

# ASTRA

COMPLETE COVERAGE OF MONTHLY CURRENT AFFAIRS

MAY 2022



## SOCIAL ENTERPRISES FOR GARBAGE FREE CITIES

Encouraging women-led businesses in waste management  
A Swachh Bharat Mission-Urban 2.0 Initiative



RBI hikes  
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**Why in the news?**

- Char Dham Yatra has come to be known as a risky pilgrimage because at least 23 pilgrims have died en route since the Char Dham Yatra began on May 3 in Uttarakhand.

**About Chardham Yatra**

- The Char Dham mentioned in the above context is also referred to as chota chardham, which includes Yamunotri, Gangotri, Kedarnath and Badrinath.
  - 1) Yamunotri – This Shrine is dedicated to River Yamuna.
  - 2) Gangotri – This shrine is dedicated to goddess Ganges.
  - 3) Kedarnath – This temple is dedicated to Lord Shiva in the form of Kedar.
  - 4) Badrinath – This temple is dedicated to Lord Vishnu in the form of Badrinath.
- The Char Dham means the four dhams is a set of four pilgrimage sites which is very auspicious in the Hindu belief.
- In the Hindu sect, it is believed that a person visiting all the four sites will attain Moksha (Salvation)

**Four dhams as described by Adi Shankaracharya**

1. Badrinath – located on the banks of the river Alkananda in Uttarkhand, the town lies between the Nar and Narayan mountain ranges
2. Dwarka – located in the confluence of the river Gomti merging into Arabian sea in the state of Gujarat.
3. Puri – located in the state of Odisha, here the deity is Krishna, who is worshipped as Jagannatha
4. Rameswaram – located in Tamil Nadu where lord shiva is worshipped.

**Why in the news?**

- Recently, the excavation at Rakhigarhi has **revealed the presence of settlements, drainage systems** besides jewelry and pottery.

**About the new site**

- The archaeologists have unearthed pieces of copper and gold jewellery, terracotta toys, besides thousands of earthen pots and seals.
- Trenches:** A total **13 trenches are open across three mounds**, five at Mound 1, seven in Mound 3 and one trench in Mound 7.
- Possibility of a jewelry making unit:** At Mound 1, a huge quantity of debris of semi-precious stones such as agate and carnelian have been found along with evidence of street planning with a general width of 2.6m.
- Walled settlement:** At Mound 3, a burnt-brick wall has been traced leading to a possibility of a walled settlement.
- The noteworthy antiquities found at mounds include steatite seals, terracotta unbaked sealing with relief of elephants and Harappan script.
- Female skeletons:**
  - Digging at mound 7 revealed two female skeletons buried with a **lot of pottery and adorned jewelry** like jasper, agate beads and shell bangles.
  - The forensic study of the skeletons will reveal the ancestry and the food habits of the people of the civilisation.
- No extensive trade with Afghanistan:** The archaeologists are of the view that since no quarry of 'lapis lazuli' has been found thus the region shows no signs of extensive trade with far flung areas of Afghanistan

**Why in the news?**

- Recently Thrissur Pooram, festival was celebrated.

**About Thrissur Pooram**

- It is a 200-year-old festival, believed to have been started by erstwhile Cochin ruler ShakthanThampuran.
- The Pooram consists of elephant processions taken out from various temples in the vicinity of the Thrissur city. All the temple processions congregate at the sprawling Pooram Maidan around the 1,500-year old Vadakkunnathan Temple to pay obeisance to Lord Shiva, the presiding deity of the temple, who is supposed to host the other deities participating in the festival.
- The congregation of processions of richly caparisoned elephants is accompanied by chendamelam (an orchestra of percussion instruments) or panchavadyam (a percussion ensemble of five instruments) from various temples in the vicinity of Thrissur.
- The Thrissur Pooram takes place primarily with two groups of participants: the Paramekkavu and Thiruvambady temple Devaswoms.
- The pooram sees both these teams competing each other through elephant procession, fireworks, and stunning cultural representation.
- The festival is a 30-hour-long show, starting at 6 am on the Pooram day and ending at noon on the following day.

**Why in the news?**

- The Prime Minister along with the Prime Minister of Nepal, Sher Bahadur Deoba, laid the foundation stone for the construction of the India International Center for Buddhist Culture and Heritage at Lumbini Monastery Area, Lumbini, Nepal.

**About the centre**

- The centre will be constructed by International Buddhist Association (IBC), New Delhi on a plot of Lumbini Development Trust (LDT), which was allotted to IBC under an agreement signed between IBC and LDT in March, 2022.
- The two prime ministers also unveiled a model of the centre after the foundation stone was laid by monks from three major Buddhist traditions, Theravada, Mahayana and Vajrayana.
- It will be a modern building that will meet NetZero standards in terms of energy, water and waste management and will also house a prayer hall, meditation centre, library, exhibition hall, cafeteria, offices and other facilities.

**About Lumbini**

- Lumbini is the birth place of Lord Buddha.
- It is located in Nepal.
- In the Ashoka Pillar established by Emperor Ashoka at this place, there is an inscription describing the birth place of Buddha in Brahmi scripted Prakrit language.
- This place is one of the four major Buddhist pilgrimage sites in the world. It is a UNESCO World Heritage Site.

**Why in the news?**

- The ODISHA assembly unanimously passed a resolution regarding the Jagannath Heritage Corridor project

**About the project**

- The project's draft architectural plan and design, with an estimated cost of Rs 3,200 crore has been recently approved by the temple management committee.



- Earlier Justice B P Das commission recommended the Srimandir Security Corridor for the safety of the devotees and creation of a spiritual atmosphere.
- The project is divided into nine zones and to be completed in three phases.

### About Jagannath temple

- It was built in 12th century by King Anatavarman Chodaganga Deva of the Eastern Ganga Dynasty.
- It is also called "YamanikaTirtha" as it is believed that the the power of 'Yama', the god of death has been nullified in Puri due to the presence of Lord Jagannath.
- Also called White Pagoda and is famous for annual RathaYatra or Chariot festival, in which the three principal deities (Jagannath, Balabhadra and Subhadra) are pulled on huge and elaborately decorated temple cars
- It is a part of Char Dham pilgrimages as part of Badrinath, Dwarka, Puri, Rameswaram circuit.

## Devasahayam Pillai

## History & Culture

### Why In The News?

- Devasahayam Pillai born in 18th century, would be the first non-ordained member of the Church to be proclaimed a saint in India. **On the 15th of May, 2022, Pope Francis** canonised Blessed Devasahayam Pillai, along with six other Blesseds, at a Canonization Mass in St Peter's Basilica in the Vatican.

### About Devasahayam Pillai

- **He was born on 23 April 1712 in the village of Nattalam, Kanyakumari District, Tamil Nadu.**
- Prior to his conversion to Christianity, he was known as **Nilakanda Pillai** and grew up in an upper-caste family of temple priests.
- He afterwards served in the **court of Maharaja Marthanda Varma of Travancore**. He met a **Dutch naval commander** here, who educated him about the **Catholic faith**.
- In 1745, he **converted to Catholicism**. Pillai adopted the Christian name Lazarus but afterwards earned the moniker **Devasahayam (God's help)**.
- He then faced the Travancore state's wrath, which was **opposed to his conversion**.
- Devasahayam was killed in the Aralvaimozhy jungle on January 14, 1752, just seven years after converting to Catholicism. He has since been largely regarded **as a martyr by the Catholic community** in South India. His **remains are placed at the Cathedral of Saint Francis Xavier** in the Diocese of Kottar (Tamil Nadu).
- The Church believes that his message of equality for all people regardless of caste ultimately resulted in his martyrdom.
- **He was first approved as a saint in February 2020 for "enduring greater hardships" after his conversion to Christianity.**

## Pulitzer Prize

## History & Culture

### Why in the news?

- A team of four Indian photographers from Reuters news agency — slain photojournalist Danish Siddiqui, Adnan Abidi, Sanna Irshad Mattoo and Amit Dave — have won the Pulitzer Prize 2022 for feature photography for their coverage of the Covid-19 crisis in India.

### About Pulitzer Prize

- Arguably the most coveted award for journalists from across the world, the Pulitzer is announced by America's Columbia University and bestowed on the recommendation of the Pulitzer Prize Board.
- The awards were instituted according to Pulitzer's will, framed in 1904, where he made a provision for the establishment of the Pulitzer Prizes as an incentive to excellence. Pulitzer specified solely four awards in journalism, four in letters and drama, one for education, and five travelling scholarships.
- The first Pulitzer Prizes were awarded in June, 1917.



**Why in the news?**

- The Chhattisgarh government has become only the second state in the country to **recognise Community Forest Resource (CFR) rights of a village inside Kanger Ghati National Park in Bastar district. Simlipal NP in Odisha, is the first, where CFR rights have been recognised.**

**What is a community forest resource?**

- The **CFR under Section 3(1)(i) of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act (Forest Rights Act (FRA))** provide for recognition of the right to "protect, regenerate or conserve or manage" the community forest resource.
- Each CFR area has a customary boundary with identifiable landmarks recognised by the community and its neighbouring villages.
- It may **include forest of any category** – revenue forest, classified & unclassified forest, deemed forest, DLC land, reserve forest, protected forest, sanctuary and national parks etc.
- These rights allow the community to formulate rules for forest use by itself and others and thereby discharge its responsibilities under Section 5 of the FRA.
- CFR rights, along with Community Rights (CRs) under Sections 3(1)(b) and 3(1)(c), which include nistar rights and rights over non-timber forest products, ensure sustainable livelihoods of the community.
- These rights give the **authority to the Gram Sabha to adopt local traditional practices of forest conservation and management** within the community forest resource boundary.

**Significance of CFR rights**

- It aims at **undoing the "historic injustice"** done to forest-dependent communities due to curtailment of their customary rights over forests.
- It is important as it recognises the community's **right to use, manage and conserve forest resources** and to legally hold forest land that these communities have used for cultivation and residence.
- It also underlines the integral role that forest dwellers play in **sustainability of forests** and in conservation of biodiversity.
- It is of greater significance inside protected forests like national parks, sanctuaries and tiger reserves as traditional dwellers then become a part of **management of the protected forests** using their traditional wisdom.

**Why in the news?**

- Recently, the Seoul Declaration was adopted at the **XV World Forestry Congress**, held in Seoul, South Korea.

**About Seoul Declaration**

- **Host:** The five-day congress is hosted by the **Food and Agriculture Organisation.**
- **Period:** It is held every **six years.**
- **Aim:** It aims to share worldwide forest-related and environmental problems, like climate change, biodiversity loss and desertification, and devise solutions through forests.
- **Focus area:** The Declaration focuses on identifying key areas that can help combat multiple crises humanity faces.
- **Signatories:** The Declaration is signed by 141 participant countries.
- **Immediate need:** There is a **Need to triple investments for restoring degraded land by 2030.**
  - Vast areas of degraded land across the globe require restoration.
  - For this, the investment in forest and landscape restoration globally must be tripled by 2030 to implement global commitments and meet internationally agreed goals and targets.

### World Forestry Congress

- The World Forestry Congress is held for five days and is hosted by the Food and Agriculture Organization (FAO). This event is held every six years with the aim of sharing environmental and forest-related problems from across the globe like biodiversity loss, climate change, and desertification. Also, various solutions are devised and discussed in this event.

## Money spider

## Environment

### Why in the news?

- Money spiders, commonly found in European meadows, have been reported for the first time in the country from the Muthanga range of the Wayanad Wildlife Sanctuary.

### About Money Spider:

- Researchers of Christ College, Irinjalakuda, Thrissur, have discovered the spider that belongs to the family of dwarf spiders (Linyphiidae) under the genus Prosoponoides.
- It has been given the name Prosoponoides biflectogynus.
- Only six species of spiders belonging to this genus have been identified from across the world so far.
- It is the first report of this genus from India and hence no extensive studies have been conducted on this species of spiders in the country.

## Ramgarh Vishdhari Sanctuary

## Environment

### Why in the news?

- Ramgarh Vishdhari Sanctuary in Rajasthan was notified as India's 52nd tiger reserve recently.
- **About the sanctuary**
- **In 1982, it was declared as Ramgarh Vishdhari Wildlife Sanctuary** under Section 5 of the Rajasthan Wild Animals and Birds Protection Act, 1951.
- Currently, the sanctuary acts as a cushion for the Ranthambore National Park.
- The newly notified tiger reserve **includes the tiger habitat between Ranthambore Tiger Reserve in the northeast and Mukundra Hills Tiger Reserve on the southern side.**
- It is **Rajasthan's fourth tiger reserve after Ranthambore, Sariska and Mukundra.**
- The National Tiger Conservation Authority (NTCA) **had given in-principle approval to make Ramgarh Vishdhari Wildlife Sanctuary and adjoining areas as tiger reserves on July 5 2021.**
- Wild animals like Indian wolf, leopard, striped hyena, sloth bear, golden jackal, chinkara, nilgai and fox can be seen.
- Khair, Salar, Khirni, Dhok, Mango and Ber are some of the important trees found in the region.

## Himalayan Bird Count

## Environment

### Why in the news?

- As part of a global effort, scientists and birdwatchers in the Himalayan regions of India, Nepal and Bhutan came together and documented as many birds of the mountain range as possible.

### About the count findings

- Uttarakhand reported the highest number of bird species, at 293, while the highest number of checklists (lists of birds seen and heard by birdwatchers), at 192, was uploaded from Jammu & Kashmir, according to the primary report from birdwatchers in the Himalayan regions of India, Nepal and Bhutan.
- Birdwatchers from Ladakh, Jammu and Kashmir, Himachal Pradesh, Uttarakhand, North Bengal, Sikkim, Arunachal Pradesh, as well as Nepal and Bhutan, took part in the initiative
- From the westernmost Ladakh to the easternmost Arunachal Pradesh, this is the first edition of the **Himalayan Bird Count (HBC)** which aims to celebrate the incredible bird diversity and bring attention to the threatened habitats of the region.



- The event is organised by Bird Count India, Bird Conservation Nepal and Bhutan's Royal Society for Protection of Nature working together to bring the Himalayan birding fraternity together for a common good.
- The organisations have collectively decided to do this event on "Endemic Bird Day" to spread awareness about **Himalaya's bird biodiversity**.
- The exercise was undertaken on May 14 and a total of 607 species were documented in just one day.
- A checklist includes birds seen and heard.
- Bird Count India is an informal partnership of organisations and groups interested in documenting and monitoring India's birds.
- The initiative encourages birdwatchers to upload their bird lists to eBird a global platform for bird observations.

## Pantanal Wetland

## Environment

### Why in the news?

- The world's largest wetland, the Pantanal in South America, is at the risk of collapse due to legal land-use decisions and proposals.

### About Pantanal

- The Pantanal is a natural region encompassing the world's largest tropical wetland area, and the world's largest flooded grasslands.
- It is located mostly within the Brazilian state of Mato Grosso do Sul, but it extends into Mato Grosso and portions of Bolivia and Paraguay.
- It sprawls over an area estimated at between 140,000 and 195,000 square kilometres.
- Various sub regional ecosystems exist, each with distinct hydrological, geological and ecological characteristics; up to 12 of them have been defined.
- Roughly 80% of the Pantanal floodplains are submerged during the rainy seasons, nurturing a biologically diverse collection of aquatic plants and helping to support a dense array of animal species.
- Around 95% of the Pantanal is under private ownership, the majority of which is used for cattle grazing.

### Significance of Pantanal

- The Pantanal is a refuge for iconic wildlife. This massive wetland has the largest concentration of crocodiles in the world, with approximately 10 million caimans.
- Jaguars, the largest feline in the Americas, hunt caiman in the Pantanal, which has one of the highest density of jaguars anywhere the world.

## Draft notification for Electronic Waste Management

## Environment

### What is the news?

- Recently, the draft notification for electronic waste management was posted by the Environment Ministry for public comment.

### Key provisions of the draft notification

- **Targets:** By 2023, consumer goods businesses and electronics manufacturers must ensure that at least 60% of their electronic waste is collected and recycled, with targets of increasing to 70% and 80% in 2024 and 2025, respectively.
- The guidelines establish a system of certificate trading, similar to carbon credits, that will allow businesses to temporarily bridge deficits.
- **Extended Producer Responsibility (EPR)** certificates certify how much e-waste a company collects and recycles in a given year, and a company can sell excess quantities to another company to assist it achieve its requirements.
- Companies will be required to register on an internet portal and set annual production and e-waste collection goals.
- The Central Pollution Control Board (CPCB) is the main organisation in charge of coordinating EPR certificate transactions and ensuring that enterprises are fulfilling their targets. The overall execution of these laws will be overseen by a steering committee led by the Chairman of the CPCB.



- Companies that fail to fulfill their annual targets would face a fine or "environmental compensation," although the proposal does not indicate how much these fines will be.
- Even after three years, companies that fall short of their yearly aim can reach a year's target. Those who accomplish their targets after a year will receive an 85 percent return, 60 percent after the second year, and 30 percent after the third year.

#### Role of State governments:

- Establishing steps to protect the health and safety of workers working in e-waste dismantling and recycling facilities, and
- Earmarking industrial space for e-waste dismantling and recycling facilities.

#### Electronic-waste in India

- India created 1,014,961 tonnes of e-waste in FY 2019-2020, increasing 32% from FY 2018-2019, according to a 2020 study by the Central Pollution Control Board.
- According to the research, just 6% and 10% of this was actually collected in the country in 2018 and 2019, respectively.
- According to the report, the informal sector controls more than 90% of the country's e-waste collecting and treatment processes.
- The most recent draft recommendations for e-waste management propose that the formal sector handle more of this garbage.

#### E-waste Management Rules, 2016

- In 2016, the Central Government, in exercising its powers under the Environment (Protection) Act, 1986, published e-waste management rules in response to the growing problem of e-waste.
- These regulations supersede the E-waste (Management and Handling) Regulations of 2011.
- The standards are intended to allow for the recovery and/or reuse of useful materials from e-waste, thereby minimising hazardous wastes destined for disposal and ensuring environmentally sound management of all types of electrical and electronic waste. For the first time, the rules imposed Extended Producer Responsibility (EPR) on producers, as well as targets.
- To ensure that e-waste is successfully channelled and disposed of, producers have been made responsible for its collection and exchange, as well as manufacturers, dealers, e-retailers, and refurbishers.
- The task for collecting e-waste generated by orphan items and channelling it to an authorised dismantler or recycler has been delegated to urban municipal governments.
- The EWM Rules of 2016 established severe rules for collecting, transporting, storing, channeling, and disposing of e-waste in an environmentally responsible manner.
- Punitive provisions for rule violations have also been added.

## Global Annual to Decadal Climate Update Report

## Environment

#### Why in the news?

- The **global annual to decadal climate update report** was recently issued by the **World Meteorological Organisation (WMO)**.

#### Findings of the report

- There is a 50:50 chance of the annual average global temperature temporarily reaching 1.5°C above the pre-industrial level for at least one of the next five years.
- There is a 93% likelihood of at least one year between 2022-2026 becoming the warmest on record and dislodging 2016 from the top ranking.
- The chance of the five-year average for 2022-2026 being higher than the last five years (2017-2021) is also 93%.
- Back-to-back La Niña events at the start and end of 2021 had a cooling effect on global temperatures, but this is only temporary and does not reverse the long-term global warming trend.

- Any development of an El Niño event would immediately fuel temperatures, as it did in 2016, which is until now the warmest year on record.
- Predicted precipitation patterns for the November to March 2022/23-2026/27 average, compared to the 1991-2020 average, suggest increased precipitation in the tropics and reduced precipitation in the subtropics, consistent with the patterns expected from climate warming.
- **India Specific Findings**
- One of the primary reasons for the lowering of temperatures over India from next year is the possible increase in rainfall activity in this decade.
- As per the India Meteorological Department (IMD), the Indian monsoon will soon enter a positive period after remaining in a negative period since 1971.
- Many parts of India will receive above-normal rainfall. This will keep temperatures low.
- The future trend suggests that the decadal mean value will be close to near normal from 2021 to 2030.
- It will then turn positive, the decade 2031-2040 will be the beginning of a wet period.

## State of the World's Forests

## Environment

### Why in the news?

- The 2022 edition of The State of the World's Forests (SOFO), released on day one of the World Forestry Congress, 2022.

### About the report

- The State of the World's Forests" (SOFO) is the flagship publication of the Food and Agriculture Organization of the United Nations (FAO), published every two years. FAO is a specialized agency of the United Nations (UN) that leads international efforts to defeat hunger and improve nutrition and food security.

### Findings of the report

- The **420 million hectares of forests** have been **lost** between 1990 and 2020, due to deforestation, though forests cover 4.06 billion ha (31 per cent) of the earth's geographical area.
- Restoration of degraded land through afforestation and reforestation could cost-effectively take 0.9 to 1.5 GtCO<sub>2</sub>e per year out of the atmosphere between 2020 and 2050.
- It added that although the rate of deforestation was declining, 10 mha of forests were lost every year between 2015 and 2020.
- Unless additional action is taken, an estimated 289 mha of forests would be deforested between 2016 and 2050 in the tropics alone, resulting in the emission of 169 GtCO<sub>2</sub>e.
- Globally, ecosystems at risk of deforestation or degradation contain at least 260 Gt of irrecoverable or difficult-to-recover carbon, particularly in peatlands, mangroves, old-growth forests and marshes.
- **15 percent of 250 emerging infectious diseases have been linked to forests. Deforestation, particularly in the tropics, has been associated with an increase in infectious diseases such as dengue fever and malaria.**
- Based on reducing the illegal wildlife trade, avoiding land-use change and increasing surveillance to be \$22 billion to \$31 billion.
- It also stated that approximately 124 million more people fell into extreme poverty after COVID-19 and this may have longer-term impacts on **wood-based fuel**, as there is evidence of increased wood-based fuel use in some countries during the pandemic.
- Around a billion people in sub-Saharan Africa will keep relying on polluting fuels like charcoal and fuelwood till 2025.
- It is projected to reach 9.7 billion people by 2050, which will increase competition for land, as the demand for food for this large population will rise by 35 to 56 per cent by the 2050s.
- The annual global consumption of all natural resources combined is expected to more than double from 92 billion tonnes in 2017 to 190 billion tonnes in 2060 due to increases in population size and affluence.
- It was expected to reach 44 billion tonnes by 2060, from 24 billion tonnes in 2017. Demand for forest-based biomass is expected to rise further, mainly due to construction and packaging.
- **India and China could well emerge as the biggest hotspots for new zoonotic viral diseases.**

- **Measures**
  - Halting deforestation and maintaining forests
  - Restoring degraded lands and expanding agroforestry
  - Sustainably using forests and building green value chains.

## Steering Committee Meeting of Project Elephant

## Environment

### Why in the news?

- **At the 16th Steering Committee meeting of Project Elephant, the Ministry of Environment, Forest and Climate Change launched a field manual named-Field Manual for Managing Human-Elephant Conflicts (HEC) in India-to guide forest staffers dealing with HEC in major elephant range states.**

### About the manual

- The manual has been prepared by the ministry, along with the Wildlife Institute of India (WWI) and World Wide Fund for Nature (WWF India).
- It contains the detailed best practices of minimizing human-elephant conflict.
- It is drafted with the aim of providing forest officials/ departments and other stakeholders with guidance towards interventions to help mitigate Human Elephant Conflict, both in emergencies and when conflict poses a recurring challenge.

## Sela Macaque

## Environment

### Why in the news?

- A new species of old world monkey recorded from Arunachal Pradesh has been named after a strategic mountain Sela pass.

### About Sela macaque

- Sela macaque ( Macaca selai), the new-to-science primate was identified and analysed by a team of experts from the Zoological Survey of India (ZSI) and the University of Calcutta.
- The phylogenetic (evolutionary development and diversification of a species or group of organisms) analysis revealed that the Sela macaque was geographically separated from the Arunachal macaque ( Macaca munzala) of Tawang district by Sela.
- Sela is situated between Dirang and Tawang towns in western Arunachal Pradesh and this mountain pass acted as a barrier by restricting the migration of individuals of these two species for approximately two million years.
- The Sela macaque was **genetically closer to the Arunachal macaque** and it is found to be genetically different from the other species of monkeys reported from this region.
- However, there are also some distinct morphological characteristics.
- Both species have troops that either avoid proximity to humans or are used to human presence.
- The Sela macaque is a major cause of crop loss in the West Kameng district

## Lancet Report on Pollution Deaths

## Environment

### Why in the news?

- According to a recent analysis published in the journal The Lancet Planetary Health on pollution and health, air pollution was responsible for 8% (16.7 lakh) of all fatalities in India in 2019.

### Findings of the Report

- **Total fatalities:** In 2019, pollution is projected to have killed 90 lakh (9 million) people (equivalent to one in six deaths worldwide). Since the Lancet Commission on Pollution and Health 2015 report, this number has stayed steady.
- **Air pollution:** At 67 million fatalities worldwide, air pollution (including home and ambient) continues to be the leading cause of mortality, with 1.7 million deaths due to hazardous chemical pollutants.



- **Concerning increase:** Since 2000, the number of deaths linked to ambient air pollution has increased by nearly 55%, from 2.9 million to 4.5 million.
- **Anti-poverty efforts that counteract pollution deaths:** Deaths from ambient air and chemical pollution offset the drop in deaths from other pollution sources often associated with extreme poverty, such as indoor air pollution and water pollution.
- **Water Pollution:** 1.36 million people died prematurely as a result of water contamination.
- **Lead** was responsible for 9 lakh premature fatalities, with hazardous occupational risks accounting for 870,000.
  - **Source:** Lead gasoline, improper recycling of lead-acid batteries and e-waste without pollution controls, lead-contaminated spices, pottery glazed with lead salts, and lead in paint and other consumer products are all sources of lead pollution.
  - **lead concentrations in children at Alarming level:** It is estimated that more than 80 crore children worldwide have blood lead contents exceeding 5 g/dL, the intervention level set by the US Centers for Disease Control and Prevention.

### Status of Pollution in India according to the Report

- **Air pollution:** killed 1.67 million Indians in 2019, accounting for 18% of all mortality, according to the study.
- **The majority of deaths** - 9.8 lakh (almost 58 percent) - were due by 5 pollutions, with another 6.1 lakh (36 percent) caused by residential air pollution.
- As a result, **outdoor air pollution** was responsible for almost 58% of deaths, while household air pollution was responsible for 36%.
  - According to the World Health Organization, air pollution-related mortality in India has grown fivefold in the last two decades.
- **Geographical Distribution:** The Indo-Gangetic Plain has the worst air pollution.
- **State-wise data:** According to the survey, over 50% of deaths in India are due to air pollution in Uttar Pradesh, Maharashtra, Bihar, West Bengal, and Rajasthan.
  - These states were also in the **Top Five with the highest Mortality** due to air pollution in 2017.
  - Uttar Pradesh is the state with the highest levels of both ambient and residential air pollution.
- **Lead Concentration:** In India alone, 27.5 crore children have blood lead levels that exceed the minimum safety standards (5 g/dL).
- **Causes of Air Pollution:** In India, domestic biomass burning was the leading cause of air pollution mortality, followed by coal combustion and crop burning.

### Impact of Air Pollution on India

- **NO<sub>2</sub> concentrations:** In 2019, 185 million new cases of paediatric asthma were linked to NO<sub>2</sub>.
- **Inequity:** According to the research, countries with lower aggregate incomes bear a disproportionate share of pollution-related mortality (92 percent)
- **Economic losses:** Excess fatalities due to pollution (16%) resulted in \$4.6 trillion in economic losses in 2019, accounting for 6.2 percent of global economic output.
- **Covid-19 mortality got amplified:** Chronic airborne particulate matter exposure is directly connected to 15% of COVID-19-related fatalities worldwide.
  - According to the Centre for Science and Environment in Delhi, COVID-19 is a threat to Indian cities due to long-term exposure to poor air quality.
- The **India State-Level Disease Burden Initiative** of the Public Health Foundation of India, published in Lancet Planetary Health, found that the economic loss due to air pollution was 4% of India's GDP in 2019, or INR 260,000 crores (US\$ 36.8 billion).

### Institutional measures has India taken to tackle air pollution

- India has established a **National Clean Air Programme** and a **Commission for Air Quality Management** in the National Capital Region, which was established in 2019.
  - By 2024, India's national strategy seeks to cut particulate matter emissions by 30% from 2017 levels.
  - Non-attainment cities are those that do not fulfill the National Ambient Air Quality Standards and are found in 95 cities throughout 23 states and union territories.
  - The government intends to execute the National Clean Air Program (NCAP) in these areas by developing city-specific action plans.





- **Renewable Energy Target:** India also set a goal of installing 175 GW of renewable energy by the end of 2022 and 450 GW by 2030.
- **Electric Vehicle adoption:** The Indian government has implemented the National Electric Mobility Mission Plan, the Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (FAME) plan, the vehicle scrappage policy, and charging infrastructure projects, among other things, to promote cleaner automobiles and reduce pollution.
- **One Sun One World One Grid Group (OSOWOG):** It's a Green Grids Initiative that aims to accelerate and scale-up infrastructure and market reforms to support the global energy transformation.
- **UNFCCC COP26 Glasgow:** India also emphasized **five commitments** to climate action.
  - By 2030, India's non-fossil energy capacity will be 500 gigawatts (GW).
  - By 2030, renewable energy will provide 50 percent of India's energy needs.
  - By 2030, India's economy will have reduced its carbon intensity by more than 45 percent.
  - From now until 2030, it will reduce its net estimated carbon emissions by 1 billion tonnes.
  - By 2070, reach the goal of net zero carbon emissions.

## Next Generation Water Action (NGWA) Global Multi-hub Pre-event

## Environment

### Why in the news?

- In India, 'Next Generation Water Action (NGWA) Global Multi-hub Pre-event' was held in NITI Aayog premises, followed by the virtual NGWA Global Multi-hub finals.

### India's participation

- Amongst the five Indian student teams that participated, two teams won the following awards-
  - IWA world water Congress Scholarship- Team Hydrogravitricity
  - Acceleration Scholarship Award of 1000 Euros – Team BARCO
- **The Atal Innovation Mission, NITI Aayog was the challenge partner from India.**
- **The event happened simultaneously in 5 countries – Mexico, India, South Korea, Kenya and Denmark.**
- In order to select the students for the NGWA finals, **Atal Innovation Mission, NITI Aayog had launched the AIM-ICDK 2.0 Water Innovation Challenge in partnership with Innovation Centre Denmark (ICDK), Embassy of Denmark and Denmark Technical University (DTU).**
- This event is a **part of the greater Indo-Danish Bilateral Green strategic partnership.**
- Doubling down on the efforts to scale up innovations in the water sector, the AIM-ICDK 2.0 water innovation challenge was rolled out under the year-old ambitious partnership of AIM, NITI Aayog and Innovation Centre Denmark (ICDK) under the aegis of the Embassy of Denmark.
- **The initiative aims to identify innovative & next-gen solutions** to solve proposed challenges in collaboration with corporate and public partners.
- The initiative will engage young talents from leading universities and innovation hubs across the nation to build their skills and apply their technical disciplines and innovation capacity to come up with technology-driven innovative solutions for management of water related challenges, not only for India but for the world.
- **The winners of the challenges will also represent India at the International Water Congress 2022.**
- Denmark Embassy in India, and the Denmark Technical University (DTU) will prepare the Indian participants for the Global Next Generation Water Action (NGWA) program hosted by DTU.
- **The winners of the challenges participated in the challenges as Indian participation for the global Next Generation Water Action program** and engaged with young talents from leading universities and innovation hubs.

### About NGWA Global Multi-hub

- It is a yearly initiative which **engages students, university associated start-ups and youth-organizations at high-level international events and summits**, focusing on sustainability, as next generations academics and entrepreneurs through a tailored program including course collaboration, challenges, keynotes and bootcamps.
- The Next Generation initiative **is built on three core focus areas:** Youth involvement, Partnerships, &

Action.

- These goals are achieved by fostering a dialogue between the next generation and global decisions makers on an international stage.
- Each year it formulates a theme, a field of action, that is relevant to push sustainable change, and where youth involvement will be of high value for decision-makers all around the globe.
- **In 2021, the initiative's theme was Water Action** – and due to the great relevance and success there will be a second edition of Next Generation Water Action in 2022.

## State of the World's Birds

## Environment

### Why in the news?

- The **State of the World's Birds**, an annual review of environmental resources published recently by nine natural sciences and avian specialists across the globe, has revealed that the population of 48% of the 10,994 surviving species of birds is declining. The **report led by the Manchester Metropolitan University** gives an overview of the changes in the knowledge of avian biodiversity and the extent to which it is imperiled.

### Key findings of the Study

- The study found that about **48% of the existing bird species** worldwide are known or suspected to be undergoing population declines.
- While **39%** of the species have **stable** trends, about **7% species have increasing population trends**.
- The study draws from **Birdlife International's** latest assessment of all birds for the **International Union for Conservation of Nature's Red List** that shows 1,481 or 13.5% species are currently threatened with global extinction.
- The bird species are **non-randomly threatened across the avian tree of life**, with richness of threatened species disproportionately high among families such as parrots, pheasants and allies, albatrosses and allies, rails, cranes, cracids, grebes, megapodes, and pigeons.
- The **more threatened bird species** (86.4%) are **found in tropical than in temperate latitudes** (31.7%), with hotspots for threatened species concentrated in the **tropical Andes, southeast Brazil, eastern Himalayas, eastern Madagascar, and Southeast Asian islands**.

### Recommendations

- **The paper recommended conducting reliable estimates of population abundance and change;** novel and more effective solutions applied at scale for demand reduction for over harvested wild birds; monitoring green energy transitions that can impact birds if inappropriately implemented; eradication of populations of invasive alien species, and shifting human societies to economically sustainable development pathways, among others, to deal with bird diversity loss. **The study underlines birdwatching, a global pastime involving millions of people, as a form of avian conservation but warns of "local negative impacts" of bird feeding valued at \$5-6 billion per year and growing by 4% annually**

### Threats to Migratory Birds in India

- Migratory birds are under threat from the following factors:
- Overexploitation, unsustainable use of natural resources, population explosion along with increased weather variabilities, and climate change has resulted in the loss of biodiversity.
- Hunting along migration routes threatens some migratory bird species.
- Migratory birds use stopover sites to feed, rest and reenergize during their migration period. But many stopover sites are threatened due to increased urbanization and overexploitation.
- Structures such as power lines, windmills, and offshore oil-rigs have also affect migratory birds.
- Pesticides has an adverse effect on migratory birds as they can directly kill some birds.
- The artificial light at night adversely affects migration by confusing the birds.
- Increasing encroachment and human interferences, lack of food become a challenge, and birds can die of starvation.

**Why in the news?**

- The fifteenth session of the Conference of the Parties to the UN Convention to Combat Desertification (UNCCD COP 15) has been hosted in **Abidjan, Côte d'Ivoire**.

**About UN Convention to Combat Desertification COP 15:**

- The COP15 theme, '**Life. Legacy: From scarcity to prosperity**', is a call to action to ensure land, the lifeline on this planet, continues to benefit present and future generations. ?
- COP15 brought together leaders from governments, the private sector, civil society and other key stakeholders from around the world to drive progress in the future sustainable management of one of our most precious commodities: ?
- Land is the bedrock of a healthy, productive society, and COP15 attempted to explore links between land and other key sustainability issues.
- COP 15 is a key moment in the fight against desertification, land degradation and drought.
- It was built on the findings of the **second edition of the Global Land Outlook** and offer a concrete response to the interconnected challenges of land degradation, climate change and biodiversity loss as we step into the **UN Decade on Ecosystem Restoration**. ?

**About UNCCD:**

- Established in 1994, the United Nations Convention to Combat Desertification (UNCCD) is the **sole legally binding international agreement linking environment and development to sustainable land management**.
- The Convention addresses specifically the arid, semi-arid and dry sub-humid areas, known as the **drylands**.
- The UNCCD is particularly committed to a bottom-up approach, encouraging the participation of local people in combating desertification and land degradation.
- The UNCCD secretariat facilitates cooperation between developed and developing countries, particularly around knowledge and technology transfer for sustainable land management.
- Its **197 Parties** aim, through partnerships, to implement the Convention and achieve the Sustainable Development Goals.
- The **UNCCD collaborates closely with the other two Rio Conventions**;
  - the Convention on Biological Diversity (CBD)
  - the United Nations Framework Convention on Climate Change (UNFCCC)

**Conference of Parties (COP):**

- The COP was established by the Convention as the **supreme decision-making body**.
- It comprises ratifying governments and regional economic integration organizations, such as the European Union.
- The **14<sup>th</sup> session was held in India**. The latest and 15<sup>th</sup> session is being held in Abidjan, Côte d'Ivoire.
- It has been **meeting biennially since 2001**

The new **UNCCD 2018-2030 Strategic Framework** is the most comprehensive global commitment to achieve **Land Degradation Neutrality (LDN)** in order to restore the productivity of vast expanses of degraded land, improve the livelihoods of more than 1.3 billion people, and reduce the impacts of drought on vulnerable populations to build.

**Why in the news?**

- Transnistria risks being drawn into the Russia-Ukraine war because of reports of a series of explosions in its territory.

**About Transnistria**

- It lies between Moldova to its west and Ukraine towards its east.
- Often described as a "remnant of the Soviet Union", Transnistria declared independence like Moldova did soon after the break-up of the Soviet Union.

- When Moldovan troops attempted to take over the territory in 1990-1992, Transnistria was able to resist them because of Russian soldiers based in Transnistria.
- It has remained free of Moldovan control. However, most countries continue to see Transnistria as part of Moldova.

### Odessa

- Odessa or Odesa is the third most populous city and municipality in Ukraine and a major seaport and transport hub located in the south-west of the country, on the northwestern shore of the Black Sea.
- The city is also the administrative centre of the Odessa Raion and Odessa Oblast.
- Odessa is sometimes called the "Pearl by the Sea", the "Southern Capital", "Odessa-mama" and "The Humour Capital", as well as "Southern Palmyra".
- Odessa is a warm-water port. The city of Odessa hosts both the Port of Odessa and Port Yuzhne, a significant oil terminal situated in the city's suburbs.

## Cyclone Asani and Karim

## Geography

### Why in the news?

- Twin Cyclones were formed over the Indian Ocean region last week, one in the northern hemisphere named Cyclone Asani and one in the southern hemisphere called cyclone Karim respectively.

### Key Highlights

- Karim was categorized as a category II hurricane, with a wind speed of 112 kilometers per hour (kmph).
- Asani sustained a Severe Cyclonic Storm over the Bay of Bengal, with wind speeds of 100-110 kmph gusting to 120 mph.
- Both were formed in the Indian Ocean region and originated in the same longitude.
- Cyclone Karim created a path in the open seas west of Australia. The name Karim was given by the South African country Seychelles.
- The name Cyclone Asani was suggested by Sri Lanka.

### Formation of twin cyclones

- Twin tropical cyclones spinning in opposite directions north and south of the equator are common. Twin cyclones are basically caused by equatorial Rossby waves. They are huge waves in the ocean with wavelengths of around 4,000–5,000 kilometers. This system has a vortex in the northern hemisphere and another in the southern hemisphere, and each of these is a mirror image of the other.
- Cyclone Fani formed over the Bay of Bengal in April 2019 along with Tropical Cyclone Lorna over the southern Indian Ocean. While Fani turned into an extremely severe cyclonic storm with a maximum wind speed of 250 kmph, Lorna was a Category 1 hurricane and could attain a maximum of 70 kmph.
- Similar to 2019, the instigator of this pair of cyclones was the Madden-Julian Oscillation (MJO), a disturbance near the tropics that moves east around the globe every 30 to 50 days.
- Westerly winds over the equator line on the Indian Ocean have been strong the past several days, likely due to MJO. Such strong westerly winds over the equator line can sometimes induce cyclonic circulations.
- This led to the simultaneous formation of cyclones over the Northern hemisphere and Southern hemisphere, called twin cyclones.

**Why in the news?**

- The reports of law commission on sedition are being discussed widely.

**About the Commission:**

- The Law Commission of India is a **non-statutory body** constituted, which **advises the government on all legal issues**, from time to time by the Government of India.
- The commission was **originally formed in 1955** and is reorganized **every 3 years**. The term of the 21st Law Commission of India was till August 31, 2018.
- It works as **an advisory body to the Ministry of Law and Justice**.
- The first Law Commission was established during colonial rule in India, by the East India Company under **the Charter Act of 1833, and was presided by Lord Macaulay**.
- The **first Law Commission of independent India** was established in 1955. The Chairman of this commission was **Mr. M. C. Setalvad**, who was also **the First Attorney General of India**.

**Members of 22nd Law Commission**

- The 22nd Law Commission will consist of:
  - Chairperson
  - A member-secretary and three other members
  - Secretary (Department of Legal Affairs as ex-officio Member)
  - Secretary (Legislative Department as ex officio Member)
  - Part-time Members (Not more than five).

**Responsibilities of 22nd Law Commission**

- It will **identify laws that are no longer needed or are irrelevant** and can be repealed immediately.
- The 22nd Law Commission will **examine the existing laws and suggest ways for reforms**.
- It will also suggest the necessary laws to **implement the Directive Principles mentioned in the Preamble of the Constitution**.
- It will take all necessary measures to use **law and legal processes in the service of poor people**.
- The law commission will revise the laws of general importance to simplify them and remove anomalies, ambiguities, and inequities.

## Article 142 of the constitution

## Polity

**Why in the news?**

- Recently, the Supreme Court Bench has invoked the extraordinary power conferred on the court under Article 142 of the Constitution

**About Article 142**

- **Article 142** titled 'Enforcement of decrees and orders of the Supreme Court and orders as to discovery, etc.' has **two clauses**.
  - **Article 142(1)** reads that the **Supreme Court in the exercise of its jurisdiction may pass such decree or make such order as is necessary for doing complete justice in any cause or matter pending before it**, and any decree so passed or order so made shall be enforceable throughout the territory of India in such manner as may be prescribed by or under any law made by Parliament and, until provision in that behalf is so made, in such manner as the President may by order prescribe.
  - **Article 142(2)** reads: "**Subject to the provisions of any law made in this behalf by Parliament, the Supreme Court shall, as respects the whole of the territory of India, have all and every power to make any order for the purpose of securing the attendance of any person, the discovery or production of any documents, or the investigation or punishment of any contempt of itself.**"
- **In the case of Perarivalan, the Supreme Court invoked Article 142(1)** under which it was empowered to pass any order necessary to do complete justice in any matter pending before it.





- It held that it was not a fit case to be remanded to the Governor for his consideration under Article 161 of the Constitution.
- **Article 142, which started out as draft article 118**, was adopted by the Constituent Assembly on May 27, 1949.

### Scope of Article 142

- While the powers under Article 142 are sweeping, **the Supreme Court has in its judgments over the years defined its scope and extent. Some important cases in this regard are**
  - Prem Chand Garg v. Excise Commissioner, U.P., Allahabad' (1962).
  - 'A.R. Antulay v. R.S. Nayak & Anr' (1988).
  - 'Union Carbide Corporation v. Union of India' (1991).
  - 'Supreme Court Bar Association v. Union of India' (1998).
- In its 2019 judgment in the Ayodhya case, **the Supreme Court used the extraordinary powers under this provision to grant 5 acres of land in Ayodhya situated outside the disputed area to Muslim parties**, saying, in an implicit reference to the demolition of the Babri Masjid in 1992, that it was **invoking Article 142 "to ensure that a wrong committed must be remedied"**

## National Data & Analytics Platform

## Polity

### Why in the news?

- Recently, NITI Aayog has launched the National Data & Analytics Platform (NDAP) for open public use.

### About the Platform-

- The platform **aims to democratize access to public government data by making data accessible, interoperable, interactive, and available** on a user-friendly platform.
- Vision: Democratize access to public Government data through a world-class user experience.
- It **hosts foundational datasets from various government agencies**, presents them coherently, and provides tools for analytics and visualization.
- This public launch follows a beta release of the platform in August 2021 that had provided access to a limited number of users for testing and feedback.
- NDAP will provide access to data from multiple sectors in one place. Data will be sourced from different Central and State Ministries and Departments.
- **NDAP follows a use-case based approach** to ensure that the datasets hosted on the platform are tailored to the needs of data users from government, academia, journalism, civil society, and the private sector.
- **All datasets are standardized to a common schema**, which makes it easy to merge datasets and do cross-sectoral analysis.
- The main value that NDAP adds is making key **foundational datasets interoperable with each other**. This will enable easy cross-sectoral analysis and democratize the use of Indian government data.
- NDAP is a critical milestone – which **aims to aid India's progress by promoting data-driven disclosure, decision making and ensuring availability of data connecting till the last mile**, is an example to how the power of data can be leveraged.
- India has a rich data ecosystem which generates data that is invaluable for decision making and research. NDAP is adding to these efforts to further strengthen the data ecosystem.

## Places of Worship Act

## Polity

### Why in the news?

- Kashi Vishwanath temple-Gyanvapi mosque has brought into focus the places of worship act.

### Key provisions of Places of Worship Act

- **The Places of Worship (Special Provisions) Act was passed by the Parliament and enacted into law in 1991** during the peak of the Ram Janmabhoomi movement.
- **The Act was brought by the Congress government of Prime Minister P V Narasimha Rao** at a time when the Babri Masjid was still standing.

- **Section 3 of the Act bars the conversion of places of worship.** It states, "No person shall convert any place of worship of any religious denomination or any section thereof into a place of worship of a different section of the same religious denomination or of a different religious denomination or any section thereof."
- **Section 4(1) of the Act states that** "the religious character of a place of worship existing on the 15th day of August, 1947 shall continue to be the same as it existed on that day".
- **Section 4(2) says** any suit or legal proceeding with respect to the conversion of the religious character of any place of worship existing on August 15, 1947, pending before any court, shall abate — and **no fresh suit or legal proceedings shall be instituted.**
- The provision to this subsection saves suits, appeals and legal proceedings that are pending on the date of commencement of the Act, if they pertain to the conversion of the religious character of a place of worship after the cut-off date.
- **Section 5 of the Act stipulates that the particular law does not apply to Ram Janmabhoomi-Babri Masjid case** or any suit, appeal or other proceeding relating to it.
- However, suits, appeals and legal proceedings can be initiated with respect to the conversion of the religious character of any place of worship after the commencement of the Act if the change of status took place after the cut-off date of August 15, 1947.

## Assam Cattle Preservation (Amendment) Act, 2021

## Polity

### Why in the news?

- Assam Cattle Preservation Act, 2021 has led to an acute beef crisis in Meghalaya recently.

### Key provision of the act-

- This Act **replaced the Assam Cattle Preservation Act, 1950**, on the ground that the latter lacked sufficient legal provisions to regulate the slaughter, consumption and transportation of cattle.
- **The 2021 Act bars sale and purchase of beef or beef products in areas "predominantly inhabited by Hindu, Jain, Sikh and other non beef-eating communities", or "within a radius of 5 km" of any temple or sattras (Vaishnavite monasteries).**
- The Act, ostensibly **passed to check cattle smuggling to Bangladesh, prohibits inter-state transport of cattle** to and from Assam without valid documents.
- The legislation was **initially meant to be applicable to all cattle** (cows, bulls, bullocks, buffaloes). Before it became a law, **buffaloes were removed from the definition.**
- While it prohibits slaughter of a cow under any circumstances, other cattle can be slaughtered **subject to a "fit for slaughter" certificate.**
- The law **gives authorities the power to "enter and inspect any premises" on the basis of suspicion.**
- **It provides for a minimum jail term of three years** (extendable up to eight years) and a Rs 3 lakh fine (with the upper limit Rs 5 lakh). **For repeat offenders, the punishment will be doubled.**

### The amendments-

- The main amendments include a change in the transport permissions to cattle within the state and two new provisions that **provide more teeth to the police.**
- The original legislation had prohibited inter-district movement of cattle within Assam without valid documents.
- **The amendment now allows movement from one district to another, provided these do not border Bangladesh,** and provided those transporting the cattle are registered under the Animal Husbandry and Veterinary Department, and have permits to transport the cattle for bonafide agricultural or animal husbandry purposes or for trade.
- **The amendments empower the police to enter the house of an accused, search and seize properties if they have a "prima facie reason to believe"** that the properties have been acquired in the last six years with money earned from illegal cattle trade.
- This provision also places the burden of proof on the accused, saying: "Provided that the burden of proving that the property so attached or seized has not been illegally acquired through sale or transportation of cattle in violation of any of the provision under this Act, shall be on the person affected".
- Another amendment allows for the sale of seized vehicles, boats and vessels through "public auction" after being produced before the appropriate court.

**Why in the news?**

- Delimitation Commission recently submitted its final proposal for Jammu and Kashmir.

**Delimitation in J&K**

- The last time a delimitation exercise was carried out in Jammu and Kashmir was in **1995, based on the 1981 Census**.
- Jammu and Kashmir was under **President's rule at that time**. There was no Census in 1991 in J&K due to the tense situation in the valley.
- In 2001, the Jammu and Kashmir Assembly passed a law to put the delimitation process on hold till 2026.
- The Centre set up a **Delimitation Commission in March 2020**, six months after the State of Jammu and Kashmir was bifurcated and reorganised as the Union Territories of Jammu and Kashmir and Ladakh.
- The Commission, headed by **retired Supreme Court judge Ranjana Prakash Desai**, was tasked with delimiting the Assembly and Lok Sabha constituencies in the UT of J&K based on the 2011 Census and in accordance with the provisions of the Jammu and Kashmir Reorganisation Act, 2019 and the Delimitation Act, 2002.
- The panel was **given a year to complete the delimitation plan** but was given two extensions.
- After considering submissions and considering factors like "**geographical features, communication means, public convenience and contiguity of areas**", the Delimitation Commission released its final report recently.

**Specifics of the report**

- J&K is split into two divisions:** J&K is split into two divisions, with Jammu having **37 Assembly seats and Kashmir 46**. After the Commission's final draft, **six additional Assembly seats are earmarked for Jammu** (revised to 43) and one for Kashmir (**revised to 47**). The total number of Assembly seats in the UT will increase from **83 to 90**.
- Nominate at least two Kashmiri Pandits:** The Commission has recommended the Centre to **nominate at least two Kashmiri Pandits to the Legislative Assembly**.
- Nine seats for the Scheduled Tribes (STs):** The panel has **proposed nine seats for the Scheduled Tribes (STs)**. These will include six in Jammu (Budhal, Gulabgarh, Surankote, Rajouri, Mendhar, Thanamandi) and three in the valley (Gurez, Kangan, Kokernag). Seven seats have been reserved for the Scheduled Castes (SCs) in the Jammu region.
- Representation to displaced persons from POK:** The Commission has also recommended that the government consider giving displaced persons from **Pakistan-occupied Jammu and Kashmir representation in the Assembly through nomination**.
- Jammu & Kashmir region as one single Union Territory:** In its final order, the Commission has noted that it has considered the "Jammu & Kashmir region as **one single Union Territory**", and merged **Rajouri and Poonch (from Jammu division) with the Anantnag constituency in the Kashmir region**. The new constituency has been renamed as Kishtwar-Rajouri.
- Renamed 13 constituencies considering public sentiment:** The Commission has said it renamed **13 constituencies considering public sentiment in the region**. The order shows that in **Kashmir**, the names of Gulmarg (from Tangmarg), Hazratbal, Zadibal, Lal Chowk, Eidgah have been restored. In the Jammu region, the name of the Gulabgarh constituency has been restored.
- Added seven more Assembly seats:** The Commission has added seven more Assembly seats, keeping the 2011 census as the basis. With this, Jammu with a population of 53 lakh (43% of the total population of 122 crore) will have **47% seats, while Kashmir which has a population of 68 lakh (56%) will have 52% of the seats**.

- The Delimitation Commission is **appointed by the President of India** and works in collaboration with the Election Commission of India. The Commission is made up of a retired Supreme Court judge, the Chief Election Commissioner and the respective State Election Commissioners.
- The commission is mandated to: **(a)** Determine the number and boundaries of constituencies to make the population of all seats, as far as practicable, be the same throughout the State; **(b)** Identify seats reserved for Scheduled Castes and Scheduled Tribes, wherever their population is relatively large.
- The Constitution mandates that the **orders of commission are final and cannot be questioned before any court**.

- Under **Article 82**, the Parliament enacts a Delimitation Act after every Census. The Union government sets up a Delimitation Commission. Delimitation commissions have been set up four times in the past — 1952, 1962, 1972 and 2002 — under Delimitation Commission Acts of 1952, 1962, 1972 and 2002.
- In 1976, the **42nd Constitutional Amendment** had frozen the delimitation process until 2001. This freeze was extended till the first census after 2026 (i.e., Census 2031) by the 84th Amendment Act in 2002). In 2002, based on the 2001 Census Delimitation Commission was set up to readjust the boundaries of existing Lok Sabha and Assembly seats and rework the number of reserved seats. There was no change in the number of seats. The number of seats were frozen as a measure to **boost family planning norms** and to enable the State Governments to pursue the agenda for population stabilisation

## Civil Registration System (CRS) Report

## Polity

### Why in the news?

- The Registrar General of India has published the Civil Registration System (CRS) report 2020 based on birth and death reports recently.

### About the CRS report-

- **CRS is a universal, continuous, compulsory and permanent recording of birth, death and stillbirth, stated the data.**
- **The Ministry of Home Affairs (MHA)** in April 2022 has decided to introduce changes in the Civil Registration System (CRS) in India as the country has been facing challenges in terms of timelines, efficiency and uniformity leading to delayed and under-coverage of births and deaths in the country.
- The data released by the CRS report-2020 **under the aegis of the office of Registrar General of India (RGI)** was shared with WHO for preparation of the excess mortality report.

### Key findings-

- According to CRS, **death registration has increased by 4.75 lakh in the year 2020** as compared to 2019.
- These figures **include deaths due to COVID-19 and other reasons.**
- Out of the total registered deaths, **the share of males and females is 60.2 per cent** and 39.8 percent.
- Maharashtra, Gujarat, Andhra Pradesh, Bihar, West Bengal, Nagaland, Haryana, Karnataka, Tamil Nadu, Sikkim, Punjab, Madhya Pradesh, Odisha, Rajasthan, Andaman & Nicobar island and Assam **recorded an increase in death rate in 2020 with respect to 2019.**
- **Bihar saw the maximum increase in the death rate with 18.3 per cent followed by Maharashtra** with 16.6 per cent and Assam with 14.7 per cent .
- Meanwhile, states like Manipur, Chandigarh, Telangana, Uttar Pradesh, Uttarakhand, Puducherry, Arunachal Pradesh and Kerala **saw a decrease in death rates in 2020 with respect to 2019.**
- Manipur saw a -25.4 per cent decrease in the death rate, Chandigarh saw a -22.1 per cent decrease in the death rate and Telangana recorded a -11.0 per cent decrease in the death rate.
- **The country registered a 73.7 percent birth rate.**
- **However, the number of registered births has decreased to 2.42 crores in 2020 from 2.48 crores in 2019.**
- Out of the total registered births, **the share of males and females is 52.0 per cent** and 48.0 per cent respectively.
- Lakshadweep, Bihar, Haryana, Sikkim, Madhya Pradesh and Rajasthan **recorded an increase in the registered birth rate.**
- **Lakshadweep recorded the maximum change in the birth rate of 14.3 per cent (947 in 2019 to 1082 in 2020) followed by Haryana** with 11.7 per cent and **Bihar** with 8.4 per cent.
- However, states like Nagaland, Puducherry, Telangana, Manipur, Delhi, Arunachal Pradesh, West Bengal, Kerala, Gujarat, Karnataka, Himachal Pradesh, Uttar Pradesh, Assam, Tamil Nadu, Uttarakhand, Maharashtra, Mizoram, and Chandigarh **recorded a decrease in the registered birth rate.**

### Why in the news?

- Recently, the Supreme Court posed a question that whether the Governor had the authority to refer the **mercy plea of Rajiv Gandhi assassination case convict to the President**.

### About the SUPREME COURT Stand

- The court said that under **Article 161** of the Constitution, the **Governor was bound by the aid and advice given by the Tamil Nadu Council of Ministers** in September 2018 to the Governor to release Perarivalan, who has already served over 30 years of his life sentence. The Governor prima facie had no authority to transfer the mercy plea to the President. There was **no role for the President** here under the Constitution.

### About MERCY PLEA

- Mercy plea is the **last resort for convicts** who have exhausted all available legal remedies for obtaining pardon/relief from their sentences.
- The **Indian President and the Governor of the State** have pardoning powers under Articles 72 and 161 respectively.
- They **are advised by the Council of Ministers** while exercising such powers (Article 74 and 163). They can grant pardon, reprieve, respite, remit or commute sentences of any person convicted of any offence. **However, the pardoning power of the Governor does not extend to grant pardons in cases of death penalty or/ and in cases of court-martial.**

### Grounds of mercy plea

- The person concerned is required to state the grounds upon which he/she requests for the grant of pardon.**
- These grounds **may not have any value in the eyes of law** for exonerating the accused person from the offence, but they might play an important role in the release of the person by the President.
- The grounds, such as **the convicted person is the only bread earner of the family or the physical fitness of the convict, his age or the court by chance committed any mistake** may be taken into consideration at the time of disposal of the mercy petition.
- Supreme Court in **Kehar Singh v Union of India, 1988 case** said that the grant of mercy plea is **an act of grace and cannot be claimed as a right**.

## National Behaviour Change Communication Framework for Garbage Free Cities

### Why in the news?

- Ministry of Housing and Urban Affairs, has launched the 'National Behaviour Change Communication Framework for Garbage Free Cities' to strengthen the ongoing jan andolan for 'Garbage Free Cities' recently.

### About the framework

- It serves as a **guiding document and blueprint for States and Cities** to undertake large scale multimedia campaigns along with **intensive and focused inter-personal communication campaigns**.
- It focuses on intensifying messaging around the key focus areas of source segregation, collection, transportation, and processing of waste, plastic waste management, and remediation of legacy dumpsites to truly transform the urban landscape of India.
- Following the national this Framework was **second edition of SwachhTalks, the peer-learning webinar series for States/Union Territories and Urban Local Bodies** titled 'Swachhata Ki Jyot' that aimed to share field experiences and best communications' practices of sector partners, cities, and States in making an impact in the field of Swachhata.
- The second episode of SwachhTalks was successful in conveying how behaviour change** can put India on the path of sustainable urbanization, with active involvement from all citizens, implementers, and state officials.
- The virtual event was attended by Mission Directors from States and Union Territories, Senior officials as well as sector partners.**



### Swachh Bharat Mission-Urban 2.0(SBM-U 2.0)-

- It was announced in Budget 2021-22 and it is a continuation of the first phase of SBM-U.
- It was launched on 1 October 2021 to achieve the vision of "Garbage-Free' cities' in the next five years.
- It focuses on source segregation of solid waste, utilizing the principles of 3Rs (Reduce, Reuse, Recycle), scientific processing of all types of municipal solid waste and remediation of legacy dumpsites for effective solid waste management.
- It envisions to make all urban local bodies "as ODF+" and those with a population of below 1 lakh "as ODF++", thereby achieving the vision of safe sanitation in urban areas.
- An area is declared ODF+ if in a day, not a single person is found defecating and/or urinating in the open and all community and public toilets are functional.
- The ODF++ requires safe management and treatment of faecal sludge and sewage, with no discharging or dumping in drains, water bodies or open areas.
- It is to be implemented over five years from 2021 to 2026.
- The first phase of SBM-U was launched on October 2, 2014 with an objective to make urban India Open Defecation Free (ODF) and 100% scientific management of municipal solid waste which lasted till October 2019.

## Right to Abortion

## Polity

### Why in the news?

- Recently the U.S. Supreme Court ended the constitutional right to abortion, overturning its landmark judgment on Roe v. Wade 1973 that had enshrined a woman's right to her body

### About Roe Vs Wade case

- The Roe v. Wade case—often referred to simply as "Roe"—ruled that abortion would be permitted up to the point of foetal viability, or the point at which a foetus may survive outside the womb, overturning regulations that had made the procedure illegal in several states.
- Foetal viability was approximately 28 weeks (7 months) at the time of the "Roe" decision, which was rendered nearly 50 years ago. Experts now concur that medical advancements have lowered the threshold to 23 or 24 weeks (6 months or slightly less), and more recent studies suggest that this may even be as low as 22 weeks. About 40 weeks are usually required for a pregnancy.
- Many people believe that a woman's rights can be separated from the foetus at the point of viability.

### Recent US Supreme Court Judgment

- The U.S. Supreme Court overruled Roe v. Wade, a 1973 landmark decision granting women in America the ability to have an abortion before the 24-28 week mark, in a substantial restriction of women's rights.
- Planned Parenthood v. Casey, a 1992 decision that supported Roe, was also reversed.
- Women's abortion rights, which have been legal for more than two generations, will now be governed by each State.
- About 20 States have laws regulating or outlawing abortions (which Roe has upheld till today).
- Now that Roe has been overruled, legislation prohibiting the operation are now in effect in thirteen states.

### Abortions law in India

- In the 1960s, the Union government constituted **Shantilal Shah Committee** to prepare a draft for the legalisation of abortion in India.
- **In 1971, the Medical Termination of Pregnancy (MTP) Act** was enacted to reduce maternal mortality due to unsafe abortions.
  - It set an upper limit of the gestation period to which a woman can seek a medical abortion to 20 weeks.
  - Abortion is to be performed only by doctors with specialisation in gynaecology or obstetrics.
- **Under section 312 of the Indian Penal Code (IPC)**, a person who "voluntarily causes a woman with child to miscarry" will be jailed for up to 3 years or fine or both.
  - The only exception from punishment is when it was done to save the life of the pregnant woman.

- The **MTP Act was amended in 2003** to allow the use of the abortion medicine misoprostol, to medically terminate a pregnancy for up to 7 weeks.
- The **MTP Act was again amended in 2021**, it increased the upper limit of the gestation period to which a woman can seek a medical abortion to 24 weeks from 20 weeks permitted in the 1971 Act. But the new upper limit can only be applied in specific cases.
  - **Abortion up to 20 weeks** of gestational age can be done after the opinion of a single registered medical practitioner.
  - **From 20 weeks up to 24 weeks**, the opinion of two registered medical practitioners is required.
- Under the 2021 amendment Act, **medical termination of pregnancy is permitted if it is based on medical opinion and fulfil at least one of the following reasons;**
  - If the pregnancy would involve a risk to the life of the pregnant woman.
  - If pregnancy results in any injury to the woman's physical or mental health.
  - If a unborn child suffers from a serious physical or mental abnormality.
- The **pregnancy can be terminated up to 24 weeks of gestational age under any of these conditions;**
  - If the woman is either a survivor of sexual assault or rape.
  - If she is a minor.
  - If her marital status has changed during the ongoing pregnancy (widowhood or divorce).
  - If she has major physical disabilities or is mentally ill.
  - If foetal malformation was incompatible with life or after birth, it would be seriously handicapped.
- If the pregnancy has to be terminated beyond the 24-week gestational age, it can only be done on the grounds of foetal abnormalities and only after the clearance from a four-member Medical Board.
- **In the K.S. Puttaswamy v. Union of India and others case**, the Supreme Court had held that the decision taken by a pregnant person related to pregnancy is part of her right to privacy under article 21.

## Sedition Law

## Polity

### Why in the news?

- The Supreme Court of India has suspended all the pending criminal trials under Section 124A and allowed the Union Government to reconsider the law.

### About the verdict

- The **Supreme Court suspended all the pending criminal trials and court proceedings under Section 124A (sedition) of the Indian Penal Code** and allowed the Union government to reconsider the sedition law.
- The court has made it clear that **the Centre and States to restrain from registering FIRs, continuing investigations or taking coercive measures under Section 124A while the "reconsideration" of the colonial provision was on.**
- The Ministry of Home Affairs highlighted that the Government always expressed unequivocal views in favour of the protection of civil liberties, respect of human rights, and giving meaning to the constitutionally cherished freedoms by the people of the country.
- **In the 1962, Kedar Nath Singh case**, the Supreme Court upheld the validity of the sedition law while attempting to restrict its scope for misuse.
- It had held that unless accompanied by incitement or a call for violence, criticism of the government cannot be construed as a seditious offence.
- **Issues with Sedition**
- According to the Kedar Nath judgment in 1962, the sedition law was supposed to be applied in rare cases where the security and sovereignty of the country are threatened.
- However, there are growing examples to show that this law has been used as a tool against political rivals, to suppress disagreement and free speech.
- As per the latest data, more than 25 sedition cases were filed after the anti-Citizenship Amendment Act protests, nearly 22 after the Hathras gang rape, and 27 after the Pulwama incident.
- In all, 96% of the sedition cases filed against 405 Indians over the last decade were registered after 2014.

- The **conversion rate in these cases is only 3%.**
- The low conviction rate shows that **the police and state authorities are using the sedition laws to create fear amongst the citizens and to silence any criticisms or disagreement against the people in power.**
- The main problem with the sedition law is that it is poorly defined. The terms "bring into hatred or contempt" or "attempt to excite disaffection" can be interpreted in many ways and this empowers the police and government to harass innocent citizens.
- Due to its poor definition, sedition law can be used by the police to falsely accuse individuals as it does not state which acts are seditious and provides a broad outline of what can be classified as seditious.

#### About Section 124A IPC

- It **defines sedition** as "any person who, by words, either spoken or written, or by signs, or by any visible representation, or otherwise, brings or attempts to bring into hatred or contempt, or excites or attempts to excite the disaffection towards the government established by law in India."
- Disaffection encompasses all feelings of enmity and disloyalty. Comments that do not incite or attempt to incite hatred, contempt, or disaffection will not be considered an offence under this section.
- **Sedition is punishable by the following punishments:**
- Sedition is a non-bailable offence. The punishment under Section 124A can range from three-year imprisonment to a life sentence, additionally fine.
- A person charged under this is barred from working for a government job.
- They are forced to live without their passports and must appear in court whenever they are required.



**Why in the news?**

- In a landmark decision recognizing sex work as a "profession" whose practitioners are entitled to dignity and equal protection under the law, the Supreme Court has ordered police to refrain from interfering with or prosecuting adult, consenting sex workers.

**Major Guidelines by the Court**

- Criminal Law:** Sex workers are entitled to equal protection of the law and criminal law must apply equally in all cases, **on the basis of 'age' and 'consent'**. When it is clear that the sex worker is an adult and is participating with consent, the police must refrain from interfering or taking any criminal action. **Article 21 declares that no person shall be deprived of his life or personal liberty** except according to procedure established by law. This right is available to both citizens and non-citizens. Sex workers should not be "arrested or penalised or harassed or victimised" whenever there is a raid on any brothel, **"since voluntary sex work is not illegal and only running the brothel is unlawful"**.
- Right of Child of a Sex Worker:** A child of a sex worker should not be separated from the mother merely on the ground that she is in the sex trade. **Basic protection of human decency and dignity** extends to sex workers and their children. Further, if a minor is found living in a brothel or with sex workers, **it should not be presumed that the child was trafficked**. In case the sex worker claims that he/she is her son/daughter, tests can be done to determine if the claim is correct and if so, the minor should not be forcibly separated.
- Medical Care:** Sex workers who are victims of sexual assault should be **provided every facility including immediate medico-legal care**.
- Role of Media:** Media should take "utmost care not to reveal the identities of sex workers, during arrest, raid and rescue operations, whether as victims or accused and not to **publish or telecast any photos that would result in disclosure of such identities**."

**Guidelines issued to States:**

- Any sex worker who is a victim of sexual assault should be provided with all facilities available to a survivor of sexual assault.
- The State Governments may be directed to do a survey of all protective homes so that cases of adult women, who are detained against their will can be reviewed and processed for release in a time-bound manner.
- The police and other law enforcement agencies should be sensitised.
- Measures that sex workers employ for their health and safety must neither be construed as offences nor seen as evidence of commission of an offence.

**Legal Status of Prostitution in India**

- According to the Indian Penal Code, prostitution is not prohibited in the broad sense, but some behaviours that are a key element of prostitution are punished under certain sections of the act:
  - Soliciting prostitute services in **public** locations
  - Carrying out prostitution **activities in hotels**
  - Being the owner of a **brothel**
  - Pimping
  - Indulge in prostitution by arranging a sex worker
  - Arrangement of a sexual act with a customer
- According to the **Immoral Traffic (Prevention) Act of 1956 (ITPA)**
  - The Prostitution is defined as the sexual exploitation or abuse of a female for monetary gain, and a prostitute is the individual who benefits from that commercial profit.
  - Prostitutes are allowed to start their business in **private**, but they are **not** allowed to carry it out in **public**.
  - Clients can be arrested if they are found guilty of performing a sexual **act in public**.
  - Within 200 yards of a public place, a woman cannot engage in commercial sex.
- Sex workers are **not** covered by existing **labour laws** because of their unique vocation, but they enjoy all of the rights of any other Indian citizen, including the opportunity to be rescued and rehabilitated if they so want.

**Why in the news?**

- Ministry of Women and Child Development has issued the detailed guidelines for PM CARES for Children Scheme.

**About the scheme**

- The PM-CARES for Children Scheme** will support children who have lost both parents or surviving parent or legal guardian/adoptive parents due to Covid-19.

**Features of the PM-CARES for Children Scheme:**

- Fixed Deposit in the name of the child:**
  - PM CARES will create a corpus of Rs 10 lakh for each child when s/he reaches 18 years of age.
  - This corpus will be used to give monthly financial support from 18 years of age for the next five years.
  - On reaching the age of 23 years, he or she will get the **corpus amount as one lump sum for personal and professional use.**
- School Education: For children under 10 years**
  - The child will be given admission to the nearest Kendriya Vidyalaya or in a private school as a day scholar.
  - If the child is admitted to a private school, the fees as per the Right to Education(RTE) norms will be given from the PM CARES.
- School Education: for children between 11-18 years:**
  - The child will be given admission to any Central Government residential school such as Sainik School, Navodaya Vidyalaya etc.
  - In case the child is to be continued under the care of Guardian. Then s/he will be given admission to the nearest Kendriya Vidyalaya or in a private school as a day scholar.
  - If the child is admitted to a private school, the fees as per the Right to Education(RTE) norms will be given from the PM CARES.
- Support for Higher Education:**
  - The child will be assisted in obtaining an **education loan for Higher Education** in India as per the existing Education Loan norms. The interest on this loan will be paid by the PM CARES.
  - As an alternative, scholarship equivalent to the course fees for undergraduate courses as per Government norms will be provided to such children under Central or State Government Schemes.
- Health Insurance**
  - All children will be enrolled as a beneficiary under Ayushman Bharat Scheme (PM-JAY) with a health insurance cover of Rs. 5 lakhs.
  - The premium amount for these children till the age of 18 years will be paid by PM CARES.

**Why in the News?**

- The child online safety toolkit was released in May in an effort to make the online experience safer for kids.
- The **toolkit**, which was written and put together by **5Rights, a British NGO.**

**Significance of online safety toolkit**

- The child internet safety toolbox promises to be a hands-on, complete approach to keeping children safe in the online environment.
- It is **based on existing international agreements** and best practices, and it was established in collaboration with foreign specialists from several fields.
- It contains both online and **printed worksheets** and materials to help make kid internet safety a reality.
- It includes things every policymaker should know about enshrining child online safety in law and practise, **ten policy action areas** with detailed road maps.



- It also includes a **dictionary of major words used in online safety**, as well as policies for children's online safety and best practice examples from other nations.
- The toolkit divides its responsibilities into ten categories to help implement the **Sustainable Development Goals (SDGs)**, the United Nations Convention on the Rights of the Child (**UNCRC**), the **WeProtect Global Alliance** Model National Response, the International Telecommunication Union's Guidelines on Child Online Protection.
- It also drew on **UNICEF's AI for Children Draft Policy Guidance**
  - Which aims to promote children's rights in government and business sector AI (artificial intelligence) policies and practices, as well as increase understanding of how AI systems might defend or undermine these rights.

## Eklavya Model Residential School

## Society & Welfare

### Why in the news?

- Ministry of Tribal Affairs has laid the foundation stone for the construction of Eklavya Model Residential School.

### About Eklavya Model Residential School

- **Eklavya Model Residential Schools (EMRS)** is a Government of India scheme for model residential schools for Scheduled Tribes across India.
- The scheme was launched by the Ministry of Tribal Affairs in the year 1997-98.
- **The schemes aims** to impart quality education to ST children in remote areas. It will also enable them to avail themselves of opportunities in high and professional educational courses and get employment in various sectors.
- The schools focus not only on academic education but on the all-around development of the students.
- **The government** of India provides grants for the construction of schools and recurring expenses to the State Governments under Article 275 (1) of the Constitution.
- Every block with more than 50% ST population and at least 20,000 tribal persons, will have an Eklavya Model Residential School by the year 2022.
- **The beneficiaries include:**
  - Tribal Children in remote parts of areas.
  - Children belonging to ST categories.
  - Children belonging to the PVTG category.
- The schools will be on par with Navodaya Vidyalayas. It will have special facilities for preserving local art and culture besides providing training in sports and skill development

## India Hypertension Control Initiative

## Society & Welfare

### Why in the news?

- The project called the India Hypertension Control Initiative (IHCI) finds that nearly 23% out of 2.1 million Indians have uncontrolled blood pressure.

### About IHCI

- Recognizing that hypertension is a serious, and growing, health issue in India, the Health Ministry, the ICMR, State Governments, and WHO-India began a five-year initiative to monitor and treat hypertension. The programme was launched in November 2017.
- In the first year, IHCI covered 26 districts across five States — Punjab, Kerala, Madhya Pradesh, Telangana, and Maharashtra.
- By December 2020, IHCI was expanded to 52 districts across ten States — Andhra Pradesh (1), Chhattisgarh (2), Karnataka (2), Kerala (4), Madhya Pradesh (6), Maharashtra (13), Punjab (5), Tamil Nadu (1), Telangana (13) and West Bengal (5).

### Need for IHCI

- India has committed to a "25 by 25" goal, which aims to reduce premature mortality due to non-communicable diseases (NCDs) by 25% by 2025.

- To achieve India's target of 25%, approximately 4.5 crore additional people with hypertension need to get their BP under control by 2025.

### IHCI Findings

- The most significant finding thus far is that over a quarter of patients in the programme (23%) had uncontrolled blood pressure, and 27% did not return for a follow-up in the first quarter of 2021.
- In India, an estimated 20 crore persons suffer from hypertension. To meet India's goal of a 25% reduction in the prevalence of high blood pressure by 2025, an additional 4.5 crore persons with hypertension will need to get their blood pressure under control.
- 4 lakh patients were receiving care between April 2020 and March 2021, out of a million patients registered in five phase I and three phase II states through December 2020.
- During the most recent visit in the first quarter of 2021, nearly half of the registered patients under care (47%) had blood pressure under control.
- With at least one-month refills for major blood pressure medicines, drug availability improved in all phase I states.
- Punjab, Madhya Pradesh, and Telangana have protocol medicine stocks for nearly six months. In May 2021, Kerala had only one month's supply and Maharashtra had two months' supply.
- Drug availability was a problem in most phase II states, and the procurement procedure took about a year from start to finish.
- In numerous health facilities, there were insufficient verified high-quality digital blood pressure monitors, affecting the accuracy of hypertension diagnosis. Except in Telangana and Maharashtra, dedicated nurses were in short supply in phase I states.

### About Hypertension

- Hypertension is defined as having systolic blood pressure level greater than or equal to 140 mmHg or diastolic blood pressure level greater than or equal to 90 mmHg.
- The definition also assumes taking anti-hypertensive medication to lower his/her blood pressure.
- **Prevalence of Hypertension in India**
- About one-fourth of women and men aged 40 to 49 years have hypertension.
- Southern States have a higher prevalence of hypertension than the national average, according to the latest edition of the National Family Health Survey.
- While 21.3% of women and 24% of men aged above 15 have hypertension in the country, the prevalence is the highest in Kerala where 32.8% men and 30.9% women have been diagnosed with hypertension.
- Kerala is followed by Telangana where the prevalence is 31.4% in men and 26.1% in women.



**Why in the news?**

- The Government has approved the New Guidelines of the Micro & Small Enterprises Cluster Development Programme (MSE-CDP). The programme will be implemented during the 15th Finance Commission Cycle (2021-22 to 2025-26).

**About the scheme**

- The scheme aims at enhancing the competitiveness and productivity of Micro & Small Enterprises by undertaking interventions such as:

**Common Facility Centers (CFCs):**

- Central government grant will be **restricted to 70% of the cost of project** from Rs. 5.00 crore to Rs. 10.00 crore and 60% of the cost of project from Rs. 10.00 crore to Rs. 30.00 crore.
- In case of **NE & Hill States**, Island territories, Aspirational Districts, government grant will be 80% of the cost of project from Rs. 5.00 crore to Rs. 10.00 crore and 70% of the cost of project from Rs. 10.00 crore to Rs. 30.00 crore.
- Project for CFC with project cost more than Rs. 30.00 crore shall also be considered.
  - However, Government assistance would be calculated by taking into account the **maximum eligible project cost of Rs.30.00 crore**.

**Infrastructure Development:**

- Central government grant will be restricted to 60% of the cost of project from **Rs. 5.00 crore to Rs. 15.00 crore** for setting up of **new Industrial Estate**.
  - Grant will be 50% of the cost of project from Rs. 5.00 crore to Rs. 10.00 crore** for up-gradation of existing Industrial Estate / Flatted Factory Complex.
- In NE & Hill States, Island territories, Aspirational Districts, grant will be 70% of the cost of project from **Rs. 5.00 crore to Rs. 15.00 crore** for setting up of new Industrial Estate.
  - 60% of the cost of project cost from Rs. 5.00 crore to Rs. 10.00 crore** for up-gradation of existing Industrial Estate / Flatted Factory Complex.

**Why in the news?**

- Recently, RBI lowered limit for ways and means advances (WMA) for States and Uts.

**About ways and means advances**

- It is a mechanism used by **Reserve Bank of India (RBI)** under its credit policy to provide to States, banking with it, to help them tide over temporary mismatches in the cash flow of their receipts and payments.
- This is guided under Section 17(5) of RBI Act, 1934, and are 'repayable in each case not later than three months from the date of making that advance'.
- These are temporary advances (overdrafts) extended by RBI to the govt. Section 17(5) of RBI Act allows RBI to make WMA both to the Central and State Govt.

**Objective**

- To bridge the interval between expenditure and receipts. They are not sources of finance but are meant to provide support, for purely temporary difficulties that arise on account of mismatch/shortfall in revenue or other receipts for meeting the govt. liabilities. They have to be periodically adjusted to enable use of such financing for future mismatches. On 26 March 1997, Govt. of India and RBI signed an agreement putting the ad hoc T-bills system to end w.e.f 1 April 1997.

### Two types of WMA

- There are two type of WMA normal and special.
  - While Normal WMA are clean advances
  - Special WMA are secured advances provided against the pledge of government of India–dated securities. The operative limit for special WMA for a state is subject to its holdings of central government dated securities up to a maximum of limit sanctioned.
  - In addition, the RBI has determined limits for normal and special WMA for each state as multiples of the prescribed minimum balance required to be maintained with the RBI by that state. These limits have been revised periodically.

### Normal WMA

- The historical evolution of the Normal WMA facility is presented in **Annexe-II.I**. Normal WMA limits were earlier related to the minimum balances held by each State. A major change in the principles adopted for working out the WMA limits occurred in 1999 consequent to the recommendations made by the Informal Advisory Committee (IAC) on WMA to State Governments referred to in Chapter I. The IAC recommended delinking the practice of relating the size of the Normal WMA limit to the minimum balance held by the States and instead proposed linking it to the budgetary turnover of the State. This was justified on the ground that the size of the liquidity mismatch would be a function of the size of the budgetary transactions. In linking the WMA limits to the level of budgetary operations of the State, the IAC further advocated uniformity with regard to all States. In reckoning the level of budgetary operations, the IAC excluded revenue deficit of the States as the States are expected to operate within their available resources.

### Special WMA

- The scheme of Special or secured WMA, which is granted against the collateral of Central Government dated securities and Treasury Bills held by the State Governments with RBI, was first introduced on April 1, 1953 when a uniform limit of Rupees two crore was allocated to each State. The sanctioned limits of Special WMA linked to the minimum balance had been revised upwards from 1967 to 1999. A brief historical review of special WMA is given in **Annexe-II.II**.
- The scheme had not been effectively used by the State Governments since its inception as the operative limits were lower than their sanctioned limits in the absence of sufficient collaterals held by the States. However, the IAC was of the view that a scheme which encouraged the States to build up reserves in the shape of Central Government securities should not be discontinued. The IAC, therefore, recommended that the Special WMA should also be delinked from minimum balances and that States be allowed to draw Special WMA freely against their holdings of Government of India securities. Since 1999, the limits are directly proportional to the State Governments' holdings of Government of India dated securities and Treasury Bills without any ceiling. Accordingly the State Governments are being allowed Special WMA to the extent of around 85 to 90 per cent of the market value of their holdings of such securities after providing for margins against price risk, with a higher margin for securities of residual maturity in excess of 10 years.

### Significance:

- The **cash flow problems of States have been aggravated by the impact of Covid-19**, thus many States are in need of immediate and large financial resources to deal with challenges, including medical testing, screening and providing income and food security to the needy.
- WMA **can be an alternative to** raising longer-tenure funds from the markets, issue of State government securities (State development loans) or borrowing from financial institutions for short-term funding. WMA funding is **much cheaper than borrowings from markets**.

## Report on Currency and Finance

## Economy

### Why in the news ?

- Recently, the Reserve Bank of India released the Report on Currency and Finance (RCF) for the year 2021-22.

### Key Highlights of the Report

- According to the report, the Indian economy is likely to take over 12 years to overcome the COVID-19 losses.
- Taking the actual growth rate of (-) 6.6% for 2020-21, 8.9% for 2021-22, and assuming a growth rate of 7.2% for 2022-23, and 7.5% beyond that, India is expected to overcome COVID-19 losses in 2034-35.



- The supply constraints and longer delivery times pushed up shipping costs, and commodity prices, thereby intensifying inflationary pressures and threatening the nascent economic recovery across the world.
- According to the RBI, the country now needs to focus on seven wheels of economic progress – aggregate demand, aggregate supply, institutions, intermediaries and markets, macroeconomic stability and policy coordination, productivity and technological progress, structural changes and sustainability.
- The report puts emphasis on providing opportunities for entrepreneurs and businesses. For the country to get the economy back on track, a feasible range for medium-term steady state GDP growth works out to 6.5-8.5 per cent, which is consistent with the blueprint of reforms.
- While the RBI expects the Indian economy to grow at 6.3 per cent in FY24, the International Monetary Fund's latest World Economic Outlook report pegged India's growth rate for FY24 at 6.9 percent.

### Suggested Structural Changes

- According to the Central Bank's staff, timely rebalancing of monetary and fiscal policies will likely be the first step in the recovery of the economic journey.
- Suggested structural reforms include enhancing access to litigation free low- cost land; raising the quality of labor through public expenditure on education and health and the Skill India Mission; scaling up R&D activities with an emphasis on innovation and technology; creating an enabling environment for start-ups and unicorns; rationalization of subsidies that promote inefficiencies; and encouraging urban agglomerations by improving the housing and physical infrastructure.
- Industrial revolution 4.0 and the committed transition to a net-zero emission target warrant a policy ecosystem that facilitates provision of adequate access to risk capital and a globally competitive environment for doing business.

## National Open Access Registry

## Economy

### Why in the news?

- National Open Access Registry (NOAR) has successfully gone live from 1st May 2022.

### About:

- NOAR is an integrated single window electronic platform accessible to all stakeholders including open access participants, traders, power exchanges, national/regional/state load despatch centres for electronic processing of short-term open access application thereby automating the administration of the short-term open access in inter-state transmission system.
- The NOAR platform shall act as a repository of information related to short term open access in inter-state transmission including standing clearance issued by RLDCs or SLDCs and short-term open access granted to the open access customers etc. and make such information available to the stakeholders online.
- National Load Despatch Centre (NLDC) operated by Power System Operation Corporation Limited (POSOCO) has been designated as the nodal agency for implementation and operation of NOAR.
- NOAR would be the key to facilitate faster electricity markets and enable integration of Renewable Energy (RE) resources into the grid.
- NOAR is part of the Ministry of Power, Government of India's initiative and the required regulatory framework has been notified by the CERC through operationalization of the 5th Amendment Regulation of Open Access in inter- State Transmission.

## RBI hiked Interest Rates

## Economy

### Why in the news?

- Interest rates in the banking system are set to go up after the Reserve Bank of India
- (RBI) jacked up the Repo rate, the main policy rate, by 40 basis points to 4.40 per cent
- and the cash reserve ratio (CRR) by 50 basis points to 4.50 per cent to suck out liquidity
- and bring down the elevated inflation.

### About the impact

- Equated monthly instalments (EMIs) on home, vehicle and other personal and corporate loans are likely to go up.
- Deposit rates are also set to rise after the Repo rate hike that came after nearly four years.



- By hiking the Repo rate and CRR, the RBI is aiming to keep inflation – which is
- already close to 7 per cent — at its desired level, and control and monitor
- money flow into the banking system at a time when the global economy is
- facing turbulent times.

### Consequences of Repo rate

- The hike in Repo rate – the key policy rate of RBI or the rate at which it lends
- to banks – means the cost of funds for banks will go up. This will prompt banks and NBFCs to raise the lending and deposit rates in the coming days. However, analysts say that consumption and demand can be impacted by the Repo rate hike. The RBI last hiked the Repo rate by 25 bps to 6.50 per cent in August 2018.

- The **different instruments** of monetary policy used by RBI are Repo Rate, Reverse Repo Rate, Bank Rate, Open Market Operations, Statutory Liquidity Ratio (SLR), Cash Reserve Ratio (CRR), Liquidity Adjustment Facility (LAF), Market Stabilisation Scheme (MSS).
- **Open Market Operations (OMO):** It is the process of buying and selling of government securities, bond or Treasury Bills (T-Bills) to regulate the money supply in economy. If government wants to reduce money supply, it issues these bonds. The money is consumed to buy these bonds thus it reduced the monetary base of the economy. Similarly, to increase the money supply, the government sells these bonds thereby increasing the monetary base of the economy. In India, the open market operations are conducted by Reserve Bank of India through its core banking solution e-Kuber.
- **Cash Reserve Ratio (CRR):** It refers to the cash which banks have to maintain with the Reserve Bank of India as percentage of Net Demand and Time Liabilities (NDTL). An increase in CRR makes it mandatory for banks to hold large portion of their deposits with the RBI. Therefore, it reduces their deposit available for credit and they lend less which affect their profitability and also reduces the money supply in economy.
- **Statutory Liquidity Ratio (SLR):** Apart from CRR, the banks in India are required to maintain liquid assets in the form of gold, cash and approved securities. The increase/decrease in SLR affects the availability of money for credit with banks.
- **Liquidity Adjustment Facility (LAF):** Under Liquidity Adjustment Facility (LAF) the banks purchase money from RBI on repurchase agreements.
- **Repo Rate:** It is the interest rate at which the Reserve Bank provides overnight liquidity to banks against the collateral of government and other approved securities under the liquidity adjustment facility (LAF)
- **Reverse Repo Rate:** The (fixed) interest rate at which the Reserve Bank absorbs liquidity, on an overnight basis, from banks against the collateral of eligible government securities under the LAF
- **Marginal Standing Facility:** Under this, the scheduled commercial banks can borrow additional amount of overnight money from the Reserve Bank by dipping into their Statutory Liquidity Ratio (SLR) portfolio up to a limit at a penal rate of interest. This provides a safety valve against unanticipated liquidity shocks to the banking system
- **Bank Rate:** It is the rate at which the Reserve Bank is ready to buy or rediscount bills of exchange or other commercial papers.

## Purchasing Managers Index

## Economy

### Why in the news?

- According to the S&P Global India Manufacturing Purchasing Managers' Index (PMI), new
- orders and output in India's manufacturing sector increased slightly in April 2022, rising
- to 54.7 from 54 in March 2022.

### Key Highlights of the Index

- New export orders rebounded in April after contracting for the first time in nine months in March. In economics, contraction refers to a period in the business cycle. when the economy is contracting.
- Inflationary pressures grew, owing to increased commodity prices, the Russia-Ukraine war, and higher transportation costs, as the business cycle peaks but before it troughs.

- Input costs rose at their quickest rate in five months, while output charge inflation soared to a 12-month high. Energy price volatility, global input shortages, and the conflict in Ukraine all contributed to an increase in inflationary pressures, according to the latest statistics.

#### About Purchasing Managers' Index (PMI)

- It is an index of the **prevailing direction of economic trends in the manufacturing and service sectors**.
- It is an economic indicator, which is derived after monthly surveys of different companies.
- There are two types of PMI — **Manufacturing PMI and Services PMI**.
  - A combined index is also made using both manufacturing PMI and services PMI.

#### Methodology:

- The PMI is compiled by **IHS Markit** from responses to questionnaires sent to purchasing managers in a panel of around **400 manufacturers, based on company workforce size, based on contributions to GDP**.
- Survey responses are collected in the second half of each month and indicate the direction of change compared to the previous month.
  - IHS Markit is a London based global leader in information, analytics and solutions for the major industries and markets that drive economies worldwide.

## Hallmarking

## Economy

#### Why in the news?

- The second phase of the mandatory hallmarking vide Hallmarking of Gold Jewellery and Gold Artifacts (Amendment) Order, 2022 will come into force from June 01, 2022.

#### About Hallmarking

- Hallmarking is the accurate determination and official recording of the proportionate content of precious metal in precious metal articles. Hallmarks is thus a **guarantee of purity or fineness of precious metal articles**.
- The principle objectives of Hallmarking are to **protect the public against adulteration** and to obligate manufacturers to maintain legal standards of fineness.
- The **Bureau of Indian Standard (BIS)** operates the gold and silver hallmarking scheme in India.
- According to the scheme, BIS certified jewellers can get their jewellery hallmarked from **any of the BIS recognized Assaying and Hallmarking Centres (A&HC)**.

## Anchor Investor

## Economy

#### Why in the news?

- The Securities and Exchange Board of India (SEBI) has relaxed norms for anchor investors by keeping the 30 days lock-in period till June 30 for issues exceeding Rs.10,000 crore.

#### About Anchor investors

- Anchor investors are **high-profile institutional investors** that are allotted shares before the subscription opens for retail and other investors and have to **commit to holding their shares for a certain period after listing**.
- An anchor investor in an IPO is a **qualified institutional buyer (QIB)** like a foreign portfolio investor or mutual fund or insurance company which invests before the IPO is made available to public as per SEBI regulations.
- As initial investors, they make the IPO process **more attractive** for investors, and **instil confidence** in them.
- Anchor investors also **aid in price discovery** of the IPO.
- Anchor investors who get guaranteed allotment a day before the IPO opens to the public are **normally allocated 60% of the QIB quota**.
- Companies with a profitable track record can allocate **50% of the IPO to QIBs**. Demand in the anchor category is an indication of the success of the IPO.

**Why in the news?**

- The central Board of Directors of Reserve Bank of India (RBI) has approved nomination of Rajiv Ranjan as ex-officio member of Monetary Policy Committee (MPC).

**About Monetary Policy Committee**

- The Monetary Policy Committee is a **statutory body** established under **section 45ZB of the RBI Act 1934**.
- It is an institutionalised framework for maintaining price stability while pursuing the goal of growth.
- It is set up based on the recommendation of the **Urjit Patel Committee**.

**Objectives**

- Monetary policy Committee is concerned with setting policy rates and other monetary policy decisions in order to achieve:
  - Price stability**
  - Accelerating the growth of the economy**
  - Exchange rate stabilization**
  - Balancing savings and investment**
  - Generating employment**
  - Financial stability**
- The primary goal of the monetary policy committee is to maintain price stability while keeping growth in mind as per the monetary policy framework agreement. Price stability is a prerequisite for long-term growth.
- In order to maintain price stability, inflation must be kept under control.
- Every five years, the Indian government sets an inflation target. The Reserve Bank of India (RBI) plays an important role in the consultation process for inflation targeting. The current **inflation-targeting framework** in India is flexible with a target of 4% with a band of +/-2%.

**Composition of Monetary Policy Committee**

- Chairman:** The Governor of the Reserve Bank of India serves as the committee's ex-officio Chairman.
- Members:** The committee consists of **six members (including the Chairman): three RBI officials and three government-nominated external members**.
- The RBI officials are:
  - Governor of the Reserve Bank of India
  - Deputy Governor of the Reserve Bank of India, in charge of Monetary Policy – Member, ex officio;
  - One officer of the Reserve Bank of India to be nominated by the Central Board – Member, ex officio;

**Why in the news?**

- The Delhi High court has asked police to use the Aadhar details for matching the criminal fingerprints for identifying the culprit.

**About the case**

- The police recovered 14 chance prints from the spot and footage from CCTV cameras in the area showing one of the suspects.
- The chance impressions and pictures did not match with any of the data already available with the police.
- Investigators now want to cast the net wider, using Aadhaar's biometric database

**Views of UIDAI**

- The UIDAI said in its affidavit that sharing or use of biometric information for any use other than the generation of the Aadhaar number, and authentication, is "impermissible". **Section 29** of the Aadhar Act places restrictions on sharing information collected or created under the Act.

- The UIDAI also referred to regulation 3 of the Aadhaar Act, which says "core biometric information collected by the Authority under the Act shall not be shared with anyone for any reason whatsoever".
- The UIDAI also added that it does not have the technology to match fingerprints etc found at the scene of a crime with those available on its database.
- The UIDAI added that the biometrics information is only used for de-duplication of residents and to ensure uniqueness of Aadhaar number.
- The UIDAI submitted that as per the mandate of the Aadhaar Act and the direction of the Supreme Court, such information cannot be provided without giving an opportunity of hearing to the Aadhaar cardholder in question

#### Privacy concerns with Aadhar

- Aadhar collects enormous data of 1 billion plus people but it is not supported by any Data protection law
- Compulsory linking of Aadhar with various schemes & services means that the govt could snoop into citizens affairs ranging from consumption, preferences, travel, banking activities to phone calls.
- There's no adequate protection under Aadhar Act which could ensure that the data collected by the govt would not pass on to private players
- No any effective grievance redressal mechanism could be established till now

#### Aadhaar

- The Aadhaar is the **name of the Unique Identification Number** that the Unique Identification Authority of India (UIDAI) issues to every resident of India.
- It is a **twelve digit number which is linked the resident's demographic and biometric information**.
- The data is collected by the **Unique Identification Authority of India (UIDAI), a statutory authority established in January 2009 by the Government of India, under the Ministry of Electronics and Information Technology, under the provisions of the Aadhaar (Targeted Delivery of Financial and other Subsidies, benefits and services) Act, 2016.**

#### UIDAI

- The Unique Identification Authority of India is a **statutory authority** established under the provisions of Aadhaar Act 2016.
- UIDAI was created to issue a 12-digit Unique Identification numbers (UID), named as "Aadhaar", to all residents of India.
- Under the Aadhaar Act 2016, UIDAI is responsible for:
  - Aadhaar enrolment and authentication,
  - Operation and management of all stages of Aadhaar life cycle,
  - Developing the policy, procedure, and system for issuing Aadhaar numbers to individuals
  - Perform authentication of identity information and of records of individuals.
  - Ministry of Electronics and Information Technology (MeitY) is the nodal ministry.

## Foreign Contribution (Regulation) Act (FCRA)

## Economy

#### Why in the news?

- CBI raids on NGO's has brought into focus FCRA

#### About FCRA

- The FCRA was enacted during the **Emergency in 1976** amid apprehensions that foreign powers were interfering in India's affairs by pumping money into the country through independent organisations.
  - These concerns were, in fact, even older; they had been expressed in Parliament as early as in 1969.
- **Aim:** The law sought to **regulate foreign donations to individuals and associations** so that they functioned in a manner consistent with the values of a **sovereign democratic republic**.
- **Prohibition:**
  - The Act prohibits the receipt of foreign funds by candidates for **elections, journalists** or newspaper and media broadcast companies, **judges and government servants, members of legislature and political parties** or their office-bearers, and organisations of a political nature.



### New guidelines to banks on Foreign Contribution (Regulation) Act rules

- **State Bank of India's New Delhi branch:** A new provision that makes it mandatory for all NGOs to receive foreign funds in a designated bank account at the State Bank of India's New Delhi branch was inserted.
- **Designated FCRA account:** All NGOs seeking foreign donations have to open a designated FCRA account at the SBI branch.
  - The NGOs can retain their existing FCRA account in any other bank but it will have to be mandatorily linked to the SBI branch in New Delhi.
- **Only banking channels allowed:** Foreign contribution has to be **received only through banking channels** and it has to be accounted for in the manner prescribed.
- **OCI or PIO:** Donations are given in Indian rupees by any foreign source including foreigners of Indian origin like OCI or PIO cardholders" **should also be treated as foreign contributions.**
- **Sovereignty and integrity:** It requires NGOs to give an undertaking that the acceptance of foreign funds is not likely to prejudicially affect the sovereignty and integrity of India or impact friendly relations with any foreign state and does not disrupt communal harmony.

### **Challenges**

- The NGOs are spending **more time doing paperwork than on the ground**. This has reduced the ambit of development works carried on by them.
- Indian entities (including hospitals and charitable trusts) can't receive COVID-19 relief material from foreign donors. Unless they are registered under the Foreign Contribution Regulation Act (FCRA) with a stated objective involving the provision of medical care. This has jeopardized some large donors' plans to buy equipment like oxygen plants and concentrators for Indian hospitals and smaller charities.
- **New rules have enhanced compliance formalities** which have made it very difficult to run an NGO. This has resulted in the closure of many NGOs and the livelihood loss of people working in them.
- **New rules have made 'sub granting illegal**. Due to this, big NGOs based in Delhi or Mumbai are not able to subgrant their foreign funds to implement programs via partner organizations in districts and villages.

## **Wheat Exports Ban**

## **Economy**

### **Why in the news?**

- India has banned exports of wheat citing a risk to food security.

### **Reasons cited by India**

- **Wheat prices have been rising internationally** on account of supply shortages due to the Russia-Ukraine war. The demand for Indian wheat has increased overseas.
- Over 4,000 wheat-laden trucks were stuck in a queue outside Kandla port and four ships, half loaded with wheat and no order to sail, were also stranded at the port.
- **Due to a lower production and a higher demand from the private buyers**, the government's procurement of wheat for the PDS is also expected to be much lower this year.
- **The government had earlier restricted wheat exports to manage the overall food security situation in India.** Also, to support the needs of neighbouring and vulnerable countries that have been adversely affected by the sudden changes in the global market for wheat and became unable to access adequate wheat supplies.
- China is using this opportunity to hoard wheat. It is importing wheat on a large scale to store it to disrupt the global market soon.
- China can store the wheat for a short time and divert it to its allies in the coming days or sell it at a higher price.
- By hoarding it, China can effectively control the market prices of wheat globally.

### **Challenges in wheat exports**

- Logistical challenges such as congestion at ports and unavailability of train rakes are major infrastructural bottlenecks for wheat exports from India.
- Unless seamless infrastructural facilities and timely and cheaper modes of transport are available in the coming days, India may find it difficult to make significant inroads into the wheat export market.
- India's export competitiveness is influenced by the Centre's MSP. Due to high MSP, India has remained a rather small player in the export market, even when thousands of tonnes of grains rot in the FCI warehouses.



- The inefficiency associated with open-ended procurement of wheat in quantities far in excess of our normal requirement is well known. The policymakers justify it on the ground that it ensures farmers get remunerative prices.
- Wheat, being an essential commodity, is prone to frequent government interventions in terms of export bans and imposition of higher import duty. This creates market distortions.
- Many challenges confront Indian wheat export, not the least of which is global warming and climate change. Whether deliberate or out of ignorance, many experts overlook the well-recognised fact that Indian wheat is at the limit of heat tolerance.
- At about 33 million hectares, the area under wheat cultivation is perhaps reaching a saturation point. There is a case for shifting a part of the wheat area in Punjab and Haryana to other crops such as oilseeds and pulses.

#### Current status of India's wheat exports

- India is the **world's second-largest producer of wheat**, accounting for approximately 13.53 percent of total world production.
- India produces approximately 107.59 MT of wheat per year, with the majority of it consumed domestically.
  - Wheat exports **increased at a compound annual growth rate (CAGR)** of 48.56 percent between 2016 and 2020.
- Wheat exports in the country are expected to reach \$ 243 million in 2020, up from \$ 50 million in 2016.
- In terms of value, India's wheat exports in the current fiscal year (April – October) increased by 546 percent to \$ 872 million, up from \$ 135 million in the previous fiscal year.
- India's wheat exports are expected to reach an all-time high in the current fiscal year (2021-22), having already surpassed the shipment of 2.09 MT achieved in 2020-21.
- India accounts for less than 1% of world wheat exports.
  - Its share, however, has risen from 0.14 percent in 2016 to 0.54 percent in 2020.

#### Export destination:

- India's wheat exports are primarily to neighboring countries, with Bangladesh accounting for more than 54% of total volume and value in 2020-21.
- India will enter new wheat markets such as Yemen, Afghanistan, Qatar, and Indonesia in 2020-21.
  - Bangladesh, Nepal, the United Arab Emirates, Yemen, Sri Lanka, Afghanistan, Qatar, Indonesia, Oman, and Malaysia are the top ten importing countries for Indian wheat in 2020-21.
  - The top ten countries, which accounted for more than 94% of India's wheat exports in 2016-17, now account for 99% of exports in both volume and value terms in 2020-21.

## Service Charge and Hotels

## Economy

### Why in the news?

- The Centre has called a meeting of restaurant owners over service charge levied by them on customers.

### Nature of Service charge

- While the GST is a mandatory component as per law, the **service charge is supposed to be optional**.
- It is the equivalent of what is known as gratuity around the world, or **tip**, in casual parlance.
- Most restaurants decide the service charge on their own, and print it at the bottom of the menu with an asterisk.
- **Ministry of Consumer Affairs "Guidelines on Fair Trade Practices Related to Charging of Service Charge from Consumers by Hotels/ Restaurants".**
- The CCPA has issued five major guidelines regarding the levy of service charges. These guidelines are:
  - No hotel or restaurant shall add a service charge automatically or by default in the bill;
  - Service charge shall not be collected from consumers by any other name;
  - No hotel or restaurant shall force a consumer to pay the service charge and shall clearly inform the consumer that the service charge is voluntary, optional, and at the consumer's discretion;
  - No restriction on entry or provision of services based on the collection of service charge shall be imposed on consumers; and
  - Service charge shall not be collected by adding it along with the food bill and levying GST on the total amount.

**Why in the news?**

- Recently, the Government of India has announced curbs on exports of sugar.

**About the nature of curbs**

- Sugar exports have been changed —
  - from the '**open category**,' which requires no government control, to the '**restricted category**,' which requires government intervention.
  - This implies that sugar can only be exported **with prior approval from the Directorate of Sugar**, Department of Food and Public Distribution (**DFPD**), Ministry of Consumer Affairs, Food and Public Distribution.
  - Sugar would **continue to be exported** (unlike wheat, which has been prohibited), although **approval would be necessary** to send shipments out beginning June 1.
- Furthermore, the restrictions begin on June 1 and will last through Oct 31, or until additional directives are issued.

**Exemptions**

- Sugar mills and traders** who have specific permissions from the government will only be able to export sugar (including raw, refined and white sugar) till 31st October 2022 or until further orders.
- Also, the restriction is not applicable for exports to the **European Union (EU) and the United States**.

**Reasons behind curbs**

- Given the worldwide demand, exports may continue uninterrupted. However, **low stockpiles** at the start of the next season, on the other hand, might be a source of concern for the government. This might result in **supply shortages** for three months.
- The sugar season officially begins in October, but it isn't until December that it really gets going. If there is a **scarcity of back-up** inventories at this time, prices in the domestic market may rise. The government can ill afford to take that risk at a time when keeping **inflation** under control remains a top goal.
- If the October starting stock is less than **65-70 lakh tonnes**, **retail prices** might rise. The current restrictions will guarantee that the government keeps a real-time inventory of sugar stocks to ensure that there is no shortage at the start of the following season.

**Impact on sugar industry**

- The export restrictions are likely to have a significant impact on the **global sugar market** given India is a major producer and second largest exporter.
- India's export limits of sugar can drive **international prices higher**. However, India has said that it will continue exports to vulnerable countries and neighbors.

- India** is the **biggest producer of sugar** and the second largest exporter after Brazil.
- Maharashtra, which is the top sugar producer in the country, grew 22 lakh hectares over the previous year.
- The good monsoon in 2021-22 resulted in the area yielding record sugarcane cultivation. Maharashtra is set to produce 138 lakh tonnes of sugar, which is 30% higher than the previous year, as per report.
- Sugar production in India has **increased by 14% to 34.2 million tonnes** so far in the ongoing 2021-22 marketing year.
- India for the first time has witnessed record production of net sugar of 34.2 million tonnes till April 2022.

**GST compensation****Economy****Why in the news?**

- At a recent meeting, to counter some States' arguments about pending dues, the Finance Ministry said that outstanding GST compensation dues to States for 2021-22 stood at Rs.78,704 crore, equivalent to four months of such accruals.

**Status of the outstanding gst compensation**

- The GST regime entailed doing away with multiple State and Central levies to create a **simplified tax system** for businesses.

- As this meant that **States had to give up several taxation powers** in the process, they were assured that revenue losses will be compensated for five years.

#### COMPENSATION IS COLLECTED

- The **consumer** is required to pay for compensation.
- It is **collected by the Centre** which releases it to States.
- The proceeds of the compensation cess will be **credited to a non-lapsable fund** known as the **Goods and Services Tax Compensation Fund in the public account**.
- All amounts payable to the States as compensation will be **released bi-monthly**, provisionally, from said fund against figures given by the Central accounting authorities.
- **Final adjustments** will be done after receiving audited accounts of the year from the Comptroller and Auditor General of India.

### Wheat procurement dwindling

#### Economy

##### Why in the news?

- Wheat procurement by government agencies is set to dip to a 15-year low in the current marketing season, from an all-time high scaled last year.

##### Status of Procurement

- The **18.5 million tonnes (mt)** likely procurement this time will be the
- **lowest** since the 11.1 mt bought in 2007-08.
- This would be the **first time** that wheat procured from the new crop (18.5 mt) is less than the public stocks at the start of the marketing season (19 mt).
- **This year would be an exception and in sharp** contrast to 2021-22, which had unprecedented levels of both opening stocks (27.3 mt) and procurement (43.3 mt).

##### Reasons behind declining

- **Export demand: Supply disruptions from the Russia-Ukraine war** – the two countries account for over 28% of global wheat exports – have led to skyrocketing prices and a further **increase in demand for Indian grain**.
- **Lower production: The sudden spike in temperatures** from the second half of March — when the crop was in the grain-filling stage, with the kernels still accumulating starch, protein and other dry matter — has **taken a toll on yields**. In most wheat-growing areas — barring Madhya Pradesh, where the crop is harvest-ready by mid-March— farmers have reported a 15-20% decline in per-acre yields.

### Sagarmala Project

#### Economy

##### Why in the news?

- Union Minister for Ports, Shipping and Waterways (MoPSW) chaired the meeting of the National Sagarmala Apex Committee (NSAC) at Vigyan Bhawan, in New Delhi.

##### About sagarmala

- Launched in **2015** which aims at **holistic port infrastructure development** along the 7,516-km long coastline through modernisation, mechanisation and computerisation.
- The vision of the Sagarmala Programme is to **reduce logistics costs** for EXIM (Export- Import) and domestic trade with minimal infrastructure investment.
- Sagarmala could **boost India's merchandise exports to USD 110 billion by 2025** and create an estimated **10 million new jobs** (four million in direct employment).
- The Ministry has started the ambitious Project of **Sagarmala Seaplane Services (SSPS)** with potential airline operators.

### Components of the Sagarmala Programme

- Port Modernization and New Port Development
  - Capacity expansion of existing ports.
  - Development of New Greenfield Ports.
  - Debottlenecking of existing ports.
- Port Connectivity Enhancement
  - Enhancing the link between ports and inland.
  - Cost and time optimization through multi-modal logistics solutions.
  - Development of Domestic Waterways.
- Port-linked Industrialization
  - Developing industries in close proximity of ports.
  - Creating Coastal Economic Zones with ports and industries closely spaced.
  - Reducing cost of logistics and time for Domestic and EXIM Cargo Operations.
- Coastal Community Development
  - Focusing on improving the lifestyle of people and providing people with proper training and skills.
  - The fire-safety training projects for workers are also funded by the project.
  - For Coastal Community Development value additions are also done in fisheries and cold chain development.
- Coastal Shipping and Inland waterways Transport
  - The motto was to move the cargo in a friendly manner which will also not be harmful to the environment and also through Inland waterways.
  - This component is to promote sustainability and a friendly environment along with industrialization.

### PM Mega Integrated Textile Regions and Apparel Park (PM MITRA)

Economy

#### Why in the news?

- A National Conference on PM Mega Integrated Textile Regions and Apparel Park (PM MITRA) Parks Scheme was recently held.

#### About "PM-MITRA" Scheme:

- It is inspired by the **5F vision** of PM –Farm to Fibre to Factory to Fashion to Foreign to realize the dream of building an **Aatmanirbhar Bharat** by positioning India strongly on the Global textiles map.
- It is inline with the **SDG-Goal 9**: "Build resilient infrastructure, promote sustainable industrialization and foster innovation"
- The scheme aims to create a world-class industrial infrastructure that would attract cutting-edge technology and boost FDI and local investment in the sector.
- **Sites** for the scheme will be selected by a **Challenge Method**, based on objective criteria for Greenfield / Brownfield sites.
- The Centre is receiving proposals from states for the ready availability of contiguous and encumbrance-free land parcels of 1,000+ acres along with other textiles related facilities & ecosystems.

#### Scheme supports the following

- **Competitiveness Incentive Support (CIS)**– The government will provide a fund of Rs. 300 Crore to 'investors' setting up production facilities to incentivize manufacturing units to get established.
- For a **Greenfield Park 'developer'**, the centre will provide 30% of Capital Support from the Project Cost, with a cap of Rs. 500 Cr.
- For a **Brownfield sites 'developer'**, the centre will provide 30% of Capital Support from the Project Cost, with a cap of Rs. 200 Cr.
- The developer will get a 25-year lease of the park, and this could be extended by another 25 years.

**Why in the news?**

- Pradhan Mantri Suraksha Bima Yojana (PMSBY) has completed 7 years of providing social security benefits.

**About the scheme**

- Ministry of Finance is the implementing agency. It provides accidental Death Insurance
- Available to people in age group 18 to 70 years with bank account. The premium is Rs.12 per annum.
- The premium will be directly auto-debited by the bank from the subscribers account. This is the only mode available.
- For accidental death and full disability – Rs.2 Lakh and for partial disability – Rs.1 Lakh.
- Any** person having a bank account and Aadhaar number linked to the bank account can give a simple form to the bank every year before 1st of June in order to join the scheme. Name of nominee to be given in the form.
- A person has to opt for the scheme **every year**. He can also prefer to give a long-term option of continuing in which case his account will be auto-debited every year by the bank.
- The scheme will be offered by **all** Public Sector General Insurance Companies and all other insurers who are willing to join the scheme and tie-up with banks for this purpose.

## Fostering Effective Energy Transition 2022

## Economy

**Why in the news?**

- Fostering Effective Energy Transition 2022' report** by **World Economic Forum (WEF)** has called for urgent action by both private and public sectors to ensure a resilient energy transition.

**Key Highlights of Index**

- Sweden leads the overall rankings for the third consecutive year, followed by Switzerland and Finland. The performance of G20 countries is varied. France & the United Kingdom are the only G20 countries in the top 10.
- In Asia China and India made consistent improvements on overall ETI score since 2015.
- Russia, Japan, South Korea and Germany made moderate gains and the United States, Canada, Brazil and Iran were either stagnant, or declining.
- The transition of the energy system over the past decade was slower than required to achieve the objectives of the Paris Agreement.
- The Corona virus has stalled the long term strategy to revamp the power sector including investment opportunities. Further, COVID-19 has unleashed cascading effects in real time like-
  - The erosion of almost a third of global energy demand.
  - Unprecedented oil price volatilities and subsequent geopolitical implications.
  - Delayed or stalled investments and projects.
  - Uncertainties over the employment prospects of millions of energy-sector workers.
- Over the past five years, most countries including India have reduced the level of fossil based energy subsidies to make a power generation shift towards cleaner energy. The progress on environmental sustainability remains slow, but 2019 was a landmark year.

**India's Energy Transition**

- India has moved up two positions to rank 74th on a global 'Energy Transition Index' with improvements on all key parameters of the Energy triangle.

**Reason for improvement in India's ranking**

- India's economic growth has paved the way for enhanced energy security and energy transition. For Instance- for India gains have come from a government-mandated renewable energy expansion programme, now extended to 275 GW by 2027. It suited up with the parameter Environmental sustainability
- India has also made significant strides in energy efficiency through bulk procurement of LED bulbs, smart meters, and programs for labelling of appliances. Similar measures are being experimented to drive down the costs of electric vehicles (through FAME).



- India can achieve 30% of variable Renewable Energy generation by 2030 (wind and solar), and 45% zero carbon generation, including hydro and nuclear. This would make India's power sector as clean as Japan's today, and would be unprecedented leapfrogging to decarbonisation of the electricity sector.
- India is opting out several fossil fuel based subsidies to halt carbonization and emission, to change the consumption pattern, make a transition in power generation and to impose environmental regulation in order to cope with the issue of climate change. India is making a significant energy generation shift by subsidizing renewable power.

### Challenges faced by India

- Though New facilities are developed on renewable basis to curtail emission and make a transition. But India is not focusing on elimination of existing fossil based power generation but rather focusing on renewable sources to bridge the future energy demand.
- A growing share of subsidies are dedicated to making India's energy mix cleaner, the State-sponsored subsidies to fossil fuels like-oil, gas and coal were more than triple the value of subsidies to renewables and electric vehicles in India. This undermines India's overall performance and India must address this concern. The rhythm and momentum of the energy transition will potentially be impeded by the COVID-19 pandemic. Cascading effects have led to an unprecedented energy demand and price shocks, and the reallocation of public funds and prioritize private investment towards healthcare, social security and business continuity rather than energy investment.

## State of Inequality Report

## Economy

### Why in the news?

- Dr Bibek Debroy, Chairman, Economic Advisory Council to the Prime Minister (EAC-PM) has released "The State of Inequality in India Report".

### About the Report

- The report was prepared by the **Institute for Competitiveness** and presents a holistic analysis of the depth and nature of inequality in India.
- It compiles information on inequities across sectors of health, education, household characteristics and the labour market.
- As the report presents, inequities in these sectors make the population more vulnerable and trigger a descent into multidimensional poverty.
- The report is a stock-taking of both inclusion and exclusion and contributes to the policy debates.
- **Consisting of two parts – Economic Facets and Socio-Economic Manifestations, the report looks at five key areas** that influence the nature and experience of inequality.
- They are **income distribution and labour market dynamics, health, education and household characteristics**.
- Based on the **data derived from various rounds of the Periodic Labour Force Survey (PLFS), National Family and Health Survey (NFHS) and UDISE+**, each chapter is dedicated to explaining the current state of affairs, areas of concern, successes and failures in terms of infrastructural capacity and finally, the effect on inequality.
- The report stretches the narrative on inequality by **presenting a comprehensive analysis that shapes the ecosystem of various deprivation in the country**, which directly impacts the well-being of the population and overall growth.
- The report moves beyond the wealth estimates that depict only a partial picture to highlight estimates of income distribution over the periods of 2017-18, 2018-19 and 2019-20.
- **The report emphasises that wealth concentration as a measure of inequality does not reveal the changes in the purchasing capacity of households.**
- The share of the top 1% accounts for 6-7% of the total incomes earned, while the top 10% accounts for one-third of all incomes earned.
- **In 2019-20, among different employment categories, the highest percentage was self-employed workers (45.78%), followed by regular salaried workers (33.5%) and casual workers (20.71%).**
- **The share of self-employed workers also happens to be the highest in the lowest income categories.**
- **The country's unemployment rate is 4.8% (2019-20), and the worker population ratio is 46.8%.**

- In the area of **health infrastructure**, there has been a considerable improvement in increasing the **infrastructural capacity** with a targeted focus on rural areas.
- States and Union Territories like **Rajasthan, Gujarat, Maharashtra, Madhya Pradesh, Tamil Nadu and Chandigarh** have significantly increased health centres (comprising Sub-Centres, Primary Health Centres, and Community Health Centres) between 2005 and 2020.
- The results of NFHS-4 (2015-16) and NFHS-5 (2019-21) have shown that 58.6% of women received antenatal check-ups in the first trimester in 2015-16, which increased to 70% by 2019-21.
- 78% of women received postnatal care from a doctor or auxiliary nurse within two days of delivery, and 79.1% of children received postnatal care within two days of delivery.
- However, **nutritional deprivation in terms of overweight, underweight**, and prevalence of anaemia (especially in children, adolescent girls and pregnant women) **remains areas of huge concern** requiring urgent attention, as the report states.
- Additionally, **low health coverage, leading to high out-of-pocket expenditure, directly affects poverty incidences.**
- According to the report, **education and household conditions have improved enormously due to targeted efforts** through several social protection schemes, especially in the area of **water availability and sanitation** that have increased the standard of living.
- It is emphasised that **education and cognitive development from the foundational years is a long-term corrective measure for inequality.**
- By 2019-20, 95% of schools had functional toilet facilities on the school premises (95.9% functional boy's toilets and 96.9% functional girl's toilets).
- **80.16% of schools have functional electricity connections** with States and Union Territories like Goa, Tamil Nadu, Chandigarh, Delhi, Dadra and Nagar Haveli and Daman and Diu, Lakshadweep and Puducherry have achieved universal (100%) coverage of functional electricity connections.
- The Gross Enrolment Ratio has also increased between 2018-19 and 2019-20 at the primary, upper primary, secondary and higher secondary.
- According to NFHS-5 (2019-21), 97% of households have electricity access, 70% have improved access to sanitation, and 96% have access to safe drinking water.

#### Overcoming inequality-recommendations by the report

- **Universal basic income (UBI) scheme:** It has suggested that the Government should launch a guaranteed employment programme for the urban unemployed and roll out a universal basic income (UBI) scheme to reduce income gaps.
- **Raise minimum income:** The report also recommended steps to raise minimum income and more government spending on the social sector to make vulnerable sections immune to sudden shocks.
- **Labour force participation:** Looking at the difference between the labour force participation rate in rural and urban areas, we can understand that the urban equivalent of schemes like MGNREGS that are demand-based and offer guaranteed employment should be introduced so that the surplus-labour is rehabilitated.
- **Expenditure towards social services:** The Government must allocate more percentage of the expenditure towards social services and the social sector to make the most vulnerable population resilient to sudden shocks and stop their descent into poverty.
- **Mapping the poverty:** The most important aspect of measuring poverty in a multi-dimensional context requires mapping the mobility in and out of poverty.
- **Periodic Labour Force Survey (PLFS):** The results of the three rounds of the Periodic Labour Force Survey (PLFS) noted that in the three years excepting for very marginal changes, the top 1 percent of population held 6-7 per cent of the total income earned, while the top 10 per cent held a third.

**Why in the news?**

- Recently, The project 'Intelligent Solutions for Road Safety through Technology and Engineering' (iRASTE) is being implemented in Nagpur

**Key Highlights of iRASTE**

- It is a unique AI approach that uses the predictive power of AI to identify risks on the road, and a collision alert system to communicate timely alerts to drivers, to make several improvements related to road safety.
- It will identify potential accident-causing scenarios while driving a vehicle and alert drivers about the same with the help of the Advance Driver Assistance System (ADAS).
- The project will also identify '**greyspots**', i.e., by data analysis and mobility analysis by continuously monitoring dynamic risks on the entire road network.
- Greyspots are locations on roads**, which left unaddressed could become blackspots (locations with fatal accidents).
- The system also conducts continuous monitoring of roads and designs engineering fixes to correct existing road blackspots for preventive maintenance and improved road infrastructure.
- The iRASTE project is under by the I-Hub Foundation, IIIT Hyderabad, a Technology Innovation Hub (TIH) set up in the technology vertical- Data Banks & Data Services supported by the Department of Science and Technology (DST) under its National Mission on Interdisciplinary Cyber Physical Systems (NM-ICPS).
- LaneRoadNet (LRNet)**, a new framework with an integrated mechanism considering lane and road parameters using deep learning, has been designed to address problems of Indian roads.
- Another dataset called Open World Object Detection on Road Scenes (ORDER) has also been developed using the India Driving Dataset

**Why in the news?**

- Recently, the Union Cabinet has approved amendments to the National Policy on Biofuels, 2018.

**About Ethanol Blending**

- The ethanol blending is process of mixing petrol with ethanol.
- The mixture is called as Ethanol Fuel / Gasohol which is considered as a quasi-renewable energy.
- Ethanol is biofuel derived from Sugarcane molasses (by-product in the conversion of sugarcane to sugar), corn, sorghum etc.
- In India, practice of blending ethanol was started in 2001.
- Ethanol blending for first time was mention in the Auto fuel policy of 2003.
- Later, the National Policy on Bio-fuels, 2009 made mandatory for oil companies to sell petrol blended with at least 5% of ethanol.

**Benefits of ethanol blending**

- It reduces the vehicular emissions especially carbon monoxide emissions.
- It is cheaper than petrol as it is cheaper to manufacture.
- It decreases a nation dependence on foreign oil.
- Ethanol has a higher octane rating than ethanol-free petrol.
- In case of India, ethanol production can give higher sugarcane price for farmers which can help in rural prosperity

**Ethanol Blended Petrol (EBP) Programme**

- Ethanol Blended Petrol (EBP) Programme was launched by the Central Government in 2003 to promote the use of alternative and environment friendly fuels. It was intervention sought to reduce import dependency for energy requirements and environment friendly measure to reduce vehicular pollution. However, since 2006, OMCs

were not able to meet required quantity of ethanol demand against the tenders floated by them. The various constraints for it were like State Specific issues, Supplier related issues including Pricing issues of ethanol. In order to augment the supply of ethanol, a new mechanism for pricing of ethanol was placed in where Government decided delivered price of ethanol at OMC depots. The decision has helped in significantly improving the supply of ethanol.

### Amendments approved to the National Policy on Biofuels-2018

- The amendments approved are:
  - To increase the number of feedstocks available for biofuel production,
  - To move the ethanol blending objective to 20 percent ethanol in gasoline from 2030 to 2025-26,
  - To encourage units in Special Economic Zones (SEZ)/ Export Oriented Units to produce biofuels in India as part of the Make in India programme (EoUs),
  - To appoint new members to the National Biofuel Coordination Committee (NBCC), and to issue authorization for biofuel export in limited circumstances.

### National Policy on Biofuels-2018

- The Ministry of Petroleum and Natural Gas notified the National Policy on Biofuels – 2018 in 2018, superseding the National Policy on Biofuels published by the Ministry of New and Renewable Energy in 2009.
- MNRE has set an indicative target of **20% blending of ethanol in petrol and 5% blending of biodiesel** in diesel to be achieved by **2030**.
- The Ministry has also outlined a roadmap for the efficient realisation of the policy which entails the following steps:
  - Improve the current production of ethanol and biodiesel by increasing domestic production
  - Set up second-generation (2G) biorefineries
  - Develop new feedstock for biofuels
  - New technological developments to improve biofuel production
  - Facilitate the blending of biofuels with conventional fuels

## Food Inflation

## Economy

### Why in the news?

- Food prices around the world have soared to record levels this year as the Russia-Ukraine war slashes key exports of wheat and fertiliser from those countries, at the same time as droughts, floods and heat fuelled by climate change claim more harvests.
- The Food and Agriculture Organisation's food price index has shown a 29.8% year-on-year increase for April '22.
- Moreover, all commodity group price indices have posted huge jumps: Cereals (34.3%), vegetable oils (46.5%), dairy (23.5%), sugar (21.8%) and meat (16.8%).
- Simply put, food inflation is already rising across-the-board globally — because of supply disruptions from the war, dry weather in South America, high crude prices inducing greater diversion of corn, sugar, palm and soyabean oil for bio-fuel, and so on.

### Causes of Food Inflation

- Russia and Ukraine supply about 30% of global wheat exports, but those have fallen as a result of the conflict.
- National stocks of wheat – mostly eaten in the countries where it is grown – remain relatively high.
- But the drop in exports from Russia and Ukraine has driven up competition for the remaining wheat on the global market, leading to higher costs that are particularly painful for poorer, debt-ridden countries that rely heavily on imports.
- Almost 40% of Africa's wheat imports come from Ukraine and Russia, while rising global wheat prices have sent bread prices in Lebanon 70% higher.
- Since the last food price crises of 2007-2008 and 2011-2012, governments have failed to curb excessive speculation and ensure transparency of food stocks and commodity markets.

## Macolin Convention

## International Relations

### Why in the news?

- The 12th meeting of Interpol's Match-Fixing Task Force (IMFTF) concluded with a call to harmonize global efforts to curb competition manipulation.

### About the convention

- The Council of Europe Convention on the Manipulation of Sports Competitions, known as the Macolin Convention**, is a multilateral treaty aimed at checking match-fixing.
- The convention was concluded in Macolin/Maggingen, Switzerland, on 18 September 2014.
- It came into force on September 1, 2019.**
- It is a legal instrument and the only rule of international law on the manipulation of sports competitions.
- It requests public authorities to cooperate with sports organisations, betting operators and competition organisers to prevent, detect and sanction the manipulation of sports competitions.
- It has been ratified by Greece, Italy, Norway, Portugal, the Republic of Moldova, Switzerland and Ukraine.
- It has been signed by 30 other European States, as well as by Australia and Morocco.
- A major focus of the convention is to prevent and punish illegal sports betting operations and to prevent conflicts of interest in legal sports betting operators and sports organisations.

## Investment Incentive Agreement

## International Relations

### Why in the news?

- India and the United States signed an Investment Incentive Agreement (IIA) at Tokyo, Japan recently.

### About the Investment Incentive Agreement (IIA)

- This IIA supersedes the Investment Incentive Agreement signed between the two countries in the year 1997.
- IIA has been signed to keep pace with the additional investment support programmes offered by the DFC, a development finance agency of the Government of USA, successor agency of the erstwhile Overseas Private Investment Corporation (OPIC) after the enactment of the **BUILD Act 2018**.
- The Better Utilization of Investments Leading to Development (BUILD) Act of 2018 reformed and strengthened American development finance capabilities into the DFC to help address development challenges and foreign policy priorities of the US.
- The IIA is the legal requirement for DFC to continue providing investment support in India.
- The investment support programmes offered include debt, equity investment, investment guarantee, investment insurance or reinsurance, feasibility studies for potential projects and grants.
- DFC has provided investment support in sectors such as COVID-19 vaccine manufacturing, healthcare financing, renewable energy, SME financing, financial inclusion, infrastructure etc. and proposals worth \$4 billion are under consideration.

## Coalition for Disaster Resilient Infrastructure

## International Relations

### Why in the news?

- The Coalition for Disaster Resilient Infrastructure (CDRI) in partnership with the United States Agency for International Development (USAID) has commenced the International Conference on Disaster Resilient Infrastructure 2022.

### About Coalition for Disaster Resilient Infrastructure

- CDRI is a coalition of likeminded countries to ensure disaster proof infrastructure and save life and material infrastructure. CDRI will come under UPSC Mains GS Paper 3 (Disaster Management: Disaster and disaster management.)
- CDRI was first proposed by our Prime Minister during the 2016 Asian Ministerial Conference on Disaster Risk Reduction held in New Delhi. CDRI was then approved in 2019 for which the Government of India also pledged financial support of ₹480 crore towards the CDRI corpus.



- The Coalition for Disaster Resilient Infrastructure (CDRI) is an **international coalition** of national governments, UN agencies and programmes, multilateral development banks and financing mechanisms, the private sector, and knowledge institutions. The secretariat of CDRI is located in New Delhi, India.
- CDRI aims to **promote the resilience of new and existing infrastructure** systems to climate and disaster risks in support of sustainable development. CDRI promotes rapid development of resilient infrastructure to respond to the Sustainable Development Goals'.
- Since its launch, thirty-one (31) Countries, six (06) International Organizations and two (02) private sector organizations have joined as members of CDRI.
- CDRI has been expanding its membership consistently by attracting a wide variety of economically advanced countries, developing countries, and countries that are most vulnerable to climate change and disasters.

## World Food Prize

## International Relations

- Recently, NASA climate research scientist was awarded the **World Food Prize**.

### About World Food Prize

- **Nobel Prize** laureate **Norman Borlaug** established the **World Food Prize in 1986**.
- It is a **prestigious international award** conceived as the "Nobel Prize for Food and Agriculture".
- It is awarded for a **specific, exceptionally significant, individual achievement** that **advances human development** with a demonstrable increase in the quantity, quality, availability of, or access to food through creative interventions at any point within the full scope of the food system.
- The first recipient of this prestigious award in 1987 was Indian agricultural **scientist M.S. Swaminathan**, the father of India's Green Revolution.

## EU-India Trade and Technology Council

## International Relations

### Why in the news?

- **President of the European Commission** Ursula von der Leyen and **Prime Minister** held bilateral talks in New Delhi recently and agreed to launch the EU-India Trade and Technology Council while also committing to strengthen the strategic partnership.

### About EU-India Trade and Technology Council

- This strategic coordination mechanism will allow both partners to tackle challenges at the **nexus of trade, trusted technology and security**, and thus deepen cooperation in these fields between the **EU and India**.
- Both sides agreed that rapid changes in the geopolitical environment highlight the need for joint in-depth strategic engagement.
- The **Trade and Technology Council** will provide the **political steer** and the necessary structure to operationalise political decisions, **coordinate technical work**, and report to the political level to ensure implementation and **follow-up in areas** that are important for sustainable progress of European and Indian economies.
- The decision to set up a **Trade and Technology Council** will be the **first for India** with any of its partners and the second for the European Union following the first one it has set up with the US.
- They reviewed progress in the vibrant India-EU Strategic Partnership and agreed to deepen cooperation in areas of **trade, climate, digital technology** and **people-to-people ties**.
- EU-India's broad economic agenda, with a focus on the **free trade agreement**, investment protection agreement and Geographical Indications agreement is on the agenda.

**Why in the news?**

- The strategically-significant Sela Tunnel project in Arunachal Pradesh is nearing completion well before the deadline.

**About sela tunnel**

- The foundation stone for the Sela tunnel was laid by Prime Minister on February 09, 2019.
- It will provide connectivity between Guwahati in Assam and Tawang, Arunachal Pradesh through the Balipara-Chariduar-Tawang Road.
- It is being constructed by the Border Roads Organisation (BRO) under Project Vartak.
- This tunnel is constructed using the latest New Austrian Tunneling Method is much below the snow line allowing all-weather travel without the challenges of snow clearance.
- It will reduce the distance and travel time, ensure speedier movement across the Sela Pass and ensure connectivity even during winter.
- It will strengthen national security.

**Why in the news?**

- The United States (US) is planning to launch its new Indo-Pacific Economic Framework (IPEF).

**About IPEF**

- "Indo-Pacific economic framework" is the centre piece of the present U.S regime's **economic strategy toward Indo-Pacific region**.
- It is an **economic framework for enhancing US involvement in Asia**. It is to counter the influence of China in the region and fill the **vacuum created by not being a partner to TPP and RCEP**.
- The U.S. is working out the details of this strategy with a range of countries in the region, including **Japan, Singapore, Malaysia, New Zealand, South Korea and India**.
- The IPEF will focus on four main pillars: trade facilitation, supply chain resilience, infrastructure and decarbonization, and taxation and anti-corruption.
- The IPEF, unlike FTA, is **more of a tailor-made mechanism that seeks the benefits of trade partnerships while insulating Americans from the downsides of trade liberalisation**.
- Unlike FTAs, it **does not include market access commitments** such as lowering tariff barriers, as the agreement is more of an administrative arrangement.

**Indo Pacific Economic Framework Significance**

- The IPEF is envisaged as a **response to growing Chinese economic ties** with the rest of Asia.
- **China is now applying for membership in the CPTPP** (Comprehensive and Progressive Agreement for Trans-Pacific Partnership), which might affect US relations with the Asian nations.

**Difference between IPEF and CPTPP**

- Unlike the Comprehensive and Progressive Agreement for Trans-Pacific Partnership, Indo-Pacific economic framework will **not lower tariffs or otherwise expand market access**.
- Also, IPEF prioritise "**flexibility and inclusion**", and participating countries can join IPEF without necessarily joining all the four pillars of the framework, which the experts are calling a pick-and-choose arrangement that could make India more open to coming on board.

**IPEF and India**

- India is currently **studying the benefits** of participation but appears to have a preference for bilateral economic forums with the United States.
- Some East and **Southeast Asian countries may feel reluctant** about India's inclusion in the IPEF given lingering

frustrations over India's withdrawal from the Regional Comprehensive Economic Partnership (RCEP) negotiations.

- **Japan and Australia, however, see value in India's inclusion** for strategic reasons—the same reasons that those two nations are enthusiastic members of the Quad.
- Though India's inclusion in the framework may not be recommended by a few countries, its exclusion from the IPEF would raise questions **about how "Indo" the Indo-Pacific Economic Framework truly is.**

## Chittagong Port

## International Relations

### Why in the news?

- Recently Bangladesh Prime Minister has offered India the use of the Chittagong Port as a connectivity solution towards NorthEast India.

### About Chittagong Port

- Bangladesh's main seaport is the Chittagong/Chattogram Port.
- It is located on the banks of the Karnaphuli River in the port city of Chittagong.
- The port handles 80% of Bangladesh's export-import commerce and has been utilised for transshipment by India, Nepal, and Bhutan.
- It was the 58th busiest cargo port in the world in 2019, according to Lloyd's. The port is one of the world's oldest.
- With Chinese finance and assistance, Chittagong Port is being upgraded and modernised.
- China was largely assumed to maintain the right to use the port according to its own plans and requirements.

### Significance of the port

- The usage of Chittagong port was made feasible by a deal that allows Chittagong and Mongla ports to serve as transshipment hubs.
- The port is important to the North-Eastern States of India because it improves communication links of the North-East with mainland India and also with neighbouring countries.
- The distance, time, and cost of logistics for delivering goods will be reduced as a result.
- Currently, the road route from West Bengal to the Northeast spans about 1,200 kilometres.
- States like Tripura, Assam, and Meghalaya will benefit from an extra connection route that is both cost-effective and environmentally benign.
- Give multimodal connectivity between India and Bangladesh a boost.

### Benefits for Bangladesh

- The logistics industry is seeing new investment.
- New trade lines are expected to create jobs and boost transportation, finance, and insurance.
- Revenue is generated through administrative and port-related fees.
- Cumilla, Tamabil, and Akhaura are among the cities that have experienced economic transition.

## Green Strategic Partnership

## International Relations

### Why in the news?

- **Prime Minister Narendra Modi met with Mette Frederiksen**, and the two leaders are anticipated to address a **wide variety of matters of mutual interest in order to strengthen the bilateral relationship.**

### About Green Strategic Partnership

- The green alliance intends to establish a framework for greater cooperation in renewable energy, the environment, the economy, climate change, and research and technology.
- For the implementation of the "green strategic partnership" that was finalised last year, a five-year joint action plan from 2021 to 2026 has been developed.

### Joint Commission for Cooperation

- The Green Strategic Partnership builds on and consolidates the existing agreement between India and Denmark to establish a Joint Commission for Cooperation.
- The partnership is a win-win agreement aimed at advancing political cooperation, expanding economic relations and green growth, creating jobs, and strengthening cooperation on global challenges and opportunities, with a focus on a bold implementation of the Paris Agreement and the UN Sustainable Development Goals.

## SCO's Regional Anti-Terrorist Structure (RATS)

## International Relations

### Why in the news ?

- Recently, India hosted the three-day meeting under the framework of the SCO's Regional Anti-Terrorist Structure (RATS) where the Shanghai Cooperation Organisation (SCO) member nations deliberated on boosting cooperation in **combating various regional security challenges**.

### SCO RATS India: Key points

- Counter-terrorism experts from India, Pakistan and other member states of the Shanghai Cooperation Organisation (SCO) deliberated on boosting cooperation in combating various regional security challenges at the meeting.
- A major focus of the discussions was to be on the situation in Afghanistan, especially in dealing with the **threat from terrorist groups active in the Taliban-ruled country**.
- **India** has shown keen interest in deepening its security-related cooperation with the SCO and its Regional Anti-Terrorism Structure (RATS) which specifically deals with issues relating to security and defence.
- The participating countries vowed to work towards ensuring that Afghanistan does not become a **safe haven for global terrorism** and called for the formation of an "open and truly inclusive" government in Kabul with representation from all sections of Afghan society.
- India will be hosting the SCO RATS council meeting this October. New Delhi has also proposed holding a SCO joint anti-terrorist exercise in Manesar this year.
- The SCO grouping comprises Russia, China and India. Besides this, Pakistan, Iran, Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan, are also part of the grouping. Afghanistan is among the observer states of the SCO.
- Shanghai Cooperation Organisation's RATS, based in **Tashkent**, is a permanent body of the grouping for countering terrorism, extremism, and separatism in the Eurasian region.

### About SCO

- The SCO is an **economic and security grouping** and has emerged as one of the largest transregional international organisations.
- The **member-states of SCO** are Russia, China, India, Pakistan, Kyrgyz Republic, Kazakhstan, Tajikistan and Uzbekistan.

### About SCO-RATS

- The Agreement on the Regional Anti-Terrorist Structure (RATS) as a **permanent SCO body** was signed during a meeting of the Council of Heads of SCO Member States in **2002, in St. Petersburg, Russia**.
- RATS platform provides a mechanism for interaction between the border services of the competent authorities of the SCO member states to address a separate area of ensuring the security of the SCO **member states from transnational crimes** associated with terrorism, such as illegal migration and trafficking of drugs, weapons, explosives, etc.
- **India assumed chairmanship** of the Council of Regional Anti-Terrorist Structure of SCO (RATS SCO) on October 28 last year for a period of one year.
- India has shown keen interest in **deepening its security-related cooperation with** the SCO and its Regional Anti-Terrorism Structure, which specifically deals with issues relating to security and defence.

**Why in the news?**

- Scientists have developed a new biomaterial that can be used to disinfect wounds and hastens the process of healing.

**About Pullulan Polymer**

- The biomaterial is derived from the polymer pullulan which is secreted by the fungus *Aureobasidium pullulans*.
- It is an exopolysaccharide, that is, this polymer is secreted by the fungus itself into the medium on which it is growing.
- Pullulan as a biomaterial is already successful and widely used commercially. It is exploited in food, cosmetics and pharmaceutical industry because of its non-toxic, non-mutagenic and non-immunogenic properties.
- Pullulan is basically a polymeric chain of glucose.
- Scientists processed the polymer to get a powder which is water-soluble.
- This solution can be applied on the wound surface and then covered with a sterile gauze.

**Monkeypox****Science & Technology****Why in the news?**

- The first case of Monkeypox in the country was confirmed in Kerala.

**About monkeypox virus**

- Monkeypox is a disease caused by the monkeypox virus. It is a viral zoonotic disease, meaning that it can spread from animals to humans. It can also spread between people.
- Monkeypox is commonly found in central and west Africa where there are tropical rainforests and where animals that may carry the virus typically live. People with monkeypox are occasionally identified in other countries outside of central and west Africa, following travel from regions where monkeypox is endemic.
- The infection was first discovered in 1958 following two outbreaks of a pox-like disease in colonies of monkeys kept for research which led to the name 'monkeypox'.
- The first human case was recorded in 1970 in the Democratic Republic of the Congo (DRC).
- According to the WHO, 15 countries on four continents have so far reported confirmed cases of monkeypox in humans.

**Symptoms of the monkeypox virus**

- Symptoms of monkeypox typically include a fever, intense headache, muscle aches, back pain, low energy, swollen lymph nodes and a skin rash or lesions.
- The rash usually begins within one to three days of the start of a fever.
- The rash tends to be concentrated on the face, palms of the hands and soles of the feet. They can also be found on the mouth, genitals and eyes.
- Symptoms typically last between 2 to 4 weeks and go away on their own without treatment
- The proportion of patients who die has varied between 0 and 11% in documented cases, and has been higher among young children.

**Transmission**

- Monkeypox can spread from one person to another through close physical contact, including sexual contact. It is currently not known whether monkeypox can be spread through sexual transmission routes (e.g., through semen or vaginal fluids), but direct skin-to-skin contact with lesions during sexual activities can spread the virus.

**Treatment and prevention**

- There is no safe, proven treatment for monkeypox but WHO recommends supportive treatment depending on the symptoms.



- There are several vaccines available for the prevention of smallpox that also provide some protection against monkeypox. A newer vaccine that was developed for smallpox (MVA-BN, also known as Imvamune, Imvanex or Jynneos) was approved in 2019 for use in preventing monkeypox and is not yet widely available.

## Buffalopox

## Science & Technology

### Why in the news?

- India is witnessing increased buffalopox infections in recent times.

### About Buffalopox-

- Buffalopox is caused by buffalopox virus (BPXV), it is a Poxviridae for which the **natural host is buffalo**.
- It mainly infects buffalo but has been known to **infect cows and humans**.
- BPXV can be spread by sand flies and midges, and studies showed that the **virus can also infect guinea pigs and suckling mice**.
- The **zoonotic disease endemic to India**, (first case globally recorded was in India in 1934) has its root in smallpox vaccines.
- Live virus used to inoculate buffaloes to produce the smallpox vaccine in India evolved into buffalopox over time.
- The first sample of the virus was isolated in 1967 and the WHO's Joint Expert Committee on Zoonoses declared it an important zoonotic disease the same year.
- When the virus infects milk animals it causes mastitis which reduces milk yield and the working capacity of draft animals.
- In humans the virus causes lesions that are mainly confined to the hands, forehead, face, buttocks, and legs.
- Human-to-human transmission has not been reported.
- Milking of infected animals is one of the major modes of spread.
- Exposure to infected laboratory animals or from laboratory accidents, such as needle stick injuries or self-inoculation of mucous membranes can also lead to an infection.
- A vaccinia virus (VACV) case was recorded by WHO from India in September 2020 and VACV belongs to the orthopoxvirus family of which buffalopox is a close variant.
- Zika virus, dengue, Japanese encephalitis, rubella and chickenpox are other diseases classified in the same group.

## National Technology Day

## Science & Technology

### Why in the news?

- Every year, the 11th of May is celebrated as **National Technology Day**.

### History

- It is celebrated to commemorate the **anniversary of the 1998 Pokhran nuclear tests**.
- India successfully test-fired its **Shakti-1 nuclear missile** in operation **called Pokhran-II**, also codenamed **Operation Shakti**.
- The nuclear missile was tested at the Indian Army's Pokhran Test Range in Rajasthan. This was the second test which was conducted after **Pokhran-I codenamed Operation Smiling Buddha**, in May 1974.
- The day reminds Indians of the **country's technological advances**.
- The day celebrates not only **scientists and engineers**, but anyone who is involved with **ideating, innovating, and promoting the dissemination of knowledge** and also ensuring that its benefits reach the grassroots level.

### Theme for 2022:

- '**Integrated Approach in Science & Technology for Sustainable Future**'

### Honoured

- **The Technological Development Board of the Ministry of Science and Technology** honours individuals and groups for their remarkable achievements and bestows medals on them.
- The **President of India** attends the ceremony organised by the department and presents the awards to enterprises, organisations and individuals for their outstanding contributions to science and technology.

**Why in the news?**

- Union Minister of State (IC) Ministry of Science and Technology, Dr Jitendra Singh recently launched a Single National Portal for Biotech researchers and Start-ups- BioRRAP.

**About the portal-**

- The Portal "BioRRAP" will cater to all those seeking regulatory approval for biological research & development activity in the country and thus offer a huge relief for "Ease of Science as well as Ease of Business".
- The Portal will also allow stakeholders to see the approvals accorded against a particular application through a **unique BioRRAP ID**.
- The portal will serve as a gateway and will help researchers to see the stage of approval of their applications for regulatory clearances and to see preliminary information on all the research work being undertaken by the particular researcher and/or organisation.
- It acts as a repository of the research works being undertaken by our researchers working in the public and private sector.
- This portal is **dedicated only for research related activities and not for product development**.

**About BioRRAP ID-**

- BioRRAP ID is a unique ID generated when a research proposal is submitted on this portal.
- The status of research proposal applications submitted to various regulatory agencies would be visible to the applicant using this ID.
- A list of regulatory agencies issuing requisite approvals relevant to the submitted biological research proposal is attached to the BioRRAP ID.

**Why in the news?**

- A Bengaluru-based venture has produced a rugged tactical battery that it is now planning to sell to the North Atlantic Treaty Organisation (NATO) forces in Europe.

**About Pravaig Field Pack**

- It's a portable, heavy-duty power bank that weights 14 kg.
- It's especially useful for today's digitally connected military and Special Forces personnel who have to work in high-risk areas while utilising gadgets that demand constant power.
- India conceived, engineered, and manufactured these batteries.
- A MacBook may be charged 60 times using the field pack.

**Significance**

- This supply is a defining moment in India's defence landscape, a turning point in the country's high-tech defence industry's transformation from users to developers, importers to exporters.
- The field pack can be used to re-energize military personnel in the field and to install remote sensors.
- A powerful tactical battery can be used to operate larger military equipment like drones, as well as assisting in the coordination of tactical operations involving several weapons systems.

**Why in the news?**

- While fresh COVID-19 cases in India remain at manageable levels, doctors in India, as medical experts globally, **grapple with covid- acquired hepatitis**.

**Covid-Acquired Hepatitis**

- In CAH, the **symptoms** include nausea, loss of appetite, weakness, and mild fever.



- Inflammation is not marked, though a **high level of liver enzymes**, called transaminases, is observed.
- All of the other typical causes of hepatitis, such as associated viruses, are absent.

### What is Hepatitis?

- Hepatitis is an **inflammation of the liver**.
- Hepatitis viruses are the most common cause of hepatitis in the world but other infections, toxic substances (e.g., alcohol, certain drugs), and autoimmune diseases **can also cause hepatitis**.
- There are **5 main hepatitis** viruses, referred to as types A, B, C, D and E.
  - Hepatitis **A and E** are
    - typically caused by ingestion of contaminated food or water.
  - Hepatitis **B, C and D** usually occur as a result of parenteral contact with infected body fluids. Common modes of transmission for these viruses include receipt of contaminated blood or blood products, invasive medical procedures using contaminated equipment and for hepatitis B transmission from mother to baby at birth, from family member to child, and also by sexual contact.

### Hepatitis

- Hepatitis refers to an **inflammatory condition of the liver**. It **disturbs various metabolic processes such as bile production, excretion, fat and protein metabolism, activation of enzymes, and synthesis of proteins**.
- It's commonly **caused by a viral infection**, but there are other possible causes of hepatitis. These include **autoimmune hepatitis and hepatitis that occurs as a secondary result of medications, drugs, toxins, & alcohol**.
- **Autoimmune hepatitis is a disease that occurs when your body makes antibodies against your liver tissue**.
- It can be **acute** (inflammation of the liver that presents with sickness — jaundice, fever, vomiting) or **chronic** (inflammation of the liver that lasts more than six months, **but essentially showing no symptoms**).

### Types of Viral Hepatitis

- Viral infections of the liver that are classified as hepatitis include **hepatitis A, B, C, D, and E**.
- A different virus is responsible for each type of virally transmitted hepatitis.
- **Hepatitis A is always an acute, short-term disease**, while **hepatitis B, C, and D are most likely to become ongoing and chronic**. Hepatitis E is usually acute but can be particularly dangerous in pregnant women.

### Hepatitis A

- It is an **infectious disease of the liver that is caused by the Hepatitis A virus**. It is **acute and in most of cases, symptoms could not be recognized in young people**. Symptoms include **vomiting, nausea, fever, severe abdominal pain, jaundice, weakness**, and these symptoms might last longer till eight weeks.
- It is **transmitted to others by contaminated food, water, and by being in close contact with the infected person**. It can be diagnosed with some simple blood tests. **Hepatitis A vaccine helps in preventing disease**.

### Hepatitis B

- It is an infectious disease **caused by an infection with the Hepatitis B virus**. It is **contracted through flat tired wounds, contact with blood, saliva, fluids of an infectious body**.
- **Sharing personal belongings such as razors or toothbrush of an infected person can also cause Hepatitis B**.
- **Hepatitis B symptoms** include **abdominal pain, fatigue, and jaundice**. Symptoms do not come to the limelight until one to **six months**. It could be diagnosed through a common blood test.
- **Hepatitis B Vaccine could be done for both adults and children**. It comprises three intramuscular vaccines. Second and third vaccines are provided after one and six months of the first vaccine.

### Hepatitis C

- It is an infection that is **caused by the Hepatitis C virus in the liver**. This can be **transferred from needles that have been infected, at the time of birth (i.e. transmitted from infected mother to child), through body fluids of an infected person**, having sex with multiple partners specifically with HIV-infected persons. It is also **rarely found in semen (cum) and vaginal fluids**.
- **Hepatitis C is mainly passed on through using contaminated needles and syringes or sharing other items with infected blood on them**. It's also a sexually transmitted infection (STI) that can be passed on through unprotected sex, **especially when blood is present**.



- **It does not spread through food or water.**
- Symptoms include **loss of appetite, tiredness, frequently occurring fever, yellowing of your skin or eyes, joint pain, abnormalities in urine, and abdominal pain.** These signs occur after **six or seven weeks of exposure to a virus.** Signs might take even several years to appear in rare cases.
- **However, unlike hepatitis B, it is not sexually transmitted and there is no known vaccine for hepatitis C.**

#### Hepatitis D

- It is one of the **severe liver diseases that are caused by the virus Hepatitis D (HDV).** It spreads from **infected blood or wound.** Sometimes it might occur in conjunction with Hepatitis B.
- **Hepatitis D is a rare form of hepatitis that only occurs in conjunction with hepatitis B infection.** The hepatitis D virus can't multiply without the presence of hepatitis B.

#### Hepatitis E

- Hepatitis E is a **waterborne disease caused by the hepatitis E virus (HEV).** It might be **circulated through food, water, and contaminated blood.**
- Hepatitis E is **mainly found in areas with poor sanitation** and typically results from ingesting fecal matter that contaminates the water supply. It could be either acute or chronic.

## Open-RAN (Radio Access Network)

## Science & Technology

### Why in News?

- Recently, The Ministry of Communications has signed a Memorandum of Understanding (MoU) with M/s VVDN Technologies Private Limited to facilitate registered startups, innovators and MSMEs working in the field of Open RAN (Radio Access Network) to get their product tested at the existing lab of M/s VVDN.

### About Open-RAN (Radio Access Network)

- Open-RAN is not a technology, but rather an ongoing shift in mobile network architecture that allows networks to be built using subcomponents from a variety of vendors.
- O-RAN has an open, multi-vendor architecture for deploying mobile networks, as opposed to the single-vendor proprietary architecture.
- O-RAN uses software to make hardware manufactured by different companies work together.
- The key concept of Open RAN is "opening" the protocols and interfaces between the various subcomponents (radios, hardware and software) in the RAN.

### Radio Access Network (RAN)

- It is the part of a telecommunications system that connects individual devices to other parts of a network through radio connections.
- A RAN resides between user equipment, such as a mobile phone, a computer or any remotely controlled machine, and provides the connection with its core network.

### Elements of RAN

- The Radio Unit (RU) is where the radio frequency signals are transmitted, received, amplified and digitized. The RU is located near, or integrated into, the antenna.
- The Distributed Unit (DU) is where the real-time, baseband processing functions reside. The DU can be centralized or located near the cell site.
- The Centralized Unit (CU) is where the less time-sensitive packet processing functions typically reside.

### Advantage of O-RAN

- An open environment expands the ecosystem, and with more vendors providing the building blocks, there is more innovation and more options for the Operators. They can also add new services.
- It will open new opportunities for Indian entities to enter into the network equipment market.
- The benefits of this approach also include increased network agility and flexibility, and cost savings.
- It is expected to make 5G more flexible and cost efficient.

- Recently, a team at the Department of Electrical Communication Engineering (ECE), Indian Institute of Science (IISc) has developed a **true random number generator**.

### About TRNG

- A TRNG is a function or device based on an unpredictable physical phenomenon, called an entropy source.
- That is designing to generate non-deterministic data (e.g., a succession of numbers) but to seed security algorithms
- In IISc's TRNG device, random numbers are generated using the random motion of electrons.
- It consists of an artificial electron trap constructed by stacking atomically-thin layers of materials.
- They were Like black phosphorus and graphene in a true random number generator.

### Significance:

- Improve Data Encryption:** It can improve data encryption and provide improved security for sensitive digital data and such as credit card details, passwords, and other personal information.
- More Secure:** A TRNG extracts random numbers from inherently random physical processes, making it more secure.
- Cryptographic keys are typically generated in computers using pseudorandom number generators, which rely on mathematical formulae or pre-programmed tables to produce numbers that appear random but are not.
- More secure from cyber theft.

## Tomato Flua

## Science & Technology

### Why in the news?

- An outbreak of 'tomato flu' has triggered panic in Kerala's Kollam district after the mysterious disease was recently detected in 80 children, all under five years of age.

### What is tomato flu?

- Tomato flu is a **rare viral disease, which causes red-coloured rashes**, skin irritation and dehydration.
- The disease gets its name from the blisters or rashes it causes, which look like tomatoes.
- However, its cause is still unknown whether it is related to chikungunya, a viral fever or a dengue fever.
- Symptoms of this flu include** rashes, skin irritation and dehydration.
- It **can also cause tiredness, joint pain, stomach cramps, nausea, vomiting, diarrhoea**, coughing, sneezing, runny nose, high fever, and body ache.
- In some cases, it may also change the colour of the legs and the hands.
- This flu is a **self-limiting one and there is no specific drug for this**.
- Like other cases of flu, tomato fever is also **contagious** and if someone is infected with this flu, they need to be kept in isolation as this could spread rapidly from one person to another.

## Maharashtra's Gene Bank Project

## Science & Technology

### Why in the news?

- Recently, the Maharashtra Cabinet accepted and cleared the proposition of a gene bank that aims to conserve and protect the genetic resources within the state.

### About Gene Bank Project:

- A first-of-its-kind project in India, it will be executed by the forest department of the state.
- The preservation also includes marine and animal diversity, along with the seeds of locally grown crops.
- This project was piloted by the Maharashtra Government's Rajiv Gandhi Science and Technology Commission.
- It will now be continued by the State Biodiversity Board, to ensure the sustenance and growth of the project.





- **Aim:** to document native natural resources and conserve them with the help of the local community that will ensure not just biodiversity conservation but also inclusion of traditional knowledge.
- The Maharashtra Gene Bank is unique because it has tried to authenticate traditional knowledge by scientific institutions such as the Indian Institute of Science Education and Research (IISER), Pune, and the National Institute of Oceanography (NIO), Goa.
- The government also sanctioned Rs 172.39 crore for implementing the action plan for the next five years.
- Seven main themes identified for the Gene Bank work:
  - Marine biodiversity;
  - local crop/seed varieties;
  - indigenous cattle breeds;
  - freshwater biodiversity;
  - grassland, scrubland and animal grazing land biodiversity;
  - conservation and management plans for areas under forest right, and
  - rejuvenation of forest areas

## Marsquake

## Science & Technology

### Why in the news?

- NASA's InSight lander has recently detected a quake on Mars, the largest ever observed on another planet.

### About Marsquake

- The InSight rover first landed on Mars in November 2018, and has since heard 1,313 quakes.
- A magnitude 5 quake shook the surface of Mars, the strongest temblor ever detected not only on Mars but on any planet besides Earth.
- The marsquake surpassed the previous record-holder, a 4.2-magnitude quake that took place in August 2021.
- On Earth, quakes are caused by shifts in tectonic plates. Mars, however, does not have tectonic plates, and its crust is a giant plate.
- Therefore, NASA notes, 'marsquakes' are caused due to stresses that cause rock fractures or faults in its crust.

### NASA's InSight Rover

- The Interior Exploration using Seismic Investigations, Geodesy and Heat Transport mission is a robotic lander designed to study the deep interior of the planet Mars.
- Launched in 2018, InSight is studying what Mars is made of, how its material is layered, and how much heat seeps out of it.
- With InSight, scientists hope to compare Earth and Mars, and better understand how a planet's starting materials make it more or less likely to support life.
- There are other missions to Mars that are looking for life on the planet, which makes InSight's mandate unique.

## SOFIA Telescope

## Science & Technology

### Why in the news?

- The United States National Aeronautics and Space Administration (NASA) has decided to shut down the SOFIA Telescope that confirmed the presence of water on the Moon.

### About SOFIA

- It is an airborne observatory jointly built by NASA and German Aerospace Centre. It features a reflecting telescope mounted on a modified Boeing 747SP aircraft flying into the stratosphere at 38,000-45,000 feet.
- It allows researchers to observe the infrared universe as many objects in space emit almost all their energy at infrared wavelengths and are often invisible when observed with visible light.
- It has confirmed for the first time water on the sunlit surface of the Moon. This discovery indicates that water may be distributed across the lunar surface and not limited to cold, shadowed places.



**Why in the news?**

- The second edition of the bilateral naval exercise between India and Bangladesh "Exercise Bongosagar" began in the northern Bay of Bengal

**About Excercise Bonosagar**

- The **Harbour Phase** of exercise is underway. It will be followed by a **Sea Phase** in the **Northern Bay of Bengal**.
- Indian Naval Ships Kora, an indigenously built Guided Missile Corvette, and Sumedha, an indigenously built Offshore Patrol Vessel are participating in the Exercise.
- Bangladesh Navy is being represented by BNS Abu Ubaidah and Ali Haider, both Guided Missile Frigates.

**Why in the news?**

- The Army Training Command signed a MoU with Gandhinagar-based **Rashtriya Raksha University (RRU)** to develop a 'Wargame Research and Development Centre' in New Delhi.

**About WARDEC**

- WARDEC will be a first-of-its-kind simulation-based training center in India that will use artificial intelligence(AI) to design virtual reality wargames.
- The centre will be used by the Army to train its soldiers and test their strategies through metaverse-enabled gameplay.
- The wargame models will be designed to prepare for wars as well as counter-terror and counter-insurgency operations.
- It will be developed by the Army Training Command and Gandhinagar-based Rashtriya Raksha University (RRU).
- The RRU will join hands with Tech Mahindra to develop the centre in the coming three to four months.

**Significance**

- The Army intends to use the wargame centre to train its officers in military strategies.
- According to RRU officials, the Army will provide data to set the backdrop of the gameplay, so that participants get a realistic experience.
- In the Army, it is often said that the enemy can ambush you from 361 directions, where 360 sides are around the soldier, and one is above in case there is an airdrop.
- Aspects such as slope of terrain, weather, time, air pressure, enemy surveillance reach, reach of artillery, the position of troops, soldier's health and enemy's reaction capabilities are all taken into account by the use of AI.

**About Rashtriya Raksha University (RRU)**

- The RRU is an institute under the Ministry of Home Affairs (MHA).
- It specializes in national security and policing.
- Located in Gandhinagar's Lavad village, it is an "institute of national importance".
- It is established by the Parliament of India, Act No. 31 of 2020.
- The University aims to become an academic-research-training ecosystem for national security and police.
- Its endeavors focus on highly professional national security, police education, research, and training through its qualified civilian and security faculty, committed human resources, motivated participants and students, intellectually stimulating and professionally disciplined environment, and world-wide network, sharing, and exchange.
- It aims at providing security and strategic education in the contemporary and futuristic security and strategic studies and interdisciplinary areas.

### Why in the news?

- Defence Research and Development Organisation (DRDO) and Indian Navy successfully conducted maiden flight-test of indigenously-developed Naval Anti-Ship Missile launched from a Naval Helicopter from Integrated Test Range (ITR), Chandipur off the coast of Odisha.

### About Naval Anti-Ship Missile

- It is Defence Research and Development Organization (DRDO) for the Indian Navy.
- The missile has a weight of 380 kg and a range of up to 55 km and is meant for launch from helicopters.
- The missile can cruise at just 5 meters above sea level making it difficult for enemy radars to detect and track and shoot down with surface-to-air missiles or guns. This low-level capability of anti-ship missiles is known as sea-skimming.
- It is the first indigenous air-launched anti-ship missile system for the Indian Navy.

## Operation Satark

## Defence & Security

### Why in the news?

- Railway Protection Force (RPF) has launched a Focused effort under "Operation Satark" recently.

### About Operation Satark

- Its **objective is taking action against illicit liquor/FICN/illegal tobacco products/unaccounted gold/cash/precious items/ any other items being transported through railway network** for the purpose of tax evasion/smuggling/commission of crime/acts of terror.
- As part of this operation, 26 cases of transportation of illegal tobacco products were detected with seizure of tobacco products worth more than Rs 44 Lakhs and arrest of 14 persons involved.
- Unaccounted gold/silver jewellery and unaccounted cash is transported through rail for the purpose of tax evasion.
- RPF detected 23 such cases of tax evasion and handed over unaccounted cash/gold/silver worth about Rs 2.60 Crores to the respective tax authorities.
- Being aware of its responsibility as the first responder in cases of smuggling through rail, RPF took concerted action in such cases and seized smuggled items worth about Rs. 3.18 Crores during the period mentioned above.

## Hs200 BOOSTER

## Defence & Security

### Why in the news?

- The Indian Space Research Organisation (ISRO) has successfully carried out the static test of the HS200 solid rocket booster, taking the space agency one more step closer to the keenly awaited Gaganyaan human spaceflight mission.

### About the test

- The test was held at the Satish Dhawan Space Centre, Sriharikota.
- Designed and developed by the Vikram Sarabhai Space Centre (VSSC) in Thiruvananthapuram for over two years, the HS200 booster is the 'human-rated' version of the S200 rocket boosters used on the geosynchronous satellite launch vehicle Mk-III (GSLV Mk-III), also called the LVM3.
- The GSLV Mk-III rocket, which will be used for the Gaganyaan mission, will have two HS200 boosters that will supply the thrust for lift-off.
- The HS200 is a 20-metre-long booster with a diameter of 3.2 metres and is the world's second largest operational booster using solid propellants.
- Since Gaganyaan is a manned mission, the GSLV Mk-III will have improvements to increase reliability and safety to meet the requirements of 'human rating.' Of the three propulsion stages of the GSLV Mk-III, the second stage uses liquid propellant while the third is a cryogenic stage.

### About Gaganyaan mission

- Gaganyaan is an Indian crewed orbital spacecraft intended to be the formative spacecraft of the **Indian Human Spaceflight Programme**.
- The spacecraft is being designed to carry three people, and a planned upgraded version will be equipped with rendezvous and docking capability.
- In its maiden crewed mission, Indian Space Research Organisation (ISRO)'s largely autonomous 5.3 metric tonnes capsule will orbit the Earth at 400 km altitude for up to seven days with a two or three-person crew on board.
- It is the first crewed mission to space by India and was originally planned to be launched on ISRO's GSLV Mk III in December 2021, but this has since been delayed to no earlier than 2023

## CAPF Punarvaas

## Defence & Security

### Why in the news?

- Recently, the Union Ministry of Home Affairs has launched 'CAPF Punarvaas' through the Welfare and Rehabilitation Board (WARB).

### About CAPF Punarvaas

- It aims to facilitate retired Central Armed Police Force (CAPF) and Assam Rifle personnel to secure employment with private security agencies.
- The portal will help retired personnel seeking re-employment to find an appropriate match by uploading their personal details on the WARB website along with their area of expertise and preferred employment location.
- The Ministry of Home Affairs also runs a portal under Private Security Agencies Regulation Act (PSARA) for the registration of Private Security Agencies (PSAs).
- Both websites have now been interlinked whereby the database of retired CAPFs personnel who have applied on 'CAPF Punarvaas' can be accessed by PSAs through PSARA website resulting in a single platform for both job seekers and job providers.
- This new initiative of Ministry of Home Affairs provides access to the data base under 'CAPFs Punarvaas' to PSAs digitally.
- PSAs will benefit by accessing the database of retired and willing personnel of CAPFs who are well trained in providing security and other security related services.

## Operation Dudhi

## Defence & Security

### Why in the news?

- The paramilitary **Assam Rifles** felicitated the surviving soldiers of Operation Dudhi, marked in the country's defence history as India's most successful counter-insurgency operation more than 30 years ago.

### About Operation Dudhi

- **Back in 1991**, the Assam Rifles had eliminated 72 militants in a single **counter-insurgency operation** in Jammu & Kashmir.
- The operation, undertaken by the battalion during its tenure in Jammu & Kashmir from 1990 to 1992, remains the **most successful counter-insurgency operation** conducted by any security force to date. Not only the battalion had eliminated 72 militants but it also apprehended 13 others in that operation.
- Conducted on May 3, 1991, Operation Dudhi was undertaken by a column comprising a **Junior Commissioned Officer (JCO)** and 14 other ranks under the command of **Naib Subedar Padam Bahadur Chhetri**.
- The column had moved from **Battalion Headquarters, Chowkibal**, for a routine patrol to check the winter vacated post of Dudhi, with the staging camp established at **Bari Baik**.
- In the fierce firefight that continued till the intervening night of May 5 and 6, soldiers **Kameshwer Prasad** and **Ram Kumar Arya** laid down their lives while **RK Yadav** sustained injuries.

**Why in the news?**

- Recently, France's Naval Group announced that it is withdrawing from the Indian Navy's P-75I submarine project.

**About the P-75I submarine project**

- The Project 75 (India)-class submarines (P-75I) are a planned class of diesel-electric submarines, which are to be built for the Indian Navy.
- Under this project, the Indian Navy intends to acquire six conventional, diesel-electric attack submarines, which will also feature advanced capabilities – including air-independent propulsion (AIP), and anti-ship warfare (AShW), and other features.
- All 6 submarines are expected to be constructed in India, under the Make in India initiative.

**Status of the P-75 project**

- In 2005, a \$3.75 billion contract for building six Scorpene-class submarines under P-75 was signed between India and France.
- The executing company on the Indian side was Mazagon Dock Shipbuilders Ltd (MDL) and on the French side, it was the Naval Group, then known as DCNS.
- The first submarine under the project was commissioned in 2017.
- Subsequently, the other five have been built and the final one, Vagsheer, was launched in April 2022, and will be commissioned by 2023.

**Integrated Battle Groups (IBG)****Defence & Security****Why in the news?**

- Consultations on creation of Integrated Battle Groups have been compiled recently.

**About Integrated Battle Groups (IBG)**

- The **purpose of restructuring Army's existing formations into integrated battle groups** was to **have forces which are lean, agile and tailor-made** which would afford the commanders the flexibility and more options for their employment in the respective theatres to achieve the desired outcomes.
- IBGs are smaller, meaner, self-contained fighting units of the Indian Army consisting of elements of air power, artillery, armour etc.
- **The concept of IBG has already been test-bedded by the Army's 9 Corps** and was later validated by the 17 Mountain Strike Corps in its exercises.
- **Each IBG would be tailor made based on Threat, Terrain and Task and resources will be allotted based on the three T's.**
- The idea is for them to be light with centralised logistics and be able to mobilise within 12 -48 hrs based on the location.
- While a **Command is the largest static formation of the Army spread across a defined geography, a Corps is the largest mobile formation.**
- Typically, **each Corps has about three Divisions.**
- **The IBGs will also be defensive and offensive in nature.**
- Late Gen. Bipin Rawat as Army Chief had initiated four major studies to undertake a comprehensive transformation of the force. These include:
  - Restructuring of Army Headquarters.
  - Force restructuring including creation of IBGs.
  - The cadre review of officers and
  - Review of the terms and conditions of Junior Commissioned Officers and Other Ranks.
- The aim was holistic integration to enhance the operational and functional efficiency, optimise budget expenditure, facilitate force modernisation and address aspirations.



- After the terrorist attack on Parliament in 2001, **the Army formulated a proactive doctrine known as 'Cold Start'** to launch swift offensive but its existence was consistently denied in the past.
- Its existence was acknowledged for the first time by Gen. Rawat in January 2017.

## Advanced Towed Artillery Gun System (ATAGS)

## Defence & Security

### Why in the news?

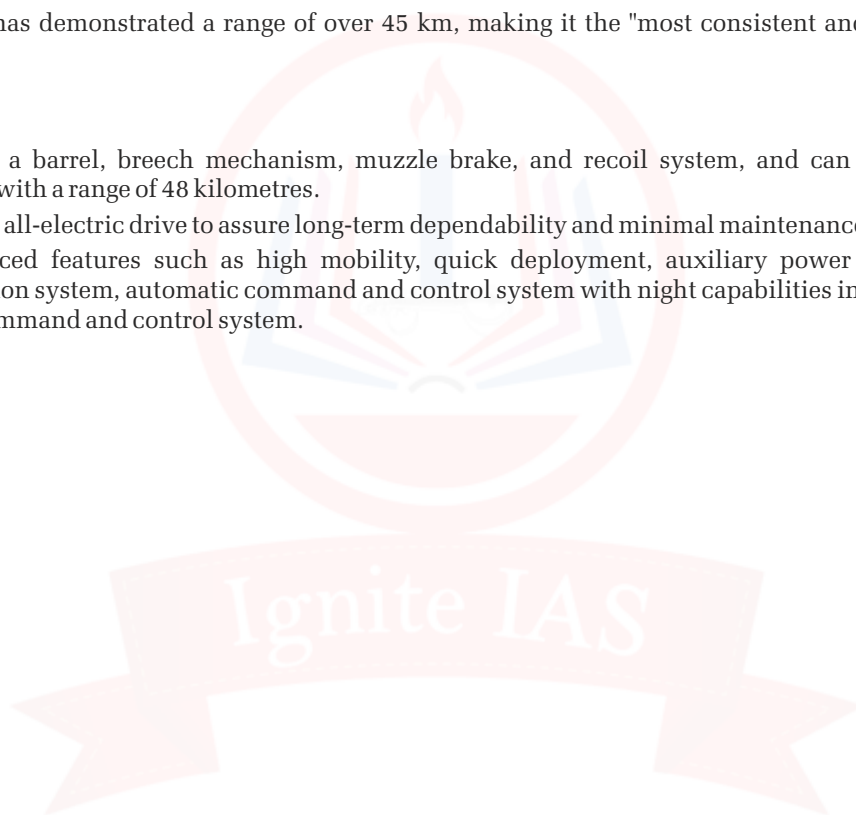
- The indigenous Advanced Towed Artillery Gun System (ATAGS) developed by the Defence Research and Development Organisation (DRDO) successfully completed the validation trials.

### About ATAG System

- The ATAGS is a 155-mm, 52-calibre artillery gun jointly developed by the **DRDO in partnership with Bharat Forge of the Kalyani Group and the Tata Power SED.**
- ATAGS has greater than 95% of indigenous content. It set a world record for the longest unassisted projectile range of 48 kilometres.
- The ATAGS has demonstrated a range of over 45 km, making it the "most consistent and accurate gun in the world".

### Features

- The gun has a barrel, breech mechanism, muzzle brake, and recoil system, and can fire 155 mm calibre ammunition with a range of 48 kilometres.
- It includes an all-electric drive to assure long-term dependability and minimal maintenance.
- It has advanced features such as high mobility, quick deployment, auxiliary power mode, sophisticated communication system, automatic command and control system with night capabilities in direct fire mode, and automatic command and control system.





# IGNITE IAS FOUNDATION COURSE

## COURSE FEATURES

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- Systematic and well-framed subject sequence
- Focus on conceptual clarity and with keen eye on recent exam pattern

### COURSE MATERIAL

- Daily Newspaper Analysis and a monthly Current Affairs Astra Magazine
- Primer NCERT series
- Prelims and Mains exhaustive standard material

### NOVEL FEATURES

- Daily answer writing practice
- Topic-wise consolidation tests
- Essay writing sessions
- Exam centric approach

# IGNITE IAS FOUNDATION COURSE

## COURSE FEATURES

### PEDAGOGUE METHOD

- Teachers with expert domain knowledge
- Systematic and well-framed subject sequence
- Focus on conceptual clarity and with keen eye on recent exam pattern

### COURSE MATERIAL

- Daily Newspaper Analysis and a monthly Current Affairs Astra Magazine
- Primer NCERT series
- Prelims and Mains exhaustive standard material

### NOVEL FEATURES

- Daily answer writing practice
- Topic-wise consolidation tests
- Essay writing sessions
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