

### What is a Bail?

- The term 'bail' is originated from an old French verb 'bailer' which means 'to give' or 'to deliver'. Bail refers to the provisional release of the accused in a criminal case in which the court is yet to announce the judgment.

### What are the types of Bail?

- **Regular bail-** It is generally granted to a person who has been arrested or is in police custody. A bail application can be filed for the regular bail under section 437 and 439 of CrPC.
- **Interim bail-** This type of bail is granted for a short period of time and it is granted before the hearing for the grant of regular bail or anticipatory bail.
- **Anticipatory bail-** It is granted under section 438 of CrPC either by session court or High Court. An application for the grant of anticipatory bail can be filed by the person who discerns that he may be arrested by the police for a non-bailable offence.

### Conditions for Bail in Bailable offence:

- There are sufficient reasons to believe that the accused has not committed the offence.
- There is sufficient reason to conduct further enquiry in the matter.
- The person is not accused of any offence punishable with death, life imprisonment or imprisonment up to 10 years.

### Conditions for Bail in Non-Bailable offence:

- If the accused is a woman or a child, bail can be granted in a non-bailable offence.
- If there is lack of evidence, then bail in non-Bailable offences can be granted.
- If there is delay in lodging FIR by the complainant, bail may be granted.
- If the accused is gravely sick.

### What are grounds for cancellation of Bail?

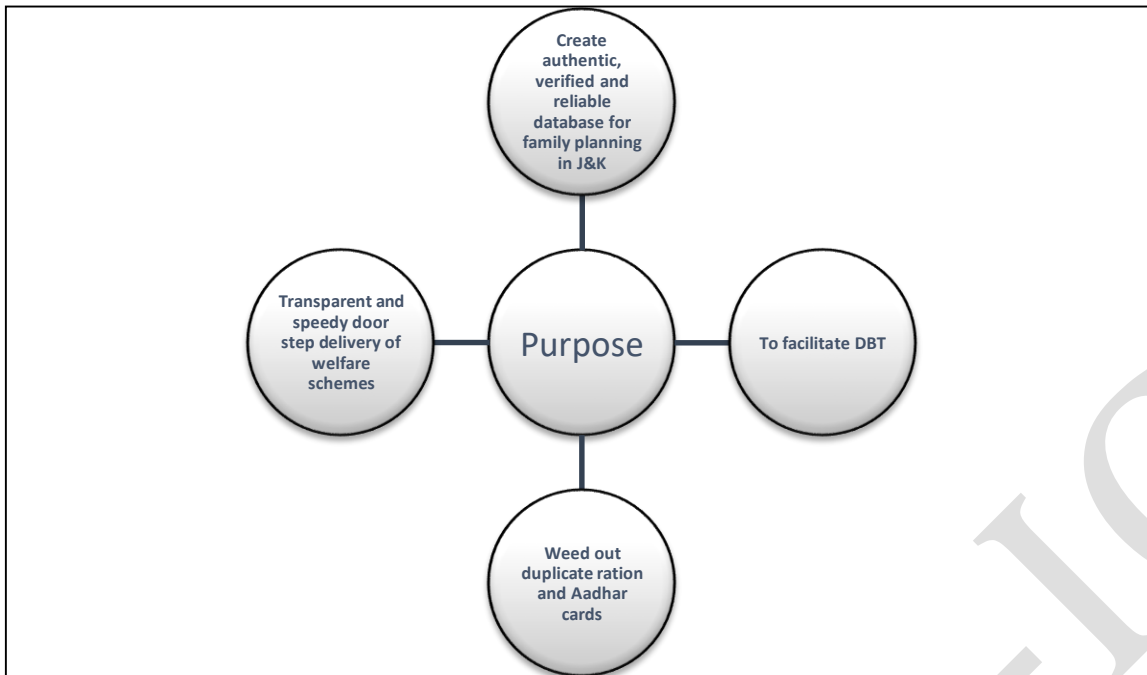
- Court has the power to cancel the bail even at a later stage. This power is laid upon the court under section 437(5) and 439(2) of the CrPC. The court can cancel the bail granted by it and give directions to the police officer to arrest the person and keep in police custody.

## Family Pehchan Patra for J&K residents

**News:** J&K Lt Governor's announcement to introduce a family Pehchan Patra (identity card) for residents of the UT has been criticised by the opposition parties in Kashmir as a surveillance tool.

### What is it?

- It will be an identity card with a unique 8-digit alphanumeric number, which will contain details of all members of the family, including their names, ages, qualifications, employment status, etc.
- The card will be linked with the Aadhaar and bank account number of the head of the family.
- While Aadhaar contains information about an individual, the family ID card will collate a database about families, with the consent of the family.
- No consent is likely to attract practical difficulties because benefits such as subsidized rations will be linked with the family ID card.



### What are the concerns raised?

- Opposition parties consider it to be a surveillance tool to keep watch on Kashmiri people.
- Unique family ID's will only widen trust deficit on the people living there.
- Criticized as a waste of time and resources and were not needed as Aadhar already exists.
- Concerns raised regarding protecting of personal data of citizens.

### Are there any similar databases in other states?

- Haryana was the first state to introduce the concept of the family Pehchan Patra, and Punjab introduced it last year.
- UP Parivar Kalyan Card, Rajasthan's Jan Aadhaar and MP's Samagra ID are other examples.

## J&K Land Grant Rules 2022

**News:** Recently, the Jammu and Kashmir administration has notified "J&K Land Grant Rules 2022" which has ended the owners right to hold on to properties on lease in the Union Territory (U.T.) and plans to outsource these properties afresh online.

### Key Features:

- The new laws replaced "J&K Land Grants Rules 1960", which had liberal lease policy such as 99-year lease period and extendable. Most hotels at famous tourist places in the Valley and prime commercial structures in twin capitals of Jammu and Srinagar are on lease land.
- The new laws state that all leases, except the subsisting or expired residential leases, including lease granted under the J&K Land Grants Rules 1960, notified area (All Development Authorities set in tourism sector) Land Grants Rules, 2007 and leases expired or determined prior to the coming into force of these rules or issued under these rules shall not be renewed and shall stand determined.
- The Lieutenant Governor administration plans to hold a fresh online auction to outsource these lease properties.
- All the outgoing lessees would immediately hand over the possession of the land taken on lease to the government, failing which the outgoing lessee shall be evicted.

### What are initiatives taken for land reforms in J&K?

- In 2020, the Centre notified "The Union Territory of Jammu and Kashmir Reorganization (Adaptation of Central Laws) Order which resulted in the repeal of 11 land laws in J&K, including the Big Landed Estates Abolition Act of 1950.

- Domicile requirements to purchase non-agricultural land have been removed, equalizing J&K with other states.
- Wife and children of an agriculturist would also fall in the Agriculturist category for the purposes of the Jammu & Kashmir Land Revenue Act, 1996.
- Implementation of the Real Estate (Regulation and Development) Act, 2016 or RERA to regulate the real estate sector.
- 'Aapki Zameen Aapki Nigrani' under the Digital India Land Records Modernization Programme (DILRMP) for modernizing the management of land records has been launched in the UT.
- These measures will benefit economic development, ease of service delivery to the citizens, and reduction in litigation due to poor record-keeping.

#### **Criticism:**

- Few Political Parties have argued that the newly-introduced Land Grant Rules-2022 will push six to seven lakh people into the unemployment bracket and will only pave the way for millionaires and capitalists from outside to buy hotels and commercial establishments in J&K.
- It is argued that fresh Land Grant Rules-2022 will end the rights of present owners and sell it at market price. No local businessman has purchasing power compared to millionaires and billionaires from the rest of the country.
- The removal of domicile needs is seen as an attempt change the demography of the region.

#### **Government's view:**

- Lieutenant Governor claimed that the land laws in J&K were regressive and were not framed keeping in view the interests of the common masses. Around 40% - 45% cases in various courts are due to land disputes only.

## **When Courts go on Vacation**

**News:** CJI D Y Chandrachud said that the SC will not have a Vacation Bench when it breaks next week for its annual winter vacation.

#### **Background:**

- The announcement came a day after the Union Law Minister Kiren Rijju criticized the long vacations of the court and the inconvenience it caused to litigants even as pending cases rise to record levels every year.
- According to an SC's earlier circular, a senior SC Registry official is specially deputed as a 'Vacation Officer,' who could be approached in matters seeking urgent relief and in such instances, a Bench would be constituted if required.

#### **What are court vacations?**

- The SC has 193 working days a year for its judicial functioning, while the HCs function for approximately 210 days and trial courts for 245 days.
- The SC breaks for its annual summer vacation which is typically for seven weeks (May-July), a week-long break each for Dussehra and Diwali and two weeks at the end of December.

#### **What happens to important cases during court vacations?**

- The Supreme Court Rules, 2013, provides that the CJI may appoint one or more Judges to hear during vacation (vacation benches) all matters of an urgent nature (bail, eviction, etc.) and s/he may likewise appoint a Division Court for the hearing of urgent cases.
- It is not uncommon for courts to hear important cases during vacation. For example, in 2015, a five-judge Bench of the SC heard the challenge to the constitutional amendment setting up the NJAC during the summer vacation and in 2017 a 6 day hearing was taken up in the case challenging the practice of triple talaq during summer vacation.

#### **Why are court vacations criticized?**

- For an ordinary litigant the vacations mean further unavoidable delays in listing cases.

- The colonial origins of the practice are not lost on the critics as it were the European judges of the Federal Court of India who used to take breaks as they found Indian summers too hot and took the winter break for Christmas.
- In 2000, Justice Malimath committee, suggested that the period of vacation should be reduced by 21 days, keeping in mind the long pendency of cases. It suggested that the supreme court work for 206 days, and high courts for 231 days every year.
- In 2014, when pendency of cases hit the 2 crore mark, then CJI R M Lodha had suggested keeping the SC, HC and Trial courts open round the year. He suggested that schedules of individual judges should be sought at the beginning of the year and the calendar be planned accordingly.

#### **What are the arguments in favor of court vacations?**

- The judges do not take leave of absence (family tragedies, and health are rare exceptions) like other working professionals when the court is in session.
- In a profession that demands intellectual rigor and long working hours, vacations are needed for rejuvenation.
- It is argued that the judges utilize the vacation to write judgments.
- Cutting the vacation period would be a solution to pendency that is not backed by data.
- The issue of pendency relates largely to legacy cases that need to be tackled systemically.

#### **What is the practice in other countries?**

- The Indian Supreme Court has the highest caseload among the apex courts around the world and also works the most. For example, with 34 judges in 2021, 29,739 cases were instituted before the SC and 24,586 cases were disposed of in the same year.
- By contrast, the US Supreme court hears approx. 100-150 cases a year, and sits for oral arguments for 5 days a month.
- While in the UK, High Courts and Courts of Appeals sit for 185-190 days a year.

## **Recusal of Judges**

**News:** A Supreme Court (SC) judge recused herself from hearing a writ petition filed by Bilkis Bano against a Gujarat government decision to prematurely release 11 men sentenced to life imprisonment for gang-raping her during the 2002 riots.

#### **What is Recusal?**

- It is the act of abstaining from participation in an official action such as a legal proceeding due to a conflict of interest of the presiding court official or administrative officer.

#### **Are there any rules for recusal?**

- There are no formal rules governing recusals, although several SC judgments have dealt with the issue.
  - In *Ranjit Thakur v Union of India* (1987), the SC held that the test of the likelihood of bias is the reasonableness of the apprehension in the mind of the party. The judge needs to look at the mind of the party before him, and decide that he is biased or not.

#### **What can be reasons for recusal?**

- When there is a conflict of interest, a judge can withdraw from hearing a case to prevent creating a perception that he carried a bias while deciding the case.
- The conflict of interest can be in many ways. For example, having a prior or personal association with a party involved in the case, if the judge has already appeared for one of the parties involved in a case, an appeal is filed in the SC against a judgement of a High Court (HC) that may have been delivered by the SC judge when he was in the HC etc.

- The practice stems from the cardinal principle of due process of law that nobody can be a judge in her own case. Any interest or conflict of interest would be a ground to withdraw from a case since a judge has a duty to act fair.

#### **What process is followed?**

- The decision to recuse generally comes from the judge himself as it rests on the conscience and discretion of the judge to disclose any potential conflict of interest. Some judges orally convey to the lawyers involved in the case their reasons for recusal, many do not. Some explain the reasons in their order.
- In some circumstances, lawyers or parties in the case bring it up before the judge. Once a request is made for recusal, the decision to recuse or not rests with the judge. While there are some instances where judges have recused even if they do not see a conflict but only because such an apprehension was cast, there have also been several cases where judges have refused to withdraw from a case.
- When a judge recuses, the case is listed before the Chief Justice for allotment to a fresh bench.

#### **What are concerns of regarding recusal?**

- It allows litigants to cherry-pick a bench of their choice, which impairs judicial fairness. Also, the purpose of recusal in these cases undermines both independence and impartiality of the judges.
- Some requests for recusal are made with the intent to intimidate the court or to get better of an 'inconvenient' judge or to obfuscate the issues or to cause obstruction and delay the proceedings or in any other way frustrate or obstruct the course of justice.
- As there are no rules to determine when the judges could recuse themselves in these cases, there are different interpretations of the same situation.

#### **Way Forward:**

- Recusals should not be used as a tool to manoeuvre justice, as a means to pick benches of a party's choice, and as an instrument to evade judicial work.
- Judicial officers must resist all manner of pressure, regardless of where it comes from and if they deviate, the independence of the judiciary would be undermined, and in turn, the Constitution itself.
- Need of the hour is for a rule that determines the procedure for recusal on part of judges should be made at the earliest.

## **OROP**

**News:** The Union Cabinet has approved a pending pension revision for pensioners from the armed forces and their families under the One Rank One Pension (OROP) scheme which has been delayed since July 2019.

#### **Background:**

- The OROP scheme envisages revision of pension once every five years. The re-fixation of pension was to be done in the year 2019, but the matter was pending in court at the time.
- The OROP has been revised with effect from July 1, 2019 and the arrears will be paid for the period July 2019 to June 2022.

#### **What is OROP?**

- OROP implies a uniform pension for defense personnel retiring in the same rank with the same length of service, regardless of their date of retirement.

#### **Why was it needed?**

- In view of the need of the defense forces to maintain physical fitness, efficiency and effectiveness, personnel retire at an early age compared to other agencies of the government.
- A sepoy in the army and equivalent rank in navy and air force retire after 17-19 years of service and officers retire before attaining the age of 60 years.

- Before the implementation of OROP, the computation of pension was linked to the pay drawn by the personnel in a particular pay scale at the time of his/her retirement.
  - Pay scales were revised to the higher side generally on the recommendation of Pay Commissions. As such, the personnel retiring after the revision of the pay scales got more pension than those who had already retired. Hence, the gap remained in the pension of the past and present retirees.
  - OROP bridges this gap between the rates of pension of current and past pensioners at periodic intervals.
- The OROP scheme was implemented with retrospective effect from July 1st, 2014 with 2013 as the base year.

## CAG report on Assam NRC

**News:** Recently, the Comptroller and Auditor General of India (CAG) has detected large-scale anomalies in the updating of the National Register of Citizens (NRC) in Assam.

### Background:

- An NRC was first created in 1951 in Assam to identify those born in India and migrants from erstwhile East Pakistan, now Bangladesh.
- In 2013, the Supreme Court issued directions to the Centre and State to initiate an exercise in Assam to update the 1951 register.
- The order was based on a petition filed by an NGO named Assam Public Works.
- The first draft was released in 2018 and the final list, published in 2019, included those who could establish their Indian citizenship by being residents or descendants of people living in Assam before March 25, 1971 (the cut-off date for deportation of foreigners as per the Assam Accord of August 1985).
- As many as 19.06 lakh people out of 3.3 crore applicants were excluded due to a lack of adequate documents to prove their citizenship. Several parties dismissed the final list as “faulty”.
- Three years later, the process is on pause as the Registrar General of India (RGI) is yet to notify the final list.

### What are concerns raised by CAG?

- Irregularities in use of funds - At the time, the process to update the NRC was started in December 2014 with a deadline for completion in February 2015 and the project cost was pegged at Rs. 288.18 crores. There was, however, a five-fold increase in the cost by March 2022 due to additional time to complete it and changes in the update software.
- As for irregularities, the CAG found that the number of wages paid to the outsourced staff was 45.59%-64.27% less than what was approved by the NRC coordination committee.
- In the NRC update process, a highly secure and reliable software was required to be developed, however, lack of proper planning was observed in this regard to the extent of 215 software utilities were added in a haphazard manner to the core software.

### Recommendations of CAG:

- The country’s top auditor sought penal measures against Wipro Limited for violating the provisions of the Minimum Wages Act, 1948 and for paying data operators less than minimum wages. Information technology firm Wipro Limited was entrusted with one of the prime software installation companies by the NRC Directorate.
- Secondly, the report recommended action against the State Coordinator of National Registration (SCNR) for “excess, irregular and inadmissible payments”. The CAG also recommended fixing accountability of the SCNR as the principal employer for “not ensuring compliance with the Minimum Wage Act”.

## e-Sports gets official recognition

**News:** Recently, the President of India amended the regulations governing eSports and requested that the Sports Ministry and the Ministry of Electronics and Information Technology include "eSports in multi-sport events."

### What is E-sports?

- Esports (Electronic Sports) is a competitive sport where gamers use their physical and mental abilities to compete in various games in a virtual, electronic environment. For example - Counter Strike, League of Legends, Overwatch, Fortnite, DOTA 2, FIFA.
- There had been a growing demand for Esports to be included in the curriculum of multi-discipline events after it was included in the 2018 Jakarta Asian Games.
- This has encouraged E-sport enthusiasts and has come as a shot in the arm for Esports enthusiasts in India. India had also won a bronze medal in 2018 Asian Games, where esports was included as a demonstration title.
- It has received its sporting recognition from the International Olympic Committee (IOC), which is the apex body of sports along with Olympic Council of Asia (OCA), Commonwealth Games etc. IOC organized Virtual Olympic Series (Esports Tournament), before the Tokyo Olympics 2020; Esports has been included in OCA events since 2007. Esports is a medal sports in Asian Games 2022.
- In a similar effort to popularize e-Sport, the International Olympic Committee (IOC) has announced that Singapore will host the inaugural Olympic Esports Week in June, 2023.

#### Which is the nodal ministry?

- E-Sports will be taken care of by the **Department of Sports under the Ministry of Youth Affairs and Sports**. While 'Online Gaming' will be overseen by MEITY (Ministry of Electronics and Information Technology).

#### Which countries have recognized it as sport?

- US, Finland, and Germany have acknowledged esports as a sport.
- The very first few nations (along with South Korea) to recognize esports as a sport were China and South Africa. Russia, Italy, Denmark, and Nepal have also joined.
- Ukraine officially recognized esports as a sport in September of 2020.

## Good Governance Day

**News:** Good Governance Day is marked on 25<sup>th</sup> December in the memory of Birth anniversary of Former PM Shri Atal Bihari Vajpayee. The day is meant to foster awareness among citizens about government accountability and administration.

#### About Shri Atal ji:

- Atal Bihari Vajpayee was born on December 25, 1924 in Gwalior, present-day Madhya Pradesh.
- A poet-politician, he joined the Rashtriya Swayamsevak Sangh (RSS) in 1939, becoming a pracharak (full-time worker) in 1947.
- He held his first major national position as the External Affairs Minister in Morarji's post Emergency government in 1975. While that government soon fell (in 1977), Vajpayee had earned major plaudits for his tenure, with his UN General Assembly speech in Hindi drawing praise from all quarters.
- Under his tenure as the PM, India formally became a nuclear power despite significant criticism from the West, ably faced war and peace with Pakistan, undertook massive public welfare projects including Sarva Shikshya Abhiyaan and PM Gramin Sadak Yojana, and ushered in a new era of foreign investment and international relations, especially with the US.

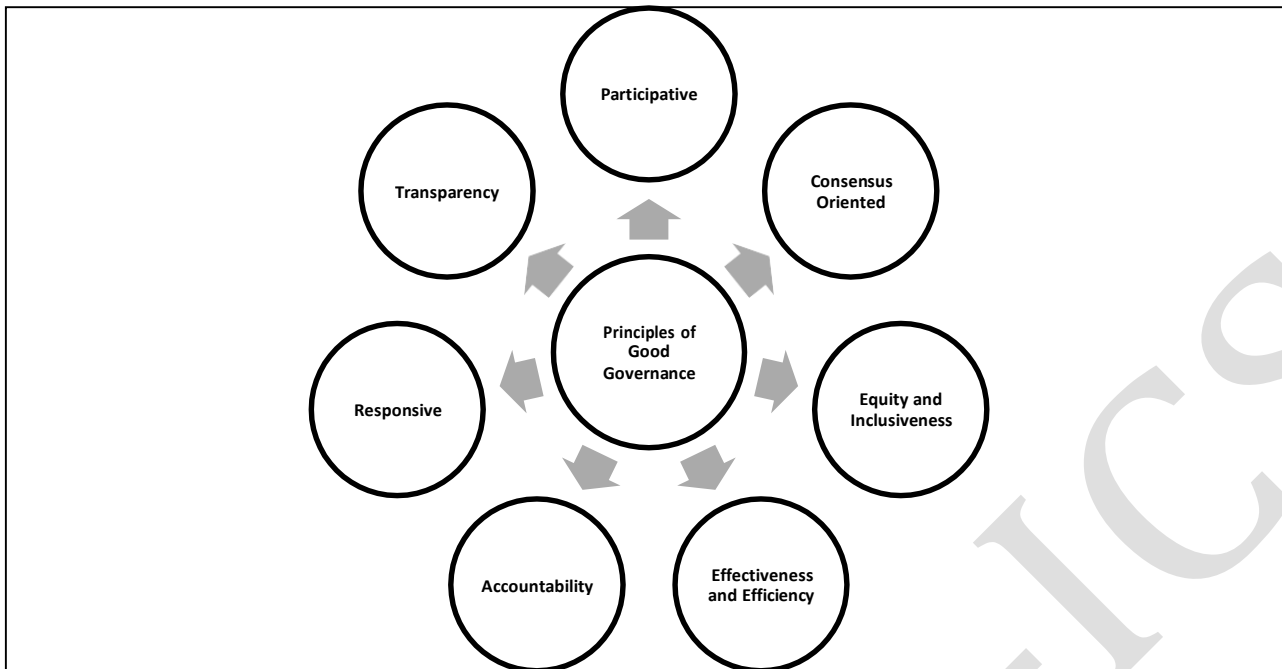
#### Why do we celebrate Good Governance Day?

- First was to commemorate the life of Shri Atal Bihari Vajpayee.
- To use the day as a way to increase awareness of government services and accountability among people and inculcate "good governance" as a habit for civil servants.
- A major push, in this regard, was to promote "e-Governance" with the official slogan for the event being "Good Governance through e-Governance."

#### What is Good Governance?

- In the 1992 report entitled "Governance and Development", the World Bank set out its definition of Good Governance. It defined Good Governance as "the manner in which power is exercised in the management of a country's economic and social resources for development".





### What are barriers to Good Governance?

- Inadequate representation of women in government institutions across platforms in India
- The high level of corruption in India has been widely perceived as a major obstacle in improving the quality of governance.
- Bureaucracies have to adhere to rules and procedures which are important for good governance, however sometimes these rules and procedures are ill-conceived and cumbersome and they do not serve the very purpose of their existence.
- As per the 2nd ARC report Civil Servants have become inflexible, self-perpetuating, inward-looking and very rarely disciplinary actions are initiated against delinquent officers. There is no performance evaluation structure.
- We do have adequate number of laws to protect the rights of citizens especially weaker sections of society but poor implementation of the same erodes the faith of the citizens in government institutions.
- The criminalization of the political process and the unholy nexus between politicians, civil servants, and business houses are having a baneful influence on public policy formulation and governance.

### Conclusion

- “Good” governance promotes gender equality, sustains the environment, enables citizens to exercise personal freedoms, and provides tools to reduce poverty, deprivation, fear, and violence.
- The UN views good governance as participatory, transparent and accountable. It encompasses state institutions and their operations and includes private sector and civil society organizations.

## Kerala University Laws (Amendment) Bills

**News:** Kerala Legislative Assembly recently passed University Laws (amendment) Bills to amend laws relating to the governance of State universities and remove the Governor as the Chancellor of State universities.

### Background:

- There was increasing tussle between the Governor and the State Government of Kerala for months now.
- It got worse when the Governor denied assent to the controversial Lok Ayukta (Amendment) and University Laws (Amendment) Bills earlier passed by the State Assembly.

- The worsening relationship between the State Government and governor reached a tipping point with the Supreme Court order invalidating APJ Abdul Kalam Technological University (KTU) Vice-Chancellor's (VC) appointment on the grounds that it violated University Grants Commission (UGC) regulations.
- Following this, the governor had sought the resignations of 11 other VCs on the ground that the government had appointed them through the same process deemed unlawful by the Supreme Court.

#### **About Amendment Bill:**

- The proposed legislation will amend the statutes of 14 universities established by legislative Acts in Kerala and remove the Governor as the Chancellor of those universities.
- The Bills will supplant the Governor and give the government power to appoint eminent academicians as Chancellors of various universities, thus ending the Governor's watchdog role in university administration.
- The Bills also provide provision to limit the term of the appointed chancellor to five years. However, it also says that the serving chancellor can be reappointed for another term.

#### **What are the favorable outcomes?**

- Earlier UGC Guidelines used to be mandatory for Central universities and "partially mandatory and partially directive" for State universities, had been made legally binding for all universities by way of recent rulings by the Supreme Court.
- Such precedence pointed towards a scenario in which the legislative powers of the Assembly on all subjects on the Concurrent List (of the Constitution) could be undermined through a subordinate legislation or an executive order issued by the Centre.
- It is said that the bill was brought in order to avoid legal tangles in future.

#### **Possible challenges:**

- If Chancellors were appointed by the Government, they would be indebted to the ruling front, thus leading to the erosion of Universities' autonomy.
- It may facilitate appointment of people close to the ruling front.
- This will lead to a scenario in which the governor can appoint only those who are close to the government.

#### **What were recommendations given by M. Anandkrishnan Committee?**

- M. Anandkrishnan Committee, set up by the Kerala State Higher Education Council in 2009, recommended that universities should have complete autonomy in academic and administrative matters.
- It is advisable to create statutory structures that would distance the Governor and Minister for Higher Education from the day-to-day administration of the universities.
- It is also recommended to immediately incorporate UGC Regulations, 2010 in the
- As recommended by the Punchhi Commission on Centre-State Relations, the Governor should not be burdened with positions and powers that are not specified in the Constitution and may cause controversy or public criticism.
- Governments should devise alternative means of protecting university autonomy so that ruling parties do not exercise undue influence on the functioning of universities.

# Social Justice

## Nai Chetna – Pahal Badlav Ki

**News:** Nai Chetana Campaign was launched by the Ministry of Rural Development on the occasion of **International Day for the Elimination of Violence Against Women** (November 25).

### About the Campaign:

- Nai Chetana is a gender campaign launched **in all Indian states under the National Rural Livelihoods Mission**.
- Over the next five years, this campaign seeks to build a common understanding and recognition of disadvantages and discrimination faced by women across all levels among community institutions, rural communities and government departments.
- **The theme** for this year's campaign is **Gender Based Violence**. It will be organized from November 25 to December 23 this year.
- This nationwide campaign aims to sensitize women, especially those in rural regions, about gender-based violence and make them aware about various institutional mechanisms that are available to help them address such violence.
- It is envisaged as a Jan Andolan (people's movement) to change the popular opinion that gender-based violence is normal. The campaign will help women identify violence meted out to them due to the normalization of gender-based discrimination and violence.
- It will create public awareness about redressed mechanisms for victims of violence.

### Who is implementing the Nai Chetna campaign?

- It will be implemented by all states in collaboration with Civil Society Organizations (CSO) partners, and actively executed by all levels including the states, districts and blocks, engaging the community institutions along with the extended community.
- The campaign will bring together all line departments and stakeholders to create a concerted effort in acknowledging, identifying and addressing the issues of violence.

## International Day of Persons with Disabilities

**News:** On the occasion of **International Day of Persons with Disabilities (December 3)**, WHO released a global report on Health equity for persons with disabilities (PwDs) which states people with disabilities have a higher risk of early death and illness compared to others.

### Key Findings:

- At present around 1.3 billion people or 1 in 6 people globally suffer from major disabilities.
- Many people with disabilities run the risk of premature death, which cannot be attributed to underlying health conditions but to preventable, unfair and unjust circumstances, due to systemic and pervasive health disparities.
- They are at a two-fold risk of contracting chronic illnesses like asthma, depression, diabetes, obesity, dental disorders and stroke.

### What are the reasons for poor health?

- Physical barriers such as lack of transportation or financial limitations prevent access to a health Centre.
- Hostile attitudes of healthcare providers.
- Non-comprehensible health information formats.

### What actions should we take to minimize health disparity?

- Computing the most recent data on PwDs will help in evidence-based policy-making.
- Discussions between countries, civil society groups, and advocacy groups to come out with best practices.

- Removing physical barriers and making the health sector disable-friendly.
- We can also include policy making keeping the elderly population in mind since they are equally likely to face disability issues going forward.

Addressing health inequities for PwDs benefits everyone. Therefore, it is important to ensure that PwDs engage fully and efficiently in all aspects of society.

## Nirbhaya Fund

**News:** Union Minister for Women and Child Development Smriti Irani has recently said that the government has set up over one thousand fast track courts in the country with the help of Nirbhaya Fund.

### About:

- Established in 2013, It was launched for implementation of initiatives aimed at enhancing the safety and security for women in the country.
- Established by Union Finance Ministry, it is a non-lapsable corpus fund.

### What are various schemes launched by Ministry of Women and Child Development under Nirbhaya fund?

- One Stop Centre Scheme (Sakhi Centres) - It is being implemented across the country since 1st April 2015. It aims at establishing Centres to facilitate women affected by violence. It provides First aid, Medical aid, Police assistance, Legal aid and counselling support.
- Women Helpline (181) - The Department of Telecommunication has allocated the number 181 to all States/UTs for Women Helpline. This helpline number will link the One Stop Centers being established by the Ministry of Women & Child Development.
- Mahila Police Volunteers (MPVs) - These will act as a link between police and community and help women in distress. Haryana launched the scheme in 2016, thereby becoming the first state to launch it.

### Schemes launched by other ministries:

- **Integrated Emergency Response Management System** - The project aims to provide round the clock security to women passengers in all Railway Stations by strengthening of Security Control Rooms of Railways with Security Helpline, Medical Facilities, RPF and police, installation of CCTV cameras, etc. Ministry in charge - Railways.
- **Emergency Response Support System (ERSS)** - ERSS envisages an integrated computer aided emergency response platform to respond to distress calls and ensure speedy assistance to the distressed persons. It aims to integrate all emergency numbers to 112 with state of art technology. Ministry in charge - Home affairs.
- **Central Victim Compensation Scheme (CVCF)** - It has been created with a corpus of Rs.200 crores under section 357A CrPC. It will support States/UTs in providing fund towards compensation to the victim or her dependents who have suffered loss or injury as a result of the crimes (including survivors of rape and acid attack). Ministry in charge - Home affairs.

## PM SVANidhi Scheme Extended

**News:** The Prime Minister Street Vendor's AtmaNirbhar Nidhi (PM SVANidhi) Scheme has been extended beyond March, 2022.

### Key Provisions of Extended scheme:

- Extension of lending period till December 2024.
- Introduction of 3rd loan of up to ₹50,000 in addition to 1st & 2nd loans of ₹10,000 and ₹20,000 respectively.
- Extension of 'SVANidhi Se Samridhhi' component for all beneficiaries of PM SVANidhi scheme across the country. 'SVANidhi Se Samridhhi' was launched in January 2021 to map the socio-economic profile of the PM SVANidhi beneficiaries and their families.

### About:

- The scheme was announced as a part of the Economic Stimulus-II under the Atmanirbhar Bharat Abhiyan.

- It has been implemented since 1st June 2020, for providing affordable working capital loans to street vendors to resume their livelihoods that have been adversely affected due to Covid-19 lockdowns.
- A total of 13,403 vending zones have been identified so far.
- 42 lakh street vendors are to be provided benefits under PM SVANidhi Scheme by December, 2024.
- It is a Central Sector Scheme (fully funded by Ministry of Housing and Urban Affairs) with the following objectives - To facilitate working capital loan, to incentivize regular repayment and to reward digital transactions

#### Eligibility criteria:

- The Scheme is available for beneficiaries belonging to only those States/UTs which have notified Rules and Scheme under Street Vendors (Protection of Livelihood and Regulation of Street Vending) Act, 2014. Beneficiaries from Meghalaya, which has its own State Street Vendors Act may, however, participate.
- The Scheme is available to all street vendors engaged in vending in urban areas. Earlier the Scheme was available to all street vendors engaged in vending on or before March 24, 2020.

## National Policy For Rare Diseases

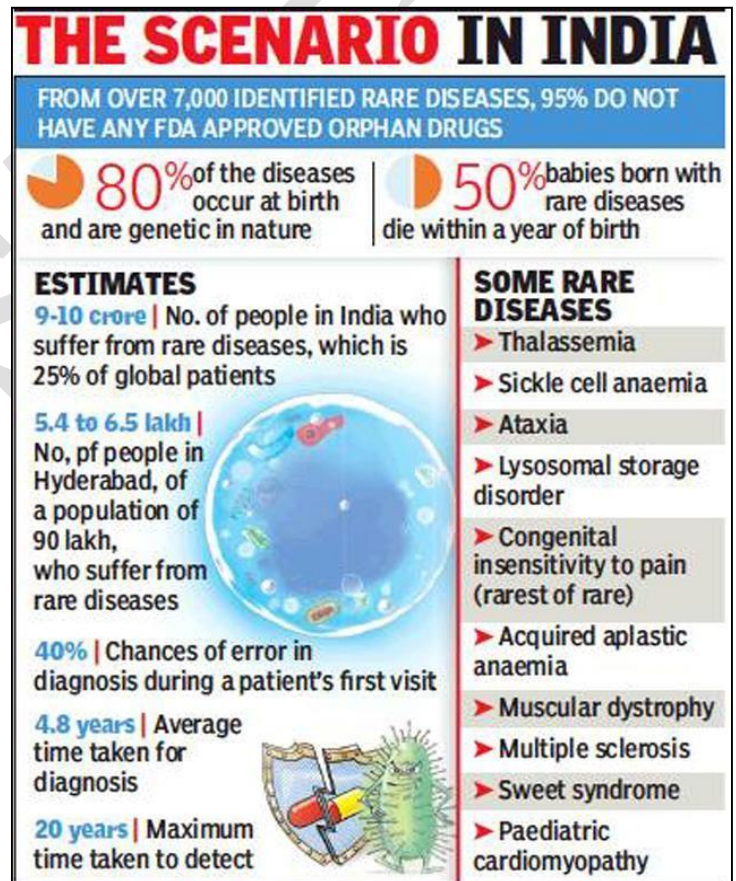
**News:** A Rajya Sabha MP raised concerns over National Policy of Rare Diseases (NPRD) recently in the parliament.

#### What is NPRD and Rare Diseases?

- A 'rare disease' is defined as a health condition of low prevalence that affects a small number of people when compared with other prevalent diseases in the general population. Many cases of rare diseases may be serious, chronic and life-threatening.
- There are 6,000-8,000 classified rare diseases, but less than 5% have therapies available to treat them. For example, Lysosomal Storage Disorders (LSD), Pompe disease, cystic fibrosis, muscular dystrophy, spina bifida, haemophilia etc.
- Ministry of Health and Family Welfare formulated launched NPRD in 2021 for the treatment of rare disease patients.
- It seeks to increase focus on indigenous research and local production of medicines, to lower the cost of treatment of rare diseases and to screen and detect rare diseases early at early stages, which will in turn help in their prevention.

#### Key Provisions:

- It involves categorization into 3 groups:
  - Group 1 - Disorders amenable to one-time curative treatment.
  - Group 2 - Those requiring long term or lifelong treatment.
  - Group 3 - Diseases for which definitive treatment is available but challenges are to make optimal patient selection for benefit, very high cost and lifelong therapy.
- Those who are suffering from rare diseases listed under Group 1 will have the financial support of up to Rs. 20 lakh under the umbrella scheme of Rashtriya Arogya Nidhi.



- The policy aims to strengthen tertiary health care facilities for prevention and treatment of rare diseases through designating eight health facilities as 'Centres of Excellence' and these will also be provided one-time financial support of up to Rs. 5 crores for upgradation of diagnostics facilities.
- A national hospital-based registry of rare diseases will be created to ensure adequate data and comprehensive definitions of such diseases are available for those interested in research and development.

## National Policy for Rare Diseases 2021 approved



- Provides for financial support upto Rs 20L to individuals with certain rare diseases that require one-time treatment.
- Assistance to be extended to not just BPL families, but to about 40% of the population who are covered under Pradhan Mantri Jan Arogya Yojana
- The financial support will be provided under the umbrella scheme of Rastriya Arogya Nidhi & not PM-JAY

## Gender Responsive Urban Mobility

**News: World Bank** recently launched a “Toolkit on Enabling Gender Responsive Urban Mobility and Public Spaces in India”.

- **Aim** – Recommend ways to make public transport in Indian cities more inclusive of women’s travelling requirements.

### Why Gender responsive planning?

- Mobility is the prerequisite to accessing goods and services, such as health, jobs, education, and leisure. Women face more restrictions to mobility, and their travel patterns differ from those of men. This is largely based on the double or triple burden they carry, juggling care and reproductive roles with income generating activities. They are also typically time poor and they generally have less time available to fulfill these roles than men.

### Need to review Urban mobility through Gender Lens:

- Women are amongst biggest users of public transport.
- Safety issues prevent women from stepping out.
- Barriers to women’s mobility actively restrict their choices around education and employment.
- Deep-rooted gender-based social norms actively restrict women’s movement outside their homes.
- Women bear a disproportionate burden of unpaid care work in India necessitating public transport solutions for the mobility of care
- Women face barriers in using public transport owing to gender-blind design elements during access and egress, waiting at stops and transfers, boarding and alighting, and inside the vehicle.
- Women are in higher risk of being victim of harassment and violence. Therefore, women have different requirements of transport systems and space.

### What are recommendations given in the new toolkit?

- Considering Gender element while developing comprehensive mobility plans.
- Incentive-based policies may be brought in by state governments to enable women’s workforce participation in the mobility sector
- Strengthen grievance redressal cells to fast-track sexual harassment complaints by commuters and users of public spaces, ensuring representation of women and persons of minority genders.
- Implementing agencies can consider digitizing ticketing systems and adopting a common mobility card through an integrated mobility system.
- Establishing Gender advisory committees to monitor planning implementation.

**The World Bank also suggests following a 4 pillared approach to help address issues in urban transport for women.**

#### THE KEY ASPECTS OF THE FOUR PILLAR FRAMEWORK .



##### ASSESS THE GROUND SITUATION

- Understand gender differences in mobility patterns
- Understand safety concerns and threat perception of public transport and public spaces
- Identify gaps in current policies, regulations, and legal frameworks
- Identify gaps in institutional capacity and assess prevailing mindsets to deliver gender-responsive programs



##### STRENGTHEN PLANNING AND POLICIES

- Integrate a gender lens in new and existing policies and plans
- Introduce gender inclusivity in decision making and key institutions



##### BUILD CAPACITY AND RAISE AWARENESS

- Mandate training and capacity building of duty bearers
- Forge partnerships for raising awareness and enabling community action through campaigns



##### IMPROVE INFRASTRUCTURE & SERVICES

- Enhance women's safety on public transport and spaces
- Apply a gender lens on infrastructure design and public transport services

## What is the Law on Acid attacks in India?

**News:** A 17-year-old girl was recently attacked with an acid-like substance in Delhi while she was on her way to school.

### What is the law?

- Acid attacks were not treated as separate crimes until 2013. However, acid attacks were put under a separate section (326A) of the IPC and made punishable with a minimum imprisonment of 10 years which is extendable to life along with a fine.
- The law also has provisions for punishment for denial of treatment to victims or police officers refusing to register an FIR.
- Denial of treatment can lead to imprisonment of up to one year and dereliction of duty by a police officer is punishable by imprisonment of up to two years.

### What steps were taken to regulate acid sales?

- In 2013, the SC took cognizance of acid attacks and passed an order on the regulation of sales of corrosive substances.
- As a result, the MHA issued an advisory to all states on how to regulate acid sales and framed the Model Poisons Possession and Sale Rules, 2013 under The Poisons Act, 1919.
- According to the MHA's directions and the model rules,
  - Over-the-counter sale of acid is not allowed unless the seller maintains a logbook/register.
  - The sale is also to be made only when the buyer produces a photo ID, to prove that s/he is above 18 years of age.
  - Sellers are also required to declare all stocks of acid with the concerned SDM and the SDM can confiscate the stock and impose a fine of Rs 50,000 for a breach of directions.
  - Educational institutions, research laboratories, hospitals, etc, are required to keep and store acid, to maintain a register of usage of acid.

### How prevalent are acid attacks in India?

- According to data compiled by the National Crime Records Bureau (NCRB), there were 150 such cases recorded in 2019, 105 in 2020 and 102 in 2021.
- West Bengal and UP consistently record the highest number of such cases generally accounting for nearly 50% of all cases in the country year on year.
- West Bengal and UP consistently record the highest number of such cases generally accounting for nearly 50% of all cases in the country year on year.

- The MHA asked states to frame their own rules based on model rules, as the matter fell under the purview of states.

### What about compensation to the victim?

- To make sure acid attack victims are paid compensation of at least Rs. 3 lakhs (Rs 1 lakh within 15 days and Rs 2 lakh within 2 months thereafter) by the concerned State Government/UT.
- To provide free treatment to acid attack victims in any hospital, public or private.
- To provide 1-2 beds in private hospitals for the treatment of underprivileged victims of acid attacks.
- To facilitate social integration programs to the victims for which NGOs could be funded to look after their rehabilitative requirements.

### Did the above provisions help?

- They might have helped in tracking the accused person but hasn't as such prevented the crime.
- Social attitudes are changing and the focus of the police in dealing with crimes against women is expected to cause deterrence.
- The implementation of the regulations is not very strict and acid is still easily available in many places.

### How have state government's framed their own laws?

- For example, The Shakti Criminal Laws (Maharashtra Amendment) Act, 2021 provides for more stringent provisions:
  - In cases of acid attacks, the punishment has been enhanced to a minimum of 15 years and extended to the remainder of the natural life of the perpetrator along with a fine.
  - The bail-in cases of acid attacks, rape and gang rape can be decided only by the sessions court and higher courts.
  - Grant of anticipatory bail in such cases has also been prohibited.

### Way Forward:

- The key to solving such problems will always remain in ambit of the society. We must create more awareness. Parents must teach their children the importance of boundaries and consent.

## National Policy to Combat Viral Diseases

**News:** According to a parliamentary committee report, a national policy to combat viral and other such diseases which have a pandemic potential is the need of the hour.

### Key Findings:

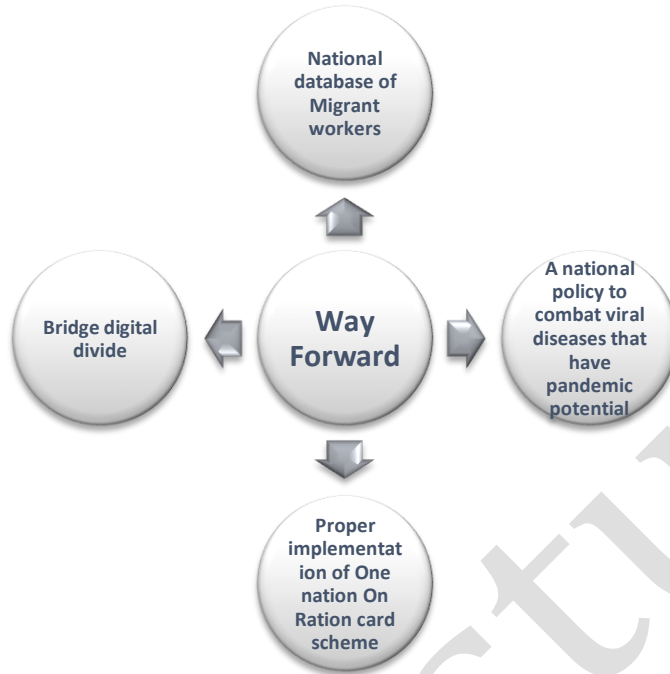
- The title of Report - **Covid-19 Pandemic - Global Response, India's Contributions and the Way Forward** emphasizes the necessity for mechanisms other than the Union Health Ministry's Crisis Management Plan and the National Disaster Management Authority of India's Guidelines on Management of Biological Disasters.
- The importance of regular surveillance measures, keeping in mind how quickly the SARS-CoV-2 virus mutates. So far, the Indian Council of Medical Research (ICMR) has conducted four Sero surveys at the national level.
- Sero surveys should continue on a regular basis, state-wise, with an increased sample size.
- The importance of keeping information/results of such surveys easily accessible is to spread awareness and modify behaviors to prevent community transmission of the virus.

### What were issues raised in report?

- The report talks about poor implementation of One Nation One Ration Card scheme.
- As the education system shifted to online during the pandemic, access to education became a challenge especially for poor and economically weaker sections in the society.



- It was observed that lack of financial literacy and awareness about various schemes created hurdles.
- Most importantly, it highlights poor implementation of the Aatmanirbhar Skilled Employee Employer Mapping (ASEEM) and the Skilled Workers Arrival Database for Employment Support. The Ministries of skill development, external affairs and civil aviation launched the two schemes to create a database of the skilled workforce returning to the country under the Vande Bharat Mission.
- It found that out of 7,16,662 workers who have returned from Gulf countries due to the COVID-19 pandemic, job connect has been established with only 7495 candidates.



# International Relations

## 4<sup>th</sup> India-France Annual Defense Dialogue

**News:** Recently, the 4th India-France Defense Dialogue was held in India.

### Key Highlights:

- Both countries discussed Defence Industrial Cooperation with a focus on 'Make in India'. A wide range of bilateral, regional and defence industrial cooperation issues were discussed during the dialogue.
- The discussions ranged from enhancing cooperation in areas of mutual interest to the maritime challenges in the IOR (Indian Ocean Region). France reaffirmed its engagement in the Indo-Pacific and India's centrality in the French strategy for the region.
- Both nations agreed upon their convergences on a number of "strategic and defence issues and shared the commitment to work together on enhancing cooperation in bilateral, regional and multilateral fora, with a focus on the Indo-Pacific region.

### How has India-France relations evolved over the years?

- France was one of the first countries with which India signed a "strategic partnership" after the end of the Cold War. France was one of the very few countries to support India's decision to test nuclear weapons in 1998.
- France also continues to steadfastly back India on Kashmir while its relations with Pakistan have plummeted in the recent past.
- The India-France Administrative Economic and Trade Committee (AETC) provides an appropriate framework to assess and find ways to further promote bilateral trade.
- According to statistics provided by the Department for Promotion of Industry and Internal Trade (DPIIT), France is the 11th largest foreign investor in India with a cumulative investment of USD 10.31 billion from April 2000 to June 2022.
- France has agreed to be part of India's Venus mission, scheduled for 2025.

### Defence and Military co-operation:

- Our three services have regular defence exercises with France. Exercise Varuna (Navy), Exercise Shakti (military) and Exercise Garuda (Airforce).
- The Intergovernment agreement for Rafale multi-role fighter jets.
- The two countries also signed the Agreement regarding the Provision of Reciprocal Logistics Support. It will help to facilitate the replenishment of fuel, rations, spares, and berthing and maintenance for the other nations' warships, military aircraft and troops during routine port calls, as well as during Humanitarian Assistance and Disaster Relief (HADR).
- Co-operation with India also provides strategic protection to France's overseas territorial possessions i.e. Re-union Island in the Indian Ocean Region.

### Way Forward:

- France, which has valued independent foreign policy, are natural partners in building the new coalitions for an uncertain era. France also opens the pathway for deeper engagement with Europe on global issues.

## Wassenaar Arrangement

**News:** Ireland recently handed over the Wassenaar agreement chairmanship to India and India will officially assume the chairmanship from 1st January, 2023.

### About:

- The Wassenaar Arrangement is a **voluntary export control regime**. The Arrangement, formally established in July 1996, has 42 members who exchange information on **transfers of conventional weapons and dual-use goods and technologies**. Dual-use refers to the ability of a good or technology to be used for multiple purposes - usually peaceful and military.
- Secretariat – Vienna, Austria

### Who are its members?

- 42 members primarily comprises of NATO countries and EU states.
- India became member in 2017. India joining the Wassenaar Arrangement implies that India is also recognised to have dual use technology. There is an exchange of notes when countries meet in such arrangements. So, India will gain access to high technology which will help to address the demands of its defense & space sectors.

### Key Objectives:

- The group works by regularly exchanging information in respect of technology, both conventional and nuclear-capable, that is sold to, or denied to countries outside the grouping. This is done through maintenance and updating of detailed lists of chemicals, technologies, processes and products that are considered militarily significant.
- It aims at controlling the movement of technology, material or components to countries or entities which undermine international security and stability.

### What is the Wassenaar Arrangement Plenary?

- It is the decision-making body of the Arrangement which is composed of representatives of all Participating States and normally meets once a year, usually in December.
- The position of Plenary Chair is subject to annual rotation among Participating States and all Plenary decisions are taken by consensus.

### What are other export control regimes?

- **Nuclear Suppliers Group** – Control of nuclear related technology.
- **The Missile Technology Control Regime (MTCR)** for the control of rockets and other aerial vehicles capable of delivering weapons of mass destruction.
- **The Australia Group (AG)** for control of chemical and biological technology that could be weaponized.

## China-Indian Ocean Region Forum

**News:** China International Development Cooperation Agency (CIDCA) convened the first, “China-Indian Ocean Region Forum”. It can be seen as the latest Chinese initiative focusing on the Indian Ocean Region (IOR).

- **Theme - ‘Shared Development: Theory and Practice from the Perspective of the Blue Economy’.**

### About:

- It is “the first high-level official development cooperation forum jointly held by China and countries in the Indian Ocean Region” and has “over 100 participants”.
- It issued a “Joint Press Statement” which noted - China “proposed to establish a marine disaster prevention and mitigation cooperation mechanism between China and countries in the Indian Ocean region”.
- China expressed its willingness to provide necessary financial, material, and technical support to countries in need.

### Who were the participants?

- The forum was said to be attended by “high-level representatives” from 19 countries, including, Indonesia, Pakistan, Myanmar, Sri Lanka, Bangladesh, Maldives, Nepal, Afghanistan, Iran, Oman, South Africa, and Australia.
- However, Australia and Maldives have emphasized that they did not participate officially.

## What is India's stand?

- According to CIDCA, India was invited to this forum and added that China “looks forward to meeting India at the next forum”.
- New Delhi has viewed China's recent moves in the region warily.
- India sees the Indian Ocean Rim Association (IORA) as an already established platform for the region.

## What is IORA?

- The association gains importance from the fact that the Indian Ocean carries half of the world's container ships, one-third of the world's bulk cargo traffic, and two-thirds of the world's oil shipments. It is a lifeline of international trade and transport and the Indian Ocean region is woven together by trade routes and commands control of major sea lanes.
- Established in 1997, it is a regional forum that seeks to build and expand understanding and mutually beneficial cooperation through a consensus-based, evolutionary and non-intrusive approach. IORA has 23 member states and 9 Dialogue Partners.
- Member states - Australia, Bangladesh, Comoros, France, India, Indonesia, Iran, Kenya, Madagascar, Malaysia, Maldives, Mauritius, Mozambique, Oman, Seychelles, Singapore, Somalia, South Africa, Sri Lanka, Tanzania, Thailand, the United Arab Emirates, and Yemen.
- China is a dialogue partner.
- Secretariat - Mauritius.

## India hosts Central Asia Security Meet

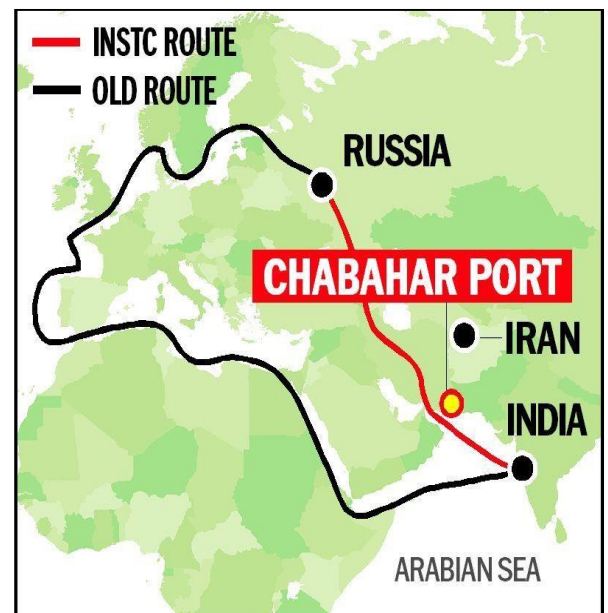
**News:** The National Security Advisor (NSA) of India, for the first time, hosted a special meeting with his counterparts from Central Asian countries - Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan.

### Key Highlights:

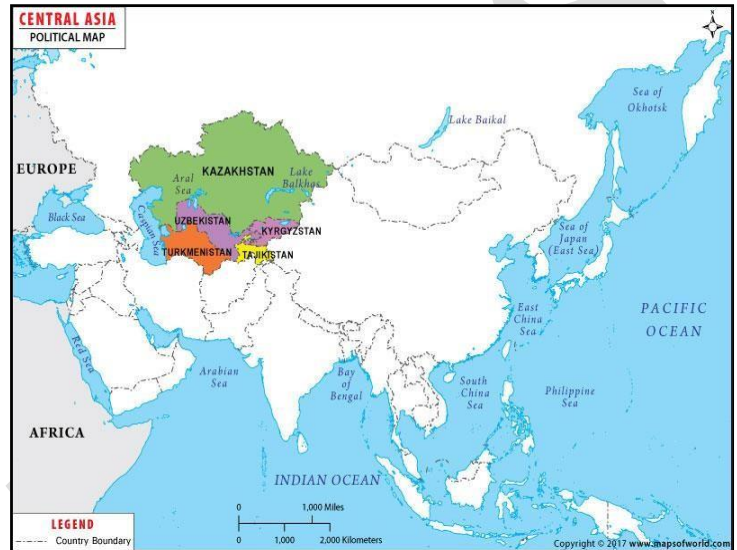
- This year was the 30th anniversary of the establishment of diplomatic ties between India and Central Asian countries.
- Support for a peaceful, stable, and secure Afghanistan, emphasizing respect for its sovereignty, unity, and territorial integrity and urging non-interference in its internal affairs.
- The participants supported India's proposal to include the Chabahar port within the framework of the International North-South Transport Corridor.
- The communique also called for the early adoption of the UN Comprehensive Convention on International Terrorism (CCIT), which India had first proposed in 1996.
- Deliberations over the need for collective and coordinated action against the “misuse of new and emerging technologies, arms and drugs trafficking, abuse of cyber space to spread disinformation and unmanned aerial systems”.
- During the summit, the leaders agreed to institutionalize the Summit mechanism by deciding to hold it biannually. An India-Central Asia Secretariat in New Delhi would be set up to support the new mechanism.

### Significance of Central Asia for India:

- We have historical and cultural ties that go back to ancient and medieval period. There was trade of goods, ideas and thoughts that would emanate from the silk route. Alexander of Macedonia, Kushans, Mughals are evidence of ties that we hold with Central Asian region.



- During Cold war we had vibrant economic and cultural ties when the Central Asian countries were a part of Soviet Union.
- We have a bilateral defense agreement with Tajikistan, civil nuclear cooperation with Kazakhstan.
- The Central Asian countries are endowed with commercially viable quantities of most minerals like coal, oil, gas, uranium, gold, lead, zinc, iron ore, tin, copper, manganese etc. Kazakhstan has so far supplied a total of 9,000 tons of uranium. The Turkmenistan-Afghanistan-Pakistan-India (TAPI) and Iran -Pakistan-India (IPI) pipeline projects ensure energy security for India.
- The region lies at the crossroads of Russia, the Middle East, South Asia and the Far East. Any geopolitical changes in the region inevitably extend their impact on several states in the neighborhood.
- Central Asia has huge cultivable areas lying barren. Uzbekistan alone offers an enormous opportunity for cultivation of pulses. Indian agribusiness companies can setup commercial agro-industrial complexes in Central Asia.
- Drug trafficking poses a great challenge to the region, hence it is of utmost importance to check the drug menace by engaging with the stakeholders in the region.
- Central Asia is a huge consumer market for a range of goods and services. Economic cooperation is possible through joint ventures in banking, insurance, agriculture, information technology, and the pharmaceutical industry.



### What can India do to engage better with Central Asian countries?

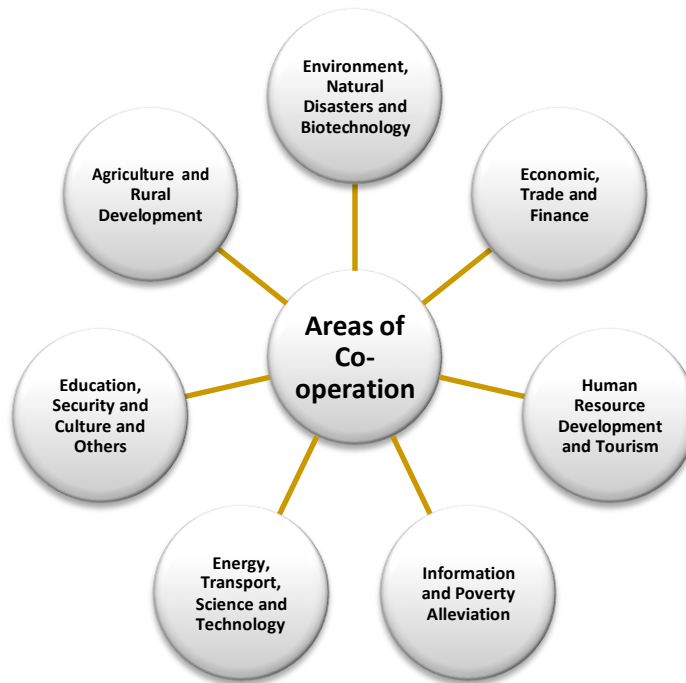
- Apart from annual exercises (like KAZIND with Kazakhstan), joint manufacturing, especially in the defence sector is highly required. An India-Central Asia Defence Expo could be looked into.
- India's rich experience in managing the local-self-government can also be helpful to Central Asian countries where mahalla culture (local self-government) is prevalent.
- Providing an alternative to China's image of an assertive nation, India can utilize its soft diplomacy to take a central role in Central Asian region.
- Lastly, India could take the initiative to set up an India-Central Asia Forum Summit on the lines of the India-Africa Forum Summit to discuss issues of mutual concern and to come up with concrete suggestions.

## SAARC Charter Day

**News: December 8** is commemorated as SAARC Charter Day. The SAARC was established with the signing of the SAARC Charter in Dhaka on 8 December 1985.

### Background:

- SAARC comprises of 8 Member States - Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka.
- Afghanistan joined SAARC at the 13th annual summit in 2005.
- Its secretariat is in Kathmandu, Nepal.
- The last SAARC summit was held in 2014 and subsequent summits could not be held after 2016 Summit scheduled in Pakistan got cancelled in the backdrop of terrorist attacks in Pathankot and Uri. SAARC **works on the principle of consensus** and the summit cannot be held if even one member decides not to attend.



### What is the need to revive SAARC?

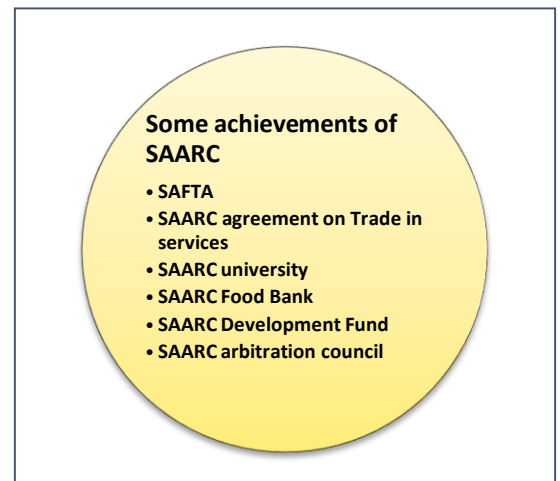
- SAARC, as an organization, geographically and culturally reflects the South Asian identity of the countries.
- India can judiciously employ it to serve its interests in the entire region.
- South Asian countries are closely tied in their socio-political state as they face similar issues such as terrorism, energy shortage, poverty, climate change among many others.
- As per World Bank report, with intra-regional trade at less than 5% of total trade, South Asia is the least integrated region in the world, when compared to East Asia's 35% and Europe's 60%.
- BIMSTEC is touted to be an alternative to SAARC but it has its limitations in so far as lacking a common identity and it primarily focuses on the Bay of Bengal region.

### Challenges faced by SAARC:

- South Asia continues to be an extremely poor and least integrated region in the world.
- Strained relationship between India and Pakistan is hampering the progress of the organization. Pakistan has developed an obstructionist approach with its non-cooperation on major initiatives like Motor Vehicles Agreement and SAARC satellite project.
- In SAARC Minister's Meeting 2019, India and Pakistan's ministers boycotted each other's speeches.
- SAARC does not have any dispute resolution mechanism.
- As mentioned above intra-regional trade between SAARC nations is minimal. For example, the South Asian Free Trade Agreement (SAFTA) is yet to be implemented in spirit. Lack of transit facilities also prevent trade relations to flourish.
- With political tensions and clashes nearby, the South Asian countries pose a query of insecurity and challenge to the creation of South Asian Union at balance with European Union.
- The organization has failed to evolve a common and comprehensive approach to counter terrorism.

### Way Forward:

- The grouping has unrealized potential which is clearly evident. It can thrive provided regional differences are kept aside, meetings be frequently held and focus on economic integration is given central stage.



## India assumes UNSC Presidency

**News:** Recently, India assumed the monthly presidency of the United Nations Security Council (UNSC).

### About:

- This is the second time of monthly presidency in India's two-year tenure as an elected member of the Council in 2021-22.
- India had earlier assumed UNSC presidency in August 2021.
- Under December Presidency we will host Two signature events at the ministerial level. 1) Reformed multilateralism and 2) Counter-Terrorism.

### Reformed Multilateralism

- India will hold a "high-level open debate" on "Maintenance of International Peace and Security: New Orientation for Reformed Multilateralism" at the Security Council.
- New Orientation for Reformed Multilateralism (NORMS) envisages reforms in the current multilateral architecture, with the UN at its centre, to make it more representative and fit for purpose. This open debate is intended to encourage UN member-states to take this conversation forward by deliberating on the elements of a new orientation for multilateralism, and on how best to move forward in this regard in a time-bound manner.

### Counter-Terrorism

- The theme of this event is "Threats to International Peace and Security Caused by Terrorist Acts: Global Approach to Counter Terrorism - Challenges and Way Forward"
- The threat of terrorism is grave, universal and transnational in character, this briefing intends to underscore the necessity of collective and coordinated efforts to combat the menace of terrorism.

### About United Nations Security Council:

- It is one of the UN's six main organs and is aimed at maintaining international peace and security.
- It held its first session on 17th January 1946 in Westminster, London.
- Headquarters - New York City.

### What about membership of UNSC?

- The Council is composed of 15 Members:
- Permanent members with veto power - China, France, Russia, the United Kingdom and the United States.
- Ten non-permanent members - Albania, Brazil, Gabon, Ghana, India, Ireland, Kenya, Mexico, Norway, United Arab Emirates. (More than 50 United Nations Member States have never been Members of the Security Council)

### How are members elected?

- Each year the General Assembly elects five non-permanent members (out of 10 in total) for a two-year term.
- The 10 non-permanent seats are distributed on a regional basis as follows:
  - Five for African and Asian States.
  - One for the Eastern European States.
  - Two for the Latin American and Caribbean States;
  - Two for Western European and other States
- To be elected to the Council, candidate countries need a two-thirds majority of ballots of the Member States that are present and voting in the Assembly.
- The UNSC elections were traditionally held in the General Assembly hall with each of the 193 member states casting its vote in a secret ballot.
- Since its inception, the UNSC has been enlarged only once Even after that, P-5 has remained fixed, which is problematic as the membership of the UN has grown almost four times since its formation.

### Criticisms of UNSC

- Veto power has been the exclusive domain of P-5 members, which has been questioned by a lot of members. Many countries have put question marks on the existence of veto, which is contrary to democratic principles.

- It has been accused of losing its credibility, relevance and questioned over its narrow leadership.
- Due to the differences among the P-5 and other countries, the UN is losing coherence and focusing on issues of priority to all member states.
- The council's lack of multilateralism has also been criticized in the wake of the Syrian war crisis, Covid-19 pandemic and Russia-Ukraine war.
- No veto rights leave the non-permanent members toothless as they cannot assert their will on any matter of international concern and can merely persuade or dissuade other member states.

## Urban 20

**News:** Under the G20, the presidency of India from December 01, 2022, to November 30, 2023, the Ministry of Housing and Urban Affairs is organizing the Urban 20 event.

### About:

- U20 is an important city diplomacy initiative, which reinforces the role of cities in taking the sustainable agenda forward.
- Urban-20 (U20), one of the Engagement Groups of G20, provides a platform for cities from G20 countries to facilitate discussions on various important issues of urban development including climate change, social inclusion, sustainable mobility, and affordable housing, and propose collective solutions.
- The U20 2023 Cycle will be chaired by the City of Ahmedabad
- The Urban 20 (U20) is a city diplomacy initiative launched on December 12, 2017, at the One Planet Summit in Paris.
- It aims to facilitate lasting engagement between the G20 and cities, raise the profile of urban issues in the G20 agenda, and establish a forum for cities to develop a collective message and perspective to inform G20 negotiations.
- C40 Cities (C40) and United Cities and Local Governments (UCLG) convene the U20 under the leadership of a Chair city that rotates annually, based in the G20 host country.
- Ahmedabad will showcase its unique urban development and climate change initiatives and rich culture and heritage to the participants.
- Resonating with India's G20 theme of 'Vasudhaiva Kutumbakam' – One Earth, One Family, One Future', U20 Ahmedabad will emphasize that actions at the city level can drive lasting positive global outcomes underscoring the interconnectedness of the world and our shared future. The effort of this cycle will be to move from 'intention to action' and draft a roadmap for closing the gaps between policy and practice to address critical urban issues.

### What are the priority areas for U20 event?

- Encouraging environmentally responsive behavior, ensuring water security Accelerating Climate Finance, Leveraging 'local' potential and identity, reinventing urban governance and planning frameworks and Catalyzing digital urban futures.

## India-China Trade Relations

**News:** Chinese Foreign Minister Wang Yi has recently said that China is ready to collaborate with India for 'sound and steady growth'.

### Background:

- The recent clash in Tawang had further strained already poor relations between the 2 nations.
- Popular sentiment has called for a more aggressive approach in dealing with China, amid calls for snapping of trade ties.
- Policy experts have pointed out India's persistent trade deficit with China. Even more concerning is India's dependence on China for some critical goods including pharmaceutical goods and electronics.

### What does recent trade data show?



- China is India's second biggest trading partner after the United States. In 2021-22, India-China bilateral trade stood at \$115.83 billion, which was 11.19 per cent of India's total merchandise trade of \$1,035 billion. The US was just a notch above, with 11.54 per cent (\$119.48 billion) share.
- While with the US, India had a trade surplus of \$32.85 billion during 2021-22, with China, it had a trade deficit of \$73.31 billion, the highest for any country. In fact, India's trade deficit with China during 2021-2022 was double the previous year's level (\$44.02 billion) and it was an all-time high.
- India's trade deficit with China has increased from \$1 billion to \$73 billion in the past 21 years.

#### **What do we buy from China?**

- The top commodities that India bought included: electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers and parts; nuclear reactors, boilers, machinery and mechanical appliances and parts of thereof; organic chemicals; plastic and plastic articles; and fertilisers.
- 'Personal computers' form the most valued Chinese item in Indian import basket, followed by 'monolithic integrated circuits-digital', lithium-ion, solar cells and urea.

#### **What do we export to China?**

- In 2021-22, India's exports to China stood at \$21.25 billion, which was 5 per cent of India's total shipments (\$422 billion).
- Among the top commodities China bought from India included: Ores, slag and ash; organic chemicals, mineral fuels, mineral oils and products of their distillation, bituminous substances, mineral waxes; iron and steel; aluminum and articles of thereof; and cotton.
- Among single items, light Naphtha was India's most valued export item to China during 2021-22.

#### **Why is there significant trade deficit with China?**

- Access to China's market is restricted. For example, China has placed certain regulations especially in pharma, agriculture and IT (where Indian companies have fared well).
- Chinese goods have cost competitiveness over India goods. Land acquisition in China is easy compared to India, labor cost is minimal etc.
- Demand for Chinese goods is robust. China produces a very wide range of goods, from raw materials and intermediate good to final finished products. Imports from China stretch across the board from capital goods to intermediaries to finished products.
- High trade deficit drains India's foreign exchange. Import of cheap Chinese goods limit expansion of India's domestic industry. Small manufacturers find it difficult to compete with Chinese goods and are forced to shut down.

#### **What steps can be taken to reduce Trade deficit?**

- We must focus on production of commodities where we have comparative advantage. For example, we have a strong and competitive chemical industry, and steps should be taken to produce APIs domestically.
- Around 36 sub-sectors have been identified where we can reduce our reliance on Chinese goods. Our domestic market can compete with Chinese goods here. We can make substantial additional investments here to reap long-term dividends.
- The Government should focus on lowering the cost of doing business including compliance costs, logistics cost, land acquisition costs etc.
- Both the private and public sectors in India require a comprehensive strategy to deal with China. Indian businesses and the government would benefit greatly from concerted efforts to collect data and insights about the Chinese markets.
- Lastly our focus should be on labor-intensive industries which will also create mass employment opportunities e.g., apparel and toys. The PM initiative to promote local toy market (Toy hackathon) is a praiseworthy initiative in that context.

#### **Way forward:**

- The continuing trade deficit with China is worrying however Government's vision for Aatmanirbhar Bharat coupled with policies that seek to promote manufacturing, make domestic goods more competitive are likely to ease problems in the long run.

# General Studies – 3

## **Economic Development**

1. Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment.
2. Inclusive growth and issues arising from it.
3. Government Budgeting.
4. Major crops-cropping patterns in various parts of the country, - different types of irrigation and irrigation systems storage, transport and marketing of agricultural produce and issues and related constraints; e-technology in the aid of farmers.
5. Issues related to direct and indirect farm subsidies and minimum support prices; Public Distribution System- objectives, functioning, limitations, revamping; issues of buffer stocks and food security; Technology missions; economics of animal-rearing.
6. Food processing and related industries in India- scope' and significance, location, upstream and downstream requirements, supply chain management.
7. Land reforms in India.
8. Effects of liberalization on the economy, changes in industrial policy and their effects on industrial growth.
9. Infrastructure: Energy, Ports, Roads, Airports, Railways etc.
10. Investment models.

## **Technology**

11. Science and Technology- developments and their applications and effects in everyday life.
12. Achievements of Indians in science & technology; indigenization of technology and developing new technology.
13. Awareness in the fields of IT, Space, Computers, robotics, nano-technology, bio-technology and issues relating to intellectual property rights.

## **Environment & Bio-diversity**

14. Conservation, environmental pollution and degradation, environmental impact assessment.

## **Disaster Management & Security**

15. Disaster and disaster management.
16. Linkages between development and spread of extremism.
17. Role of external state and non-state actors in creating challenges to internal security.
18. Challenges to internal security through communication networks, role of media and social networking sites in internal security challenges, basics of cyber security; money-laundering and its prevention.
19. Security challenges and their management in border areas - linkages of organized crime with terrorism.
20. Various Security forces and agencies and their mandate.

# Economic Development

## How to read Q2 GDP Data?

**News:** The Ministry of Statistics and Programme Implementation released India's economic growth data for the second quarter (July-Sept – Q2) of FY 2022-23.

**Instructions – The article presents very important data and crucial concepts of GDP and GVA. You are recommended to write down some of the data in your notes.**

### Key Highlights:

- India's Gross Domestic Product (GDP) grew by 6.3% in Q2 on a year-on-year basis. In other words, it was 6.3% more than the GDP in the same months in 2021.
- MOSPI also reported that India's Gross Value Added (or GVA) in Q2 grew by 5.6% on a year-on-year basis.
- Notably, India remained the fastest-growing major economy as China registered an economic growth of 3.9% in July-September 2022.

### What do GDP and GVA mean?

- GDP and GVA are the two main ways to ascertain the country's economic performance. Both are measures of national income.
- The **GDP** measures the monetary measure of all "final" goods and services those that are bought by the final user which are produced in a country in a given period. The GDP looks at **who spent how much** which is why GDP captures the total "**demand**" in the economy.

### What are the key engines of GDP growth?

- All the money Indians spent for their private consumption (that is, Private Final Consumption Expenditure or PFCE)
- All the money the government spent on its current consumption, such as salaries [Government Final Consumption Expenditure or GFCE]
- All the money spent towards investments to boost the productive capacity of the economy. This includes business firms investing in factories or the governments building roads and bridges [Gross Fixed Capital Expenditure]
- The net effect of exports (what foreigners spent on our goods) and imports (what Indians spent on foreign goods) [Net Exports or NX].

### What is GVA?

- The GVA calculates the same national income from the supply side. It does so by adding up all the value added across different sectors.
- According to the RBI, the GVA of a sector is defined as the value of output minus the value of its intermediary inputs. This "value added" is shared among the primary factors of production, labour and capital.
- By looking at the GVA growth one can understand which sector of the economy is robust and which is struggling.

### How are the two related?

- When one is looking at quarterly data, it is best to look at GVA data because it is this which is the observed data. The GDP is derived by looking at the GVA data.
- The GDP and GVA are related by the following equation:  $GDP = (GVA) + (\text{Tax es earned by the government}) - (\text{Subsidies provided by the government})$
- As such, if the taxes earned by the government are more than the subsidies it provides, the GDP will be higher than GVA.
- The GDP data is more useful when looking at annual economic growth and when one wants to compare the economic growth of a country either with its growth in the past or with another country.

## Key inferences from GVA Data:

- Biggest setback is the contraction in manufacturing sector. In Q2, manufacturing GVA **declined by 4.3%**. It is significant as manufacturing carries huge potential for job creation and can soak up excess labour from agriculture sector.
- Agriculture provides positive updates as far as GVA is concerned. The sector (along with fisheries and forestry) has done better than expected by growing at 4.6% per cent.
- Mining and quarrying has contracted by 3.5%.
- 15% growth is observed in services such as trade and hotels. However, it compared it to pre-COVID level, the growth is barely over 2 percent.

## Key inferences from GDP Data:

- **Private consumption expenditure** is the most important driver of GDP growth, incentivizing businesses to make new investments. It typically contributes over **55% of India's total GDP**.
- **Expenditures towards investments** are second biggest contributors to the GDP, accounting for **around 33%** of the total.
- The biggest surprise however is the **contraction** in the **government final consumption expenditures**. While these types of expenditure account for just about **10-11% of GDP**, they have the ability to boost the economy when consumers and businesses reduce spending.

## E-Rupee

**News:** India launched its e-Rupee on Thursday (December 1). The Reserve Bank of India's Central Bank Digital Currency (CBDC) is an electronic version of cash, and will be primarily meant for retail transactions.

### Background:

- The pilot will initially cover the four cities of **Mumbai, New Delhi, Bengaluru, and Bhubaneswar**.
- Four banks will be involved in the controlled launch of the digital currency in these four cities: **State Bank of India, ICICI Bank, Yes Bank, and IDFC First Bank**.

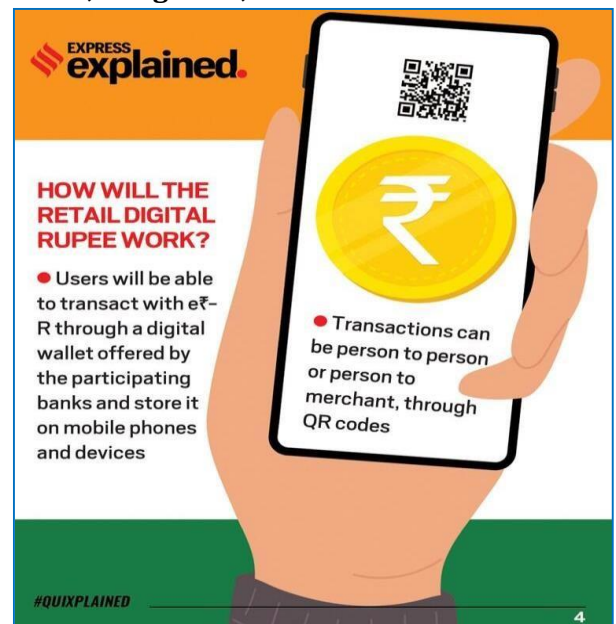
### What is the Retail Digital Rupee?

- The RBI said : "CBDC is the legal tender issued by a central bank in a digital form. It is the same as a fiat currency and is exchangeable one-to-one with the fiat currency. Only its form is different."

### Why do we need Digital Rupee?

- To boost innovations in Cross-border payments. It will help overcome key challenges relating to time zones, exchange rate differences as well as regulatory requirements across jurisdictions.
- To reduce operational costs in managing physical cash and bring efficiency in payments systems. For the year 2020-21, cost incurred on printing money in India was more than Rupees 4900 crore.
- To quell concerns over money laundering, terror financing, tax evasion with private cryptocurrencies like Bitcoin, Ether.
- Feature of CBDC like offline functionality, universal access devices, compatibility across multiple devices etc shall make financial services more accessible to unbanked and underbanked population in India.
- It will further the cause of digital payment.
- CBDC can facilitate easy implementation of smart contracts for direct cash transfer to the farmers in India thereby ensuring transparency.

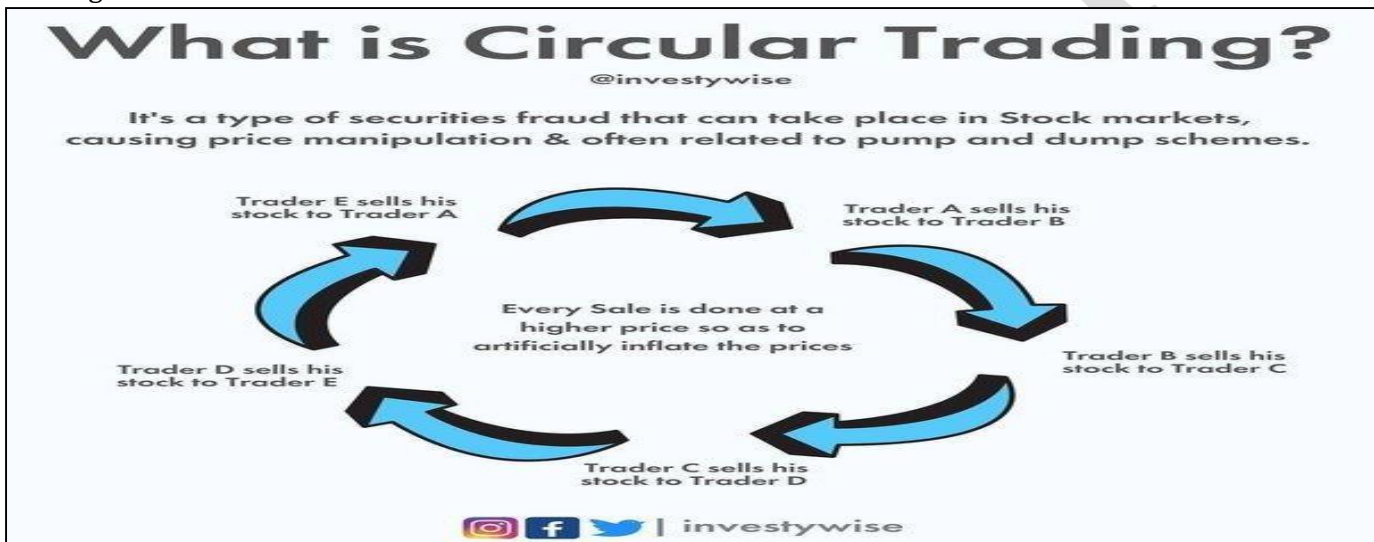
### Challenges:



- CBDC ecosystems may be at similar risk for cyber-attacks as the current payment systems are exposed to.
- Additionally, with lower financial literacy levels, the increase in digital payment related frauds may also spread to CBDCs.
- CBDC may lead to withdrawal of deposits from banks. This may harm the commercial prospects of banks where deposits form a vital source of income for banks. Additionally, their ability of credit creation gets constrained which in turn will lead to an increase in cost of credit.
- Without proper international collaboration and common framework, the ability of policymakers to track cross-border flows will be limited.
- Lower level of technology adoption may limit the reach of CBDCs and add to existing inequalities in terms of accessing financial products and services.

## Circular Trading

**News:** The issue of circular trading could be taken up by the Goods and Services Tax (GST) Council in its upcoming meeting.



### About Circular Trading and its forms:

- Circular trading refers to fraudulently availing input tax credit by traders by issuing of invoices without availing any real goods or service.
- In simple words, circular trading refers to the transaction of selling and buying of goods (without actual movement of goods) through shell companies.
- Circular trading is a circular which is being formed by a group of companies engaging themselves in fake sales transaction by producing fake sale invoices.
- The main objective of circular trading is inflating turnover of the business. However, through Circular trading, companies may also aim to:
  - To increase the valuation of the company/business;
  - To benefit higher loans from the Banks or Non-Banking Financial Corporation (NBFC)
  - To bring black money into the system
  - To avail fake input tax credit.

Ministry of Finance  
Government of India

75 Azadi Ka Amrit Mahotsav

**GST Scam Alert**

Circular trading, without supply of goods/services, is a punishable offence under CGST Act; attracting fine/penalty and/or imprisonment

**GST OFFICERS ARREST TWO MORE FOR INVOLVEMENT IN FAKE ITC RACKET**

NEW DELHI: GST intelligence officers of Guwahati Unit has arrested two more persons — a chartered accountant and a dealer — for alleged involvement in the Rs. 176 crore input tax credit racket, the Finance Ministry said.

#IndiaA175 #AmritMahotsav

@cbic\_india www.cbic.gov.in @cbicindia @cbic

## India's slowing exports

**News:** India's exports declined about 16.7% in October 2022 compared with the same period 2021, raising concerns over slowing exports.

### Background:

- For October, USD 2 billion worth of exports declining was seen in steel and allied products.
- Electronic goods exports remained among a handful of segments to witness a rise in exports growing about 38% to USD 1.8 billion.
- This is the first slide reported for any month since February 2021.
- The October imports rose at a much milder pace than earlier, most likely because of softening commodity prices worldwide, resulting in the widening of the trade deficit by 50%.

### Reasons behind slow Export Growth:

- Engineering goods (the backbone of India's merchandise exports previously), fell by 21%. The Engineering Export Promotion Council of India attributed the slowdown to – High inflation in developed regions, falling demand in China, the slowdown in the EU and the U.S., The Russia-Ukraine war and tightening of monetary policy.
- Recent trade war between the US and China and other global trade wars has impacted growth all over the world. It has impacted manufacturing and exports in different parts of the world, including the Indian economy too.
- Oil export growth fell to -11.4% y-o-y from 43.0% in September 2022, partly reflecting lower global crude oil prices, while non-oil exports plunged -16.9% y-o-y, with the decline broad-based across iron ore, handicrafts, textiles, some agricultural goods, plastics, gems & jewelry, engineering goods, chemicals, pharmaceuticals and leather goods.
- It was also noted that many workers took leave in festive Diwali season which also contributed to fall in exports.

### How have other nations fared?

- Vietnam, an export-dominated country, recorded a 4.5% growth in exports from a year earlier to USD 29.18 billion amid 'sustained foreign demand'.
- Exports by the Philippines grew 20% in October, 2022. The government there had said that exports rose for the first time in three months in September amid what it calls 'signs of reviving foreign demand'.
- China is an exception this year (registering a decline in export growth) due to harsh lockdowns affecting its manufacturing output.

### Are there any positive signs for Indian economy?

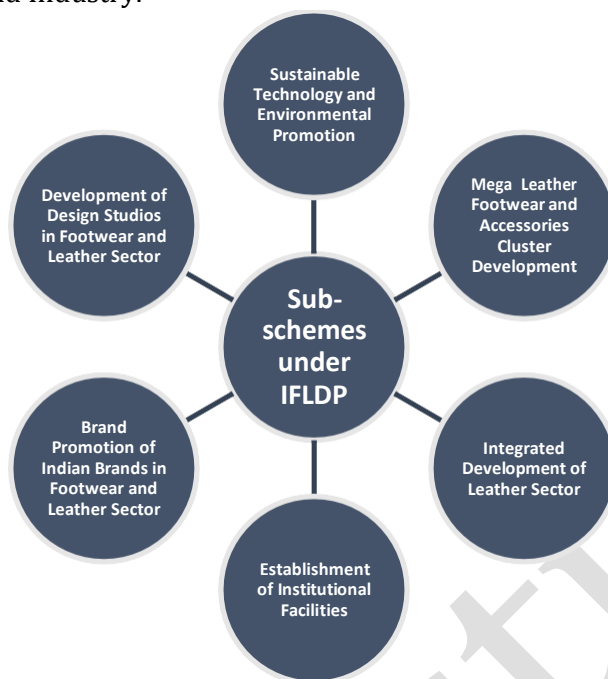
- Despite the slowing export scenario, it is likely that domestic demand will carry through.
- The investment cycle will be reinvigorating which will spur growth and job creation in the coming days.
- The private sector capital expenditure, on track to touch six lakh crores this fiscal, would be the highest in the last six years. The private Capex typically depends on credit or loans, from the banking system.
- Inflation has been driven by local factors including higher food prices, than imported reasons. However, retail inflation, which has been consistently above 7% in the past few months, stood at 6.8% in October.

## Indian footwear and Leather Development Programme

**News:** The Union Government has approved the continuation of the Scheme 'Indian Footwear and Leather Development Programme (IFLDP)' till 31st March 2026 or till further review.

## About:

- It is a Central Sector Scheme, which aims at development of infrastructure for the leather sector, address environmental concerns specific to the leather sector, facilitate additional investments, employment generation and increase in production.
- It was launched by Department for Promotion of Industry and Internal Trade under the Ministry of Commerce and Industry.



## Few Facts about Leather Industry in India:

- The Leather industry in India accounts for around 13% of the world's leather production of hides/skins and handles a robust annual production of about 3 bn sq. ft. of leather.
- The industry is known for its consistency in high export earnings and it is among the top 10 foreign exchange earners for the country.
- India has an abundance of raw materials with access to 20% of the world's cattle and buffalo and 11% of the world's goat and sheep population.
- The Leather industry is an employment intensive industry providing jobs to more than 4 million people, mostly from the weaker sections of the society.
- Women employment is predominant in Leather products industry with about 30% share.
- The Leather industry in India has one of the youngest workforces with 55% of the workforce below 35 years of age.
- As of 2022, India is the second largest producer of footwear and leather garments, second largest exporter of leather garments and fifth largest exporter of leather goods & accessories in the world.
- The major production centres of leather and footwear products in India are located in Tamil Nadu, Andhra Pradesh, West Bengal, Uttar Pradesh, Maharashtra, Punjab, Haryana and Delhi.
- The major markets for Indian Leather & Footwear Products are USA, Germany, U.K, Italy, France, Spain, Netherlands, U.A.E, China, Hong Kong, Belgium, and Poland.
- USA is the largest importer of leather and leather products from India and accounted for 25.19% of the country's total leather exports during April-August 2022.

## Internationalization of Rupee

**News:** Tired of a too-strong and newly weaponized greenback, some of the world's biggest economies are exploring ways to circumvent the US currency.

- Smaller nations, including at least a dozen in Asia, are also experimenting with de-dollarization.

## What is 'internationalization' of Rupee?

- It is the process that involves increased use of the rupee in cross-border transactions.
- Currently, while the dollar accounts for 88% of international trade, Rupee accounts for less than 1.7% of global trade.
- India currently has full convertibility of the rupee in current accounts such as for exports and imports. However, India's capital account convertibility is not full. There are ceilings on government and corporate debt, external commercial borrowings and equity.

## What initiatives were taken for Internationalization of Rupee?

- Allowing cross-border borrowings in Rupee through introduction of Rupee denominated bonds, or Masala Bonds.
- Currency swap agreements with nations such as UAE, SAARC member countries (recently observed with Maldives monetary authority).
- Trade settlement in Rupee in July 2022, through special Vostro accounts.
- Exploration on domestic currencies use for regional trade settlement at Asian Clearing Union.

**INTERNATIONALIZING ₹**

Pros:	Cons:
<ul style="list-style-type: none"><li>• Will ease foreign trade, aid capital flows</li><li>• Mitigate exchange rate risks</li><li>• Reduce dependence on FX reserves</li></ul>	<ul style="list-style-type: none"><li>• Complicates monetary policy</li><li>• Exchange rate stability is challenging</li><li>• Could bring uncontrolled capital flows</li></ul>

moneycontrol

## Advantages:

- Reduced Vulnerability to External Shocks because of reduced dependence on foreign currency.
- It will improve the demand for the rupee in international trade leading to appreciation of currency value.
- Reduced Foreign Exchange Reserves requirement for balance of payment stability due to reduced dependence on foreign currency for trade.
- Enhance India's global stature and respect, helping Indian Businesses through increased bargaining power.
- Improving acceptance and trade in rupees can help India to diversify its trade basket by circumventing restrictions and sanctions imposed by the west.
- Reduces currency risks for Indian businesses by eliminating foreign exchange fluctuation, reducing the cost of doing business and support global growth of Indian businesses.

## Challenges:

- The internationalization of the rupee will limit the country's ability to create a monetary policy specific to its local economic demand.
- The Indian economy will become more susceptible to international economic fluctuations.
- Complete internationalization of currency will expand the risk of hot currency (highly prone to sudden outflows) to capital assets as was seen in East Asian crisis in 1997.
- Increased responsibility to maintain international financial and monetary system order i.e. increased burden to play the role of 'Lender of Last Resort'.

## Way Forward

- Internationalization of Rupee although associated with risks can be helpful to the Indian economy provided that we have develop a deep domestic financial market that is ready to absorb external shocks and if we effectively manage capital inflows through right combination of policies and market interventions.
- We can also increase our share in Global merchandise and commercial services trade which will help rupee gain acceptance.

## India's economy in 2023

### Background:

- The war, and elevated food and fuel prices, cloud the 2023 outlook. Financial conditions in China are worsening, and as central banks prioritise the fight against inflation, a global downturn looms.



- Indian markets are buoyant, but manufacturing is wobbly, consumption anomalous, and the global environment is challenging.
- In the backdrop of an anticipated Global recession, we look at both the positives and negatives that lie ahead for Indian economy.

#### Positives:

- The **near-term growth** outlook for the Indian economy is supported by **domestic drivers**, some of which are reflected in the buoyant trends in high-frequency indicators. In November, equity markets touched new highs, buoyed by a rebound in portfolio flows to India.
- Headline consumer-level inflation **moderated** by nearly a percentage point to 5.9% in November, driven by a fall in vegetables prices.
- The twin balance sheet problem — of corporates having high levels of debt and banks saddled with bad loans on their books looks to be on the mend. There has been significant deleveraging over the last five years, with the **corporate debt-to-GDP at its lowest** in nearly a decade and a half, and bank books have shed much of the legacy bad loans.
- Bank credit has been growing in double digits for eight months now, reflecting in part an uptick in investment appetite.
- On a disaggregated basis, RBI data suggest that after a long gap of over two years, **term-lending to non-corporates** is seeing an uptick — a positive sign that seems to imply that smaller firms may be seeking funds beyond their immediate working capital needs.
- The Centre had recorded robust collections in both direct taxes and GST.
- The PLI scheme is offering an impetus to manufacturing, although the gains are skewed in favor of larger companies. Fresh investments are expected in renewables, electric vehicles, and battery tech.

#### Negatives:

- The Ukraine war drags on, threatening an energy-linked downturn in the European Union, India's biggest export market.
- The World Bank has cut growth forecast for China. With the world's second-largest economy going into a sustained slump, there is mounting evidence that the global economy will slow sharply next year.
- The US Federal Bank is not likely to cut interest rates until at least in the second half of 2023.
- In India, manufacturing continues to be wobbly. Factory output, as measured by the Index of Industrial Production (IIP), slumped to a 26-month low in the festive month of October. Core sector growth for October was just 0.1%, the lowest for 20 months. That has led to a rapid downward revision of India's growth projections by analysts for the next fiscal.
- There is continuing distress among the Micro, Small and Medium Enterprises (MSME) firms, reflecting the deep cleavages in industrial recovery where the bigger companies are doing far better than the smaller firms.
- Capital expenditure of the states has remained weak. Investments by states typically tend to have a higher multiplier effect.
- Farm output has done well but rural wages contracted for 9<sup>th</sup> consecutive month in September. This points to a continued labour oversupply in rural areas, and could have an impact on the labour supply dynamics and in depressing aggregate household consumption.

## India Development Report

**News:** After three downgrades in its 2022-23 GDP growth estimates, World Bank reverses course, citing strong Q2 growth and strong demand at the start of Q3.

#### Background:

- The **World Bank (WB)** in its **India Development Report** titled '**Navigating the Storm**', **upgraded** its growth forecast for India's economy in 2022-23 to **6.9%**.
- In October 2022, the WB had cut India's GDP (Gross Domestic Product) growth forecast to 6.5 % from 7.5 % earlier.

### Key Findings:

- The Bank expects the Indian economy to grow at a slightly slower 6.6% in 2023-24 as a challenging external environment and faltering global growth will affect its economic outlook through different channels.
- The Bank said it revised the GDP forecast considering the strong upturn in the July to September quarter of 2022-23, when it grew 6.3% despite inflationary pressures and tighter financing conditions, “**driven by strong private consumption and investment.**”
- The government’s focus on bolstering capital expenditure also supported domestic demand in the first half of 2022-23.
- India has a large domestic market and is relatively less exposed to international trade flows
- A well-crafted and prudent policy response to global spillovers is helping India navigate global and domestic challenges.

### Key Suggestions:

- The renewable energy and green economy sectors can create a lot of jobs.
- It cautions about trade-offs between trying to limit the adverse impact of global spillovers on growth and the available policy space.

## National Food Security Act

**News:** Recently, the Union Ministry of Consumer Affairs, Food and Public Distribution issued a notification to provide free food grains (rice, wheat and coarse grains) to all eligible households under the National Food Security Act, 2013, for one year from January 1, 2023.

- The government, however, discontinued the Pradhan Mantri Garib Kalyan Anna Yojana.

### About NFSA:

- The Union government provides food grains (rice at Rs 3 per kg, wheat at Rs 2 per kg, and coarse grains at Rs 1 per kg) under the NFSA.
- The act aims to ensure people's food and nutritional security by assuring access to enough high-quality food at reasonable prices.
- The NFSA covers 50 per cent of the urban population and 75 per cent of the rural population for receiving subsidized food grains under the Targeted Public Distribution Scheme.
- There are two categories of beneficiary households under the NFSA:
  - Antyoday Anna Yojana (AAY) - The AAY households are entitled to 35 kg of food grains per month irrespective of the number of family members.
  - The Priority Households - The priority households get food grains depending on the number of family members (each member 5 kg per month).

### About Pradhan Mantri Garib Kalyan Anna Yojana:

- It was launched in 2020 amid Covid-19 under which 5 kg of free food grains was provided to every person on top of the NFSA entitlement of 5 kg of food grains at subsidized rates.
- The scheme has now been merged with the NFSA.

### Significance:

- Food security legislation - For the first time India will have a Central food security legislation which gives the poor the right to receive 5 kg of food grains free of cost.
- The decision softens the blow as the poor may suffer with the PM Garib Kalyan Anna Yojana being discontinued.
- Discontinuing the PMGKAY would save the government Rs 15,000 crore a month or about Rs 1.8 lakh crore a year.

# Science & Technology

## What's the hurry for GM Mustard?

**News:** This article highlights concerns raised by some experts regarding the recent recommendation of the Genetic Engineering Appraisal Committee (GEAC) for approval for the environmental release of genetically engineered (GE) mustard (DMH-11 hybrid) in India.

### Background:

- DMH-11 hybrid - It was developed by genetic modification (GM) by the DU's Centre for Genetic Manipulation of Crop Plants (CGMCP) by the process of hybridization of two alien genes (barnase + barstar) isolated from a soil bacterium called *Bacillus amyloliquefaciens*.
- DMH-11 is claimed to have shown an average 28% yield increase over the Indian mustard variety 'Varuna' in field trials carried out by the Indian Council of Agricultural Research (ICAR).



**The following requirements for environmental release have been proposed by GEAC:**

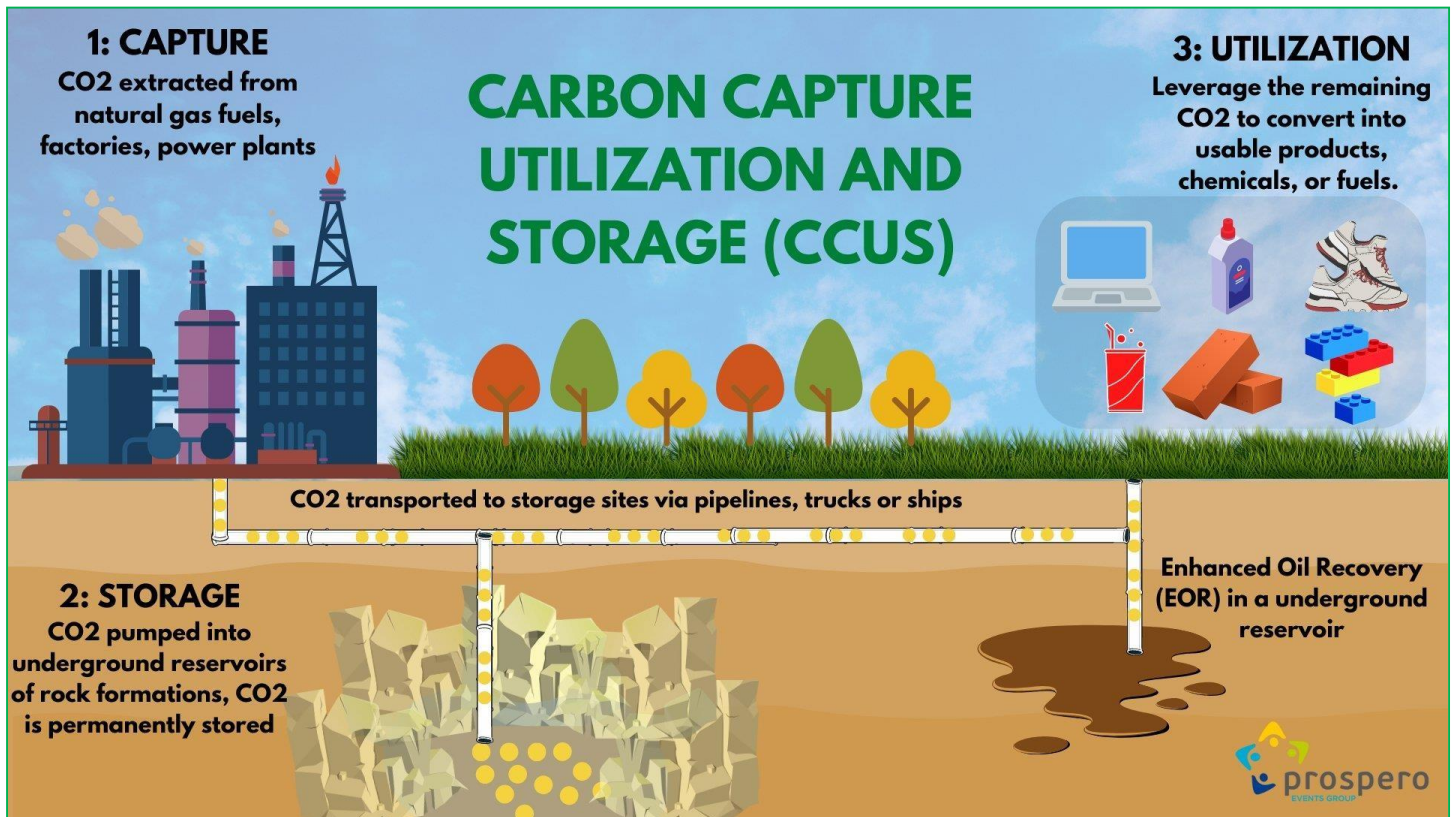
- Usage of any formulation of herbicide is recommended only under controlled and specified conditions.
- Usage of any formulation of herbicide is not permitted for cultivation in the farmer's field.
- The applicant (CGMCP) should conduct field demonstration studies with respect to the effect of [GM mustard] on honey bees.

### Way Forward:

- A lot of investment and time has gone into developing DMH-11 mustard. However, significant investments must not stop us from doing a thorough examination of the risks of adopting GM mustard.

## Carbon Capture Utilization and Storage (CCUS) Technology

**News:** NITI Aayog recently released a report on the policy framework of Carbon Capture Utilization and Storage (CCUS). It is a technology for decarbonizing carbon dioxide (CO<sub>2</sub>) from high-polluting sectors.



### What is the CCUS technology?

- Carbon capture, utilisation and storage (CCUS) refers to a suite of technologies that can play a diverse role in meeting global energy and climate goals.
- CCUS involves the capture of CO<sub>2</sub> from large point sources, such as power generation or industrial facilities that use either fossil fuels or biomass as fuel. The CO<sub>2</sub> can also be captured directly from the atmosphere.
- If not being used on-site, the captured CO<sub>2</sub> is compressed and transported by pipeline, ship, rail or truck to be used in a range of applications, or injected into deep geological formations (including depleted oil and gas reservoirs or saline aquifers), which can trap the CO<sub>2</sub> for permanent storage.

### Key Highlights of Report:

- India's per capita CO<sub>2</sub> emissions were approximately 9 tonnes per year, which was less than 40% of the global average and almost one-fourth of China's.
- Steel, cement, oil, gas, petrochemicals, chemicals, and fertilizers industries are crucial to the country's goal of halving CO<sub>2</sub> emissions by 2050.
- As a result, a long-term sustainable strategy for decarbonizing sectors responsible for 70% of emissions is required, particularly for India's goal of reaching net-zero emissions by 2070.

### How will CCUS technology help achieve our climate goals?

- It will help promote low-carbon-hydrogen economy and the removal of CO<sub>2</sub> from the atmosphere.
- CCUS could enable the development of clean products (green methanol, green ammonia) while utilizing abundant coal resources, lowering imports, and leading to an economically self-sufficient India.
- CCUS also plays a significant role in supporting sunrise sectors like coal gasification and India's budding hydrogen economy.

### Limitations of CCUS:

- For example, Carbon capture needs the development of molecules capable of binding CO<sub>2</sub> in the exhaust gas, which is costly. Therefore, implementing such technology will be expensive.
- Additionally, CO<sub>2</sub> use does not necessarily lead to emissions reduction. Climate benefits associated with a given CO<sub>2</sub> use depend on the source of the CO<sub>2</sub> (natural, fossil, biogenic or air-captured), the product or

service the CO<sub>2</sub>-based product is displacing, the carbon intensity of the energy used for the conversion process, how long the CO<sub>2</sub> is retained in the product, and the scale of the market for this particular use.

#### Key recommendations:

- The use of low-carbon energy is particularly critical for CO<sub>2</sub> use in fuels and chemical intermediates, as these processes are highly energy-intensive. The emphasis should be on R&D, particularly on cutting-edge technologies in such sectors.
- To put in place a policy framework that will encourage the development of sustainable and viable markets for CCUS projects. The policy should focus on financing and funding mechanisms, sufficient incentives (carbon credits) to promote the private sector, etc.
- In the long course, the policy should shift to carbon taxes in order to achieve India's net-zero goals by 2070.

## Are Ransomware attacks increasing in India?

**News:** The All India Institute of Medical Science was crippled by a cyber-attack (presumably ransomware attack) in November which has brought the online management of the institute to a halt.

#### What is Ransomware?

- Ransomware is a type of malicious software, used by cyber criminals, to infect a computer system by blocking access to the stored data by encrypting files.
- While it is not yet clear as to how exactly the AIIMS computer systems were targeted, the malware may usually be injected remotely by tricking the user into downloading it upon clicking an ostensibly safe web link sent via email or other means, including hacking. It can spread throughout the network by exploiting existing vulnerabilities.
- Such attacks can also be accompanied by theft of sensitive data for other sinister motives.

#### How serious are ransomware attacks?

- Preliminary findings by cyber experts have indicated that at least five of the AIIMS' servers that hosted data related to more than three crore patients were compromised.
- In May, Spicejet had faced such a threat, while Public Sector Undertaking Oil India was targeted on April 10.
- Cybersecurity firm Trellix, in its third-quarter global report, has identified 25 major ransoms in circulation.
- According to the Interpol's first-ever Global Crime Trend report presented at its 90th General Assembly meeting in Delhi this October, ransomware was the second highest-ranking threat after money laundering, at 66%. It is also expected to increase the most (72%).

#### Which agencies in India deal with cyber-attacks?

- Set up in 2004, the **Indian Computer Emergency Response Team (CERT-In)** is the national nodal agency that collects, analyses and circulates inputs on cyber-attacks; issues guidelines, advisories for preventive measures, forecasts and issues alerts; and takes measures to handle any significant cyber security event.
- **The National Cyber Security Coordinator**, under the National Security Council Secretariat, coordinates with different agencies at the national level on cybersecurity issues, while the **National Critical Information Infrastructure Protection Centre** has been set up for the protection of national critical information infrastructure.
- According to the government, the **Cyber Swachhta Kendra** (Botnet Cleaning and Malware Analysis Centre) has been launched for detection of malicious software programmes and to provide free tools to remove the same, while the National Cyber Coordination Centre works on creating awareness about existing and potential threats.

#### What are the concerns raised regarding recent Cyber-attack at AIIMS?

- First, Health is not directly specified as Critical infrastructure in India. However, an organization like AIIMS should have been counted as a "strategic and public enterprise" as it deals with crores of patients, including the Prime Minister and the Home Minister of the country.
- AIIMS also handles very sensitive medical research data. Questions raised highest standards of cyber security were maintained, and whether solutions and disaster recovery plans were in place.

- To confirm whether audits of cyber networks that are mandated by CERTIn show everything was in order?

### What is the need of the hour?

- It is important to push and announce the National cyber security strategy that the Prime Minister had announced couple of years ago.
- Significant budgets have to be allocated by various ministries to ensure that cyber security measures don't remain the last priority.
- Capacity enhancement of CERTIn and National critical information infrastructure centre (NCIIC) has to be undertaken to address the emerging sophisticated nature of threats and attacks.
- Need to setup sectoral CERTs for many areas including health.
- Also, international cooperation on countering cyber-attacks has to gain more teeth beyond the Group of governmental experts (GGE meetings) and the US-Led Counter Ransomware initiative (CRI) of 37 countries and EU.

## Measles outbreak in Maharashtra

**News:** The Maharashtra government on Thursday formed an 11-member task force to tackle the rising cases of measles in the state.

### Background:

- Maharashtra has so far reported 724 confirmed cases of measles this year, while 15 patients have died due to the disease, according to The Indian Express. Of these, 12 deaths have been recorded in Mumbai.
- According to experts, the situation of disease outbreak in the state was equivalent to a public health emergency. Principles developed for COVID-19 may have to be kicked in for measles now.

### What is Measles and Rubella?

- Measles and Rubella (German measles) are **contagious viral disease** that is spread by contact with an infected person through **coughing and sneezing**.
- Measles is caused by **a single-stranded, enveloped RNA virus** with 1 serotype. It is classified as a member of the genus Morbillivirus in the Paramyxoviridae family. **Humans** are the **only natural hosts** of measles virus.
- Measles and Rubella have similar symptoms. However, rubella is a milder viral infection than measles. Rubella infection in pregnant women may cause foetal death or congenital defects known as congenital rubella syndrome
- Both of them can be entirely prevent with a two-dose of MMR (Measles, Mumps, and Rubella) vaccine.

### What complications it can lead to?

- Common complications from measles include **otitis media, bronchopneumonia, laryngotracheobronchitis, and diarrhea**.
- Even in previously healthy children, measles can cause serious illness requiring hospitalization.
- One out of every 1,000 measles cases will develop acute encephalitis, which often results in permanent brain damage.
- One to three out of every 1,000 children who become infected with measles will die from respiratory and neurologic complications.

### Reasons behind Measles outbreak at present:

- According to the state government (Maharashtra) data, **only 41% of the eligible children** have been inoculated against measles in Mumbai. This is because a) **Parents are showing a disinclination** to continue the inoculation regime for their children after they developed a fever on being administered the first jab, b) Early in the pandemic, the National Health Mission's information system reported that **at least 100,000 children missed their shots** because of the restrictions on movement.
- The Centre's **Mission Indradhanush** project has improved vaccine coverage and reduced delays between shots. But WHO and UNICEF studies have shown that immunisation programmes especially those focusing on DPT (diphtheria, pertussis and tetanus) and measles have taken a hit in low and mid-income countries, including India.

- Measles is a highly contagious disease. Experts had cautioned that even a 5% fall in the vaccination rate can disrupt herd immunity and precipitate an outbreak.

## End to End Encryption

**News:** Apple, on Wednesday, announced it will be increasing the number of data points protected by end-to-end encryption on iCloud from 14 to 23 categories. The company claimed that with end-to-end encryption, user data will be protected even in case data is breached in the cloud.

### What is End to End Encryption?

- End-to-end encryption is a communication process that encrypts data being shared between two devices. It prevents third parties like cloud service providers, internet service providers (ISPs) and cybercriminals from accessing data while it is being transferred.
- The process of end-to-end encryption uses an algorithm that transforms standard text into an unreadable format. This format can only be unscrambled and read by those with the decryption keys, which are only stored on endpoints and not with any third parties including companies providing the service.

### Where is it used?

- End-to-end encryption is used to **secure communications**. Some of the popular instant-messaging apps that use it are Signal, WhatsApp, iMessage, and Google messages.
- However, instant messaging is not the only place where user data is protected using end-to-end encryption. It is also used to **secure passwords, protect stored data and safeguard data** on cloud storage.

### Advantages of End to End encryption (E2EE)

- It ensures that user data is protected from unwarranted parties including service providers, cloud storage providers, and companies that handle encrypted data.
- End-to-end encryption is also seen as a technology that secures users' data from snooping by government agencies, making it a sought-after feature by activists, journalists, and political opponents.
- With E2EE, the decryption key does not have to be transmitted; the recipient will already have it. If a message encrypted with a public key gets altered or tampered within transit, the recipient will not be able to decrypt it, so the tampered contents will not be viewable.
- Many industries are bound by regulatory compliance laws that require encryption-level data security. E2EE can help organizations protect that data by making it unreadable.

### Limitations of E2EE:

- Some E2EE implementations allow the encrypted data to be encrypted and re-encrypted at certain points during transmission which makes it important to clearly define and distinguish the endpoints of the communication circuit. If endpoints are compromised, encrypted data may be revealed.
- Government and law enforcement agencies express concern that E2EE can protect people sharing illicit content because service providers are unable to provide law enforcement with access to the content.
- End-to-end encryption does not protect metadata, which includes information like when a file was created, the date when a message is sent and the endpoints between which data was shared.

### Encryption in India:

- India does not have a specific encryption law. Although, a number of industry rules, such as those governing the banking, finance, and telecommunications industries, include requirements for minimum encryption standards to be utilised in protecting transactions.
- The Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules 2021 – The new rules have the potential to impact the E2EE techniques of social messaging applications like Whatsapp, Telegram etc.
- The IT Act, 2000 is devoid of any substantive provision or policy on encryption.

## Power of Fusion

**News:** Breakthrough in US laboratory offers new promise for clean energy. But it will take time for the process to be scaled up.

### Background:

- For more than nine decades' scientists have tried to replicate the process that produces energy for the sun and the stars - fusion.
- Recently, researchers at the National Ignition Facility (NIF) in California, USA, announced a milestone in this endeavor.
- They merged two nuclei to produce a heavier nucleus. Their reactor produced about 1.5 times more energy than what was used in the process. In all the earlier attempts to harness the power of fusion, the reactors used up more energy than what was produced.

### What is Fusion?

- Fusion is a different, but more powerful, way of harnessing the immense energy trapped in the nucleus of an atom.
- In fusion, nuclei of two lighter elements are made to fuse together to form the nucleus of a heavier atom.
- A large amount of energy is released in both these processes, but substantially more in fusion than fission. This is the process that makes the Sun and all other stars shine and radiate energy.

## NUCLEAR FISSION VS NUCLEAR FUSION

**Nuclear fusion** and **nuclear fission** are two different types of energy-releasing reactions in which energy is released from high-powered atomic bonds between the particles within the nucleus. The main difference between these two processes is that **fission is the splitting of an atom into two or more smaller ones while fusion is the fusing of two or more smaller atoms into a larger one.**

	Nuclear Fission	Nuclear Fusion
<b>Definition:</b>	Fission is the splitting of a large atom into two or more smaller ones.	Fusion is the fusing of two or more lighter atoms into a larger one.
<b>Natural occurrence of the process:</b>	Fission reaction does not normally occur in nature.	Fusion occurs in stars, such as the sun.
<b>Byproducts of the reaction:</b>	Fission produces many highly radioactive particles.	Few radioactive particles are produced by fusion reaction, but if a fission "trigger" is used, radioactive particles will result from that.
<b>Conditions:</b>	<b>Critical mass</b> of the substance and high-speed neutrons are required.	High density, high temperature environment is required.
<b>Energy Requirement:</b>	Takes little energy to split two atoms in a fission reaction.	Extremely high energy is required to bring two or more protons close enough that nuclear forces overcome their electrostatic <b>repulsion</b> .
<b>Energy Released:</b>	The energy released by fission is a million times greater than that released in chemical reactions; but lower than the energy released by nuclear fusion.	The energy released by fusion is three to four times greater than the energy released by fission.
<b>Nuclear weapon:</b>	One class of nuclear weapon is a fission bomb, also known as an <b>atomic bomb</b> or <b>atom bomb</b> .	One class of nuclear weapon is the <b>hydrogen bomb</b> , which uses a fission reaction to "trigger" a fusion reaction.

### What are advantages of Nuclear Fusion?

- Fusing atoms together in a controlled way releases nearly four million times more energy than a chemical reaction such as the burning of coal, oil or gas and four times as much as nuclear fission reactions (at equal mass). Fusion has the potential to provide the kind of baseload energy needed to provide electricity to the cities and the industries.



- Fusion fuels are widely available and nearly inexhaustible. Deuterium can be distilled from all forms of water, while tritium will be produced during the fusion reaction as fusion neutrons interact with lithium.
- Fusion doesn't emit harmful toxins like carbon dioxide or other greenhouse gases into the atmosphere. Its major by-product being helium which is an inert, non-toxic gas.
- Conventionally produced nuclear energy that uses fission technology is relatively cleaner. But accidents at Chernobyl in 1986 and Fukushima in 2011 have raised serious questions over the safety of fission-powered plants. Nuclear Fusion can be useful here as it doesn't employ fissile materials like uranium and plutonium.

### Conclusion

- In a world desperately searching for technologies that can power the developmental needs of nations without adding to the GHG load, the breakthrough at NIF has generated excitement.

## Whole Genome Sequencing

**News:** Researchers at the Indian Institute of Science Education and Research (IISER) Bhopal have carried out Whole Genome Sequencing of banyan (*Ficus benghalensis*) and peepal (*Ficus religiosa*) from leaf tissue samples.

- The work helped in identifying 17 genes in the case of banyan and 19 genes of peepal with multiple signs of adaptive evolution (MSA) that play an important role in long-time survival of these two *Ficus* species.

### What is Whole Genome Sequencing?

- All organisms have a unique genetic code, or genome, that is composed of nucleotide bases- Adenine (A), Thymine (T), Cytosine (C) and Guanine (G).
- The unique Deoxyribonucleic Acid (DNA) fingerprint, or pattern can be identified by knowing the sequence of the bases in an organism. Determining the order of bases is called sequencing.
- Whole genome sequencing is a laboratory procedure that determines the order of bases in the genome of an organism in one process.

### What is the methodology followed?

- **DNA Shearing** - Scientists begin by using molecular scissors to cut the DNA, which is composed of millions of bases (A's, C's, T's and G's), into pieces that are small enough for the sequencing machine to read.
- **DNA Bar Coding** - Scientists add small pieces of DNA tags, or bar codes, to identify which piece of sheared DNA belongs to which bacteria.
- **DNA Sequencing** - The bar-coded DNA from multiple bacteria is combined and put in a DNA sequencer. The sequencer identifies the A's, C's, T's, and G's, or bases, that make up each bacterial sequence. The sequencer uses the bar code to keep track of which bases belong to which bacteria.
- **Data Analysis** - Scientists use computer analysis tools to compare sequences from multiple bacteria and identify differences. The number of differences can tell the scientists how closely related the bacteria are, and how likely it is that they are part of the same outbreak.

### How does Whole Genome Sequencing help?

- Genomic information has been instrumental in identifying inherited disorders, characterizing the mutations that drive cancer progression, and tracking disease outbreaks.
- It can be also used for sequencing agriculturally important livestock, plants, or disease-related microbes.
- It provides a high-resolution, base-by-base view of the genome
- Captures both large and small variants that might be missed with targeted approaches and it identifies potential causative variants for further follow-up studies of gene expression and regulation mechanisms
- Delivers large volumes of data in a short amount of time to support assembly of novel genomes.

## World's First operation using Stem Cells

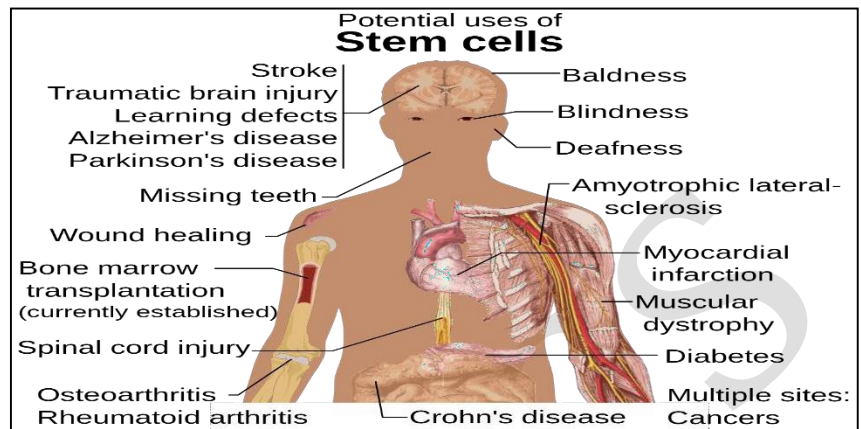
**News:** A heart surgeon in England has carried out a "world-first" operation using stem cells from the placentas.

## What are Stem Cells?

- Stem cells are the body's raw materials cells from which all other cells with specialized functions are generated. Under the right conditions in the body or a laboratory, stem cells divide to form more cells called daughter cells.

### Importance of this operation:

- It can help develop technology so children born with congenital cardiac disease won't need as many operations.
- Prior to this, artificial tissue was normally used on babies for cardiac repairs, but it can fail and it doesn't grow with the heart, so as the children grow, they require more operations.



## Srinivasa Ramanujan

**News:** National Mathematics Day (NMD) has been celebrated every year on **22nd December** to mark the birth anniversary of Srinivasa Ramanujan.

### Who was Srinivasa Ramanujan?

- Son of a clerk from erode, who stunned world with his mathematics prowess. Later became one of the youngest Fellows of the Royal Society & only the second Indian.
- And the first Indian to be elected a Fellow of Trinity College, Cambridge. ‘

### What are his contribution to Mathematics?

- Ramanujan compiled around 3,900 results consisting of equations and identities. One of his most treasured findings was his **infinite series for Pi**. He gave several formulas to calculate the digits of Pi in many unconventional ways.
- He discovered a long list of new ideas to solve many challenging mathematical problems, which gave a significant impetus to the development of **game theory**. His contribution to game theory is purely based on intuition and natural talent and remains unrivalled to this day.
- 1729** is known as the Ramanujan number. It is the smallest number which can be expressed as the sum of two different cubes in two different ways.
- Ramanujan's other notable contributions include **hypergeometric series**, the **Riemann series**, the elliptic integrals, mock theta function, the theory of divergent series, and the functional equations of the zeta function.
- Do you know when you put your debit card in ATM and ask for money. The ATM arranges the money before giving it to you using Srinivasa Ramanujan's partition theory.

### Do you know what Mark Zuckerberg had to say about S. Ramanujan?

- While speaking at a function he talks about S. Ramanujan and how inspite of being poor, having no access to internet (there wasn't one at that time) and without having any formal education but somehow he managed to get a Math textbook (which covered some aspects of Math) but that textbook was enough for him to figure out all of modern mathematics that existed at that time and pushed the field forward. Mark Zuckerberg was wondering what would have happened if S. Ramanujan had access to internet? (Use such examples in your essay or GS paper wherever possible)

## LVM3-M2

**News:** Recently, ISRO's heaviest rocket (LVM3-M2) successfully placed 36 satellites of OneWeb in orbit.

## What is OneWeb?

- OneWeb is a joint venture between India's Bharti Enterprises and U.K. government to deliver high-speed, low-latency connectivity worldwide.
- OneWeb satellites operate in Low Earth Orbit at an altitude of 1,200 kilometers.

## About LVM3-M2:

- LVM3-M2 mission was the first dedicated commercial satellite mission of New Space India Limited (NSIL). NSIL, a public-sector enterprise under Department of Space, is enabling Indian industries to take up high technology space related activities and is catering to emerging global commercial small satellite launch service market.
- LVM3-M2 launch vehicle (earlier called Geosynchronous Launch Vehicle Mark III or GSLV-MK3) is a **3 stage launch vehicle** consisting of Cryogenic upper stage, solid rocket boosters and core liquid stage.
- It has a carrying capacity of 8 tonnes to low earth orbit (LEO) and 4 tonnes to geo transfer orbit (GTO).
- It is ISRO's second rocket for global commercial market, after its Polar Satellite Launch vehicle (PSLV).
- It has had four successful missions including Chandrayaan-2.

## Other important news regarding Chandrayaan-2 mission:

- Few Scientists from ISRO had mapped out global distribution of **sodium** on the Moon's surface.
- To carry out their research they used the **CLASS instrument** (Chandrayaan-2 large area soft X-ray spectrometer) which was carried by Chandrayaan-2 mission.
- Study shows that there is a **thin layer of sodium atoms** that are weakly bound to the lunar surface apart from the minor quantities found in lunar rocks.

## Uncontrolled re-entry of Satellites

**News:** Outer Space Institute (OSI) has called for both national and multilateral efforts to restrict uncontrolled re-entries of Satellites.

### What are stages of rocket launch?

- **Primary Stage** - The primary stage of a rocket is the first rocket engine to engage, providing the initial thrust to send the rocket skyward. This engine will continue to operate until its fuel is exhausted, at which time it separates from the rocket and falls to the ground.
- **Secondary Stage** - After the primary stage has fallen away, the next rocket engine engages to continue the rocket on its trajectory. The second stage has considerably less work to do, since the rocket is already traveling at high speed and the rocket's weight has significantly decreased due to the separation of the first stage. If the rocket has additional stages, the process will repeat until the rocket is in space.
- **Payload** - Once the payload, whether it be a satellite or a spacecraft, is in orbit, the rocket's final stage falls away, and the craft will be maneuvered using smaller rockets whose purpose is to guide the spacecraft. Unlike the main rocket engines, these maneuvering rockets can be used multiple times.

### What is uncontrolled re-entry?

- In an uncontrolled re-entry, the rocket stage simply falls. Its path down is determined by its shape, angle of descent, air currents and other characteristics. It will also disintegrate as it falls.
- Most rocket parts have landed in oceans principally because earth's surface has more water than land. But many have dropped on land as well.
- Some pieces burn up entirely while others don't. But because of the speed at which they're travelling, debris can be deadly.

### Why are scientists worried?

- Parts of a SpaceX Falcon 9 that fell down in Indonesia in 2016 included two "refrigerator-sized fuel tanks". If re-entering stages still hold fuel, atmospheric and terrestrial chemical contamination is another risk.
- The USA, it requires all launches to keep the chance of a casualty from a re-entering body to be below 0.01%. But the U.S. Air Force and NASA have waived this requirement on multiple occasions.

- A July 2022 study by researchers in Canada found that this threshold is arbitrary and makes little sense in an era when new technologies and mission profiles enable controlled re-entries. Many places have also become more densely populated.
- There is no international binding agreement to ensure rocket stages always perform controlled re-entries nor on the technologies with which to do so. The Liability Convention 1972 requires countries to pay for damages, not prevent them.
- A 2021 report of the International Space Safety Foundation said, “an impact anywhere on an airliner with debris of mass above 300 grams would produce a catastrophic failure. It means all people on board would be killed”.

#### **How can damage be minimized?**

- Satellite bodies should aim for an ocean in order to avoid human casualties.
- Advances in electronics and fabrication have made way for smaller satellites, which are easier to build and launch in large numbers. These satellites experience more atmospheric drag than if they had been bigger, but they are also likely to burn up during re-entry.

## **Dark patterns on Internet**

**News:** Recently, an increase in the cases of “Dark Patterns” have been noted where internet based companies trick users to agree certain conditions by clicking a few links. Such acceptances and clicks are flooding inboxes of the users with promotional emails they never wanted, making it hard to unsubscribe or request deletion.

#### **What are Dark patterns?**

- Dark Patterns are deceptive UX/UI interactions, designed to mislead or trick users to make them do something they don’t want to do. This term was coined in 2010 by Harry Brignull.
- In order to generate more sales, get subscriptions, and hit target numbers in transactions etc., designers and business associates started creating deceiving user interfaces to manipulate users.
- Examples of Dark Patterns include “baseless” countdowns for online deals, making cancellation buttons hard to see or click, making ads appear as news reports or celebrity endorsements, auto-playing videos, forcing users to create accounts to finish a transaction, silently charging credit cards after free trials end, and using dull colors to hide information that users should know about.

#### **How do Big tech companies make use of it?**

- For example, Amazon was criticized in the EU for their confusing, multi-step cancelling process for Amazon Prime subscriptions. Later they simplified the cancelling process for online customers in European countries this year after consulting with consumer regulators.
- Another dark pattern on social media platforms like Instagram is sponsored video ads getting scattered between reels and stories users originally opted to view, tricking them for several seconds before they can see the small “sponsored” label.
- Google-owned YouTube nags users to sign up for YouTube Premium with pop-ups, obscuring final seconds of a video with thumbnails of other videos.

#### **How does it impact user experience?**

- Digital platforms take away a user’s right to full information about the services they are using and reduce their control over their browsing experience.
- Endanger the experience of internet users and make them more vulnerable to financial and data exploitation by Big Tech firms.
- Confuse users, introduce online obstacles, and make simple tasks time-consuming and sometimes they force them to pay more money or share more personal information against their wishes.

#### **Way Forward:**

- Internet users who are able to identify and recognize dark patterns in their daily lives can choose more user-friendly platforms that will respect their right to choice and privacy.

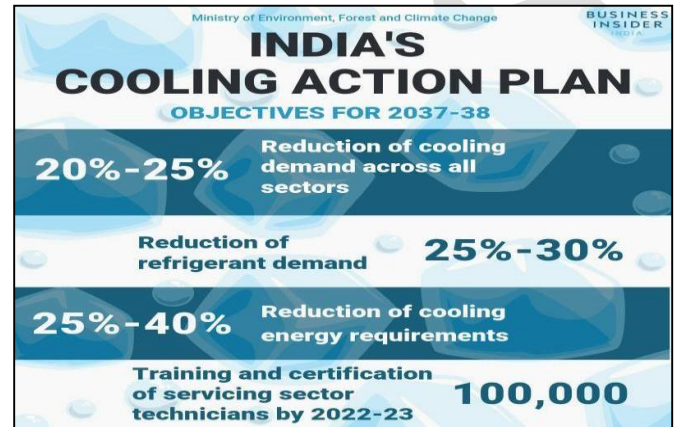
# Environment & Bio-diversity

## Green Cooling Solutions in India

**News:** A new **World Bank** report “**Climate Investment Opportunities in India’s Cooling Sector**”, has highlighted the need for using alternative and innovative cooling technologies.

### Key Highlights:

- The report analyzed the India Cooling Action Plan (ICAP) launched in 2019 and came up with suggestions for prioritizing the government’s investment opportunities in the cooling sector.
- The report does not focus on air conditioning because only 40% of Indians will have air conditioning by 2040 which is currently around 8% and the rest for whom passive cooling technologies have to be the focus.
- Investment opportunities across three different sectors — construction, cold chains and refrigerants. They have the potential to reduce greenhouse gas (GHG) emissions significantly and also create nearly 3.7 million jobs.
- From 2030 onwards, more than 160 to 200 million people could be exposed to a lethal heat wave in India every year. Around 34 million Indians will face job losses due to heat stress-related productivity decline.
- Currently, around one-third of the food is lost. This could dramatically increase with increasing temperature.
- The report suggests need for new cooling solutions as by 2037, the demand for cooling is likely to be eight times more than current levels. This could open an investment opportunity of \$1.6 trillion by 2040.
- With the demand for cooling shooting up, there is a need to shift to a more energy-efficient pathway to reduce CO2 levels.



### Recommendations given:

- Sustainable space cooling solutions may reduce annual GHG emissions. It can be achieved by increasing the efficiency of cooling technologies like air conditioners, ceiling fans and chillers.
- The country can adopt climate-responsive cooling techniques. For example, India’s affordable housing program for the poor, the Pradhan Mantri Awas Yojana (PMAY), can adopt techniques such as white-painted rooftops, efficient air movement, cooling breezes, evaporation and earth coupling as natural cooling solutions.
- District Cooling Systems (DCS) are centralized cooling techniques for clusters of buildings instead of individual buildings, which is much more efficient. District cooling should be made mandatory for real estate complexes that are of high density. DCS generates chilled water in a central plant which can then be distributed to multiple buildings via underground insulated pipes.
- It is suggested to use concessional finance from Multilateral Development Banks like the World Bank for investments in strategies to plug the gaps in the cold chain distribution networks. Such investments can help reduce food loss by about 76% and decrease carbon emissions by 16%.
- Creating jobs in servicing, maintenance and disposal of equipment involved in refrigeration.
- Investing in pre-cooling and refrigerated transport is another option to bring down food and pharmaceutical wastages during transportation

## Way Forward:

- India's cooling strategy can help save lives and livelihoods, reduce carbon emissions and simultaneously position India as a global hub for green cooling manufacturing. A sustainable roadmap for cooling has the potential to reduce 300 million tons of carbon dioxide annually by 2040.

## The Future of Food and Agriculture Report – FAO

**News:** According to the Food and Agriculture Organization's (FAO) new report, The Future of Food and Agriculture — Drivers and triggers for transformation, the world will witness persistent food insecurity if agrifood systems remain the same.

### Key Findings:

- There are 18 interconnected socio-economic and environmental forces, called drivers, which interacted and shaped the various activities occurring within agrifood systems, including farming, food processing, and food consumption. Poverty and inequalities, geopolitical instability, scarcity and the degradation of resources, and climate change are some of the key drivers and how they are and their management will determine what the future of food looks like.
- The world will witness persistent food insecurity, degrading resources and unsustainable economic growth in the future if agrifood systems remain the same. Many of the SDGs are not on track and will only be achieved if agrifood systems are transformed properly to withstand ongoing global adversity that undermines food security and nutrition due to growing structural inequalities and also regional inequalities. By 2050, there will be 10 billion people in the world to feed and this will be an unprecedented challenge if significant attempts are not made to reverse current trends.
- There will be four future scenarios for agrifood systems that bring diverse outcomes in terms of food security, nutrition and overall sustainability.
  - More of the same, that envisages continuing muddling through by reacting to events and crises.
  - Adjusted future, where some moves towards sustainable agrifood systems occur at a slow, uncertain pace.
  - Race to the bottom, that portrays a world in disarray in the worst version of itself.
  - Trading off for sustainability, where short-term Gross Domestic Product (GDP) growth is traded off for inclusiveness, resilience and sustainability of agrifood, socioeconomic and environmental systems.

### Key Recommendations:

- There is a need to think beyond piecemeal approaches and quick fix approach will come at high cost for everyone. There is an urgent need to change course so that a more sustainable and resilient future for agrifood systems is created.
- Need to work on triggers of information – improved governance, critical and informed consumers and better income and wealth distribution and innovation and technology.

## Earthshot Prize 2022

**News:** Indian startup 'Kheyti' won the prize in the 'Protect & Restore Nature' category.

### What is the Earthshot Prize?

- The Earthshot Prize is a 10-year project that aims to find "solutions to the biggest environmental problems the planet faces". The hope is that those solutions can be shared and repeated around the world. Every year, five prizes are awarded.
- The annual awards were created by Prince William. 5 Earthshot Prizes of £1m (\$1.2m) are being awarded each year until 2030 in support of environmental innovation projects for the future.

### Work done by Kheyti:

- Kheyti won the prize for protecting and restoring nature with its “**Greenhouse-in-a-box**” idea. The company provides a simple, large greenhouse to small farmers at a low cost. The greenhouse helps protect crops from insects and other pests. It also helps the crops survive extreme weather conditions.
- Kheyti is already working with 1,000 farmers across India. The company says the greenhouses allow farmers to use 90% less water and produce seven times as much food. Kheyti hopes to get its greenhouses to 50,000 farmers by 2027.
- It’s a wonderful innovation that saves on water & pesticides & provides higher yields at a fraction of the price.



## Biodiversity targets – Why have countries failed?

**News:** Parties to the United Nations Convention on Biological Diversity (CBD) are meeting in Montreal, Canada for a new global agreement on halting environmental loss.

- Many of the 24 conservation targets under discussion at the 15th Conference of the Parties (COP15) aim to avoid past mistakes and improve on the world’s last set of conservation goals — the Aichi Biodiversity Targets that expired in 2020.

### What are AICHI targets?

- The Aichi Targets, adopted during the 2010 CBD summit in Nagoya, included goals such as reducing deforestation by at least half during the coming decade and curbing pollution so that it no longer harmed ecosystems.
- Aichi was deemed a failure by the United Nations and the CBD secretariat called on parties to come up with another guiding document to direct conservation efforts through 2030 and beyond.

### Why did AICHI targets fail?

- Integrating protected areas across landscapes and seascapes and in development sectors has been lacking.
- 15% of parties to the Aichi targets have still not created a national biodiversity strategy and action plan
- Financing issues for conservation and poor data collection.
- Low awareness about government programs primarily among tribal communities due to issues such as language and accessibility barriers.
- UN’s SEEA (System of environmental-economic accounting) has not been uniformly adopted by countries.
- Only 25% of land on earth is currently, free of the impacts of human activities and even this is projected to decline to less than 10% by 2050.
- Inability to form a common consensus on reducing climate change
- It is estimated that around 50% of the world’s mature forests have been cleared by humans.
- Failure to contain plastic pollution.
- In India, Biodiversity Management Committees (BMCs) (under Biological Diversity Act, 2002) are often ill-equipped to make informed decisions regarding biodiversity-related issues.

## Pharmaceutical Pollution

**News:** According to a paper published in the journal The Lancet, pharmaceutical pollution is an overlooked but urgent issue that needs coordinated action from across the pharmaceutical, healthcare and environmental sectors.

### **About Pharmaceutical pollution:**

- Primarily a form of water pollution, it is caused by pharmaceutical drugs and their molecules which reach the aquatic environment through wastewater.
- It is now detected in waters throughout the world and its causes include effluents from pharmaceutical manufacturing, sewage overflows, agricultural runoff (antibiotic in livestock) and weakened infrastructure (waste-water treatment plants).
- Its impact on human health can be witnessed through Endocrine disruptor chemicals eg – Endosulfan which directly influences sex hormones.
- It impacts marine life. They are suspected contributor in fish kills.

### **Key Findings:**

- Almost 43% of the world's rivers are contaminated with active pharmaceutical ingredients in concentrations that can have disastrous consequences on health.
- Medicines being critical to human healthcare system, so there is a need to find ways to use them without poisoning the environment.

### **How can we minimize such pollution?**

- Upgrading existing water treatment plants to use advanced oxidation processes that can remove small molecules.
- Returning unused drugs to pharmacies rather than disposing of them down the sink or toilet.
- The domestic pharmaceutical industry needs to take the lead in limiting antibiotic pollution.

## **National Mission for Clean Ganga**

**News:** Recently, the Union Minister for Jal Shakti chaired the 10th meeting of the Empowered Task Force (ETF) of National Mission for Clean Ganga (NMCG).

- The Union government's flagship Namami Gange program, which was designed to enhance cleanliness levels in the Ganga River, has now geared to shift its focus to conservation, tourism and economic livelihoods.

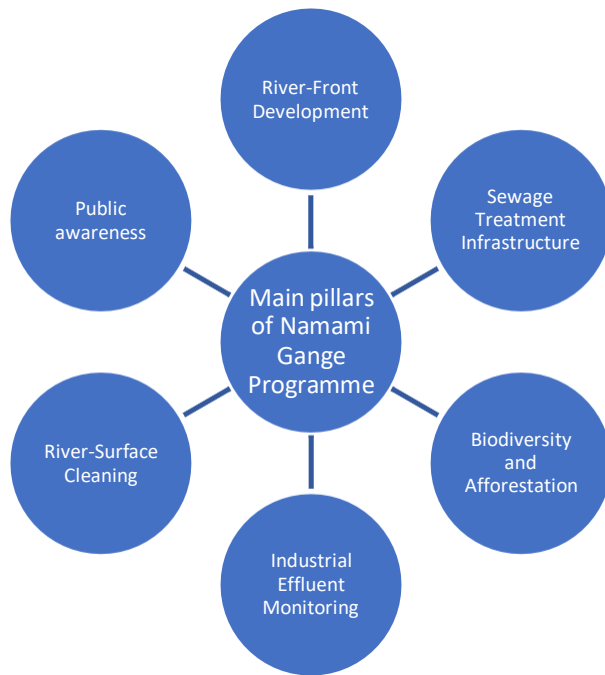
### **About National Mission for Clean Ganga:**

- It is being implemented by the National Council for Rejuvenation, Protection and Management of River Ganga also known as the National Ganga Council.
- This mission was established on 12th August 2011 under the Societies Registration Act, 1860 as a registered society.

### **About Namami Gange Program:**

- It is an Integrated Conservation Mission approved as a 'Flagship Programme' of the Ministry of Jal Shakti, Government of India, in 2014, with a budget outlay of Rs.20,000 crore.
- Its mandate is to accomplish the twin objectives of effective abatement of pollution, conservation and rejuvenation of the National River Ganga.
- It is being implemented by the National Mission for Clean Ganga (NMCG), and its state counterpart organisations i.e., State Program Management Groups (SPMGs).
- In phase 2 of Namami Gange Programme (2021-26), the states will focus on expeditious completion of projects and preparation of bankable Detailed Project Report (DPR) for projects in Ganga tributary towns, cutting down delays.
- Focus is also being given to the revival of small rivers and wetlands.
- For future, each Ganga district is to develop scientific plan and health card for at least 10 wetlands and adopt policies for reuse of treated water and other by products.





### What are new focus areas?

- The Tourism Ministry is developing tourism circuits and planning exhibitions and fairs in 75 towns along the main stem of the river.
- The Environment Ministry is scaling up afforestation and conservation efforts to protect the Gangetic River dolphin
- Steps taken to build organic farming and natural farming corridors by Ministry of Agriculture.
- The Rural Development Ministry is looking to rejuvenate small rivers and protect traditional water bodies.
- The Power Ministry is working to reuse treated wastewater for thermal power.
- Arth Ganga or harnessing economic potential from the Ganga and nearby communities
- For future, each Ganga district is to develop scientific plan and health card for at least 10 wetlands and adopt policies for reuse of treated water and other by products.

## Fertilizers usage on the rise

**News:** According to data from the Ministry of Chemicals and Fertilizers, the sale of urea and di-ammonium phosphate (DAP) increased by 3.7% and 16.9%, respectively, from April-October 2022 over the previous year. High government subsidy for the same are reason behind its rise.

### About:

- A fertilizer is a natural or artificial substance containing chemical elements (such as Nitrogen (N), Phosphorus (P) and Potassium (K)) that improve growth and productiveness of plants. Primary fertilizers in India - Urea, DAP and Muriate of Potash (MOP).
- The government pays a subsidy to fertilizer producers to allow farmers to buy fertilizers at below-market rates. The difference between the cost of production/import of a fertilizer and the actual amount paid by farmers is the subsidy portion borne by the government.

### What are the concerns?

- The Government of India schemes such as Soil Health Card and mandatory neem-coating of urea, were supposed to promote the balanced use of fertilisers. However, the annual consumption of urea (30 to 35 mt in the last 5 years) and DAP have grown over the years.
- Therefore, instead of providing a balanced mix of plant nutrients based on soil testing and crop requirements, Indian farmers are applying only urea and DAP.

## What are reasons behind increased consumption of Urea and DAP?

- The government has fixed the maximum retail price (MRP) of urea at Rs 5,628 per tonne, while the MRPs of other fertilizers are technically decontrolled.
- DAP – a cheaper substitute: Companies have been told not to charge more than Rs 27,000/tonne for DAP (Rs 29,000-31,000/ tonne for NPKS complexes), which has 46% P and 18% N.
- Therefore, the choice of fertilizers is primarily a function of prices and not of NPKS complexes or other macro and micronutrients in the fertilizers.

## Impact of Fertilizer subsidies:

- The current NPK ratio of 13:5:1, as against the ideal 4:2:1, would adversely affect crop yields.
- Urea and DAP contain more than 30% of any single nutrient. Urea has 46% N, while DAP has 46% P and also 18% N. It will adversely affect the health of plants and humans, due to the unavailability of a balanced nutrient mix.
- The high subsidy on urea and DAP makes them much cheaper for farmers relative to other fertilizers. For example, price of DAP has become far cheaper than other fertilizers and prices of other fertilizers which were decontrolled have gone up which has further shifted farmer's preference to Urea and DAP.
- Fertilizer subsidies are damaging the fiscal health of the economy.
- Subsidized urea is getting diverted to bulk buyers/traders or even non-agricultural users such as plywood and animal feed makers.

## Way forward:

- The government should replace subsidies on individual fertilizer products with a flat per-hectare cash transfer
- Every farmer can have an e-wallet account, which can be used only for the purchase of fertilizers.
- Maintaining a stock of decontrolled fertilizers to ensure no unexpected price increases.

## Mainstreaming Biodiversity in Forestry

**News:** The Food and Agriculture Organization (FAO) published a paper on forestry titled 'Mainstreaming Biodiversity in Forestry' in partnership with the Center for International Forestry Research (CIFOR).

### About:

- According to the FAO Report, Mainstreaming biodiversity is "the process of embedding biodiversity considerations into policies, strategies and practices of key public and private actors to promote conservation and sustainable use of natural resources".
- It involves prioritizing forest policies, plans, programmes, projects and investments that have a positive impact on biodiversity at the ecosystem, species and genetic levels.
- It is about integrating biodiversity concerns into everyday forest management practice.

### What are the approaches to mainstreaming Biodiversity?

- **Spatial Planning-based Approaches**
  - Large-scale spatial planning should consider the effects of other sectors, especially agriculture and infrastructure, on forest biodiversity.
  - Approaches like designation of multiple-use protected areas, protecting threatened habitats, and increasing forest cover through restoration and forest plantation establishment can be adopted.
- **Species Based approaches**
  - Species management, with active partnerships with NGOs, enables Governments to harmonize efforts across sectors to manage species that interact strongly with human activities.
  - For example, Species threatened by human activities; Migratory species; Species causing human-wildlife conflict; Invasive species; Overabundant native species; Harvested species.
- **Economic Instrument**

- Economic instruments like taxes, subsidies and grants, can be used to incentivize forest owners and managers to advance Sustainable Forest Management (SFM) and improve biodiversity outcomes. Governments should check subsidies on agriculture inputs or forest conversion.
- **Biodiversity offsetting** can provide cash for extending and strengthening protected area management and funding forest restoration.
- **Biodiversity offsets** are actions designed to compensate for biodiversity loss from development projects. They are based on the premise that impacts from development can be compensated for if sufficient habitat can be protected, enhanced or established elsewhere.
- **Regulatory Instruments**
  - Forest regulations ensure that forest management contributes to successful implementation of National Biodiversity Management Strategies. Regulatory instruments include quotas/permits/licenses designed to regulate the exploitation of forest resources and legal provisions for environmental governance, including environmental impact assessments.
- **Market-based instruments**
  - REDD+ and other carbon-based payments for Ecosystem services (PES) schemes.
- **Supporting instruments**
  - Biodiversity knowledge and capacity among government agencies, local communities, civil society etc.
- **Participatory Forest Management**
  - Recognizing the rights of Indigenous Peoples and local communities, ensuring their participation and integrating their traditional knowledge in forest management is critical to achieve SFM. Equitable sharing of the benefits of biodiversity is one of the central pillars of the United Nations Convention on Biological Diversity (CBD).

#### **What are the Barriers to Biodiversity mainstreaming?**

- **Deforestation** - It continues at an alarming rate of 10 million ha per year especially in lower income tropical countries, primarily driven by agricultural expansion.
- **Illegal Forest Activities and Corruption** - Illegal timber harvesting is estimated to account for 15–30% of global timber production and 50–90% of forest harvesting in many tropical countries. These activities directly impact forest biodiversity through forest degradation and undermine efforts towards SFM.
- **Poor Conservation Outside Protected Areas** - Biodiversity conservation often receives little attention outside protected areas. It is critical to stem biodiversity losses given the limited and uneven coverage of protected areas.
- **Insufficient Capacity, Financing and Regulatory Oversight** - Many developing countries struggle to enforce forest and biodiversity regulations because of insufficient capacity and resources, especially at sub-national levels.
- **Lack of Indigenous Peoples and Local Community Participation** - The interests of local communities are often not given sufficient consideration in national forest policy and forest management plans. This undermines social justice objectives, prevents equitable sharing of the benefits derived from biodiversity, and increases the threats to biodiversity.

#### **Way Forward for integrating Biodiversity in Forest Management:**

- Assessing and Managing Risks of Forest Operations to Biodiversity during planning and before initiating any major operations to mitigate identified risks.
- Protecting Critical Biodiversity Resources by retaining and protecting key biodiversity resources such as rare plants, nest sites, large trees, hollow trees, dead wood etc
- Sustainable Management of Timber Resources as timber harvesting is a major threat affecting a huge number of tree species. Also, lowering the harvesting volume of timber with a longer rotation period could be a potential method.
- Regulating Non-wood Forest Product (NWFP) Harvest, including plant resources and animals, to ensure sustainability.
- Sustainable Management of Forest Genetic Resources to maintain and enhance genetic diversity of tree resources.
- Managing and Controlling Invasive Species through invasive species management plan, including the monitoring and eradication of invasive species.

- Protecting Forests from Illegal and Unauthorized Activities which is a major cause of biodiversity loss.

### Conclusion

- Mainstreaming biodiversity in forest policy and management supports Sustainable Forest Management by balancing conservation and sustainable use of forest biodiversity. But its successful integration in forest management requires coordinated actions of International, National and Local Stakeholders.

## National Energy Conservation Day

**News:** The day is celebrated every year on **14<sup>th</sup> December**. The Bureau of Energy Efficiency (BEE) spearheads the celebrations.

- It focuses on making people aware of global warming and climate change and promotes efforts towards saving energy resources. It also highlights the achievements of the country in the fields of energy efficiency and conservation.

### Key Highlights of the day:

- National Energy Efficiency Innovation Awards (NEEIA) 2022 are given. They recognize outstanding work and innovative minds of India in the area of Energy Efficiency, NEEIA awards were started in the year 2021. The awards are evaluated based on Replicability, Affordability, Reliability, Impact on Energy Savings and Impact on Environment & Sustainability.
- The BEE has developed a mobile application titled “**EV Yatra**” that has been designed and developed to facilitate in-vehicle navigation to the nearest public EV charger and a web-portal to enable Charging Point Operators (CPOs) to register their charging details securely into the National Online Database.

### What is Energy conservation?

- Energy conservation is the effort to reduce wasteful energy consumption by using fewer energy services. This can be done by using energy more effectively (using less energy for continuous service) or changing one's behavior to use less service (for example, by driving less).
- Energy conservation can be achieved through energy efficiency, which has a number of advantages, including a reduction in greenhouse gas emissions, a smaller carbon footprint, and cost, water, and energy savings.

### What are Indian initiatives related to energy conservation?

- Perform Achieve and Trade Scheme (PAT) - It is a market-based mechanism to enhance the cost-effectiveness in improving Energy Efficiency in Energy Intensive industries through certification of energy saving which can be traded.
- Energy Conservation Building Code (ECBC) - It is to be followed for new commercial buildings in 2007.
- Several schemes have been launched to boost the growth of solar energy across the nation, such as the Solar Park Scheme, VGF Schemes, CPSU Scheme, Defence Scheme, Canal Bank & Canal Top Scheme, Bundling Scheme, and Grid Connected Solar Rooftop Scheme.
- Wind projects have been promoted across the country through private sector investment by offering financial incentives such as accelerated depreciation (AD) benefits.
- Central government has also nudged state government to implement long pending power sector reforms.
- The parliament has recently passed the Energy conservation (Amendment) bill, 2022 which promotes energy efficiency and conservation. The Bill empowers the Centre to specify a carbon credit trading scheme. The legislation also stipulates that designated consumers may be required to meet a proportion of their energy needs from non-fossil sources.

## COP15 Montreal

**News:** As many as 44 per cent of all abalone shellfish species threatened with extinction; dugongs and pillar coral added to the IUCN Red List.

## Background:

- A list of threatened species released at the 15th Conference of Parties (COP15) to the United Nations Convention on Biological Diversity (CBD) in Montreal, Canada has shown what overconsumption and unsustainable harvesting can do to plants and animals around us.

## Abalone species:

- Abalone species are among the world's most expensive seafoods and are considered a culinary delicacy. Abalone is sold live in the shell, frozen, or canned and is revered for its sweet, salty, and buttery taste.
- Unfortunately, unsustainable extraction and poaching along with climate change, disease and pollution have put twenty of the world's 54 abalone species at risk of extinction, according to IUCN.

## Dugong:

- Victim to unintentional capture in fishing gear
- Destruction of their food (seagrass) due to chemical pollution, oil and gas exploration
- Production, bottom trawling and unauthorized coastal development
- Dugong populations in east Africa and New Caledonia have entered the IUCN Red List as Critically Endangered and Endangered respectively; **the species remains Vulnerable globally.**

## Pillar Coral:

- Found throughout the Caribbean from the Yucatan Peninsula and Florida to Trinidad and Tobago.
- They are affected by the contagious Stony Coral Tissue Loss Disease and can affect anywhere between 90 and 100 metres of reef per day.
- IUCN – **Critically Endangered**

## Way Forward

- With this devastating IUCN Red List update on the status of marine species, it is clear that business as usual is no longer an option.
- The recent updates reinforce IUCN's urgent call for a Post-2020 Global Biodiversity Framework that will be ambitious enough to cease destruction of our life support system and catalyse the necessary action and change to secure life on this planet

## GLAAS Report 2022

**News:** The Global Analysis and Assessment of Sanitation and Drinking-Water (GLAAS) report was released by the **World Health Organization (WHO)** and **UN-Water**.

### What is GLASS report?

- The Global Analysis and Assessment of Sanitation and Drinking Water (GLAAS) is an UN-Water initiative implemented by WHO. The objective of GLAAS is to provide policy- and decision-makers at all levels with a reliable, easily accessible and comprehensive analysis of WASH systems to make informed decisions for sanitation, drinking water and hygiene.
- The report also highlights opportunities to accelerate progress in key WASH areas that positively affect the quality and sustainability of WASH services and delivery, pandemic preparedness and resilience to climate change.

### Key Findings:

- Less than one-third of countries reported maintaining enough human resources to manage essential Water, Sanitation and Hygiene (WASH) tasks.

**WASH is an acronym that stands for the interrelated areas of Water, Sanitation and Hygiene. The World Health Organisation (WHO) WASH Strategy has been developed in response to Member State Resolution (WHA 64.4) and the 2030 Agenda for Sustainable Development (SDG 3: Good Health and Well Being, SDG 6: Clean Water And Sanitation).**

- While WASH budgets in some countries have increased, a significant portion — more than 75% of them reported having inadequate resources to carry out their WASH plans and objectives.
- 45% of countries are on track to meet their drinking-water coverage targets, but only 25% are meeting their sanitation targets.
- Most WASH policies and plans do not consider climate change threats to WASH services, nor do they take the climate resilience of WASH technology and management systems into account. The increasing frequency and intensity of extreme weather events caused by climate change continue to hamper the delivery of safe WASH services, thus affecting the health of users.



- Aid for water and sanitation decreased by 5.6% between 2017 and 2020, and the geographical targeting of the aid shifted.

#### Way Forward:

- Governments must target underserved populations and settings and local participation is a way to ensure no one is left behind.
- Increased inclusion, financial support and monitoring are needed to ensure women are considered in WASH decisions.
- Increase investments to ensure access to safely managed drinking water and sanitation services.

## World Bank Report on Air Pollution

**News:** The World Bank released a report titled 'Striving for Clean Air: Air Pollution and Public Health in South Asia'.

#### Key Findings:

- **Increased exposure to PM 2.5**
  - Currently over 60% of South Asians are exposed to an average 35  $\mu\text{g}/\text{m}^3$  of PM2.5 annually. In some parts of the IGP it spiked to as much as 100  $\mu\text{g}/\text{m}^3$  – nearly 20 times the upper limit of 5  $\mu\text{g}/\text{m}^3$  recommended by the World Health Organisation (WHO).
- **Main sectors contributing to Air Pollution**
  - Large industries, power plants and vehicles are dominant sources of air pollution around the world, but in South Asia, other sources make substantial additional contributions. These include combustion of solid fuels for cooking and heating, emissions from small industries such as brick kilns, burning of municipal and agricultural waste, and cremation.
- **Airsheds** - Six large airsheds exist in South Asia, where the air quality in one can affect the air quality in another.
  - West/Central Indo-Gangetic Plain (IGP) that included Punjab (Pakistan), Punjab (India), Haryana, part of Rajasthan, Chandigarh, Delhi, Uttar Pradesh.
  - Central/Eastern IGP: Bihar, West Bengal, Jharkhand, Bangladesh
  - Northern/Central Indus River Plain: Pakistan, part of Afghanistan; and
  - Southern Indus Plain and further west: South Pakistan, Western Afghanistan extending into Eastern Iran.
  - Middle India: Odisha/Chhattisgarh/Eastern Gujarat/Western Maharashtra

- When the wind direction was predominantly northwest to the southeast, 30% of the air pollution in Indian Punjab came from the Punjab Province in Pakistan and, on average, 30% of the air pollution in the largest cities of Bangladesh (Dhaka, Chittagong, and Khulna) originated in India. In some years, substantial pollution flowed in the other direction across borders.

**Airsheds - The World Bank defines an airshed as a common geographic area where pollutants get trapped, creating similar air quality for everyone.**

#### **Key Recommendations:**

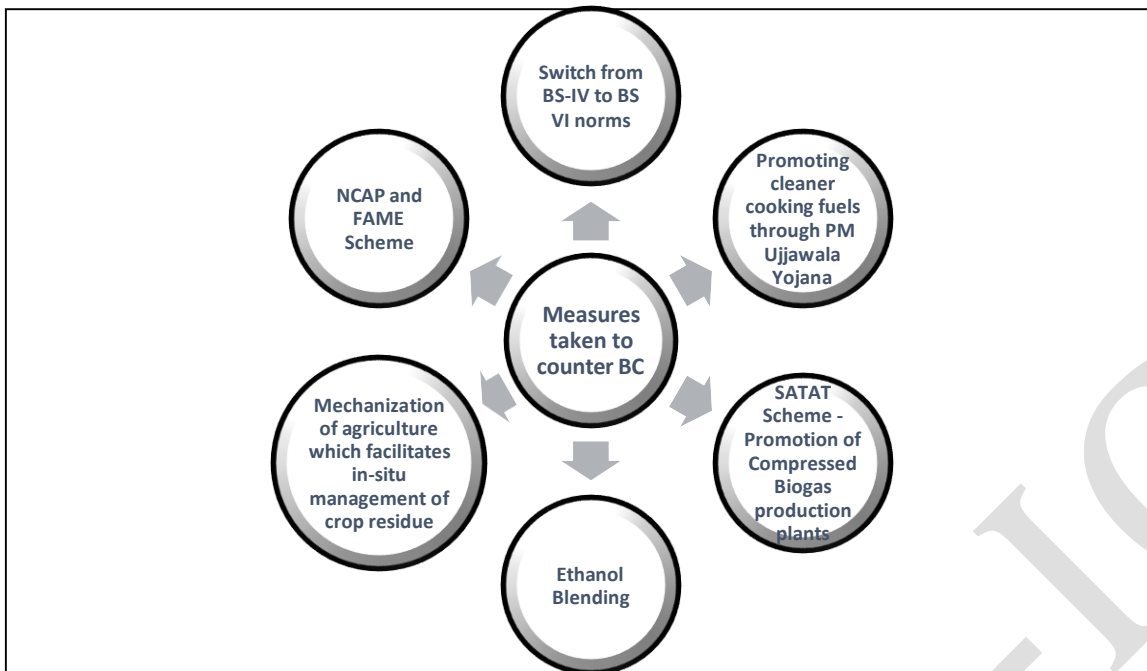
- Governmental measures can reduce particulate matter, but significant reductions in airsheds require coordinated policies across the airsheds. If Delhi National Capital Territory were to fully implement all air pollution control measures by 2030 while other parts of South Asia continued to follow current policies, it wouldn't keep pollution exposure below 35  $\mu\text{g}/\text{m}^3$ . What will help is if other parts of South Asia also adopted all feasible measures it would bring pollution below that number.
- South Asian countries including India need to change their approach in order to improve air quality and reduce pollutants to levels considered acceptable by the WHO.
- Curbing air pollution requires not only tackling its specific sources, but also close coordination across local and national jurisdictional boundaries.
- Regional cooperation can help implement cost-effective joint strategies that leverage the interdependent nature of air quality.
- The most cost-effective one, which calls for full coordination between airsheds, would cut the average exposure of PM 2.5 in South Asia to 30  $\mu\text{g}/\text{m}^3$  at a cost of USD 278 million per  $\mu\text{g}/\text{m}^3$  of reduced exposure and save more than 7,50,000 lives annually.

## **Measures taken to counter Black Carbon**

**News:** Recently in Lok Sabha, the Minister of State for Environment, Forest and Climate Change outlined the various measures taken to counter black carbon.

#### **What is Black Carbon?**

- Black Carbon (BC) is a **short-lived** pollutant that is the **second-largest** contributor to warming the planet behind carbon dioxide (CO<sub>2</sub>). Unlike other greenhouse gas emissions, it is quickly washed out and can be eliminated from the atmosphere if emissions stop.
- Unlike historical carbon emissions it is also a localized source with greater local impact.
- They are kind of an aerosol. Among aerosols (such as brown carbon, sulphates), Black Carbon has been recognized as the second most important anthropogenic agent for climate change and the primary marker to understand the adverse effects caused by air pollution.
- Black carbon absorbs solar energy, it warms the atmosphere. When it falls to earth with precipitation, it darkens the surface of snow and ice, reducing their albedo (the reflecting power of a surface), warming the snow, and hastening melting.
- Source - It gets emitted from gas and diesel engines, coal-fired power plants, and other sources that burn fossil fuel. It comprises a significant portion of particulate matter.



## Post-2020 Global Biodiversity Framework

**News:** Recently, at the 15th Conference of Parties (COP15) to the UN Convention on Biological Diversity “Kunming-Montreal Global Biodiversity Framework” (GBF) was adopted.

### Background:

- GBF includes 4 goals and 23 targets for achievement by 2030.
- The U.N. biodiversity conference concluded in Canada's Montreal.
- The first part of COP 15 took place in Kunming, China and reinforced the commitment to address the biodiversity crisis and the Kunming Declaration was adopted by over 100 countries.
- GBF is a new draft of the UN CBD to lead actions worldwide through 2030, to avoid biodiversity loss and preserve the environment.
- Its suggested goals include lowering pesticide use by at least two-thirds and eliminating the most harmful subsidies, such as those for fisheries and agriculture.
- The GBF's 30×30 objective is to safeguard at least 30% of the earth, particularly places of importance – land and water – for biodiversity, by 2030.

### What key areas were agreed upon at COP 15?

- **Money for Nature:**
  - Signatories aim to ensure \$200 billion per year is channeled to conservation initiatives, from public and private sources.
  - Wealthier countries should contribute at least \$20 billion of this every year by 2025, and at least \$30 billion a year by 2030.
- **Big Companies Report Impacts on Biodiversity:**
  - Companies should analyse and report how their operations affect and are affected by biodiversity issues.
  - The parties agreed to large companies and financial institutions being subject to “requirements” to make disclosures regarding their operations, supply chains and portfolios.
- **Harmful Subsidies:**
  - Countries committed to identify subsidies that deplete biodiversity by 2025, and then eliminate, phase out or reform them.
  - They agreed to slash those incentives by at least USD500 billion a year by 2030 and increase incentives that are positive for conservation.



- **Monitoring and reporting progress:**
  - All the agreed aims will be supported by methods to monitor progress in the future, in a bid to prevent this agreement from meeting the same fate as the Aichi targets of 2010.
  - National action plans will be set and reviewed, following a similar format used for GHG emissions under U.N-led efforts to curb climate change.
- **Pollution and pesticides:**
  - The final language focuses on the risks associated with pesticides and highly hazardous chemicals and will focus on reducing the negative impacts of pollution to levels that are not considered harmful to nature.

#### Concerns

- Civil society groups say GBF is turning into Global Biodiversity Fraud
- No quantifiable targets
- Lack of deadline for countries to submit national plans
- Reduction targets or pest management not mentioned

#### What points did India raise at GBF?

- The GBF should be framed in terms of science and equity.
- The notion of equity and common but differentiated responsibilities and respective capabilities (CBDR-RC) must also apply to biodiversity.
- The necessary assistance to vulnerable groups cannot be considered subsidies and may be rationalized.
- A quantifiable worldwide pesticide reduction target is unnecessary and should be left up to individual governments to determine.
- Without sufficient scientific evidence, the stated numerical target for coping with the impacts of invasive alien species on native biodiversity is not possible.
- India also called for an urgent need to create a new and dedicated fund to help developing countries successfully implement a post-2020 global framework to halt and reverse biodiversity loss.

## India pushes for development of Biofuels

**News:** Under its G20 Presidency, India is pushing for international collaboration for energy security and enhanced development of emerging fuels like biofuel and hydrogen.

#### What are Biofuels?

- Biofuels are liquid or gaseous fuels primarily produced from biomass, and can be used to replace or can be used in addition to diesel, petrol or other fossil fuels for transport and other applications.
- Crops used to make biofuels are generally either high in sugar (such as sugarcane, sugarbeet), starch (such as maize and tapioca) or oils (such as soybean, rapeseed, coconut, sunflower).

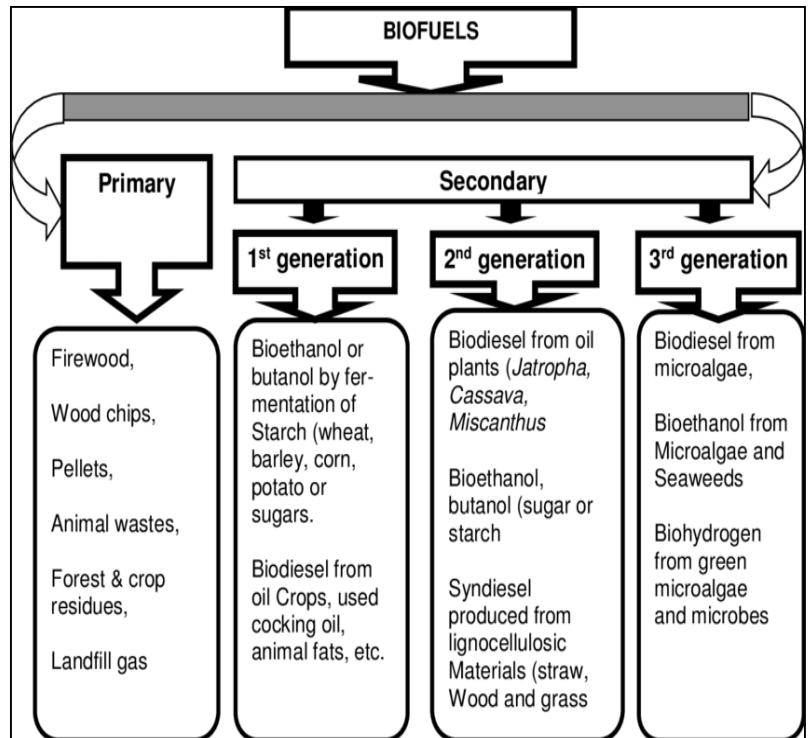
#### What are the different categories of Biofuels?

- 1st-generation biofuels are made from sugar, starch, vegetable oil, or animal fats using conventional technology.
- 2nd generation biofuels are produced from non-food crops, such as cellulosic biofuels and waste biomass (stalks of wheat and corn, and wood).
- 3rd generation biofuels are produced from microorganisms like algae.

#### What are the different initiatives taken to promote Biofuels in India?

- **National Policy on Biofuels 2018** - It aims to have country-wide blending rates of 20% ethanol and 5% biodiesel by 2030. It also focused on using 2G technologies with agricultural/industrial waste products. However, the policy was amended recently and now the government aims to achieve a blending target of 20% ethanol by 2025.
- **Pradhan Mantri JI-VAN** (Jaiv Indhan – Vatavaran Anukool fasal awashesh Nivaran) Yojana: - Launched in 2019 to create an ecosystem for commercial project development and R&D in the 2G Ethanol sector.

- **GOBAR** (Galvanizing Organic Bio-Agro Resources) **DHAN scheme** - It focuses on managing and converting farm animal dung and solid waste into useful compost, biogas, and bio-CNG, thereby keeping villages clean and increasing rural household income.
- **SATAT** (Sustainable alternative towards affordable transportation) - Aimed at setting up Compressed Bio-Gas production plants. The scheme will ensure responsible waste management, reduction in import of natural gas and crude oil and provide additional revenue source to farmers.
- **Ethanol Blended Petrol (EBP) program** - It seeks to achieve ethanol blending in order to reduce pollution, conserve foreign exchange, and so on.
- **Repurpose Used Cooking Oil (RUCO)** - It aims to create an ecosystem that allows for the collection and conversion of used cooking oil to biodiesel.
- **Integrated Biorefineries Mission** - Mission Biorefineries offers an integrated and holistic zero-waste biorefinery approach to scaling up clean energy innovation for a low carbon sustainable future through a global collaborative alliance. India and Netherlands are leading this mission to address the current challenges with active engagement of Mission Innovation Members, partners and industries.



# Security & Disaster Management

## Agni 5 missile

**News:** Recently, India successfully carried out the night trials of the Agni-5 nuclear-capable ballistic missile which can hit targets beyond 5,000 kms according to Defence sources.

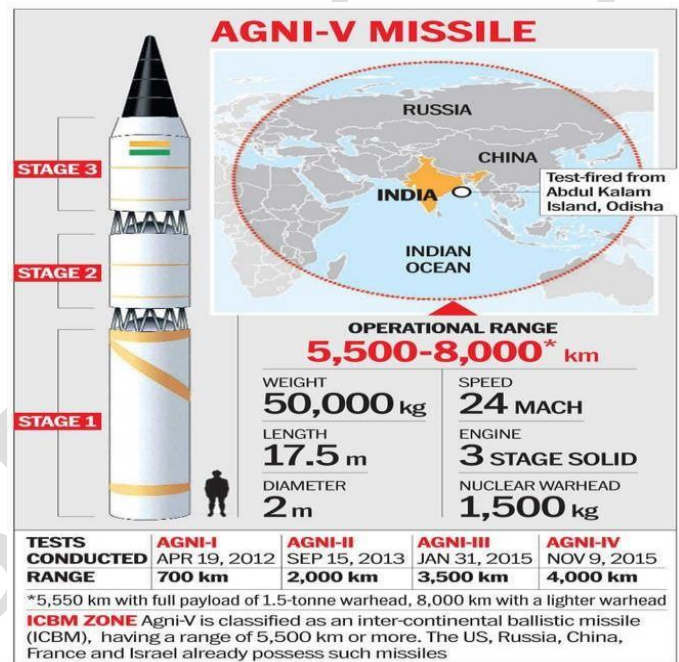
- The test was carried out to validate new technologies and equipment on the missile which is now lighter than before. The trial has proved the capability to enhance the range of the Agni-5 missile, if required.

### About:

- The Agni missile class is the backbone of India's nuclear launch capability. Agni 1 to 5 missiles are designed and developed by **Defense Research and Development Organization (DRDO)**.
- Agni-5 is an ingeniously built advanced **surface-to-surface ballistic missile** developed under the **Integrated Guided Missile Development Programme (IGMDP)**.
- It is a **fire-and-forget missile**, which cannot be stopped without an interceptor missile.

### What is IGMDP?

- IGMDP was the brainchild of renowned scientist Dr. APJ Abdul Kalam. It was intended to attain self-sufficiency in the field of missile technology.
- The program recognized the need to develop five missile systems.
- The IGMDP formally got the approval of the Indian government in 1983.
- It brought together the country's scientific community, academic institutions, R&D laboratories, industries and the three defense services in giving shape to the strategic, indigenous missile systems.
- Missiles developed under the programme are **Prithvi** (Short-range surface-to-surface ballistic missile), **Agni** (Intermediate-range surface-to-surface ballistic missile), **Trishul** (Short-range low-level surface-to-air missile), **Akash** (Medium-range surface-to-air missile) and **Nag** (Third generation anti-tank missile).



## Missile Destroyer INS Mormugao

**News:** INS Mormugao (Pennant D67) has been recently commissioned into the Indian Navy.

### About:

- INS Mormugao is the second ship of the **Visakhapatnam-class** destroyers (also known as Project -15B stealth, guided-missile destroyers).
- It is built by **Mazagon Dock Shipbuilders Limited (MDSL)**.
- Mormugao is named after the historic port city of Goa on India's west coast.

### Features:

- The ship is propelled by **four powerful gas turbines** and is capable of achieving speeds of **over 30 knots**.
- It is equipped with **surface-to-surface and surface-to-air missiles**.

- It is also fitted with a modern surveillance radar that provides target data to the gunnery weapon systems.
- It is said to feature state-of-the-art weapons, stealth features and sensors.
- It has a **total atmospheric control system** (TACS) that protects crew from nuclear, biological, and chemical threats, as well as a state of the art combat management system that can evaluate threats using analytical tools.

#### Strategic Significance:

- Destroyers are technically a category of warships, that have high speed maneuverability, and longer endurance to be part of the escort for larger vessels in a fleet or a carrier battle group.
- Guided missile destroyers are capable of anti-aircraft and anti-submarine warfare, apart from anti-surface operations.



## INS Vagir

**News:** Recently, the 5th Scorpene class submarine of Project-75 named INS 'Vagir' has been delivered to the Indian Navy. It is a Kalvari class diesel-electric attack submarine.

#### About:

- It is named after the Sand Fish, a deadly deep-sea predator of the Indian Ocean.
- It is a part of the six Kalvari-class submarines being built in India.
- The state-of-art technology used in the submarine has ensured:
  - Superior stealth features such as advanced acoustic absorption techniques, low radiated noise levels, and hydro-dynamically optimized shape.
  - The ability to attack the enemy using precision guided weapons.
- Construction of these submarines in an Indian yard is another step towards 'Aatmanirbhar Bharat' and enhances self-confidence in this field, a notable achievement is that this is the third submarine delivered to the Indian Navy in a span of 24 months.



#### Key Features:

- Designed to operate in all theatres of operation.
- It can launch attacks with both torpedoes and tube launched anti-ship missiles, whilst underwater or on surface.
- It can undertake various types of missions i.e. Anti-Surface warfare, Anti-Submarine warfare, Intelligence gathering, Mine Laying, Area Surveillance.

## Anti-Maritime Piracy Bill

**News:** Rajya Sabha recently passed the Anti-Maritime Piracy Bill to promote trade security. The bill will bring the UN Convention on the Law of the Sea into domestic law and enable Indian authorities to take action against piracy on the high seas.

### Need for Bill:

- The security of sea lanes of communication is critical as more than 90% of India's trade takes place by sea routes and more than 80% of the country's hydrocarbon requirements was sea-borne.
- IPC is not valid for foreigners in international waters: Previously, pirates were prosecuted under the Indian Penal Code, 1860 (IPC). However, India's sovereignty is delimited by the outer boundary of its territorial waters— 12 nautical miles from the coast. Acts of piracy committed by a foreigner outside India's territorial waters cannot be an offence under the IPC, and those accused in piracy cases have been acquitted due to the lack of jurisdiction.
- Incidence of Piracy - Gulf of Aden has been one of the deadliest areas in the oceans due to a large number of piracy incidents. Due to an increased naval presence in the Gulf of Aden, it has been observed that piracy operations are shifting towards the east and south, which increases their proximity to India's west coast. Around 18 Indians aboard a crude oil carrier were kidnapped off the coast of Nigeria last year (2021).

### Key Provisions:

- **Definition of Piracy** - Piracy is defined as an act of violence or detention by the crew or passengers of a private vessel or private aircraft on high seas, directed against another vessel or aircraft and/or people or property on board.
- **Extra territorial jurisdictions** - The Bill will apply to the sea beyond the Exclusive Economic Zone (EEZ), that is, beyond 200 nautical miles from India's coastline. For committing acts of piracy, the convicts shall be punished with imprisonment for life or death in case the act of piracy itself causes the death or attempts to cause the death of another person.
- **Punishment** - Participation or even assistance in acts of piracy shall be punishable with up to 14 years of imprisonment and a fine.
- Offences will be considered **extraditable**. This means that the accused can be transferred to any country for prosecution with which India has signed an extradition treaty. In the absence of such treaties, offences will be extraditable on the basis of reciprocity between the countries.
- **Jurisdiction of courts** - The central government, in consultation with the Chief Justice of the concerned High Court, may notify Sessions Courts as the Designated Courts under this Bill.
- **Presumption of Guilt** - The presumption of guilt will be on the accused if:
  - The accused is in possession of arms, explosives and other equipment which were used or intended for use in committing the offence.
  - There is evidence of the use of force against the ship's crew or passengers, and
  - There is evidence of the intended use of bombs and arms against the crew, passengers or cargo of a ship.

### What is the UN Convention on the Law of the Sea?

- The UNCLOS, 1982 is an international agreement that establishes the legal framework for marine and maritime activities.
- It is also known as Law of the Sea. It divides marine areas into five main zones namely- Internal Waters, Territorial Sea, Contiguous Zone, Exclusive Economic Zone (EEZ) and the High Seas.
- It is the only international convention which stipulates a framework for state jurisdiction in maritime spaces. It provides a different legal status to different maritime zones.
- It provides the backbone for offshore governance by coastal states and those navigating the oceans.
- It not only zones coastal states' offshore areas but also provides specific guidance for states' rights and responsibilities in the five concentric zones.
- In 1995, India ratified the UNCLOS.

# Pralay Missile

**News:** The decision by the Defence Ministry to procure indigenous **short-range ballistic surface-to-surface (SRBM)** missile Pralay, a conventional weapon that has become ready for induction in just seven years, gives Indian military the heft to its war-fighting capabilities.

## About:

- The missile will be India's first tactical quasi-ballistic missile and will give the armed forces the capability to hit enemy positions and key installations in actual battlefield areas.
- The canisterised Pralay missile, with a range of **150-500 kilometres**, has been developed according to the specifications and requirement of the Army.
- The missile has been developed in a way that it is able to defeat the interceptor missiles and also has the ability to change its path after covering a certain range mid-air.
- It is capable of carrying a conventional warhead of about **350 kg to 700 kg**, which gives it a deadly punitive capability.
- It can carry a high explosive preformed fragmentation warhead, penetration-cum-blast (PCB) and runaway denial penetration submunition (RDPS).

## Significance:

- It is India's first tactical quasi-ballistic missile and will give the armed forces the capability to hit enemy positions and key installations in actual battlefield areas.
- Pralay, along with the BrahMos supersonic cruise missile, will form the crux of India's planned Rocket Force. The Brahmos will be cruise option while Pralay will be ballistic option.
- India's Pralay missile can be compared to China's Dong Feng 12 and the Russian Iskander missile that has been used in the ongoing war with Ukraine.

Ballistic Missile	Cruise Missile
<ul style="list-style-type: none"><li>• It is propelled only for a brief duration after the launch.</li></ul>	<ul style="list-style-type: none"><li>• Self-propelled till the end of its flight.</li></ul>
<ul style="list-style-type: none"><li>• Similar to a rocket engine.</li></ul>	<ul style="list-style-type: none"><li>• Similar to a jet engine.</li></ul>
<ul style="list-style-type: none"><li>• Long-range missiles leave the earth's atmosphere and reenter it.</li></ul>	<ul style="list-style-type: none"><li>• The flight path is within the earth's atmosphere.</li></ul>
<ul style="list-style-type: none"><li>• Low precision as it is unguided for most of its path and its trajectory depends on gravity, air resistance and Coriolis Force.</li></ul>	<ul style="list-style-type: none"><li>• Hits targets with high precision as it is constantly propelled.</li></ul>
<ul style="list-style-type: none"><li>• Can have a very long range (300 km to 12,000 km) as there is no fuel requirement after its initial trajectory.</li></ul>	<ul style="list-style-type: none"><li>• The range is small (below 500 km) as it needs to be constantly propelled to hit the target with high precision.</li></ul>
<ul style="list-style-type: none"><li>• Heavy payload carrying capacity.</li></ul>	<ul style="list-style-type: none"><li>• Payload capacity is limited.</li></ul>
<ul style="list-style-type: none"><li>• Can carry multiple payloads (<b>Multiple Independently targetable Re-entry Vehicle</b>)</li></ul>	<ul style="list-style-type: none"><li>• Usually carries a single payload.</li></ul>
<ul style="list-style-type: none"><li>• Developed primarily to carry nuclear warheads.</li></ul>	<ul style="list-style-type: none"><li>• Developed primarily to carry conventional warheads.</li></ul>
<ul style="list-style-type: none"><li>• E.g. Prithvi I, Prithvi II, Agni I, Agni II and Dhanush missiles.</li></ul>	<ul style="list-style-type: none"><li>• E.g. BrahMos missiles</li></ul>

We recommend you to watch our youtube content on Pralay missile - <https://youtu.be/m5hl1gcWEnA>

# General Studies – 4

## Ethics, Integrity & Aptitude

1. Ethics and Human Interface: Essence, determinants and consequences of Ethics in-human actions; dimensions of ethics; ethics - in private and public relationships. Human Values - lessons from the lives and teachings of great leaders, reformers and administrators; role of family society and educational institutions in inculcating values.
2. Attitude: content, structure, function; its influence and relation with thought and behaviour; moral and political attitudes; social influence and persuasion.
3. Aptitude and foundational values for Civil Service, integrity, impartiality and non-partisanship, objectivity, dedication to public service, empathy, tolerance and compassion towards the weaker-sections.
4. Emotional intelligence-concepts, and their utilities and application in administration and governance.
5. Contributions of moral thinkers and philosophers from India and world.
6. Public/Civil service values and Ethics in Public administration: Status and problems; ethical concerns and dilemmas in government and private institutions; laws, rules, regulations and conscience as sources of ethical guidance; accountability and ethical governance; strengthening of ethical and moral values in governance; ethical issues in international relations and funding; corporate governance.
7. Probity in Governance: Concept of public service; Philosophical basis of governance and probity; Information sharing and transparency in government, Right to Information, Codes of Ethics, Codes of Conduct, Citizen's Charters, Work culture, Quality of service delivery, Utilization of public funds, challenges of corruption.
8. Case Studies on above issues

## Personality Rights

**News:** The Delhi High Court recently passed an interim order to prevent the unlawful use of Bollywood star Amitabh Bachchan's name, image and voice. The court through its order, restrained people from infringing the personality rights of the actor.

### What are Personality rights?

- Personality rights refer to the right of a person to protect his/her personality under the right to privacy or property. These rights are important to celebrities as their names, photographs or even voices can easily be misused in various advertisements by different companies to boost their sales. Personality rights are of two types:
- Firstly, the right of publicity, or the right to keep one's image and likeness from being commercially exploited without permission or contractual compensation and
- Secondly, the right to privacy or the right to not have one's personality represented publicly without permission.

### What about personality rights in India?

- The closest statute to protect personality rights is Article 21 of the Constitution of India under rights to privacy and publicity.
- Other statutory provisions protecting personality rights include the Copyright Act, 1957. According to the Act, moral rights are only granted to authors and performers, including actors, singers, musicians, and dancers. The provisions of the Act mandate that the Authors or the Performers have the right to be given credit or claim authorship of their work and also have a right to restrain others from causing any kind of damage to their work.
- The Indian Trademarks Act, 1999 also protects personal rights under Section 14, which restricts the use of personal names and representations.

#### **What are the Ethical issues involved?**

- Consumers are often misled owing to false advertisements or endorsements. This lead to a loss of trust among consumers.
- Amendment to the Consumer Protection Act of 2019 was passed to keep a check on the misleading advertisements and endorsements of consumer products by imposing a penalty on the endorser as well
- Privacy of an individual is violated

## **Civil Service officers of 2022**

**News:** Below we will discuss some achievements of Civil services officers. You can quote some of the examples in your ethics and essay papers.

#### **Who are the officers who excelled in Governance?**

- **IAS Abhijit Bangar** – Turned a dumpyard into Navi Mumbai’s Green lungs within a year.
- **IPS Tejaswi Satpute** – She used soft policing to crack down on illegal Hooch distilleries in Solapur.
- **IAS Vikram Yadav** – His efforts reduced Haryana’s stubble burning by 80% in just 1 year.
- **IFS Dr. Abdul Qayum** – His Mobile app, E-Forest Fire, helped reduce Forest Fires in Arunachal by 31%. (This example can be quoted if question are asked on forest fires)
- **IAS Alby John** – He turned rescued bonded laborers into owners of Brick Kiln, gave them dignity and livelihoods.
- **IPS Ankit Goyal’s ‘Police Dadalora Khidki’** – A single window for government schemes. It helped 2 lakh people in Gadchiroli.
- **IAS Harshika Singh** – She doubled MP District’s literacy to 100%, which helped drastically reduce bank frauds.



# Short News for Prelims

## Himalayan Yak

**News:** FSSAI has recognized the Himalayan Yak - long haired cattle probably first domesticated in Tibet – as a ‘food animal’

### What are Food animals?

- Food Animals are those that are raised and used for food production or consumption by humans.

### Why the Tag for Yaks?

- The population of the Himalayan yak has been declining rapidly. To arrest the fall in their numbers and promote rearing, the FSSAI tagged it a ‘a food animal’.
- The tag may promote the commercial rearing of yaks since currently they are raised only to provide milk and meat to local consumers.

## Wet Leasing of Aircraft

**News:** In efforts to boost international air traffic, the civil aviation ministry has allowed Indian airlines to take wide-body planes on wet lease for up to one year.

### What is Wet Leasing?

- Wet leasing means taking the plane along with the operating crew and engineers, while dry leasing refers to taking only the aircraft on rent.
- Dry leasing was already allowed for up to 12 months, with the option to extend the contract for 12 another year.
- Operations of an aircraft on wet lease are more difficult for the Directorate General of Civil Aviation (DGCA) to monitor, which is why it is allowed for shorter durations.

## Semi-Automated Technology

## Offside

**News:** FIFA is using SAOT for offside decisions in the ongoing football world cup in Qatar.

### What Is SAOT?

- SAOT is a support tool for the video match officials and the on-field officials to help them make faster, more reproducible and more accurate offside decisions.
- The tech consists of two parts - a sensor inside the match ball that is held using suspension technology, and existing tracking tools that are part of the Video Assistant Referee (VAR) system.
- Every time the ball is hit, data is sent in real time (at a whopping 500 frames per second) to a network of antennae installed around the playing field. Additionally, there are 12 Hawk-Eye cameras set up around the turf that shadow both the ball and the players, with as many as 29 separate points in the human body tracked.
- The coming together of the ball sensor and the Hawk-Eye cameras is in effect SAOT.
- These two data sets are run through artificial intelligence software which generates automated alerts about off sides to the match officials. This replaces the manual effort taken in poring over replays for minutes on end.

## Nuclear Icebreakers

**News:** Russian President Vladimir Putin underlined Russia's influence in the Arctic region as the country launched two nuclear-powered icebreaker ships in St Petersburg, Russia.

### What are Nuclear Icebreakers?

- For a ship to be considered an icebreaker, it has to have three features most normal ships lack: the power to push through thick ice, a strengthened hull, and an ice-clearing shape. That enables icebreakers to plow through the pack ice or frozen waterways.
- In order to break the ice effectively, icebreakers must be very powerful, relatively short, wide, and extremely heavy. Icebreakers break the ice by using momentum and power to push their bow up on the ice. The ice is pushed down by the weight of the ship, which causes the ice to break off in chunks. The broken ice is then pushed out of the way by the hull of the icebreaker as it proceeds forward.

#### About Russia's icebreakers:

- Both icebreakers were laid down as part of a large serial project and are part of our large-scale, systematic work to re-equip and replenish the domestic icebreaker fleet, to strengthen Russia's status as a great Arctic power.
- Arctic region, long thought to be just cold seas and frozen wastelands, is gaining greater strategic importance as new sea lanes open up due to climate change.
- The 173.3-metre (569 feet) **Yakutia**, with a displacement of up to 33,540 tonnes, can smash through ice of up to three metres. It will enter service in 2024.
- Two other icebreakers in the same series, the **Arktika** and the **Sibir**, are already in service, and another, the **Chukotka**, is scheduled for 2026 and **Rossiya** (2027).

### Agnikul Launchpad Facility

**News:** Chennai-based space tech startup **Agnikul Cosmos** inaugurated **India's first private space vehicle launchpad** at the Satish Dhawan Space Centre (SDSC) in Sriharikota. It was executed in support of the Indian Space Research Organisation (ISRO) and IN-SPACE (Indian National Space Promotion and Authorization Center).

#### About:

- The facility has two parts - The Agnikul launchpad and the Agnikul mission control

centre. The launchpad has been designed to accommodate and support **liquid stage-controlled launches**. The space tech startup is planning to launch its Agnibaan rocket from this launchpad.

- The launchpad is specifically built to address the need for ISRO's range operations team to monitor key flight safety parameters during launches. Additionally, it has the ability to share data and other critical information with ISRO's Mission Control Center.

### Manipur Sangai Festival

**News:** PM Modi described the Manipur Sangai Festival as a world-class tourist destination and congratulated the people of the state for its successful organization.



#### About the Festival:

- The festival is named after the State Animal which is found only in Manipur have been organized grandly this time after the COVID-19 pandemic hit the festival in the last two years.
- The theme of the Sangai Festival - 'Festival of Oneness'

#### About Sangai:

- Sangai is a medium-sized deer, with uniquely distinctive antlers, with extremely long brow tine, which form the main beam. The forward protruding beam appears to come out from the eyebrow. This signifies its name, brow-antlered deer.
- Status - State animal of Manipur, Schedule-1 of Wildlife (Protection) Act, 1972, **Endangered** on IUCN Red List.
- Scientific Name - Rucervus eldii

- Population – About 200

## National Sports and Adventure Awards 2022

**News:** India's Table tennis player **Sharath Kamal Achanta** was bestowed with the **Major Dhyan Chand Khel Ratna award** for his outstanding performance in the Commonwealth Games, 2022 by the President as part of the National Sports and Adventure Awards 2022.

### About Major Dhyan Chand Khel Ratna Award:

- Previously called as the Rajiv Gandhi Khel Ratna award, it is the highest sporting award given by the Ministry of Youth Affairs and Sports for the spectacular and most outstanding performance in the field of sports by a sportsperson over a period of four years. It carries a cash prize of Rs 25 lakh, a medal and a scroll of honour. Chess Maestro, Viswanathan Anand was the first recipient of the award back in 1991.
- The other awards include Dronacharya Award, the Maulana Abul Kalam Azad trophy, Tenzing Norgay National Adventure Award, Dhyan Chand Award for Lifetime Achievement in Sports and Games and the Rashtriya Khel Protsahan Puruskar.

## Zombie Virus

**News:** French scientists have warned of the onset of another outbreak after they revived a 48,500-year-old zombie virus.

### What are Zombie Virus?

- Zombie virus is the term used for those viruses, which have been dormant for thousands of years. The virus emerged due to the thawing of permafrost as the global temperature is rising. All of the "zombie viruses" have the potential to be infectious and hence pose a "health danger".
- The oldest Zombie virus is Pandoravirus yedoma, named after the mythological character Pandora. Pandoravirus was discovered in a lake in Yukechi Alas in Yakutia, Russia.

## Joint Exercise Agni Warrior

**News:** The 12th Edition of Exercise Agni Warrior, a bilateral exercise between **the Singapore & Indian Army** concluded at Field Firing Ranges, Devlali (Maharashtra) recently.

### About:

- Exercise Agni Warrior, involved showcasing joint firepower planning, execution and use of New Generation Equipment by the Artillery arm of both armies.
- Exercise also included participation by both sides in a joint computer war-game as part of joint planning process. Both sides utilized niche technology and Artillery Observation Simulators as part of joint training phase.

## Gaslighting

**News:** Merriam-Webster, America's oldest dictionary publisher, has chosen "Gaslighting" as its Word of the Year.

### About:

- Merriam-Webster dictionary defines gas lighting as "psychological manipulation of a person usually over an extended period of time that causes the victim to question the validity of their own thoughts, perception of reality, or memories and typically leads to confusion, loss of confidence and self-esteem, the uncertainty of one's emotional or mental stability, and a dependency on the perpetrator."
- With the growing use of internet and its side effects impact every aspect of modern life, gaslighting is a matter of concern, much more than ever before.
- The term "Gaslighting" comes from the title of a 1938 play "Gas Light" by Patrick Hamilton, and the movie based on that play, the plot of which involves a man attempting to make his wife believe that she is going insane.

## UNESCO Intangible Cultural Heritage

**News:** UNESCO, the cultural organization of the United Nations, voted this week to recognize the importance of the **French baguette**.

### About:

- Intangible cultural heritage refers to “traditions or living expressions inherited from our ancestors and passed on to our descendants, such as oral traditions, performing arts, social practices, etc.”
- It aims to ensure better protection of important intangible cultural heritages worldwide and the awareness of their significance.
- This list is published by the Intergovernmental Committee for the Safeguarding of Intangible Cultural Heritage. Members of the committee are elected by State Parties meeting in a General Assembly.
- In India, Sangeet Natak Akademi is the nodal body coordinating with UNESCO.

## Indian Navy Day

**News:** Every year on **4th December**, the Indian Navy commemorates the commencement of **Operation Trident** against Pakistan during the Indo-Pak War. The Indian Navy organized the night strike on December 4-5, 1971. This year’s celebration also marked the first time the celebration was conducted outside the national capital New Delhi.

### About:

- The day is observed to acknowledge and appreciate the Indian Navy's achievements and involvement in the country. The Indian Navy protects national interests above, on, and beneath the ocean's surface with its three-dimensional capabilities and well-balanced force.
- The Chief of the Naval Staff directs Indian Navy operations and administrative management from the Ministry of Defence's integrated Headquarters. The Indian Navy is the maritime arm of the Indian Armed Forces, with the President of India as its commander in chief.
- The "Father of the Indian Navy," Maratha monarch Chhatrapati Shivaji Bhosle, is the creator of the country's naval force.

## International Cheetah Day

**News: December 4** is marked as International Cheetah Day every year. The day is dedicated to encouraging people worldwide to help this animal win the race against extinction.



### Why 4<sup>th</sup> December?

- American zoologist **Dr Laurie Marker** is credited with creating International Cheetah Day. Dr Marker founded the **Cheetah Conservation Fund in 1991** and she designated December 4 as International Cheetah Day in 2010. Since that year, the world has been celebrating this day.
- Dr Marker chose December 4th as it was the birthday of a cheetah named **Khayam** who she raised from a cub at Wildlife Safari in Oregon. Khayam was trained for the first research project in re-wilding and inspired her first trip to Namibia in 1977.

## Mount Semeru

**News:** Mount Semeru volcano erupted recently triggering top alert status.

### About:

- Located in Indonesia. It is one of the East Java Island's tallest volcano.
- Semeru's last major eruption was in December 2021.
- Semeru, also known as Mahameru, has erupted numerous times in the past 200 years.
- Indonesia sits on the Pacific Ring of Fire, where the meeting of continental plates causes high volcanic and seismic activity.
- With 142 volcanoes, Indonesia has the largest population globally living in close range to a

volcano, including 8.6 million within 10km (6.2 miles).

## MAARG Portal

**News:** The Department for Promotion of Industry and Internal Trade (DPIIT), under the Ministry of Commerce and Industry, has launched a call for startup applications for registration on the MAARG portal, the National Mentorship Platform by Startup India.

### About:

- The MAARG Portal by Startup India is a one-stop mentorship platform to facilitate mentorship for startups across diverse sectors, functions, stages, geographies, and backgrounds.
- The Indian start-up ecosystem, is currently ranked third largest globally. Startup India is focused on catalyzing the start-up culture and building a strong and inclusive ecosystem for innovation and entrepreneurship in India.
- In this context, the MAARG portal - Mentorship, Advisory, Assistance, Resilience, and Growth, is a one-stop platform to facilitate mentorship for start-ups across diverse sectors, functions, stages, geographies, and backgrounds.

## Exercise Sangam

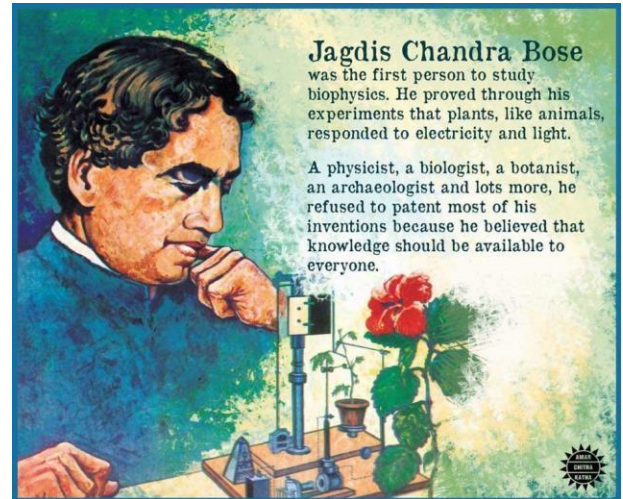
**News:** 7th edition of Exercise Sangam, a **joint Naval Special Forces** exercise between **Indian Navy MARCOs & US Navy SEALs** commenced recently in Goa.

### About:

- Exercise Sangam was 1st conducted in 1994 & is an important military & diplomatic initiative between two nations, reflective of trust & friendship between them.
- The present edition will see personnel from SEAL Team Five based at San Diego, USA and Indian Navy MARCOs from INS Abhimanyu together and aims at the exchange of ideas and experiences on various aspects of Maritime Special Operations.

## JC Bose

**News:** The Ministry of Culture recently organized an international conference on the contributions of **J C Bose: A Satyagrahi Scientist** on the occasion of his 164th birth anniversary.



### About:

- Born on 30th November, 1858. He was a Plant Physiologist and physicist who invented the **crescograph**, a device for **measuring the growth of plants**. He was the first to demonstrate that plants have feelings.
- Sir Jagadish Chandra Bose was a biologist, physicist, botanist and an early writer of science fiction. He pioneered the investigation of radio microwave optics, made significant contributions to botany, and was a major force behind the expansion of experimental science on the Indian subcontinent. He has been named one of the fathers of radio science. Bose is considered the father of Bengali science fiction.
- He founded Bose Institute, a premier research institute of India and also one of its oldest. Established in 1917, the Institute was the first interdisciplinary research centre in Asia. He served as the Director of Bose Institute from its inception until his death.
- To facilitate his research, he constructed automatic recorders capable of registering extremely slight movements, these instruments produced some striking results, such as quivering of injured plants, which Bose interpreted as a power of feeling in plants.

## National Commission for Backward classes

**News:** Former Union Minister **Hansraj Gangaram Ahir** has assumed charge as Chairperson of the National Commission for Backward Classes (NCBC).

**Background:**

- Following the **102nd Constitutional Amendment Act, 2018**, NCBC became a constitutional body, established under Article 338B of the Indian Constitution.
- The commission was the outcome of the Indra Sawhney case (1992).

**About NCBC:**

- The Chairperson, Vice-Chairperson and other Members of the Commission shall be appointed by the President
- The conditions of service and tenure of office shall be decided by President.
- The Commission shall have the power to regulate its own procedure.
- The commission considers inclusions and exclusions from the lists of communities.
- It has the same powers as a Civil Court.
- It is responsible for the protection, welfare, development and advancement of the socially and educationally backward classes.

## Black Soil

**News:** As per the **Food and Agriculture Organization (FAO)** report “**Global status of black soils**”, black soils are under threat, with most losing at least half of their soil organic carbon (SOC) stocks (the carbon stored in soil organic matter).

**About:**

- Black soil is important for climate change mitigation. Soils remove carbon from the atmosphere and lock it up in soil organic matter (called carbon sequestration). Soils have been proposed as an important solution to mitigate human-induced climate change
- However, black soils are quickly losing their SOC stocks. They have lost 20 to 50 per cent of their original SOC stock

**What are recommendations of the report?**

- Preserving natural vegetation on black soils such as grasslands, forests and wetlands.
- Urgency to work together to produce safe, nutritious and micronutrient-rich food in a sustainable way that avoids soil degradation, reduces greenhouse gas emissions and decreases agrifood systems pollution.

## Kaundinya Wildlife Sanctuary

**News:** An 18-member herd of all female elephants from the forests of Gudiyattam and Pernambattu of Tamil Nadu are currently on the move in the Koundinya wildlife sanctuary zone in Chittoor district, apparently “in search of mates”.

**About:**

- Kaundinya Wildlife/Elephant Sanctuary is located in Palamner - Kuppam forest ranges of Chittoor district of Andhra Pradesh. This Sanctuary comes under Project elephant.
- It is the only home for Asiatic elephants in the State of Andhra Pradesh.
- Kaundinya and Kaigal, tributaries of Palar river pass through the sanctuary.
- Forest type - Southern tropical dry deciduous forest, with patches of thorn, scrub and grassy plains.
- Flora - Plants like Albizzia amara, Ficus glomerata, Zizyphus xylocarpus, Gymnosporia Montana, etc; make this a green panoramic place with a breathtaking floral diversity.
- Fauna – Insects like Gongylus praying mantis, painted grasshopper abound this elephant land. Reptiles like Common Cobra, Rat Snakes. Birds like Partridges, storks are found. A further balance in the food-web is maintained by mammals like Indian Elephant, Panther, Sloth bear, Wild boar, Chowsingha, Nilgai, Hyena, Jackal, etc.

## ChatGPT

**News:** The AI-powered chatbot – a software programmed to simulate human conversation – was made available to the public on November 30 via OpenAI’s website, and while it is still in the research review phase, users can sign up and test it out free of charge.

**About:**

- ChatGPT uses the GPT-3.5 language technology – a large artificial intelligence model made by OpenAI that has been trained on a massive amount of text data from a variety of sources.

- The bot boasts a dialogue format that allows users to provide both simple and complex instructions that ChatGPT is trained to follow and provide a detailed response to – the company promises it can even answer follow-up questions and admit when it made a mistake.
- Most notably, ChatGPT has been able to generate intricate Python code and write college-level essays when given a prompt – boosting concerns that such technology can replace human workers like journalists or programmers in the future.
- The program has its limitations, including a knowledge base that ends in 2021, a tendency to produce incorrect answers, constantly using the same phrases and when given one version of a question, the bot claims it cannot answer it, but when given a slightly tweaked version, it answers it just fine.

### What is OpenAI?

- OpenAI, an artificial intelligence research non-profit company, was founded in 2015 by Altman, Musk and other Silicon Valley investors.
- In 2015, OpenAI changed its status to a “capped-profit” company, meaning that it cuts returns from investments past a certain point.

## Himalayan Medicinal Plants

**News:** Three medicinal plant species found in the Himalayas have made it to IUCN Red List of Threatened Species following a recent assessment.

- *Meizotropis pellita* has been assessed as ‘critically endangered’, *Fritillaria cirrhosa* as ‘vulnerable’, and *Dactylorhiza hatagirea* as ‘endangered’.

### Meizotropis Pellita

- *Meizotropis pellita*, commonly known as Patwa, is a perennial shrub with restricted distribution that is endemic to Uttarakhand.
- The species is threatened by deforestation, habitat fragmentation and forest fires.
- The essential oil extracted from the leaves possesses strong antioxidants and can be a promising natural substitute for synthetic antioxidants in pharmaceutical industries.

### Fritillaria Cirrhosa

- *Fritillaria cirrhosa* (Himalayan fritillary) is a perennial bulbous herb.
- The plant is also a strong cough suppressant.

### Dactylorhiza hatagirea

- The third listed species, *Dactylorhiza hatagirea* (Salampanja), is threatened by habitat loss, livestock grazing, deforestation, and climate change.
- It is extensively used in Ayurveda, Siddha, Unani and other alternative systems of medicine to cure dysentery, gastritis, chronic fever, cough and stomach aches.

## Cyclone Mandous

**News:** Cyclone Mandous, a severe cyclonic storm in the Bay of Bengal, is likely to bring heavy rainfall to parts of Tamil Nadu on December 9, 2022.

### About:

- Cyclones are known as typhoons in the China Sea and Pacific Ocean; hurricanes in the Caribbean Sea and Atlantic Ocean; tornados in the Guinea lands of West Africa and southern USA; willy-willies in north-western Australia and tropical cyclones in the Indian Ocean.
- Cyclones are caused by atmospheric disturbances around a low-pressure area distinguished by swift and often destructive air circulation.
- Cyclones are usually accompanied by violent storms and bad weather.
- The air circulates inward in an anticlockwise direction in the Northern hemisphere and clockwise in the Southern hemisphere.

### Who names Cyclones??

- Cyclones are named by the **World Meteorological Organisation** (WMO), which maintains a list of rotating names.
- The Indian Meteorological Department has said that 'Mandous' was a name submitted by WMO member **United Arab Emirates** and is pronounced as 'Man-Dous.' It means 'treasure box' in Arabic.

## Currency Chest

**News:** Recently, a banker in Maharashtra illegally diverted INR 2 crore cash which was released by RBI to Bank of Maharashtra's Manchar Currency Chest.

### What is Currency Chest?

- Currency chest is a place where the Reserve Bank of India (RBI) stocks the money meant for banks and ATMs. These chests are usually situated on the premises of different banks but administrated by the RBI.
- The money present in the currency chest belongs to the RBI and the money, kept in the strong room outside the currency chest belongs to the bank.

### What happens in case of a loss of cash?

- As per the set guidelines, the bank, in which the currency chest is situated is liable to fulfill the loss of the currency chest. The security of currency chests is the subject of the bank in which chests are situated. The Reserve Bank of India (RBI) reimburses the security expenses to the bank as per the set norms.

## GHAR Portal

**News:** Recently **National Commission for Protection of Child Rights (NCPCR)**, has developed and launched this portal.



### About:

- The portal - "GHAR - Go Home and Re-Unité" will be a platform for information on children from every district to smoothen the process of their repatriation and restoration.

### Features:

- Digital tracking and monitoring of children who are in the Juvenile Justice system and have to be repatriated to another Country/State/District.

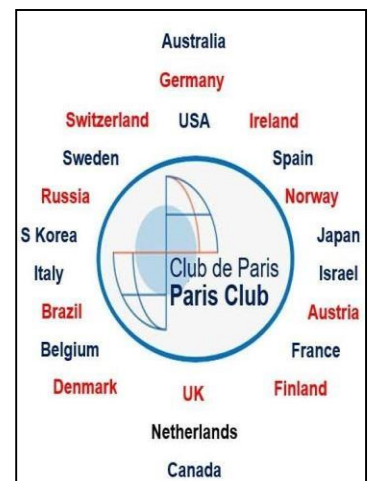
- Digital transfer of cases of children to the concerned Juvenile Justice Board/Child Welfare Committee of the State. It will help in speedy repatriation of children.
- Where there is a requirement of a translator/interpreter/expert, request will be made to the concerned State Government.
- Child Welfare Committees and District Child Protection Officers can ensure proper restoration and rehabilitation of children by digitally monitoring the progress of the case of the child.
- A checklist format will be provided in the forms so that the children who are being hard to repatriate or children who are not getting their entitled compensation or other monetary benefits can be identified.
- List of Government implemented schemes will be provided, so that at the time of restoration the Child Welfare Committees can link the child with the schemes to strengthen the family and ensure that child remains with his/her family.

## Paris Club

**News:** Paris Club creditor nations are proposing a 10-year moratorium on Sri Lankan debt and another 15 years of debt restructuring as a formula to resolve the Sri Lankan debt crisis.

### About:

- The Paris club has also called upon the Global north and south to take a similar haircut in restructuring of Sri Lankan debt. So far no official proposal has been made by Paris club to China or India.
- The Paris Club is an **informal group of creditor nations** whose objective is to find workable solutions to payment problems faced by debtor nations.
- The Paris Club has **22 permanent members**, including most of the western European and Scandinavian nations, the United States, the United Kingdom, and Japan.





- The group is organized around the principles that each debtor nation be treated case by case, with consensus, conditionality, solidarity, and comparability of treatment.
- The Paris Club stresses the informal nature of its existence. As an informal group, it has no official statutes and no formal inception date, although its first meeting with a debtor nation was in 1956, with Argentina.

## e-Sanjeevani Initiative

**News:** Government-free telemedicine service, eSanjeevani has recently crossed another milestone by clocking eight crore teleconsultations.

### About:

- It is a web-based comprehensive telemedicine solution, launched by the then **Ministry of Communications and Information Technology**, Government of India, in 2009.
- Centre for Development of Advanced Computing (C-DAC) Mohali, is the creator of eSanjeevani.

### It has Two Modules:

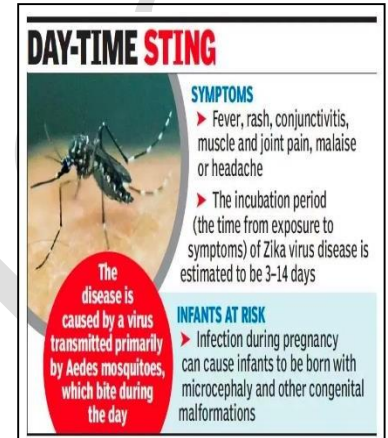
- **eSanjeevani AB-HWC** - The doctor-to-doctor telemedicine platform, being implemented at all the Health and Wellness Centres (HWCs) in the country under Ayushman Bharat (AB) Scheme of Government of India.
- **eSanjeevani OPD** - It is the Patient-to-Doctor remote consultation services rolled out in 2020 amid the first lockdown imposed to fight Covid-19 pandemic, while the Outpatient Departments (OPDs) in the country were closed. The initiative is a contactless and risk-free modality that enables delivery of health services to the citizens in the confines of their homes free of cost.
- The C-DAC is working towards adding another innovative feature in eSanjeevani OPD that will enable roll out of National OPDs on eSanjeevani OPD, to offer remote health services to patients in any part of the country.

## Zika Virus

**News:** A 5-year-old girl in Karnataka has tested positive for the Zika virus and has been advised to take precautionary measures.

### About:

- Caused by a virus transmitted primarily by the **Aedes mosquito**, which bites during the day, symptoms of this disease include **mild fever, rashes, conjunctivitis, muscle and joint pain, malaise, or a headache.**
- This is the same mosquito that transmits dengue, chikungunya and yellow fever.
- Zika virus is also transmitted from **mother to fetus during pregnancy, through sexual contact, transfusion of blood and blood products, and organ transplantation.**
- A mosquito-borne flavivirus had been reported to be associated with the increased incidence of **microcephaly** (smaller than normal head size), **congenital Zika syndrome**, and **Guillain-Barre syndrome.**



### Is there any treatment available and what are preventive measures?

- There is no vaccine or medicine for Zika. Instead, the focus is on relieving symptoms and includes rest, rehydration and acetaminophen for fever and pain.
- Experts suggested that in case to avoid being infected by the Zika virus people must avoid stagnant water collection, cleaning pots and coolers.
- Using EPA approved mosquito repellent (DEET) is preferred.

## Hakuto-R Moon Mission

**News:** A **Japanese space** startup ispace Inc has launched its own private lander **M1** to the Moon under its HAKUTO-R mission, from the SpaceX Falcon 9 rocket.

### About:

- This is Japan's first-ever lunar mission and the first of its kind by a private company.
- The name HAKUTO-R refers to the white rabbit that Japanese folklore suggests lives on the Moon.
- The M1 lander will deploy two robotic rovers, two-wheeled, orange-sized devices from Japan's JAXA space agency and a **four-wheeled Rover made by the UAE known as the Explorer Rashid**, after the Dubai royal family patriarch.
- It is designed in such a way that it will use minimal fuel to save money and leave more room for cargo and is taking a slow, low-energy path to the Moon.

**Main objective** - To search for water deposits before touching down in the Atlas Crater.

## herStart initiative

**News:** President Droupadi Murmu launched 'herSTART'; a platform for women entrepreneurs.



### About:

- herSTART is a targeted initiative that seeks to **increase the number of female entrepreneurs**.
- As an early-stage startup support system, **Gujarat University Startup and Entrepreneurship Council (GUSEC)** runs this programme every year to help women entrepreneurs who are in the idea stage by providing them with access to resources and a targeted acceleration programme to help them get a jumpstart on their firm.
- herSTART is a comprehensive programme that will encourage more women to start their own businesses and benefit the ecosystem as a whole.

### About GUSEC:

- Gujarat University Startup and Entrepreneurship Council (GUSEC) is a startup support system that provides aspiring and fledgling innovators, entrepreneurs, and startups with incubation, acceleration, preincubation, business support, intellectual property rights (IPR), and other services.

### What are the benefits offered?

- e-Certificate to all participants
- Mentorship, Guidance, and Networking
- Access to government grants and private funding
- Single-window startup support

## Ukrainian Borsch

**News:** In a war torn Ukraine, UNESCO is fighting to protect a beetroot soup.



### What is Ukrainian Borsch?

- Borscht is a sour soup common in Eastern Europe and the word is associated with the soup's variant of Ukrainian origin.
- Ukrainian borscht is cooked with broth combined with beetroot, sugar beet or fermented beet juice.
- Ukrainian borscht unites people of all ages, genders and backgrounds at the table. It is also used in ritual practices such as in the region of Podillia.
- This soup has been threatened by various factors since the beginning of the armed conflict including the displacement of bearers from their communities of origin and from the cultural contexts necessary for the cooking and consumption of borscht in Ukraine.

## Pradhan Mantri Adi Adarsh Gram Yojana

**News:** Ministry of Tribal Affairs has revamped the existing Scheme of 'Special Central Assistance to Tribal Sub-Scheme (SCA to TSS) with the nomenclature 'Pradhan Mantri Adi Adarsh Gram Yojana (PMAAGY)', for implementation during 2021-22 to 2025-26.

**Aim** – It intends to transform villages with significant tribal population into a model village also known as Adarsh Gram.

### About:

- It supplements the efforts of State Governments for development and welfare of tribal people.
- It is a centrally sponsored scheme with 100% grant from government of India.
- It seeks to mitigate gaps and provide basic infrastructure in villages with significant tribal population

### Objectives:

- To achieve integrated socio-economic development of selected villages through a convergence approach.
- Prepare Village Development Plan based on the needs, potential, and aspirations.
- It also includes maximizing the coverage of individual/family benefit schemes of the Central / State Governments and improving the infrastructure in vital sectors like health, education, connectivity and livelihood.
- Mitigate gaps prominently in 8 key sectors of development such as Road connectivity, Telecom connectivity, School, Anganwadi Centres, Health Sub-Centre, Drinking water facility, Drainage and solid waste management.

## India Internet Governance Forum

**News:** The India Internet Governance Forum (IGF), a multi stakeholder platform, conducted a three-day hybrid event from December 9 to December 11, 2022.

### What is IIGF?

- The India Internet Government Forum is an initiative associated with the **UN Internet Governance Forum (UN-IGF)**.
- The Internet Governance Forum (IGF) is a multi-stakeholder platform bringing representatives together from various groups, all at par to discuss public policy issues related to the Internet.
- The event's goal is to discuss the roadmap to digitization and to reaffirm India's place on the global stage by emphasising its role and importance in international policy development on internet governance.
- Theme of IIGF 2022: '**Leveraging Techade for Empowering Bharat**'.

## ECOSOC

**News:** The UN Economic and Social Council have voted to immediately oust Iran from the U.N.'s premiere global body fighting for gender equality because of its systematic violation of the rights of women and girls.

### Background:

- India has abstained from voting to remove Iran from a United Nations women's commission over crackdown on anti-hijab protests.
- A total of 16 nations abstained from the vote, including India, but Iran was ousted as 29 countries stood in favor of the resolution.

### About:

- The ECOSOC under the overall authority of the General Assembly, coordinates the economic and social work of the United Nations and the UN family of organizations.
- It is one of the 6 principal organs of the UN.
- It also consults with non-governmental organizations (NGOs), thereby maintaining a vital link between the United Nations and civil society.
- The Council has 54 members, elected by the General Assembly for three-year terms. It meets throughout the year and holds a major session in July, during which a high-level meeting of Ministers discusses major economic, social and humanitarian issues.

## Surya Kiran

**News:** The **16th Edition of Indo-Nepal** joint training Exercise “Surya Kiran” between India and Nepal is being conducted at **Saljhandi, Nepal**.

**About:**

- It is a military exercise conducted annually between India and Nepal.
- The objective of this exercise is to Establish military relations in inaccessible mountainous areas by the soldiers of both countries, provide humanitarian assistance under disaster management, get training in anti-terrorist operations and build interoperability and sharing expertise between the two countries.

## T20 World Cup for Blind

**News:** Brilliant centuries by skipper Ajay Kumar Reddy and Sunil Ramesh helped India beat Bangladesh by 120 runs in the final and win their **third successive T20 World Cup** for the Blind title at the **M Chinnaswamy Stadium in Bengaluru** on Saturday.



**About:**

- The previous two T20 World Cup wins for India came in the years, 2012 and 2017, respectively. (Both against Pakistan)
- Ajay Kumar
- Reddy B2 (Andhra Pradesh) as mentioned earlier was the captain of Indian team while Venkateswara Rao Dunna – B2 (Andhra Pradesh) was the vice-captain.
- The Cricket Association for the Blind in India (CABI) had earlier announced former India cricketer **Yuvraj Singh** as their **brand ambassador for the 3rd T20 World Cup**.

## GI Tags for Kerala's 5 Agri Products

**News:** 5 agricultural products of Kerala- Attappady Attukombu Avara, Attappady Thuvara, Onattukara Ellu, Kanthalloor-Vattavada Veluthulli, and Kodungalloor Pottuvellari have been granted Geographical Indication (GI) status.

- Earlier Gamosa of Assam, Tandur Redgram of Telangana, Raktsey Karpo Apricot of Ladakh, Alibag White Onion of Maharashtra etc. had also been given GI Tags.

**About:**

- A GI is primarily an agricultural, natural or a manufactured product (handicraft and industrial goods) originating from a definite geographical territory. They convey an assurance of quality and distinctiveness, which is essentially attributable to the place of its origin.
- The Geographical Indications of Goods (Registration and Protection) Act, 1999 seeks to provide for the registration and better protection of geographical indications relating to goods in India.
- It is governed and directed by the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS).
- A registered GI shall be valid for 10 years and can be renewed on payment of renewal fee.

## FIFA World Cup Awards



**News:** Argentina recently beat France in a thrilling World Cup final at the Lusail Stadium in Qatar. This was Argentina's 3<sup>rd</sup> FIFA World Cup title.

### What are the awards given and who won it?

- **Golden Ball** (Best player) – Lionel Messi (Argentina)
- **Golden Boot** (For scoring most number of Goals - 8) – Kylian Mbappe (France)
- **Golden Glove** (Best Goalkeeper) - Emiliano Martinez (Argentina)
- **Young player of the tournament** – Enzo Fernandez (Argentina)

## 4 Tier regulatory norms for UCB's

**News:** The Reserve Bank of India (RBI) has announced a four-tiered regulatory framework for categorisation of Urban Cooperative Banks (UCBs).

### What are UCB's?

- Urban Cooperative Banks (UCBs) are registered as cooperative societies under the provisions of, either the State Cooperative Societies Act of the State concerned under the provisions of the act or the Multi State Cooperative Societies Act, 2002.
- There is a duality of control over the UCB. It is regulated by the Registrar of Cooperatives and also by the RBI.
- The Banking Regulation Act 1949 was made applicable on these banks from 1 March 1966. The Reserve Bank regulates and supervises the banking functions of UCBs under the provisions of Banking Regulation Act, 1949.

### About 4 tier structure:

- RBI has now categorized Urban Co-Operative Banks in India into four tier depending upon the deposit with the bank.
- Tier 1 - UCB are those banks having deposits up to Rs 100 crore operating in a single district or having branches in contiguous districts.
- Tier 2 - UCBs with deposits more than Rs.100 crore and up to Rs.1000 crore.
- Tier 3 – UCBs with deposits more than Rs.1000 crore and up to Rs.10, 000 crore.
- Tier 4 – UCBs with deposits more than Rs.10, 000 crore.

## Global survey of earth's surface waters

**News:** A **SpaceX** rocket blasted off early on Friday carrying a **U.S.-French** satellite designed to conduct an unprecedented global survey of Earth's surface waters, a mission expected to shed new light on the mechanics and consequences of climate change.

- The liftoff, directed by NASA, was shown live on a U.S. space agency webcast.

### About:

- Surface water and Ocean Topography (SWOT) satellite is an advanced radar satellite that aims to provide scientists with a deeper understanding of the oceans and how climate change impacts them.
- The centerpiece of the satellite is advanced **microwave radar** technology to collect high-definition measurements of oceans, lakes, reservoirs and rivers over 90% of the globe.
- The data generated from radar will be used to enhance **ocean-circulation models**, bolster **weather** and **climate forecasts** and aid in **managing freshwater supplies** in drought-stricken regions.
- SWOT's ability to discern far smaller surface features over much wider areas than previous satellites also will help study the impacts of rising ocean levels on coastal areas.

## Business 20 (B20)

**News:** **Tata's Chandrasekaran** to head Business 20 India; CII to be Secretariat.



### About:

- The B20 is the official G20 dialogue forum with the global business community. Established in 2010, B20 is among the most prominent engagement groups in G20, with companies and business organisations as participants.

- It said that B20 India has identified priorities for deliberations among G20 businesses under the theme “R.A.I.S.E – Responsible, Accelerated, Innovative, Sustainable, and Equitable Businesses.”

## B21 Raider

**News:** Northrop Grumman Corp recently rolled out its new B-21 "Raider" jet, the first of a new fleet of long-range stealth nuclear bombers for the United States Air Force.

### About:

- The United States has unveiled its latest high-tech strategic bomber – the B-21 Raider which is capable of carrying a nuclear payload and can be flown without a crew on board.
- The US Air Force plans to buy at least 100 of the B-21 aircraft, which comes with a \$700m price tag per plane.
- The bomber is part of the Pentagon's efforts to modernise all three legs of its nuclear triad, which includes silo-launched nuclear ballistic missiles and submarine-launched warheads, as it shifts from the counterterrorism campaigns of recent decades to meet China's rapid military modernisation.

## Space Tech Innovation network

**News:** The Indian Space Research Organisation (ISRO) has signed a Memorandum of Understanding (MoU) with Social Alpha to establish a SpaceTech Innovation Network (SpIN).

### What is SpaceTech Innovation Network?

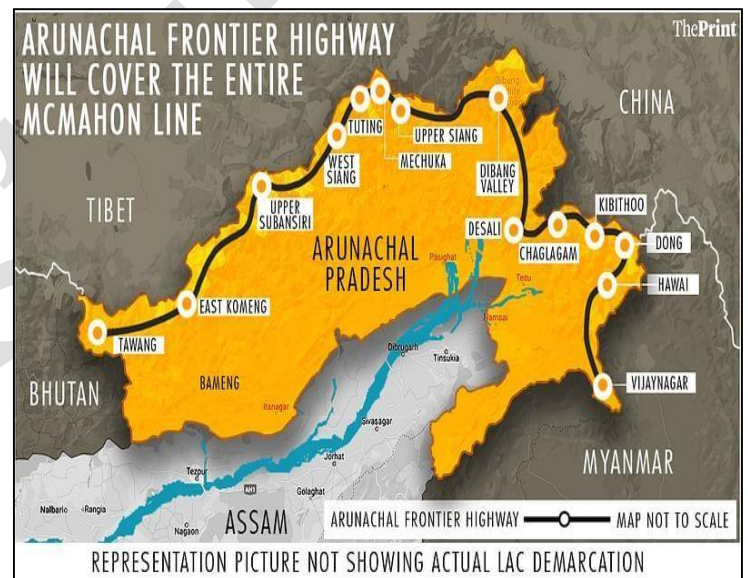
- The SpaceTech Innovation Network (SpIN) is India's first dedicated platform for innovation, curation and venture development of the country's rapidly growing space entrepreneurial ecosystem.
- It will mainly focus on supporting space tech entrepreneurs in three different innovation categories. These categories are - Geospatial Technologies and Downstream Applications, Enabling Technologies for Space and Mobility and Aerospace Materials, Sensors, and Avionics

### What is Social Alpha?

- Social Alpha is a multistage innovation curation and venture development platform supporting activities concerning science and technology. It supports innovators and entrepreneurs who are involved in the creation of social, economic and environmental impact to address India's developmental challenges.

## Frontier Highway Project

**News:** Arunachal Pradesh wary of increased activities across the Line of Actual Control (LAC) has been pushing for the frontier highway project along the border to facilitate faster movement of troops during a war-like situation and give locals more accessibility by default.



### About:

- The Arunachal Frontier Highway is a planned border highway in Arunachal Pradesh which is 2000 KM long.
- This ambitious high-altitude highway will originate from Mago-Thingbu in Tawang district and meander through the following border areas of Arunachal Pradesh along the McMahon Line.
- The highway along the China border would accompany the Trans-Arunachal Highway (through the middle) and the Arunachal East-West Corridor (in the foothills along the Assam border) as major highways spanning the whole state.

## Global Lighthouse Network

**News:** The **World Economic Forum** recently announced addition of 11 factories and industrial sites, including 3 from India, to its Global Lighthouse Network(GLN).

### What is GLN?

- The Global Lighthouse Network is a community of over 100 manufacturers that are showing leadership in applying **Fourth Industrial Revolution technologies** such as artificial intelligence, 3D-printing and big data analytics.
- The Global Lighthouse Network is a World Economic Forum initiative in collaboration with McKinsey & Company.
- From India, the additions are pharma major **Cipla's** Indore facility, **Dr Reddy's Laboratories'** Hyderabad facility and the **Mondelez facility** in Sri City.

## DMH-11

**News:** Dhara Mustard Hybrid (DMH 11) is in news recently. The GEAC has recommended the environmental release of it.

### Few Facts about DMH-11 that you must know:

- DMH-11 has been developed by **Delhi University's Centre for Genetic Manipulation of Crop Plants (CGMCP)** containing two alien genes isolated from a soil bacterium called **Bacillus amyloliquefaciens**.
- It has been developed by crossing an Indian mustard variety '**Varuna**' (the barnase line) with an East European '**Early Heera-2**' mutant (barstar)

### What is Genetic Engineering appraisal committee?

- GEAC is the **apex biotech regulatory body** in India under the Ministry of Environment, Forests & Climate Change (MoEFCC).
- It has been notified under **Environmental Protection Act, 1986**.
- GEAC is a body responsible for appraisal of proposals relating to the "release" of GM organisms and products (ordinarily considered hazardous) into the environment.

**Note - We have already covered the topic (GM crops) in detail in our monthly magazine edition of October and November.**

## Kirit Parikh Committee on Gas Pricing

**News:** The Kirit Parikh panel recently submitted a report on gas pricing, recommending complete pricing freedom **from January 1, 2026**.

### About:

- The panel has been asked to recommend a fair price to end-consumers and also suggest a "market-oriented, transparent and reliable pricing regime for India's long-term vision for ensuring a gas-based economy.
- It is aimed at lowering inflation and boosting use of cleaner fuel.
- The committee, headed by energy expert Kirit Parikh, will include members from the fertilizer ministry, gas producers and buyers.

## Gelbots

**News:** Recently, John Hopkins University scientists have built a soft robot named Gelbots.



### About:

- Gelbots are made out of gelatin and are created by 3D printing.
- They are capable of moving without requiring an extra power source because of their shape, dimensions and patterning of gel are designed.
- This is because the gels swell or shrink in response to temperature. This property can be strategically manipulated to move robots forward and backwards on flat surfaces or to have them crawl in certain directions with an undulating, wave-like motion.

### Potential application of Gelbots:

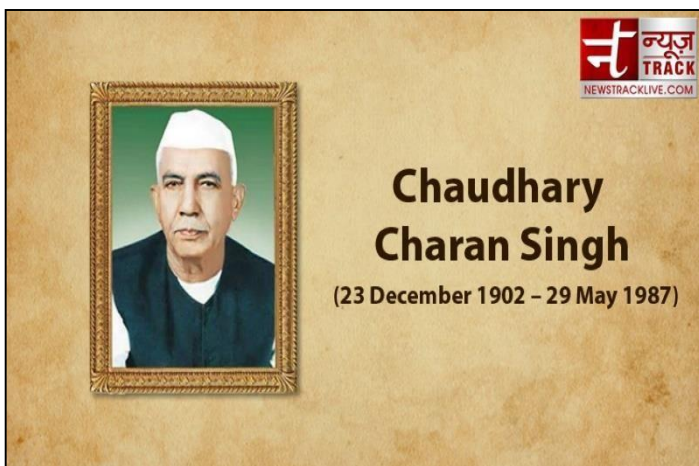
- To create smart structures, for moving on surfaces through the human body to deliver targeted medicines, to deploy as marine robots, patrolling and monitoring the ocean's surface.

## National Farmers Day

**News:** National Farmers' Day, also known as 'Kisan Diwas', is observed every year on **December 23** to celebrate the hard work and determination of the farmers.

### About:

- This particular day was chosen to commemorate the occasion as it marks the birth anniversary of former prime minister **Chaudhary Charan Singh** who belonged to Uttar Pradesh and worked for the welfare of farmers of the nation.



### Who was Chaudhary Charan Singh?

- Popularly known as Kisan Leader, his writings not only portrayed the difficulties faced by the farmers, but also contained solutions to improve their lives.
- Inspired by Lal Bahadur Shastri, Charan Singh saw how the exploitation of farmers at the hands of zamindars impacted India's rural economy.
- As Revenue Minister of UP, he designed land reform laws which made the peasants of the nation look up to him.
- In UP, he introduced major land reforms, deemed an unparalleled contribution to improving the farm sector. Some of his notable reforms were the **Debt Redemption Bill** of 1939, the **Land Holding Act** of 1960, and the **Zamindari Abolition Act**, of 1950.

- These reforms helped thousands of farmers get relief from moneylenders which consequently reduced the suicide rates among them.
- Singh died in 1980 but will always be remembered for his service. There is a memorial in his name in New Delhi's Raj Ghat, known as the 'Kisan Ghat'.

## Joynagar Moa

**News:** GI tag for Joynagar Moa has been extended for 10 years.

### About:

- A highlight of all winter mornings, Joynagar Moa is a **winter delicacy** that holds a very special place in a true blue **Bengali's heart**.
- Made with jhola or nolen gur, a special jaggery which is the first flush of juice extracted from the date palm tree, mixed with the native variety of popped rice called **Kanakchur khoi** and ghee, sugar, khoya kheer, raisins, poppy seeds and cardamom powder, this sweetmeat is a power-packed ball of rich goodness.
- It has a short shelf life, lasting not more than five days without refrigeration.
- The high perishability has prevented it from being shipped abroad all these decades, and its export began, on a very small scale, only in 2020.

**Other GI tags from WB that you should know -** Gobindobhog Rice and Tulaipanji Rice, Burdwan's Sitabhog and Mihidana, Banglar Rosogolla and the famous Darjeeling tea was the first product to get the Geographical Indication (GI) tag in India, in October 2004.

## Lion@47: Vision for Amrutkal

**News:** Minister of State for Environment, Forest and Climate Change has informed Lok Sabha about the Project Lion document titled "Lion @ 47: Vision for Amrutkal".

### About:

- The Government of India has prepared 'Lion@47: Vision for Amrutkal' as a part of Project Lion for the conservation of Asiatic Lions in Gir, Gujarat.



- The objective of the document is to 1) secure & restore lion habitats for managing its growing population, 2) scale up livelihood generation and participation of local communities, 3) become a global hub of knowledge on big cat disease diagnostics and treatment, and 4) create inclusive biodiversity conservation through Project Lion initiative.
- **Project Lion** is being implemented by the Gujarat government and other stakeholders like the Central Zoo Authority. The project envisages landscape ecology-based conservation of the Asiatic Lion in Gujarat by integrating conservation and eco-development.

## Incovacc

**News:** The Centre has announced that the two-drop vaccine, iNCOVACC, will be used as a booster dose for those aged 18 years and above and is likely to be introduced on the Co-WIN platform Friday evening.

### About:

- A press release from the vaccine maker said iNCOVACC, a **recombinant replication deficient adenovirus vectored vaccine with a pre-fusion stabilised SARS-CoV-2 spike protein**, is the world's first intranasal vaccine to receive both primary series and heterologous booster approval.

### Advantages:

- The nasal delivery system has been designed and developed to be cost-effective in low- and middle-income countries.
- It is easy to administer as it is non-invasive and does not require trained health care workers. It can be self-administered at home too.
- It will facilitate mass immunization.
- It also eliminates needle-associated risks such as injuries and infections, has higher compliance and is scalable as far as manufacturing is concerned.
- Any injectable vaccine only protects the lower level (of the body). That's why people vaccinated with injectable vaccines may still get RT-PCR positive, whereas the nasal jab protects the whole body.

## Amrit Bharat Station Scheme

**News:** Indian Railways plans to modernize 1,000 small stations under Amrit Bharat Station Scheme.

### About:

- The aim is to identify developing cities with potential and envisage railway stations as city centers that would link not just various parts of the city but also between different cities in the future. The plan is to map everything connected to it - bridges and different modes of transport
- The scheme's target is the introduction of new amenities as well as to upgrade and replace existing facilities.
- These stations will be redeveloped under what is being internally called the "**Khurda model of redevelopment**".
- Khurda station in Odisha was modernized for Rs 4 crore with all contemporary amenities for passengers. The main structure was renovated, the facade was redone and the number of railway tracks was also increased.

## Bomb Cyclone in US, Canada

**News:** An intense blizzard (or snowstorm) is wreaking havoc across the United States and Canada.

### What is a Bomb Cyclone?

- Forecasters have termed the blizzard as different from the usual weather events and called it a "bomb cyclone." While this kind of storm is not exceedingly rare, this one is very strong, with high winds that are bringing heavy snow or rain to many areas.
- Storms form when a mass of low-pressure air meets a high-pressure mass. The air flows from high pressure to low, creating winds.
- A bomb cyclone, also known as explosive cyclogenesis, is the rapid deepening of an extratropical cyclonic low-pressure area. The change in pressure needed to classify something as explosive cyclogenesis is **latitude-dependent**. This process is the extratropical equivalent of tropical rapid deepening.
- Even though only a minority of the bombs have become so strong, some weaker ones have also caused significant damage.

## How will the storm dissipate?

- But as the Arctic air spreads over most of the country it will eventually warm, reducing the pressure difference, so the storm will eventually dissipate.

## Cryomesh Technology

**News:** Scientists working on Australia's Great Barrier Reef have successfully trialled a new method for freezing and storing coral larvae.

### About:

- The newly developed "cryomesh" technology enables the storage of the coral larvae at  $-196^{\circ}\text{C}$  ( $-320.8^{\circ}\text{F}$ ).
- This new method could eventually help revive reefs threatened by climate change, the new lightweight "cryomesh" can be manufactured cheaply and it better preserves coral.

### Why does freezing a coral larvae matter?

- The Great Barrier Reef had experienced 4 bleaching events in the last seven years, including the first-ever bleach during a La Nina phenomenon, which generally brings cooler atmospheric temperatures.
- The cryomesh paves the path towards a future where coral reefs can be restored in the wild, enabling assistance to some of the aquaculture and restoration interventions.

## Losar Festival

**News:** Prime Minister Modi extended his greetings on the occasion of the Losar festival (the beginning of the Tibetan new year)



### About:

- The festival is celebrated with music performances, folk dances, special prayers, gifts exchange. During Losar evening processions called METHO is held.
- Metho is held in streets, lanes and markets. During Metho, people carry flaming torches and chant slogans. Special dishes are made and offered to Buddhist gods. The month-long festival is begun by cleaning the housing, removing unwanted things and unused things, discarding old materials. This is done to chase away the evil omens in the house.
- During this process, the evil spirits are driven away to the streets. The Metho procession then chases them out of the town or village.
- In India, the festival is celebrated both in Ladakh and Arunachal Pradesh.

## Sahitya Akademy Awards

**News:** The awards in 23 languages included seven books of poetry, six of novel, two of short stories, three dramas, two literary criticisms and one each of autobiographical essays, collection of articles and literary history.

### About:

- The Sahitya Akademi Award is a **literary honour** in India, which the Sahitya Akademi, India's National Academy of Letters, **annually** confers on writers of the most outstanding books of literary merit published **in any of the 22 languages of the 8th Schedule** to the Indian constitution **as well as in English and Rajasthani** language.
- Tamil author M. Rajendran, Telugu writer Madhuranthakam Narendra and Sanskrit Poet Janardan Prasad Pandey 'Mani' were among 23 litterateurs awarded the Sahitya Akademi Awards for 2022.
- In Assamese language, Manoj Kumar Goswami won the award for his collection of short stories Bhool Satya; Anuradha Roy won in English language for her novel All the Lives we never lived; **Gulam Mohammad Shaikh won in Gujarati for Gher Jatan**, a collection of autobiographical essays, while Mr. Rajendran won in Tamil for his novel Kala Pani.
- The Sahitya Akademi 'Yuva Praskar' for those under 35 years was awarded to Pawan Nalut for his Marathi Poetry collection Mi Sandarbha Pokharatoy.

- The Bhasha Samman was awarded to Udaya Nath Jha for his valuable contribution to the field of classical and medieval literature in the eastern region.
- The Bal Sahitya Puraskar has been given in Santhali to Ganesh Marandi for his book Hapan Mai.

#### What are the criteria for awards?

- Author must be of Indian nationality.
- Book/work must be an outstanding contribution to the corresponding language/literature.

### UNSC Resolution 2593

**News:** India joins other nations in criticizing Taliban's ban on Women in universities.

#### About:

- United Nations Security Council Resolution 2593 was adopted on 30 August 2021, following the Fall of Kabul and subsequent Taliban takeover in Afghanistan.
- According to the resolution, the Security Council demands that Afghan territory not be used to threaten or attack any other country or to shelter and train terrorists.
- It reaffirms importance of upholding human rights including those of women.

### Brain eating Amoeba

**News:** A South Korean man who returned from Thailand died from an infection caused by **Naegleria fowleri** - a 'brain-eating' amoeba commonly found in warm freshwater bodies.

#### About:

- Naegleria is an amoeba, a single-celled organism, and only one of its species, called Naegleria fowleri, can infect humans, according to the US Centers for Disease Control and Prevention (CDC).
- It was first discovered in Australia in 1965 and is commonly found in warm freshwater bodies, such as hot springs, rivers and lakes.
- The amoeba enters the human body **through the nose** and then travels **up to the brain**. This can usually happen when someone goes for a swim, or dive or even when they dip their head in a freshwater body. In some cases, it was found that people got infected when they cleaned their nostrils with contaminated water.

- It causes a dangerous infection known as **primary amebic meningoencephalitis (PAM)**.

### Krishi Decision Support System

**News:** The Ministry of Agriculture and Department of Space signed a Memorandum of Understanding (MoU) recently to develop a Krishi-Decision Support System (Krishi-DSS) using satellite data.

#### Significance:

- This will enhance the evidence-based decision-making capability of all the stakeholders in the agriculture sector by way of integration with MOSDAC and BHUVAN (Geo-platform) of ISRO and systems of ICAR.
- Krishi-DSS is being developed on the lines of Gati Shakti, using RISAT-1A and VEDAS of the Department of Space.
- RISAT-1A data will be extremely useful in developing decision support systems for agriculture, bioresources, environment, water resources and disaster management.