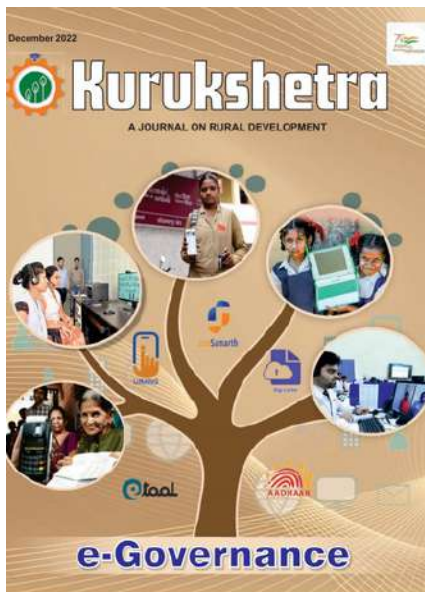


# OFFICERS' Pulse

December 2022 - AT A GLANCE



DownToEarth Business Standard



**Current Affairs Monthly**  
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# Schemes

## 1) Pradhan Mantri Garib Kalyan Ann Yojana

### About NFSA

- The National Food Security Act, 2013 (NFSA) provides for **food and nutritional security** in the country, by ensuring access to adequate quantity of quality food at affordable prices for people to live a life with dignity.
- The Act is in line with **Goal Two of the Sustainable Development Goals** (which seeks sustainable solutions to end hunger in all its forms by 2030 and to achieve food security) set by the United Nations General Assembly.
- Schemes such as the **Mid-Day Meal Scheme (MDM), the Public Distribution System (PDS), and the Integrated Child Development Services (ICDS)** are included under the Act.
- The implementation of the scheme comes under the ambit of the **Ministry of Consumer Affairs, Food and Public Distribution.**

### Key Features

- The Act legally entitled up to **75% of the rural population and 50% of the urban population** to receive subsidized foodgrains under the **Targeted Public Distribution System (TPDS).**
- The eligible persons will be **entitled to receive 5 Kgs of foodgrains per person per month at subsidised prices of Rs. 3/2/1 per Kg for rice/wheat/coarse grains.** The existing **Antyodaya Anna Yojana (AAY) households**, which constitute the poorest of the poor, will continue to receive 35 Kgs of foodgrains per household per month.
- About two-thirds of the population, therefore, is covered under the Act

to receive highly subsidized foodgrains.

- The Act also has a special focus on the nutritional support to women and children. **Pregnant women and lactating mothers** will be entitled to meals and **maternity benefits of not less than Rs 6000.**
- **Children upto 14 years of age** will be entitled to nutritious meals as per the prescribed nutritional standards. In case of non-supply of entitled foodgrains or meals, the beneficiaries will receive **food security allowance.**
- The Act also contains provisions for setting up of **grievance redressal mechanism** at the District and State levels
- The **eldest women of the household** of age 18 years or above will be the head of the household for the purpose of issuing ration cards.

### Implementation

- It is operated under the **joint responsibility of the Central and the State/Union Territory (UT) Governments.**
- The Central Government is responsible for procurement, allocation and transportation of food grains up to the designated depots of the Food Corporation of India.
- States/UTs hold the operational responsibilities for allocation and distribution of food grains.
- The NFSA currently covers **81 crore people** which was determined on the basis of the **2011 census**, and has not been revised since the law was passed in 2013.

### Why in News?

- The Government of India has launched a new scheme - **Pradhan**

**Mantri Garib Kalyan Ann Yojana (PMGKAY)** - under which **5 kg of free food grains per month will be provided for the beneficiaries of the NFSA**, rather than charging them a subsidised amount of ₹3 a kg of rice, ₹2 a kg of wheat and ₹1 a kg of coarse cereal as is currently done.

- The NFSA covers about 81.35 crore people and the Centre will bear the cost of **Rs 2 lakh crore** to provide them food security.

#### How is it different from the existing scheme?

- The name of the new scheme is similar to that of the **free foodgrain scheme implemented as part of the Centre's Covid-19 package** announced in 2020 (which was also named PM Garib Kalyan Ann Yojana). The existing scheme is **due to end in December 2022**.
- The difference between the two schemes is that under the existing scheme, NFSA beneficiaries were entitled to get **free of cost 5 kg foodgrain per person in a month over and above their monthly entitlements**.
- However, they were **required to pay the subsidised rate of foodgrains** (Rs 3 per kg rice, Rs 2 per kg wheat and Rs 1 per kg coarse grains) to purchase the quantity for which they were entitled—35 kg per Antyodaya Anna Yojana Household and 5kg per person to a Priority Household in a month.
- In the new scheme, the government has **done away with the subsidised prices** and is providing foodgrains free of cost. But now the **additional quantity**, which was available during the Covid pandemic, **will not be provided to these beneficiaries**. They will receive as

much quantity of foodgrains, for which they are entitled under the NFSA.

## 2) Startup India Seed Fund Scheme

### What is Startup India?

- The Startup India initiative of the Government of India envisages **building a robust Start-up ecosystem** in the country for nurturing innovation and providing opportunities to budding entrepreneurs.
- Startup India Seed Fund Scheme (SISFS) is **an initiative under the Startup India programme** to provide **financial assistance to early-stage startups**.

### What is Startup India Seed Fund Scheme?

- The Scheme aims to **provide financial assistance to startups for proof of concept, prototype development, product trials, market entry and commercialization**.
- It is implemented with effect from 1st April 2021 with a corpus of Rs. 945 crores.
- A startup, **recognized by the Department for Promotion of Industry and Internal Trade (DPIIT)**, incorporated not more than 2 years ago at the time of application, is invited to apply for the scheme.
- DPIIT has created an **Experts Advisory Committee (EAC)** to execute and monitor the Startup India Seed Fund Scheme. The EAC will select **eligible incubators** who will be provided **grants of upto Rs 5 Crores each**. In turn, the selected incubators will provide startups with **up to Rs 20 lakhs** for validation of Proof of Concept, prototype development, product trials to startups.

- SISFS is a **sector agnostic scheme**, which means that startups from any sector can apply for the scheme.
- However, preference would be given to **startups creating innovative solutions in sectors** such as social impact, waste management, water management, financial inclusion, education, agriculture, food processing, biotechnology, healthcare, energy, mobility, defense, space, railways, oil and gas, textiles, etc.

#### What is a DPIIT-recognized startup?

- An entity shall be considered a "Startup" –
  1. If it's incorporated as **either Private Limited Company or Registered Partnership Firm or Limited Liability Partnership**. A sole proprietorship or a public limited company is not eligible as startup.
  2. If it is **up to 10 years** from the date of its incorporation/registration.
  3. If its **turnover** for any of the financial years has **not exceeded INR 100 crore**
  4. If it is **working towards** innovation, development or improvement of products or processes or services, or if it is a scalable business model with a high potential of employment generation or wealth creation.
  5. **Should not have been formed by splitting up or reconstruction** of a business already in existence.

#### Why in News?

- 126 incubators have been approved under the Startup India Seed Fund Scheme.

### 3) FAME Scheme

#### About the Scheme

- The **National Electric Mobility Mission Plan (NEMMP) 2020** is a National Mission document providing the vision and the roadmap for the faster adoption of electric vehicles and their manufacturing in the country.
- As part of the NEMMP 2020, the **Department of Heavy Industry** (under the **Ministry of Heavy Industries & Public Enterprises**) formulated a Scheme viz. Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles in India (FAME India) Scheme in 2015.
- The objective of the FAME India scheme is to **promote manufacturing of electric and hybrid vehicle technology and to ensure sustainable growth of the same**.
- The scheme encourages adoption of Electric and hybrid vehicles by **offering upfront incentives** on purchase of Electric vehicles and establishing a necessary charging Infrastructure for electric vehicles.
- The scheme aims at **addressing the issue of environmental pollution and fuel security**.

#### Phase-I

- The Phase-I of this Scheme was initially launched for a period of 2 years, commencing from 1st April 2015, which was subsequently extended up to 31st March 2019.
- The 1<sup>st</sup> Phase of FAME India Scheme was implemented through four focus areas namely (i) Demand Creation, (ii) Technology Platform, (iii) Pilot Project and (iv) Charging Infrastructure.

#### Phase-II

- Phase-II of FAME India Scheme is being implemented for a period of 3 years from 2019.

- This phase focuses on **supporting electrification of public & shared transportation.**
- In addition, the **creation of charging infrastructure** is also supported for electric vehicles.

#### Key Objectives

- Encourage faster adoption of electric and hybrid vehicles by way of offering **upfront incentives on purchase of Electric vehicles.**
- Establishing necessary **charging Infrastructure** for electric vehicles.
- To address the issue of **environmental pollution and fuel security.**

#### Why in News?

- 64 electric vehicle manufactures have registered with the Department of Heavy Industry for availing incentives under FAME-India Scheme Phase-II.

### 4) PRASHAD Scheme

#### About the scheme

- The 'National Mission on Pilgrimage Rejuvenation and Spiritual, Heritage Augmentation Drive' (PRASHAD) was launched by the **Ministry of Tourism** in the year 2014-15 with the objective of **integrated development of identified pilgrimage and heritage destinations.**
- It is a **Central Sector Scheme with complete financial assistance by the Government of India.**
- The scheme has been launched with the vision of focused infrastructure development to **harness pilgrimage and heritage tourism destinations** for its direct and multiplier effect upon **employment generation and economic development.**
- The scheme aimed at infrastructure development such as entry points (Road, Rail and Water Transport), last mile connectivity, basic tourism

facilities like Information/ Interpretation Centers, ATM/ Money exchange, eco-friendly modes of transport, area Lighting and illumination with renewable sources of energy, parking, drinking water, toilets, etc.

#### Implementation Agency

- The projects identified under this scheme shall be implemented through the identified agencies by the **respective State/ Union Territory Government.**

#### Why in News?

- President of India Droupadi Murmu laid the foundation stone for projects called 'Development of Pilgrimage and Heritage Infrastructure of UNESCO World Heritage Site at Ramappa Temple' in Telangana under the PRASHAD Scheme.

#### Ramappa Temple

- The **Ramalingeswara Temple** which is popularly known as the **Ramappa temple dates back to 1213 AD**, was built by the patronage of the **Kakatiya ruler Ganapathi Deva** under the authority of his Chief Commander **Recherla Rudra**. It is located at Palampet, Mulugu district, near Warangal in the state of **Telangana.**
- It was built using **sandstone** and its construction is believed to have continued for over four decades.
- Explorer **Marco Polo** had allegedly remarked that the temple was the **"brightest star in the galaxy of temples."**
- It is a **UNESCO World Heritage Site.**

#### Distinct Features

- The temple is situated on a **six-foot-high star-shaped platform** with walls, pillars and ceilings adorned with intricate carvings.



- The foundation of the temple is built with the “**sandbox technique**”, the flooring is **granite** and the pillars **basalt**.
  - The sandbox technique involved filling the pit — dug up for laying foundation — with a **mixture of sand lime, jaggery (for binding) and karakkaya (black myrobalan fruit)**, before the buildings were constructed on these ‘sandboxes’.
  - The sandbox in the foundation acts as a cushion in case of earthquakes. Most of the vibrations caused by earthquakes lose their strength while passing through the sand by the time they reach the actual foundation of the building.
- The lower part of the temple is **red sandstone** while the white gopuram is built with light bricks that reportedly **float on water**.
- The temple’s sculptures of high artistic quality illustrate regional dance customs and Kakatiyan culture.

## 5) Pradhan Mantri Adi Adarsh Gram Yojana

### About the Scheme

- The PMAAGY aims at **transforming villages with significant tribal population into model villages** (Adarsh Gram) covering a population of 4.22 crore (About 40% of the total Tribal Population).
- It is envisaged to cover 36,428 villages having **at least 50% tribal population and 500 STs across States / UTs with notified STs**.

### Objectives

- The main objective of this scheme is to **achieve integrated socio-economic development of selected villages through a convergence approach**.
- It includes preparing a **Village Development Plan** based on the needs, potential, and aspirations.
- It also includes **maximizing the coverage of individual/family benefit schemes** of the Central/State Governments and **improving the infrastructure** in vital sectors like health, education, connectivity and livelihood.
- The scheme **envisions to mitigate gaps** prominently in **8 sectors of development** viz. Road connectivity, Telecom connectivity, School, Anganwadi Centres, Health Sub-Centre, Drinking water facility, Drainage and solid waste management.

### Why in News?

- During 2021-22 and 2022-23, a total of about 16554 villages have been taken up for various initiatives under the Pradhan Mantri Adi Adarsh Gram Yojana.



## Initiatives

### 1) Bureau of Indian Standards

#### About BIS

- Bureau of Indian Standards (BIS) is the **National Standard Body of India** established under the BIS Act 2016.
- BIS is responsible for the **harmonious development of the activities of standardization, marking and quality certification of goods.**
- BIS is involved in various activities like standard formulation, certification of products, hallmarking, testing and calibration scheme, etc.
- BIS works under the aegis of the **Ministry of Consumer Affairs, Food and Public Distribution.**

#### About BIS Certification

- BIS Product Certification Scheme is one of the largest in the world, with over 26500 licensees covering more than 900 products.
- BIS Certification in India is provided by the **Bureau of Indian Standards.**
- BIS Certification allows the licensees to use the popular **ISI mark** on their product, which is synonymous with quality products.
- BIS also operates **Foreign Manufacturers Certification Scheme** under which overseas manufacturers can be granted a licence to use the BIS Standard Mark.

#### Products that Require Mandatory BIS Certificate

- BIS certification scheme is basically **voluntary in nature.** However, for a number of products compliance to Indian Standards is **made compulsory** by the Central Government under various considerations viz. public interest, protection of human, animal or

plant health, safety of environment, prevention of unfair trade practices and national security.

- The following are products that require mandatory BIS License or Certification.
  - Cement
  - Household electrical goods
  - Food and related products
  - Diesel engines
  - Oil pressure stoves
  - Automobile accessories
  - Cylinders, Valves and Regulators
  - Medical Equipment
  - Steel Products
  - Electrical Transformers.

#### Why in News?

- Till date, 21,890 Standards for products, process specification, service sectors, code of practice, methods of test terminology have been published by the Bureau of Indian Standards.

### 2) National Policy for Rare Diseases 2021

#### What is a rare disease?

- A rare disease is a health condition of **low prevalence that affects a small number of people** compared with other prevalent diseases in the general population.
- Rare diseases include genetic diseases, rare cancers, infectious tropical diseases and degenerative diseases.
- **80% of rare diseases are genetic in origin** and hence disproportionately impact children.

#### Definition of a rare disease

- There is **no universally accepted definition** of rare disease.
- These diseases have **differing definitions** in various countries and range from those that are

prevalent in 1 in 10,000 of the population to 6 per 10,000.

- According to the **Indian Council of Medical Research (ICMR)** registry definition, “A disease or disorder is defined as Rare in India when it **affects fewer than 1 in 2500 individuals**”.
- So far about 450 rare diseases have been recorded in India and it is estimated that about 6-8% of the country's population is affected by a rare disease.

### Challenges associated with rare diseases

- There are 7,000-8,000 classified rare diseases, but **less than 5% have therapies available to treat them**. About 95% rare diseases have no approved treatment and less than 1 in 10 patients receive disease-specific treatment.
- The field of rare diseases is very complex and heterogeneous and prevention, treatment and management of rare diseases have multiple challenges. **Early diagnosis** of rare diseases is a major challenge owing to a variety of factors that include **lack of awareness among primary care physicians, lack of adequate screening and diagnostic facilities etc.**
- There are also fundamental challenges in the **research and development** for the majority of rare diseases as relatively little is known about the pathophysiology or the natural history of these diseases particularly in the Indian context.
- Rare diseases are also **difficult to research upon** as the patients pool is very small and it often results in inadequate clinical experience. **Availability and accessibility to medicines** are also important to

reduce morbidity and mortality associated with rare disease.

- The **cost of treatment of rare diseases is prohibitively expensive**. Various High Courts and the Supreme Court have also expressed concern about lack of a national policy for rare diseases.

### National Policy for Rare Diseases 2021

- To address all these challenges, the Union Health & Family Welfare Ministry approved the “National Policy for Rare Diseases 2021” in 2021.

### Highlights of the Policy

- In the new policy, rare diseases have **not been defined but classified into three groups**.
  - **Group 1** has disorders amenable to **one-time curative treatment**, including osteopetrosis and Fanconi anaemia.
  - **Group 2** has diseases **requiring long-term or lifelong treatment with relatively lower cost of treatment** and benefit has been documented in literature, including galactosemia, severe food protein allergy, and homocystinuria.
  - **Group 3** has diseases for which definitive treatment is available, but **challenges are to make optimal patient selection for benefit, and very high cost and lifelong therapy**, covering diseases such as spinal muscular atrophy (SMA), Pompe disease, and Hunter syndrome.

### Lowering the Cost of Treatment

- The Rare Diseases Policy aims to lower the high cost of treatment for rare diseases with **increased focus on indigenous research** with the

help of a **National Consortium** to be set up with the Department of Health Research, Ministry of Health & Family Welfare as convener.

- Increased focus of research and development and local production of medicines will lower the cost of treatment for rare diseases.

#### **National Hospital Based Registry**

- The policy also envisages creation of a **national hospital based registry of rare diseases** so that adequate data is available for definition of rare diseases and for research and development related to rare diseases within the country.

#### **Screening, Prevention & Treatment**

- The Policy also focuses on **early screening and prevention through primary and secondary health care infrastructure** such as Health and Wellness Centres and District Early Intervention Centres (DEICs) and through counselling for the high-risk parents.
- Screening will also be supported by **Nidan Kendras** set up by the Department of Biotechnology.
  - *Nidan Kendras provide counselling, prenatal testing and diagnosis, management, and multidisciplinary care in Government Hospitals wherein the influx of patients is more.*
- Policy also aims to **strengthen tertiary health care facilities** for prevention and treatment of rare diseases through **designating 8 health facilities as Centre of Excellence (CoEs)** and these CoEs will also be provided one-time financial support of up to Rs 5 crores for upgradation of diagnostics facilities.

#### **Crowd Funding Mechanism**

- Besides, the Policy also envisages a **crowd funding mechanism** in which corporates and individuals

will be encouraged to extend financial support through a robust IT platform for treatment of rare diseases.

- Funds collected will be utilized by Centres of Excellence for treatment of all three categories of rare diseases as first charge and then the balance financial resources could also be used for research.

#### **Financial Assistance**

- **Financial support up to Rs 50 lakh** shall be provided to the patients suffering from **any category of rare diseases**. The financial support will be provided to the patients for the treatment in any of the **Centre of Excellence** mentioned in NPRD-2021.

#### **Why in News?**

- One of the Rajya Sabha MPs raised concerns over the benefits of the National Policy of Rare Diseases (NPRD) not reaching patients with rare diseases even after several months since its introduction.

### **3) LaQshya**

#### **About the Programme**

- The **Ministry of Health and Family Welfare** launched the '**LaQshya**' (**Labour room Quality Improvement Initiative**) programme in 2017 which aimed at **improving quality of care in labour room and maternity Operation Theatre (OT)**.

#### **Objectives of LaQshya**

- Reduce **maternal and newborn morbidity and mortality**;
- **Improve quality of care** during delivery and immediate post-partum period;
- **Enhance satisfaction** of beneficiaries, positive birthing experience and provide Respectful Maternity Care (RMC) to all pregnant women attending public health facilities.

### Target Beneficiaries

- LaQshya program benefits **every pregnant woman and newborn delivering in public health institutions.**
- Program aims to improve quality of care for pregnant women in the labour room, maternity Operation Theatre and Obstetrics Intensive Care Units (ICUs) & High Dependency Units (HDUs).

### Why in News?

- Kerala state health department has started working on an action plan to improve the quality of health care delivery in the state under the overall framework of the 'LaQshya' programme.

## 4) Nirbhaya Fund

### About Nirbhaya Fund Framework

- Nirbhaya Fund is a dedicated fund set up by the Government of India in **2013** which can be utilized for projects specifically designed to **improve the safety and security of women.**
- It is a **non-lapsable corpus fund** administered by the **Department of Economic Affairs of the Ministry of Finance.**
- As per this framework, the **Ministry of Finance through the Department of Economic Affairs** is the nodal Ministry for any accretion into and withdrawal from the corpus, and the **Ministry of Women & Child Development**

**(WCD)** is the nodal authority for appraisal of the schemes/proposals received under Nirbhaya Fund.

- **Funding to Non-Governmental Organisations is not envisaged under the framework.**
- The proposed projects under the Nirbhaya Fund should have the following features:
  - Direct impact on safety and security concerns of women
  - Optimum use of existing infrastructure
  - Innovative use of technology
  - No duplication of existing government schemes/programmes
  - Provision for real time intervention as far as possible.

### Why in News?

- The Ministry of Home Affairs (MHA) has provided financial assistance to the tune of around Rs 100 crores under "Nirbhaya Fund" during the financial years 2019-20 and 2020-21 for strengthening the existing Anti Human Trafficking Units (AHTUs) and for establishing new AHTUs covering all districts of the States and UTs.

# Environment

## 1) Sovereign Green Bonds

### Context

- The Reserve Bank of India (RBI) announced that it will, for the first-time, issue Sovereign Green Bonds (SgrBs) worth Rs 16,000 crore, in two tranches of Rs 8,000 crore each in the current financial year.

### What are Green Bonds?

- Green bonds are bonds **issued by any sovereign entity, inter-governmental groups or alliances and corporates** with the aim that the **proceeds of the bonds are utilised for projects classified as environmentally sustainable.**
- When these bonds **carry guarantees related to the repayment of principal and payment of interest by the sovereign or the government,** they are called **sovereign green bonds (SGrB).**

### How are the projects for green bonds selected?

- According to the framework for SgrBs issued by the Government of India, a project is classified “green” on the basis of **four key principles.**
- These include:
  - encouraging energy efficiency in resource utilisation,
  - reducing carbon emissions and greenhouse gases,
  - promoting climate resilience and/or
  - improving natural ecosystems and biodiversity, especially in accordance with SDG (Sustainable Development Goals).

### How are they different from conventional government bonds?

- Government bonds or government securities (G-Secs) are normally categorised into two — **Treasury Bills** and **dated or long-term securities.**
- Treasury Bills have a **maturity of less than one year** and they **do not carry coupon rates.** These are **issued at a discount,** while **redeemed at face value.**
- At the same time, dated or long-term securities are issued for a **period above 1 year and up to 40 years.** These bonds carry **coupon rates** and are **tradable in the securities market.**
- **SGrB is one form of dated security.** It will have a **tenor and interest rate.**
- Money raised through SGrB is **part of overall government borrowing.**

### Why are these bonds important?

- Over the last few years, Green Bonds have emerged as an important financial instrument to **deal with the threats of climate change and related challenges.**
- Climate change threatens communities and economies, and it poses risks for agriculture, food, and water supplies.
- A lot of financing is needed to address these challenges. It's **critical to connect environmental projects with capital markets and investors and channel capital towards sustainable development** – and Green Bonds are a way to make that connection.

### Where will the proceeds go?

- The government will use the proceeds raised from SGrBs to **finance or refinance expenditure**

(in parts or whole) for various green projects, including in renewable energy, clean transportation, energy efficiency, climate change adaptation, sustainable water and waste management, pollution and prevention control and green buildings.

- In renewable energy, investments will be made in solar, wind, biomass and hydropower energy projects.

## 2) INCOIS keeps watch on Barren Island volcano

### About Indian National Centre for Ocean Information Services (INCOIS)

- ESSO-INCOIS was established as an **autonomous body** in **1999** under the **Ministry of Earth Sciences (MoES)**.
- It is a **unit of the Earth System Science Organization (ESSO)**.
  - *ESSO operates as an executive arm of MoES. It was established in 2007 as a virtual organization, bringing all meteorological and ocean development activities under one umbrella.*

### Mandate of ESSO-INCOIS

- ESSO-INCOIS is mandated to provide the **best possible ocean information and advisory services** to society, industry, government agencies and the scientific community through sustained ocean observations and constant improvements through systematic and focussed research.
- It provides round-the-clock **monitoring and warning services** for the coastal population on tsunamis, storm surges, high waves, etc. through the in-house **Indian Tsunami Early Warning Centre (ITEWC)**.

### Why in News?

- The volcano on the Barren Island of the Andaman & Nicobar Islands is being closely watched by INCOIS to check for signs of an eruption which could lead to a tsunami or a monstrous undersea landslide akin to what had happened in Indonesia in 2018.

### About Barren Island volcano

- The Barren Island volcano is **India's only active volcano**. The Barren Island is located about 140 km from Port Blair.
- Historically, the first record of the volcano's eruption dates back to **1787**. It was known to have erupted at least five times over the next 100 years. Then there was silence for a century. In **1991**, it erupted again. Ever since, there have been eruptions every two-three years. The last time the Barren Island volcano erupted was in **2017**.

## 3) Cauvery South Wildlife Sanctuary

### National Parks and wildlife sanctuaries

- Wildlife sanctuaries and National Parks are **areas of significant ecological, floral, faunal or natural significance**.
- They are **notified by State Governments** after consultation with the **State Board for Wildlife**.
- The **Central Government can also declare** a sanctuary anywhere in India after consultation with the **National Board for Wildlife**.
- They are protected under the provisions of the **Wildlife (Protection) Act, 1972**.
- While most of the provisions are common for Sanctuaries and National Parks, there are **three key differences**:
  - People within a National Park are not allowed to live,

while in a Sanctuary **certain rights** can be allowed.

- **Livestock grazing** is prohibited in a National Park but can be allowed in a regulated manner in Sanctuaries
- A **Sanctuary can be upgraded to a National Park but a National Park cannot be downgraded as a Sanctuary.**

#### Why in News?

- The Tamil Nadu government has declared an area in the reserve forests of Krishnagiri and Dharmapuri as the **Cauvery South Wildlife Sanctuary.**
- Comprising an expanse of 686.406 sq. km, this would be part of a protected landscape contiguous with the forests that currently constitute the **Cauvery North Wildlife Sanctuary, shared between Karnataka and Tamil Nadu.**
- The declaration will give uniform legal status and protection to a contiguous network of protected areas that would stretch to over 50 km.
- The declared landscape lends continuity to the **Nilgiri Biosphere Reserve** through the **Malai Mahadeshwara Wildlife Sanctuary, Billigiri Rangaswamy Temple Tiger Reserve of Karnataka and the Sathyamangalam Tiger Reserve.**

#### 4) GRAP & AQI

##### What is the Graded Response Action Plan?

- The GRAP is a **step-by-step plan to counter Delhi-NCR region's deteriorating air quality.**
- It was formulated by the **Environmental Pollution Prevention and Control**

**Authority (EPCA)** jointly with the Delhi government in 2017.

- The plan is **incremental and adaptable**, which means the preventive measures will be updated and escalated according to changes in the AQI.
- **Stage 1** of GRAP is activated when the **Air Quality Index (AQI)** is in the **'poor' category (201 to 300)**, **Stage 2** is when it's in the **'Very poor' category (301-400)**, **Stage 3** is when the AQI is the **'Severe' category (401-450)** and finally **Stage 4** is when it rises to the **'Severe +' category (more than 450).**

##### How is GRAP different this year?

- The **Commission for Air Quality Management (CAQM)** was established in 2021 replacing the Environment Pollution (Prevention and Control) Authority.
  - *Refer Pulse July @ A Glance 2022 edition for more details about CAQM.*
- The **Commission has been implementing the GRAP** since 2021.
- While previously, measures were introduced after pollution concentrations reached a certain level, this year, measures are **pre-emptively introduced** and will kick in based on forecasts in an attempt to prevent the air quality from deteriorating further.
- For this, the CAQM relies on **air quality and meteorological forecasts** by the Indian Institute of Tropical Meteorology (IITM) and the India Meteorological Department (IMD).
- The older version of the GRAP was enforced **based only on the concentration of PM2.5 and PM10.** This year, GRAP is being enforced based on the **AQI**, which takes other pollutants also into

account, such as **ozone, carbon and oxides of nitrogen.**

### About Air Quality Index

AQI Category	Associated Health Impact
Good (0 to 50)	Minimal impact
Satisfactory (51 to 100)	May cause minor breathing discomfort to sensitive people.
Moderately Polluted (101 to 200)	May cause breathing discomfort to the people with lung disease such as asthma and discomfort to people with heart disease, children and older adults
Poor (201 to 300)	May cause breathing discomfort to people on prolonged exposure and discomfort to people with heart disease
Very Poor (301 to 400)	May cause respiratory illness to the people on prolonged exposure. Effect may be more pronounced in people with lung and heart diseases
Severe (401 to 500)	May cause respiratory effects even on healthy people and serious health impacts on people with lung/heart diseases. The health impacts may be experienced even during light physical activity

- AQI is a **number**, which is a **measure of air quality**. The **higher the AQI, the worse the air**.
- The **colour-coded AQI index** was launched in India in **2014**, and it helps the public and the government understand the condition of the air and what subsequent measures are to be taken to combat the situation, based on its severity.
- There are **six categories of AQI**, namely **'Good'** (0-50), **'Satisfactory'** (51-100), **'Moderately polluted'** (101-200), **'Poor'** (201-300), **'Very Poor'** (301-400), and **'Severe'** (401-500).
- The pollutants measured include **PM 10, PM 2.5, Nitrogen Dioxide, Ozone, Carbon, etc.**

#### What is the impact of these pollutants?

- Among the more harmful pollutants are those of a **smaller size**, such as **particulate matter (PM) 2.5**, which is an atmospheric particulate matter of diameter smaller than 2.5 micrometres.
- It causes **respiratory problems and reduces visibility**. The particles can only be detected with

the help of an electron microscope because they are so small.

- Due to their size, the PM 2.5 particles can **easily bypass the nose and throat and can easily enter the circulatory system**. The particles can also lead to **chronic diseases** such as asthma, heart attack, bronchitis and other respiratory problems.

#### Why in News?

- With the Nation Capital Region's air quality deteriorating to hazardous levels, the Commission for Air Quality Management (CAQM) invoked measures under Stage 4 of the Graded Response Action Plan with immediate effect.

### 5) Tamil Nadu gets its first Biodiversity Heritage site

#### What are Biodiversity Heritage Sites?

- Biodiversity Heritage Sites (BHS) are areas that are **unique, ecologically fragile ecosystems having rich biodiversity** comprising of any one or more endemic species, keystone species, or fossil beds or components having cultural or esthetic values. They are also **rich in a variety of species**.
- A BHS is a step that adds to the **conservation of the environment, while also protecting the community dependent on it**.
- It ensures the **sustainability of bio-resources** across generations and marks the **voluntary participation of communities** in the protection and conservation of biodiversity.

#### Legal Provisions

- According to **Section 37 of the Biological Diversity Act, 2002**, the **State Governments** are empowered to notify in the official gazette, in **consultation with local**



**bodies**, areas of biodiversity importance as Biodiversity Heritage Sites.

- The creation of BHS **may not put any restriction on the prevailing practices and usages** of the local communities, other than those **voluntarily decided by them**. The purpose of declaring BHS is to **enhance the quality of life of the local communities** through conservation of such sites.
- More than **30 Biodiversity Heritage Sites** have been notified by State Governments.

#### Why in News?

- **Arrippatti** in Madurai has been notified as the first Biodiversity Heritage Site in Tamil Nadu.
- Arrippatti village is known to have a rich biological and historical significance with the presence of around 250 bird species.
- The notification comes under the **Biological Diversity Act, 2002**, and will strengthen biodiversity conservation and protect from rapid loss of biodiversity.
- The region also has **historical importance** – Tamil Brahmi inscriptions, Jain Beds, and Rock-cut temples which are 2,200 years old.
- Further, the Government of Tamil Nadu considers that the **7 inselbergs of Arrippatti** will be of adequate biodiversity importance.

## 6) Bomb Cyclone

### What is a Bomb Cyclone?

- A bomb cyclone is a **mid-latitude storm** whose **central air pressure falls at a rate of one millibar per hour for at least 24 hours**. This process of rapid intensification is known as **bombogenesis**.
- **Normal air pressure is about 1010 millibars**, a measurement of the force exerted by the weight of

the atmosphere. But in stormy weather, air pressure drops well below that — the lower the pressure, the stronger the storm.

### How do bomb cyclones form?

- As with any storm, they develop **when drastically different air masses clash** — typically, cold and dry air moving down from the north and warm, moist air coming up from the tropics.
- The **warmer air rapidly rises**, creating cloud systems, lowering air pressure and developing into a storm system that circulates **counterclockwise** in the **Northern Hemisphere** (when viewed from above).
- Rapid storm strengthening is a signal that increasing amounts of warm air are being drawn into a storm's circulation, spiraling toward its center and rising out its top.
- When more air escapes out the top of the storm than is being sucked inward, air pressure drops even further.

### How strong is a bomb cyclone?

- Bomb cyclones, often occurring in the fall or winter in the Northern Hemisphere, typically produce heavy rain or snow, coastal flooding and hurricane-force wind gusts.

### Why in News?

- Bomb cyclone enveloped much of the US recently.

## 7) UN Biodiversity Conference (COP 15)

### Convention on Biological Diversity

- Signed by 150 government leaders at the **1992 Rio Earth Summit**, the Convention on Biological Diversity (CBD) is dedicated to **promoting sustainable development**.
- Conceived as a practical tool for translating the **principles of**

**Agenda 21** into reality, the Convention recognizes that biological diversity is about more than plants, animals and micro organisms and their ecosystems – it is **about people and our need for food security, medicines, fresh air and water, shelter, and a clean and healthy environment** in which to live.

- **India** is a party to CBD and enacted the **Biological Diversity Act, 2002** to meet the obligations under Convention on Biological Diversity.
  - *Agenda 21 is a **non-binding action plan** of the United Nations for sustainable development, covering a wide range of specific natural resources and the role of different groups, as well as issues of social and economic development and implementation.*
  - *It is a product of the **1992 Rio Earth Summit**.*
- The **CBD Secretariat** is based in **Montreal, Canada** and it operates under the **United Nations Environment Programme (UNEP)**.
  - *The UNEP is the leading environmental authority in the United Nations system. It was founded as a result of the UN Conference on the Human Environment (also known as the Stockholm Conference) in 1972.*
- The Parties (Countries) under CBD meet at regular intervals and these meetings are called **Conference of Parties (COP)**.

### Objectives

- The CBD entered into force in 1993. It has 3 main objectives:
  1. The **conservation of biological diversity**

2. The **sustainable use of the components of biological diversity**
3. The **fair and equitable sharing of the benefits** arising out of the utilization of genetic resources.

### Aichi Targets

- The 'Aichi Targets' were adopted by the Convention on Biological Diversity at the tenth meeting of the **Conference of the Parties to the CBD (COP10)** which took place in **Nagoya, Japan in 2010**.
- During the meeting, the parties agreed that previous biodiversity protection targets were not achieved, and therefore they needed to come up with new plans and targets.
- The short-term plan provides a set of **20 time-bound, measurable targets to be met by the year 2020**, collectively known as the **Aichi Biodiversity Targets**, grouped under **five Strategic Goals**.

### Protocols to CBD

#### Cartagena Protocol

- The Cartagena Protocol on Biosafety to the Convention on Biological Diversity is an international agreement which aims to **ensure the safe handling, transport and use of living modified organisms (LMOs)** resulting from modern biotechnology that may have adverse effects on biological diversity, taking also into account risks to human health.
- It entered into force in 2003. Number of Parties: more than 170 countries (including **India**).

#### Nagoya Protocol

- The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits

Arising from their Utilization to the Convention on Biological Diversity is an international agreement which aims at **sharing the benefits arising from the utilization of genetic resources in a fair and equitable way.**

- It entered into force in 2014. Number of Parties: more than 120 countries (including **India**).

#### **Nagoya – Kuala Lumpur Supplementary Protocol**

- Adopted as a **supplementary agreement to the Cartagena Protocol on Biosafety**, the Nagoya – Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety aims to contribute to the conservation and sustainable use of biodiversity by providing **international rules and procedures in the field of liability and redress relating to living modified organisms.**
- It entered into force in 2018. Number of Parties: more than 50 countries (including **India**).

#### **Reports published**

- **The Global Biodiversity Outlook (GBO) Report** is the flagship publication of the CBD and summarises progress made towards achieving the objectives of the Convention, such as the Aichi Targets and identifies key actions to achieve these.

#### **Why in News?**

- The second part of the United Nations Biodiversity Conference (COP15) ended in Montreal, Canada with a landmark agreement to guide global action on nature through to 2030. The first part took place in a virtual format, in October 2021.
- Chaired by China and hosted by Canada, COP 15 resulted in the adoption of the **Kunming-**

#### **Montreal Global Biodiversity Framework (GBF).**

#### **About Global Biodiversity Framework**

##### **Objectives:**

- GBF aims to guide biodiversity policy through **four overarching goals to be achieved by 2050** and **a set of 23 targets to be reached by 2030**, to achieve a vision of living in harmony with nature by 2050.
- The most significant part of the framework is a **commitment to protect 30% of land and water considered important for biodiversity by 2030, known as the 30×30 target.** Currently, 17% of terrestrial and 10% of marine areas are protected.
- The GBF is aligned with **UN Sustainable Development Goals**, three of which directly deal with the environment and thus with biodiversity: **Goal 13** on climate action, **Goal 14** on life below water and **Goal 15** on life on land.

##### **4 Overarching Goals:**

- The GBF consists of **four overarching global goals** to protect nature, including:
  - **maintaining ecosystem integrity and health** to halt extinctions,
  - **measuring and valuing ecosystem services** provided by biodiversity,
  - **sharing monetary and non-monetary gains** from genetic resources and digital sequencing of genetic resources with indigenous people and local communities, and
  - **raising resources** for all countries to close a biodiversity finance gap of an estimated \$700 billion.

**Focus Areas:**

- It sets out **targets for 2030** on protection for degraded areas, resource mobilisation for conservation, compensation for countries that preserve biodiversity, halting human activity linked to species extinction, reducing by half the spread of invasive alien species, halving global food waste, cutting pollution to non-harmful levels and minimising climate change impact and ocean acidification, among others.
- The GBF goals and targets **do not prohibit the use of biodiversity, but call for sustainable use, and a sharing of benefits from genetic resources.**
- The GBF **emphasises respect for the rights of indigenous communities** that traditionally protect forests and biodiversity, and their involvement in conservation efforts. It advocates **similar roles for women and local communities.**
- Besides emphasising **sustainable practices** in agriculture, aquaculture, fisheries and forestry, the agreement calls upon members to adopt **biodiversity-supporting methods such as agroecology and sustainable intensification.**

**Implementing & Monitoring:**

- Recognising the challenging nature of the goals and targets, the GBF has specific provisions on implementing and monitoring.
- Member nations need to submit a **revised and updated national biodiversity strategy and action plan** in the conference to be held in 2024.
- Further, the parties to the CBD should submit **national reports in 2026 and 2029** to help prepare **global reviews.**

- Countries would have to **review existing laws** relating to not just the environment, but areas such as industry, agriculture and land use, to ensure that the national strategy and action plan adequately protects biodiversity.

**Funding Mechanisms:**

- By **2030**, the GBF hopes to see **at least \$200 billion raised per year** from all sources — domestic, international, public and private — towards biodiversity-related funding.
- **Developing countries should get at least \$20 billion a year by 2025 and at least \$30 billion by 2030 through contributions from developed countries.**
- The framework also aims to **phasing out or reforming subsidies that harm biodiversity by at least \$500 billion per year**, while scaling up positive incentives for biodiversity conservation and sustainable use;
- It was requested that the **Global Environment Facility** set up a **Special Trust Fund – the GBF Fund** – to support the implementation of the GBF, in order to ensure an adequate, predictable and timely flow of funds.
  - *The GEF is an international partnership of 183 countries, international institutions, civil society organizations and the private sector that addresses global environmental issues. It was established during the 1992 Rio Earth Summit.*
  - *GEF is a financial mechanism for five major international environmental conventions: the Minamata Convention on Mercury, the*

*Stockholm Convention on Persistent Organic Pollutants (POPs), the United Nations Convention on Biological Diversity (UNCBD), the United Nations Convention to Combat Desertification (UNCCD) and the United Nations Framework Convention on Climate Change (UNFCCC).*

### What are the challenges to protecting biodiversity?

- The major challenge to protecting and expanding biodiversity conservation is the **use of GDP as the chief determinant of development.**
- GDP is based on a faulty application of economics that **excludes “depreciation of assets” like nature** which is degraded by relentless extraction of resources. Experts call for **measuring “inclusive wealth”**, which captures not just financial and produced capital but also **human, social and natural capital.**
- The UN’s effort to measure wealth more broadly through its **“Inclusive Wealth” (IW) report** showed in 2018 that although 135 countries did better on inclusive wealth in 2014 compared to 1990,

the **global GDP growth rate considerably outpaced IW**: an average of 1.8% per year for IW compared to 3.4% for GDP per year during the period.

### Way Forward

- The targets are ambitious, considering that biodiversity is in a poor state. In 2020, the world had failed to meet the last set of targets, the Aichi Targets. Countries would need to ensure success this time round.

# Agriculture

## 1) Miyawaki Forest

### What is the Miyawaki method?

- Miyawaki is a **technique of growing dense plantations in a short time**. This method originated in **Japan** and is now increasingly adopted in other parts of the world. It is named after the Japanese botanist and plant ecologist **Akira Miyawaki**.
- With this method of plantation, **an urban forest can grow within a short span of 20-30 years** while a conventional forest takes around 200-300 years to grow naturally.
- In the Miyawaki technique, **various native species of plants are planted close to each other** so that the greens receive sunlight only from the top and grow upwards rather than sideways. It helps in the **prevention of the growth of weeds**.
- As a result, the plantation becomes approximately **30 times denser, grows 10 times faster and becomes maintenance-free after a span of 3 years**.

### Process of Miyawaki

- In this technique, the native trees of the region are divided into **four layers** after identification and analysis of soil quality. The four layers include **shrub, sub-tree, tree, and canopy**.
- The **biomass is mixed with soil to enhance its nutrients, perforation and water retention capacity**.
- Further, the seeds are planted on soil made mound at a **high density** i.e 3 to 5 saplings per square meter and a **thick layer of mulch** is used to cover the ground.

### Significance

- The **Bonn Challenge** was jointly launched by Germany and IUCN in

2011 to restore **350 million hectares of degraded and deforested landscapes by 2030**.

- The World Economic Forum launched the **One Trillion Trees Initiative** in 2020.
- Trees can play a significant role in the challenging times of **climate change and global warming**.
- These fast-shooting micro forests could **cool concrete cities, clean the air, sustain wildlife, and form carbon sinks**.
- The method is quickly finding favour in government corridors and corporate boardrooms to restore urban spaces.

### Concerns

- Some critics argue that the method is **expensive** and has **unclear benefits**.
- Furthermore, the **selection of wrong trees can destroy native ecosystems**, pushing plants and animals that depend on them to the brink.
- These forests **lack a few qualities of natural forests** like medicinal properties and the efficacy of the technique is questioned by several environmentalists that it could not match a forest's complex ecosystem.
- However, this method is useful in restoring diversity and fighting climate change impacts in cities.

### Why in news?

- Hyderabad is promoting India's largest Miyawaki forest spreading over 18 acres.
- The self-sustaining urban forest has 126 species of native fruits and flowering trees besides 110 species of birds.

## 2) Zero Budget Natural Farming

### About ZBNF

- Zero Budget Natural Farming (ZBNF) means **raising crops without using any fertilizers and pesticides or any other external materials.**
- The word Zero Budget refers to the **zero cost of production of all crops.**
- ZBNF guides the farmers towards **sustainable farming practices** thus helps in **retaining soil fertility, to ensure a chemical free agriculture and ensure low cost of production** (zero cost) and thereby **enhancing the farmers income.**
- It also **reduces dependence on purchased inputs** as it encourages use of own seeds and locally available natural fertilizers and farming is done in synchronization with nature.
- In short, ZBNF, is a farming method that believes in **growing crops in tune with nature.**

### Origin

- The concept was promoted by agriculturist & Padma Shri awardee **Subhash Palekar**, in the mid-1990s as an alternative to the Green Revolution's methods driven by chemical fertilizers and pesticides and intensive irrigation.

### Principles of Zero Budget Natural Farming

- No external inputs
- Soil to be covered with crops 365 days (Living Root)
- Minimal disturbance of Soil
- Biostimulants as necessary catalysts
- Use indigenous seed
- Mixed cropping
- Integration of trees into the farm
- Water and moisture conservation
- Integrate animals in to farming

- Increase organic residues on the soil
- Pest-management through botanical extracts
- No synthetic fertilizers, pesticides, herbicides.

### Benefits

- **ZBNF processes require 50–60 per cent less water and less electricity** (than non-ZBNF) for all the selected crops.
- ZBNF **reduces methane emissions** significantly through multiple aeration.
- It also has the **potential to avoid residue burning** by practicing mulching.
- The **cost of cultivation is lower** in ZBNF. **Hence, all statements are correct.**

### Four main elements and models of ZBNF

#### Bijamrita:

- The seeds are treated with formulations prepared using cow dung and cow urine from native cow species.
- **Benefits:** The seed treatment using “Bijamrita” protects the seeds from diseases.

#### Jiwamrita/Jeevamrutha:

- Jiwamrita is prepared using cow dung and cow urine. It is used as an input for the plants. It is a fermented microbial culture obtained from **cow dung, urine, jaggery, pulse flour and uncontaminated soil.**
- **Benefits:** This culture stimulates microbial activity in the soil and enhances nutrient availability for the plants, protects the crops against soil pathogens and increases carbon content of the soil.

#### Acchadana/Mulching:

- Mulching is the process of covering the top soil with crop wastes/organic waste or with cover crops.

- **Benefits:** Mulching materials decomposes and produces humus which conserves top soil, increases water retention capacity of the soil, decreases evaporation loss, encourages soil fauna besides enriching soil nutrient status and controlling weed growth.

**Waaphasa/Moisture (Soil Aeration):**

- Good aeration is required in the soil for plant growth and development.
- **Benefits:** Due to the application of Jiwamrita and mulching, the aeration of the soil increases, thus improves humus content, water

availability, water holding capacity and soil structure which is most suitable for crop growth especially during drought periods.

**Why in News?**

- Government of India held discussions with state governments to promote Zero Budget Natural Farming in the country.



## Economy

### 1) Prompt Corrective Action norms

#### What is the purpose of the PCA framework?

- The PCA framework specifies the **trigger points or the level in which the RBI will intervene with corrective action** if a commercial bank's financial condition worsens below a mark.
- The objective of the PCA framework is to **enable supervisory intervention** at appropriate time and require the supervised entity to initiate and implement **remedial measures** in a timely manner so as to restore its financial health. The PCA framework is also intended to act as a **tool for effective market discipline**.
- In the last almost two decades — the PCA was **first notified in 2002** — several banks have been placed under the framework, with their operations restricted.

#### Coverage

- The PCA framework applies to **Scheduled Commercial Banks**. The guidelines also applies to **foreign banks** operating through branches or subsidiaries.
- **Regional Rural Banks, Small Finance Banks and Payment Banks** are **excluded** from the framework.
- **NBFCs** have a separate PCA framework.

#### What are banks measured on?

- As per the revised PCA norms issued in 2021, banks were to be evaluated on
  - **capital, asset quality and leverage**.
- The **capital adequacy ratio** governs the capital that a bank ought to hold as a percentage of its

total assets. If the ratio is prescribed as 11.5%, a bank must bring its own capital of ₹11.50 for every ₹100 it intends to lend.

- **Asset quality** tells us what portion of the loans is unlikely to be paid back, reflected in the **net non-performing asset ratio** — i.e., the portion of total advances tagged 'non-performing', after the provisioning for bad loans.
- The **leverage ratio** shows how much a lender has stretched itself in borrowing funds to generate income. The more the leverage, the riskier the lender's business.

#### What curbs do banks face under the PCA?

- The Central bank has defined **three risk thresholds for banks with increasing restrictions** if they are unable to arrest deterioration.
- First, banks face **curbs on mandatory restrictions on dividend distribution of profits**. In the second category, banks additionally face **curbs on branch expansion**. In the final category, the bank additionally faces **restrictions on capital expenditure** with some exemptions.
- The RBI also has the **option of discretionary actions** across strategy, governance, credit risk, market risk and human resources.

#### Why in News?

- The Reserve Bank of India (RBI) removed Central Bank of India from its Prompt Corrective Action Framework after the lender showed improvement in various financial ratios, including minimum regulatory capital and net non-performing assets (NNPAs).

## 2) Commercial coal mining

### Background

- Despite **India being world's second largest coal producer** and being the **5th largest country in terms of coal deposits**, with coal reserves which may last at least 100 years more, the country is unable to produce adequate quantities of coal to meet the requirement of domestic industry and development.
- To harness these critical resources, in 2020, the **Government of India opened the coal sector for commercial mining by private players** more than 45 years after the **nationalization of coal mines in the country**.

### What is commercial mining?

- Commercial mining **allows the private sector to mine coal commercially on a revenue-sharing model without placing any end-use restrictions**.
- Removing end-use restrictions marked the **end of the captive mining regime**.
  - *Captive mining is the coal mined for a specific end-use by the mine owner, but not for open sale in the market.*
  - *A revenue sharing mechanism instead of the earlier fixed price per tonne will introduce competition, transparency and private sector participation in the market.*
- The private firms now have the option of either gasification of the coal or exporting it. They can also use it in their own end-use plants or **sell them in the markets**.
- Further, with **100 per cent foreign direct investment** allowed in the coal sector, global companies can also participate in the auctions.

- The complete freedom to decide on sale, pricing, and captive utilisation aims to attract many private sector firms to participate in the auction process.
- The government expects these steps will **generate employment and reduce India's import bill**.

### Was the private sector never allowed in mining?

- Private sector participation was permitted until the early 1970s. The Indira Gandhi government announced the **nationalisation of the coal blocks** in two phases **between 1971 and 1973**.
- The reforms announced in 2020 effectively **ended state-owned Coal India Ltd (CIL)'s monopoly** over mining and selling of coal.

### Was this the first attempt by govt to open up the sector?

- The Central Government promulgated the **Coal Mines (Special Provision) Act, 2015** to permit **auction of coal mines for mining by private entities**.
- While the auction-based regime allowed private sector participation, it was **limited to captive usage in own end use plants**. They were **not allowed to trade into the market**, making it unattractive for the private sector.
- Further in 2018, private sector firms were allowed to **sell upto 25 per cent of the output** in the market, but this also saw a lukewarm response from the private sector.

### Why in News?

- Union Finance Minister Nirmala Sitharaman launched the 6th round of commercial coal mine auction of the Ministry of Coal.

### 3) Global Minimum Tax

#### What is BEPS?

- Typically, a company needs to pay tax for the income or profits they earn.
- Base Erosion and Profit Shifting (BEPS) is a **tax avoidance strategy** by which firms make profits in one country, and shift them across borders by exploiting gaps and mismatches in tax rules, to take advantage of lower tax rates.
- It results in not paying taxes in the country where the profit is made (known as **Base erosion**).

#### About OECD/G20 Inclusive Framework on BEPS

- Last year, 136 countries (including **India**) had agreed on a plan to **redistribute tax rights** across jurisdictions and enforce a **minimum tax rate of 15%** on large multinational corporations.
- Known as the **OECD/G20 Inclusive Framework on BEPS**, the framework brings together countries and jurisdictions to collaborate on the implementation of the BEPS Package.
- The BEPS package provides 15 Actions that equip governments with the domestic and international instruments needed to **tackle tax avoidance**.
- The Framework on BEPS allows interested countries and jurisdictions to work with **OECD** and G20 members on developing standards on BEPS related issues and review and monitor the implementation of the BEPS Package.
  - *The Organisation for Economic Co-operation and Development (OECD) is a group of 38 member countries that discuss and develop economic and social policy.*

- *OECD members are typically democratic countries that support free-market economies.*
- **India** is not a member.

#### Two pillars of framework

- The **framework has two pillars**, one dealing with **transnational and digital companies** and the other with **low-tax jurisdictions** to address cross-border profit shifting.
- The first pillar ensures that **large multinational enterprises, including digital companies, pay tax where they operate and earn profits**. Most such companies have so far been paying low taxes by shifting profits to low-tax jurisdictions.
- Under Pillar One, taxing rights on more than \$100 billion of profit are expected to be reallocated to market jurisdictions each year.
- The second pillar seeks to **put a floor on competition over corporate income tax**, through the introduction of a **global minimum corporate tax rate** (currently proposed at 15%) that countries can use to protect their tax bases.
- If implemented, countries such as the Netherlands and Luxembourg that offer lower tax rates, and so-called tax havens such as Bahamas or British Virgin Islands, could lose their sheen. It is estimated that the minimum tax rate would **boost global tax revenues by \$150 billion annually**.
- The two-pillar package will provide much-needed **support to governments needing to raise necessary revenues** to repair their budgets and their balance sheets while investing in essential public services, infrastructure and the measures necessary to help

optimise the strength and the quality of the post-COVID recovery.

- Additional benefits will also arise from the **stabilisation of the international tax system and the increased tax certainty** for taxpayers and tax administrations.

#### Why in News?

- Members of the European Union recently agreed in principle to implement a **minimum tax of 15% on big businesses**.
- The decision is in accordance with Pillar 2 of the global tax agreement framed by the Organisation for Economic Cooperation and Development (OECD) last year.

#### What is the need for a global minimum tax?

- Corporate tax rates across the world have been **dropping over**

**the last few decades** as a result of competition between governments to spur economic growth through greater private investments. Global corporate tax rates have fallen from over 40% in the 1980s to under 25% in 2020.

- The OECD's tax plan tries to put an end to this "race to the bottom" which has made it harder for governments to shore up the revenues required to fund their rising spending budgets.
- The minimum tax proposal is particularly relevant at a time when the fiscal state of governments across the world has deteriorated as seen in the worsening of public debt metrics.

# Organisations

## 1) ECOSOC

### About ECOSOC

- The United Nations Economic and Social Council (ECOSOC) is **one of the six principal organs of the United Nations**.
- It is responsible for the **direction and coordination of the economic, social, humanitarian, and cultural activities carried out by the UN**.
- ECOSOC was established by the **UN Charter (1945)**, which was amended in 1965 and 1974 to increase the **number of members** from 18 to **54**. ECOSOC membership is based on **geographic representation**.
- ECOSOC is responsible for promoting higher standards of living, full employment, and economic and social progress; identifying solutions to international economic, social and health problems; facilitating international cultural and educational cooperation; and encouraging universal respect for human rights and fundamental freedoms.

### Commission on the Status of Women

- The Commission on the Status of Women (CSW) is the **principal global intergovernmental body exclusively dedicated to the promotion of gender equality and the empowerment of women**.
- It was **established by the ECOSOC in 1946**.
- During its annual two-week session, representatives of UN Member States, civil society organizations and UN entities gather at UN headquarters in New York to discuss progress and commit to further action.

- The **outcomes and recommendations** of each session are forwarded to ECOSOC, the Commission's parent body, for follow-up.
- **Forty-five Member States** of the United Nations serve as members of the Commission at any one time. Members are elected for a period of **four years**.

### Why in News?

- The UN Economic and Social Council have voted to immediately oust Iran from the Commission on the Status of Women for the remainder of its four-year term ending in 2026.
- The US-sponsored resolution was sparked by Iran's ongoing brutal crackdown on peaceful protesters. The protest began in September after the death of a 22-year-old woman taken into custody by the morality police.

## 2) G7 Grouping

### About G7

- The Group of Seven (G7) is a collective of **seven of the world's most industrialized and developed economies**.
- Their political leaders come together annually to discuss important global economic, political, social and security issues.
- The G7 member countries are the **United States, Britain, France, Japan, Germany, Italy, and Canada**.
- **Russia** belonged to the forum from 1998 through 2014, when the bloc was known as the **G8**, but was **suspended** following its annexation of Crimea.
- **India is not a member** of the G-7 grouping.

### Why in News?

- A meeting of Leaders of the Group of Seven (G7) was held recently.



# Science and Technology

## 1) Uncontrolled Reentries of Satellites

### Context

- More than 140 experts and dignitaries have signed an **open letter** calling for both national and multilateral **efforts to restrict uncontrolled re-entries**.

### Stages of Rocket launch

- The Soviet Union launched the first artificial satellite in **1957**. Today, there are more than 6,000 satellites in orbit, most of them in low-earth (100-2,000 km) and geostationary (35,786 km) orbits, placed there in more than 5,000 launches. The number of rocket launches have been surging with the advent of reusable rocket stages.
- Rockets have multiple stages. **Once a stage has increased the rocket's altitude and velocity by a certain amount, the rocket sheds it.**
- Some rockets jettison all their larger stages before reaching the destination orbit; a smaller engine then moves the payload to its final orbit.
- Others carry the payload to the orbit, and then perform a **deorbit manoeuvre** to begin their descent.
- In both cases, **rocket stages come back down — in controlled or uncontrolled ways.**

### What is uncontrolled reentry of satellites?

- It is the phenomenon of rocket parts falling back to earth in **unguided fashion once their missions are complete**. In an uncontrolled re-entry, **the rocket stage simply falls**.
- Its path down is **determined by its shape, angle of descent, air currents and other characteristics**.

- It will also **disintegrate as it falls**. Because of the speed at which they're travelling, **debris can be deadly**.
- Most rocket parts have landed in **oceans** principally because earth's surface has more water than land. But many have dropped on land as well.

### Concerns about Reentry

- Conservative estimates place the **casualty risk from uncontrolled rocket body re-entries** as being on the **order of 10% in the next decade**.
- There is **no international binding agreement** to ensure rocket stages always perform controlled re-entries nor on the technologies with which to do so. The **Liability Convention 1972** requires countries to pay for damages, not prevent them.
- The **U.S. Orbital Debris Mitigation Standard Practices (ODMSP)** requires all launches to keep the chance of a **casualty from a re-entering body to be below 0.01%**.
- A 2022 study by researchers in Canada found that **this threshold**, which some other countries have also adopted, is **arbitrary and makes little sense in an era when new technologies and mission profiles enable controlled re-entries**, and because many places have become more densely populated.

### How to minimise damage?

- Scientists recommend that bodies should **aim for the ocean** in order to avoid human casualties.
- They also advocate that future solutions should be extended to re-entering satellites as well. **Advances in electronics and**

**fabrication** have made way for smaller satellites, which are easier to build and launch in large numbers. These satellites experience more atmospheric drag than if they had been bigger, but they are also **likely to burn up during re-entry**.

- For instance: **India's 300-kg RISAT-2 satellite** re-entered earth's atmosphere in October after 13 years in low-earth orbit. The ISRO tracked it with its system for safe and sustainable space operations management from a month beforehand. It plotted its predicted paths using models in-house. The RISAT-2 eventually fell into the Indian Ocean on October 30.

## 2) ChatGPT

### What's in the news?

- OpenAI, an independent research body, has opened its most recent and powerful AI chatbot, ChatGPT, to users to test its capability.
- It amazed netizens across the world by answering a range of questions. The bot continues to attract diverse people to run experimental questions.

### What is ChatGPT?

- ChatGPT is a **conversational chatbot**. It is a **type of artificial intelligence (AI) that is designed to carry out conversation with humans**.
- It is based on a technology called **natural language processing (NLP)**, which allows it to understand and generate human-like text.
- In practical terms, this means that one can have a conversation with ChatGPT as if it were a real person.
- One way that ChatGPT can be used is as a **chatbot**, which is a computer program that simulates

conversation with human users, especially over the Internet.

### How Does ChatGPT Work?

- To carry out a conversation, ChatGPT uses a process called **machine learning**. This involves feeding the AI a large amount of data, such as transcripts of human conversations or written texts, and using algorithms to analyze this data and learn from it.
- These algorithms are designed to identify patterns and relationships in the data, and to use this information to make predictions or generate responses.
- As a result, ChatGPT is able to generate responses that are **more human-like and sophisticated** than those of some other chatbots.
- ChatGPT can answer follow-up questions, and can also admit its mistakes, challenge incorrect premises, and reject inappropriate requests.
- The reason ChatGPT has generated so much discussion is because of the kind of answers it gives. It is being seen as a **replacement for the basic emails, party planning lists, CVs, and even college essays and homework**. It can also be used to **write code, solve math equations, and spot errors in code**.

### Limitations of ChatGPT

- ChatGPT sometimes writes **plausible-sounding but incorrect or nonsensical answers**.
- The model is often **excessively verbose and overuses certain phrases**.
- Also, the chatbot is **sensitive to how the input is phrased**. For example, it may have an answer to a query phrased in one style, but the model may not know the answer if given a slightly different phrase.



### 3) Cervical Cancer

#### Context

- The Indian government recently announced that it will begin a nationwide immunization drive for girls aged between 9 and 14 using a newly developed vaccine targeting **human papilloma virus (HPV)**, the main cause of **cervical cancer** and a potential cause of other cancers.
- The quadrivalent vaccine called **Cervavac** which will be used for the nationwide vaccination drive of adolescent girls is developed by the **Serum Institute of India (SII)** and will offer **protection against four strains of HPV** — 16, 18, 6, and 11.
- At present, India is fully dependent on foreign manufacturers for the vaccines, which are expensive.

#### What is Cervical Cancer?

- It is a type of cancer that **develops in the cells of the cervix** — the **lowermost part of the uterus**.
- Cervical cancer is caused by **chronic infection with human papillomavirus (HPV)**, which is a **sexually transmitted virus**.
- One can prevent getting this virus by taking **vaccination**. If the vaccine is given to girls before sexual exposure between **9-14 years**, it is **more than 99% effective** in preventing cervical cancer.
- The vaccine also protects against genital warts and some other cancers also like anal, vulval vaginal, penile, oropharyngeal cancers as well some cancers of head and neck.

#### Importance of HPV Vaccine

- Cervical cancer is **preventable and curable** if it is detected early and managed effectively.
- It is the **fourth most prevalent cancer amongst women worldwide** and in **India**, it is the

**second most common cancer among women.**

- According to the **World Health Organization (WHO)**, 4.1 million women in India have died from the disease since 2019, and without intervention, as many as 5.7 million will die by 2070.

### 4) Anaemia

#### Context

- While anaemia among adolescent girls and boys, and women, particularly those of reproductive age has been studied extensively, **anaemia in men has been largely ignored**.
- In 2019, a paper published in The Lancet Global Health journal highlighted that **nearly one in four men (23.2%) in the age group 15-54 years in India were anaemic** (mild, moderate, or severe).
- Men are considered to have anaemia if **haemoglobin concentration is less than 13.0 g/dL**.
- While **iron deficiency** is the main cause of anaemia, particularly in women, other causes of anaemia are **deficiency in folate (vitamin B-9), vitamin B12, or vitamin A**.
- Now, a recent analysis of the fifth National Family Health Survey (NFHS-5) has shed light on **anaemia among men living in rural areas**.

#### Prevalence of anaemia

- The recent study analysed the data of over 61,000 men aged between 15-54 years.
- It found that **three out of ten men in rural areas were anaemic; prevalence of anaemia was more in rural areas than in urban areas** — one of five urban men are anaemic, while three out of every ten rural men are anaemic.

- Prevalence of anaemia was found to be **higher (34.7%) among men who were underweight compared with men who were overweight (19.3%).**
- Men who **consumed alcohol and smoked had “slightly higher” occurrences of anaemia, and older men were found to be more vulnerable.**
- **Men in the southern States had lower anaemia prevalence (18.5%), while prevalence was highest in the eastern region (34.1%).** Anaemia prevalence was 27.2% in the north region, 28.9% in west, 26.9% in northwest and 25% in the central region.

#### Way Forward

- The study stresses that the findings suggest the **need to recognise anaemia among men as a public health issue.**
- The study also recommends that the **benefits of existing programmes and policies related to anaemia eradication should be extended to men** as well.
- In addition, **targeted interventions among susceptible groups of rural men** are advised as a way to reduce the prevalence of anaemia.

#### Related Information

##### Anaemia Mukht Bharat

- The Anaemia Mukht Bharat is an initiative of the **Ministry of Health and Family Welfare** and **UNICEF** to **reduce the prevalence of Anaemia all over India.**
- It follows a **6X6X6 strategy** (six target beneficiary groups, through six interventions and six institutional mechanisms) to **reduce prevalence of anemia by 3 percentage points per year.**



- **Six population groups under AMB:**

- Children (6-59 months)
- Children (5-9 years)
- Adolescents girls and boys (10-19 years)
- Pregnant women
- Lactating women
- Women of Reproductive Age (WRA) group (15-49 years)

- **Six interventions:**

- Prophylactic Iron and Folic Acid supplementation
- Deworming
- Intensified year-round Behaviour Change Communication Campaign including ensuring delayed cord clamping in newborns
- Testing of anemia using digital methods and point of care treatment
- Mandatory provision of Iron and Folic Acid fortified foods in government-funded health programmes
- Addressing non-nutritional causes of anemia in endemic pockets, with special focus on malaria, haemoglobinopathies and fluorosis.

- **Six institutional mechanisms:**

- Intra-Ministerial Coordination

- National Anemia Mukta Bharat Unit
- National Centre of Excellence and Advanced Research on Anemia Control
- Convergence with other Ministries
- Strengthening Supply Chain and Logistics
- Anemia Mukta Bharat Dashboard and Digital Portal – One-Stop Shop on Anemia.

## 5) Mission Gaganyaan

### About the Mission

- Announced by the Government of India in 2018, Gaganyaan is the **first Indian Human Space Flight Programme (HSP)** with the objective to demonstrate the capability to **send humans to low earth orbit** on board an Indian launch vehicle and bring them back to earth safely.
- Gaganyaan project envisages launching a **crew of 3 members to an orbit of 400 km for a 3 days mission and bring them back safely to earth**, by landing in Indian sea waters.
- The spacecraft, which is being developed by the **Indian Space Research Organisation (ISRO)**, consists of a service module and a crew module, collectively known as the **Orbital Module**.
- With this, **India could potentially become the fourth country to send a man to space**, after the erstwhile USSR, the US and China.

### Rocket

- The **LVM3 rocket**, previously referred to as **GSLV Mk3**, will be used to launch Gaganyaan as it has the necessary payload capability. It consists of **solid stage, liquid stage and cryogenic stage**.

- HLVM3 consists of **Crew Escape System (CES)** powered by a set of quick acting, high burn rate solid motors which ensures that Crew Module along with crew is taken to a safe distance in case of any emergency either at launch pad or during ascent phase.

### Why in News?

- India's maiden human space flight mission Gaganyaan is targeted to be launched in the **fourth quarter of 2024**.

## 6) Ebola Viral Disease

### About EVD

- Ebola virus disease (EVD), formerly known as **Ebola haemorrhagic fever**, is a **severe, often fatal illness affecting humans and other primates**.
- The average EVD case fatality rate is around 50%.
- The first EVD outbreaks occurred in remote villages in **Central Africa**, near tropical rainforests in 1976. The 2014–2016 outbreak in **West Africa** was the largest and most complex Ebola outbreak.
- There are several identified Ebola virus species which includes Ebola virus (Zaire ebolavirus); Sudan virus (Sudan ebolavirus); Tai Forest virus (Tai Forest ebolavirus), etc.

### Transmission

- It is thought that **fruit bats of the Pteropodidae family** are natural Ebola virus hosts.
- Ebola is introduced into the human population through **close contact with the blood, secretions, organs or other bodily fluids of infected animals** such as fruit bats, chimpanzees, gorillas, monkeys, forest antelope or porcupines found ill or dead or in the rainforest.

- Ebola then spreads through human-to-human transmission via
  - **blood or body fluids** of a person who is sick with or has died from Ebola
  - **objects that have been contaminated** with body fluids (like blood, feces, vomit) from a person sick with Ebola or the body of a person who died from Ebola.

### Why in News?

- Uganda is set to declare an end to an Ebola virus outbreak that emerged in late 2022 and has claimed the lives of at least 56 people.

## 7) GAGAN

### About GAGAN

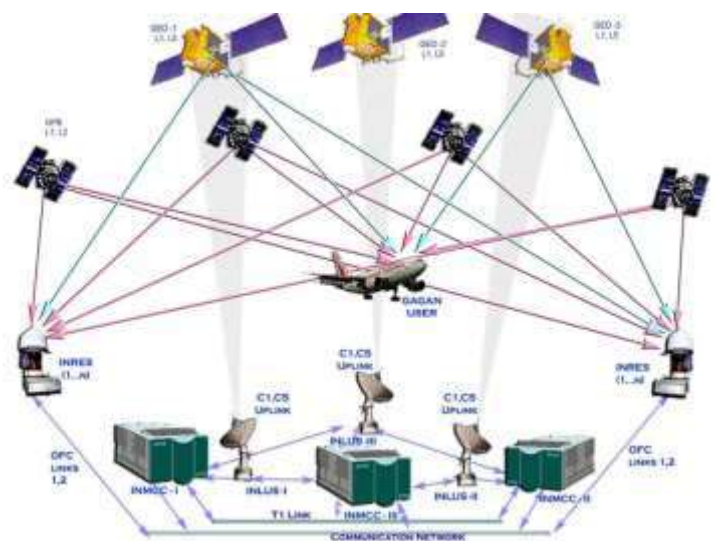
- GAGAN is an **Indian Satellite Based Augmentation System (SBAS)** launched by the Indian government in **2015**. GAGAN stands for **GPS Aided GEO Augmented Navigation**.
  - *SBAS is a wide area augmentation system that provides augmented accuracy and integrity to a Global Navigation Satellite Systems (GNSS) navigation signal such as GPS.*
- GAGAN is a system of satellites and ground stations that **provide GPS signal corrections, giving better position accuracy**.
- GAGAN corrects for GPS signal errors caused by Ionospheric disturbances, timing and satellite orbit errors.
- It was developed by the **Airports Authority of India (AAI)** and **Indian Space Research Organization (ISRO)**.
- There are **only four Space-Based augmentation systems available in the world** namely India

(GAGAN), the United States (Wide Area Augmentation System- WAAS) Europe (European Geostationary Navigation Overlay Service- EGNOS) and Japan (MTSAT Satellite Augmentation System- MSAS).

- GAGAN is the **first such system developed for India and neighbouring countries in the equatorial region**.

### How does it work?

- GAGAN consists of a set of ground reference stations positioned across various locations in India called **Indian Reference Station (INRES)**, which gathers GPS satellite data. A master station, **Indian Master Control Centre (INMCC)** collects data from reference stations and creates GPS correction messages.
- The corrected differential messages are uplinked via Indian Uplink Station (INLUS) and then broadcasted on a signal from **three geostationary satellites (GSAT-8, GSAT-10 and GSAT-15)**. The information on this signal is compatible with basic GPS signal structure, which means any SBAS enabled GPS receiver can read this signal.



### Coverage Area

- GAGAN covers the area from **Africa to Australia** and has expansion capability for seamless navigation services across the region.

### Benefits from GAGAN

- In the Aviation sector, GAGAN aims to provide a navigation system to **assist aircraft in accurate landing** over the Indian airspace and in the adjoining area.
- GAGAN also helps in **Disaster Management**. With the use of GAGAN message service (GMS), **Early Warning messages** can be broadcast on the occurrence of natural disasters, calamities, and dangers for the safety of life.
- In the **road sector**, it can offer Smart mobility for lane guidance, better traffic management, speed control and traffic violation, and

real time tracking of public transportation assets.

- With the use of GAGAN, **monitoring of train movements and automated train stopping** can be achieved to reduce the risk of accidents.
- GAGAN can **improve navigation** in the Indian Subcontinent by tracking proximity of ships, enabling safe docking of ships at ports, enhancing coastal security and tracking of ships.
- GAGAN system is also being used for **effective management of wildlife resources and monitoring of forests**.

### Why in News?

- The Ministry of Civil Aviation held a meeting to discuss the promotion of GAGAN (GPS Aided Geo Augmented Navigation) system.

## Reports and Indices

### 1) Drought in Horn of Africa

#### About UNICEF

- The United Nations Children's Fund (UNICEF), originally known as the United Nations International Children's Emergency Fund, was created by the **United Nations General Assembly** in 1946.
- It was created to provide **emergency food and healthcare to children and mothers in countries that had been devastated by World War II.**
- In 1950, UNICEF's **mandate was extended to address the long-term needs of children and women in developing countries everywhere.**
- In 1953, it became a **permanent part of the United Nations System.**

#### Why in News?

- According to a recent UNICEF report, the **number of children suffering terrible drought conditions across Ethiopia, Kenya and Somalia has more than doubled in five months.**
- Approximately 20.2 million children were threatened with severe hunger, thirst and disease in December, compared to 10 million in July. This surge is due to **climate change, conflict, global inflation and grain shortage.**
- The **Horn of Africa** region is experiencing its **worst drought in more than 40 years.** At least 36.1 million people in the region have now been affected by one of the most severe and longest droughts in recent history that are expected to continue well into 2023.
- It is estimated that approximately two million children in the region **require urgent treatment for**

**severe acute malnutrition**, the deadliest form of hunger.

- **Gender-based violence, including sexual violence, exploitation and abuse**, is also increasing due to widespread food insecurity and displacement.

#### Horn of Africa

- The Horn of Africa is a **peninsula of East Africa** that includes countries of Djibouti, Ethiopia, Eritrea and Somalia. Sudan and Kenya are sometimes included as well.



- It is one of the world's most conflict-prone and fragile regions.
- The region's countries are the countries of origin and host countries for a great number of refugees and internally displaced persons.

## 2) Rapid melting of glaciers

### What's in the news?

- A new study published in the scientific journal *Science* has warned that **glaciers are receding at unprecedented rates due to climate change and rising temperatures.**
- The study warns that the impacts of glacial loss are much greater than previously thought.

### Highlights of the Study

- **Half the Earth's glaciers are destined to vanish by 2100, even if we adhere to the Paris Climate Agreement goal of limiting global temperature rise to 1.5 degrees Celsius above pre-industrial levels.**
- A minimum of 50 per cent of the loss will occur **within the next 30 years.**
- Losses would be more severe, with **68 per cent of glaciers vanishing, if global warming continues at the current rate of 2.7°C.**
- If this happens, by the end of the following century, there would be **practically no glaciers left in central Europe, western Canada and the United States.**

- The researchers noted that some of these glaciers can be saved from extinction by **reducing global warming.**

### Impacts

- The effects of glacier loss are **more severe than previously assumed.**
- Glaciers, which hold **70 per cent of the Earth's freshwater**, currently encompass around **10 per cent of the planet's land area.**
- Melting glaciers **raise sea levels dramatically, jeopardising up to two billion people's access to water and increasing the risk of natural disasters and extreme weather events** like floods.
- The amount of ice lost by glaciers between 1994 and 2017 was around 30 trillion tonnes and they are now melting at a pace of 1.2 trillion tonnes each year.
- The **glaciers in the Alps, Iceland and Alaska** are some of those that are **melting at the quickest rates. Global sea level rose by 21 per cent** between 2000 and 2019. This was solely due to meltwater from melting glaciers and ice sheets.

## Polity

### 1) Disqualification of legislators from Assembly

#### Context

- One of Uttar Pradesh legislators was recently convicted on criminal charges. He has been disqualified and his seat declared vacant by the State's Legislative Assembly.

#### When does conviction attract disqualification?

- **Section 8 of the Representation of the People Act (RPA), 1951**, contains provisions aimed at **decriminalising electoral politics**.
- There are **two categories of criminal cases** that attract disqualification upon conviction. In the first category are **offences that entail disqualification for a period of six years upon any conviction**.
- If the punishment is a **fine**, the six-year period will run from the **date of conviction**, but if there is a **prison sentence**, the disqualification will begin on the **date of conviction**, and will **continue up to the completion of six years after the date of release from jail**.
- **Major IPC offences** are included under this head: making speeches that cause enmity between groups (Sec.153A) and doing so in a place of worship (Sec.505), bribery and personation during elections and other electoral offences, offences relating to rape and cruelty to women by husband and latter's relatives.
- Besides, **serious provisions of special laws** such as the Protection of Civil Rights Act, Customs Act, Unlawful Activities (Prevention) Act etc are among the category of offences that entail disqualification

regardless of the quantum of punishment.

- Laws for prevention of Sati, corruption, terrorism and insult to national flag and national anthem etc are also part of this group.
- All other criminal provisions form a separate category under which **mere conviction will not entail disqualification**. A **sentence of at least two years in prison** is needed to incur such disqualification.

#### Is there legal protection for legislators against disqualification?

- **Under Section 8(4)** of the RPA, legislators could avoid immediate disqualification until 2013. The provision said that with respect to a Member of Parliament or a State legislator the disqualification **will not take effect for three months**.
- If within that period, the convicted legislator files an appeal or revision application, it will not take effect until the disposal of the appeal or application. In other words, the mere filing of an appeal against conviction will operate as a stay against disqualification.
- In **Lily Thomas vs. Union of India**, the **Supreme Court struck down this provision as unconstitutional**, thus removing the protection enjoyed by lawmakers.

### 2) Assam Delimitation Exercise

#### What is Delimitation?

- Delimitation is the **act of redrawing boundaries of Lok Sabha and state Assembly seats to represent changes in population**.
- The main objective of delimitation is to provide **equal representation to equal segments of a**



**population.** It also aims at a fair division of geographical areas so that one political party doesn't have an advantage over others in an election.

- In India, delimitation is carried out by an independent **Delimitation Commission.**

#### How is delimitation carried out?

- Under **Article 82**, the constitution gives power to the **Parliament of India** to enact a law for the purpose of Delimitation. The Delimitation commission, a **statutory body**, is set up under the law enacted by the parliament of India.
- The Delimitation Commission is appointed by the **President of India** which works in **collaboration with the Election Commission of India.**
- The Delimitation Commission consists of
  - a **retired Supreme Court judge,**
  - the **Chief Election Commissioner** and
  - the **respective State Election Commissioners.**
- The Commission is supposed to **determine the number and boundaries of constituencies** in a way that the population of all seats, so far as practicable, is the same.
- The Commission is also tasked with **identifying seats reserved for Scheduled Castes and Scheduled Tribes.**
- All this is done on the **basis of the latest Census** and, in case of difference of opinion among members of the Commission, the **opinion of the majority prevails.**

#### Special powers of the Delimitation Commission

- The orders of the Delimitation Commission have the **force of law** and **cannot be called in question**

**before any court** as it would hold up an election indefinitely.

- The copies of its orders are **laid before the House of the People and the State Legislative Assembly** concerned, but **no modifications are permissible therein by them.**

#### How often has delimitation been done in the past?

- In India, Delimitation Commissions have been **constituted 4 times** – 1952, 1963, 1973 and 2002 under the Acts of 1952, 1962, 1972 and 2002.
- There was **no delimitation after the 1981 and 1991 Censuses** because the union government had **suspended delimitation in 1976 until after the 2001 census** so that **states' family planning programs would not affect their political representation** in the Lok Sabha.
- The fear of losing meaningful political representation was especially great in the **southern states** which had greater success in controlling populations.
- This freeze on the number of seats in Lok Sabha and Assemblies was **postponed until 2026** by another amendment.
- So, the last delimitation exercise was based on the 2001 Census and **only readjusted boundaries of existing Lok Sabha and Assembly seats and reworked the number of reserved seats** (without changing the number of seats in Lok Sabha and Assemblies).
- The 2002 Act also **left out a few states including Assam, Arunachal Pradesh, Nagaland and Manipur** from the exercise **due to security risks. Jammu and Kashmir** was also left out of that delimitation exercise for similar reasons.

- The central government reconstituted the Delimitation Commission for these four states as well as the Union Territory of Jammu and Kashmir in March 2020.

#### Why in News?

- The Election Commission of India has begun the process of

delimitation of Assembly and Parliamentary constituencies in Assam.

- The process will be based on **Census data from 2001**. The last delimitation of constituencies in Assam was done in 1976 on the basis of the 1971 Census.

# International Relations

## 1) GAVI Alliance

### About GAVI Alliance

- Created in **2010**, the GAVI Alliance (Global Alliance for Vaccines and Immunisation) is a global health partnership of public and private sector organizations dedicated towards creating **equal access to new and underused vaccines for children** living in the world's poorest countries.
- GAVI aims at **accelerating access to vaccines, strengthening countries' health and immunization systems, and introducing innovative new immunization technology.**
- GAVI's core partners includes the World Health Organization, UNICEF, the World Bank and the Bill & Melinda Gates Foundation.
- Its partners provide funding for vaccines and intellectual resources for care advancement. They contribute to strengthening the capacity of the health system to deliver immunisation and other health services in a sustainable manner.
- Since GAVI's inception, it has subsequently supported the immunization of an additional 326 million children and prevented a potential 5.5 million deaths.

### Why in News?

- The GAVI Alliance held its meeting recently to increase access to COVID-19 vaccines in middle- and low-income countries.

## 2) Wassenaar Arrangement

### What is Wassenaar Arrangement?

- The Wassenaar Arrangement is an elite club of countries which subscribe to **arms export controls.**
- The body came into being in **1996** to succeed the Cold War-era

### Coordinating Committee for Multilateral Export Controls (COCOM).

### Who are all members of the Wassenaar Arrangement?

- The WA has **42 members.** India joined the Arrangement in **2017.**
- With the exception of **China**, all the other permanent members of the U.N. Security Council are signatories of the WA, which is headquartered in **Vienna.**

### How does the Wassenaar Arrangement work?

- The goal of the Arrangement is to **promote transparency and greater responsibility** in transfers of conventional arms and dual-use goods and technologies.
- Participants are required to ensure that transfers of these items do not contribute to the development or enhancement of military capabilities which undermine the goal.
- The aim is also to **prevent the acquisition of these items by terrorists.**

### Why in News?

- India has assumed the chairmanship of the plenary of the Wassenaar Arrangement for one year.

### Other Related Groups

#### Australia Group

- Australia Group (AG) is an informal group of countries established in 1985 to help member countries to identify those exports which need to be controlled so as **not to contribute to the spread of chemical and biological weapons.**
- **India became a member of AG in 2018.**

### Missile Technology Control Regime

- The Missile Technology Control Regime (MTCR) is an informal political understanding among states that seek to **limit the proliferation of missiles and missile technology**.
- The regime was formed in 1987 by the **G-7 industrialized countries** (Canada, France, Germany, Italy, Japan, the UK, and the United States).
- There are currently 35 countries that are members of the MTCR including **India**.

### Nuclear Suppliers Group

- Established in 1975, the Nuclear Suppliers Group (NSG) comprises 48 states that have voluntarily agreed to coordinate their export controls to non-nuclear-weapon states.
- The NSG governs the transfers of civilian nuclear material and nuclear-related equipment and technology.
- Full compliance with the obligations of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) is a **membership criteria** to join NSG.
- India is **not a member of NSG**.

## 3) India's G20 Presidency: Significance & Opportunities

### Context

- India recently assumed the presidency of the G20 forum, taking over from Indonesia.

### About G20

- The Group of Twenty (G20) is an **intergovernmental forum** comprising **19 countries** - Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Republic of Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey,

United Kingdom and United States and the **European Union**.

- The G20 members represent around **85% of the global GDP, over 75% of the global trade, and about two-thirds of the world population**.

### G20 members



Note: The European Union is also a member

BBC

### Genesis of G20

- The G20 was founded in **1999** after the **Asian financial crisis** as a forum for the Finance Ministers and Central Bank Governors to discuss global economic and financial issues.
- It was **upgraded to the level of Heads of State/Government** in the wake of the global economic and financial crisis of 2007, and, in 2009, was designated the **“premier forum for international economic cooperation”**.
- The forum initially dealt with **matters related to macroeconomics**, but over the years, its agenda has **expanded to cover** issues relating to trade, climate change, sustainable development, health, agriculture, energy, environment, climate change, and anti-corruption.

### How does the G20 work?

- The G20 Summit is held annually under a **rotating presidency**, which currently rests with **India** for 2023.
- The **G20 Presidency steers the G20 agenda for one year and hosts the Summit**.

- The G20 consists of **two parallel tracks**: the **Finance Track** and the **Sherpa Track**.
  - Finance Ministers and Central Bank Governors lead the Finance Track while Sherpas (personal representative of the leader of a member country) lead the Sherpa Track.
  - Sherpas oversee negotiations all through the year, discussing agenda items for the summit and coordinating the substantive work of the G20.
  - Within the two tracks, there are **thematically oriented working groups** in which representatives from the relevant ministries of the members as well as from invited/guest countries and various international organisations participate.
- In addition, there are **Engagement Groups** which bring together civil societies, parliamentarians, think tanks, women, youth, labour, businesses and researchers of the G20 countries.
- The group **does not have a permanent secretariat**, and the presidency is supported by the previous, current, and future holders of the post, together called the **Troika**. Along with India, 2023's troika includes **Indonesia and Brazil**.

### India's G-20 Presidency

- India holds the Presidency of the G20 from **December 1, 2022 to November 30, 2023**.
- As the President-nation, India will host the **18th G20 Heads of State**

**and Government Summit** in December 2023 in **New Delhi**.

- Apart from hosting the summit and setting the theme, the **G20 presidency does not come with any formal powers**.

### G20 Logo & Theme

- The Government of India recently unveiled the Logo and Theme of India's G20 Presidency.
- The G20 Logo draws **inspiration from the vibrant colours of India's national flag - saffron, white and green, and blue**.
- It **juxtaposes planet Earth with the lotus**, India's national flower that reflects growth amid challenges. The Earth reflects **India's pro-planet approach to life**, one in perfect harmony with nature.
- Below the G20 logo is "**Bharat**", written in the **Devanagari script**.



- The **theme of India's G20 Presidency - "Vasudhaiva Kutumbakam" or "One Earth · One Family · One Future"** - is drawn from the ancient Sanskrit text of the **Maha Upanishad**.

## Art & Culture

### 1) Sahitya Akademi Awards

#### About the awards

- The Sahitya Akademi award is considered as the **Government of India's second-highest literary honour**, following the **Jnanpith prize**.
- The Akademi is under the central government's **Ministry of Culture**, but works as an **autonomous institution**.
- Every year since its inception in 1954 (and first awarded in 1955), the Sahitya Akademi Award prizes to the **most outstanding books of literary merit published in any of the major Indian languages recognised by the Akademi**.
- Akademi bestows 24 prizes on literary works in the languages it has recognised, as well as an equal number of honours for literary translations from and into Indian languages.
- In addition to the **22 languages listed in the Eighth Schedule of Indian Constitution**, the Sahitya Akademi has designated **English and Rajasthani** as the languages chosen.

#### Conditions of bestowing the award

- The author must be of **Indian origin**.
- The book/work must be an **excellent contribution to the language and literature**.
- When two or more works have similar worth, **specific factors** such as overall literary contribution and author status must be considered before awarding a prize.

#### Why in News?

- 23 litterateurs have been awarded the Sahitya Akademi Awards for 2022.

### 2) Kashi Tamil Sangamam

#### What's in the news?

- Prime Minister Narendra Modi inaugurated 'Kashi Tamil Sangamam', a month-long programme, in Varanasi, Uttar Pradesh.

#### What is Kashi Tamil Sangamam?

- The Sangamam will **celebrate the many aspects of the historical and civilisational connection** between India's North and South.
- The broader objective is to **bring the two knowledge and cultural traditions (of the North and South) closer**, create an understanding of our shared heritage and deepen the people-to-people bond between the regions.
- It is organized by the **Ministry of Education** as a part of '**Ek Bharat Shreshtha Bharat**'.
  - *Under the 'Ek Bharat Shreshtha Bharat' initiative, each year, every State/UT would be paired with another State/UT in India for reciprocal interaction between the people.*

#### Cultural Significance

- Ancient Indian philosophers from Tamil Nadu, like **Ramunajacharya**, travelled to Kashi to expand their spiritual learnings.
- The **Tenkasi and Sivakasi temples in Tamil Nadu** are said to be inspired by **Varanasi's Kashi Vishwanath temple** after the Pandya king, **Adhiveera Rama Pandiyan**, went on a pilgrimage to Varanasi.
- In Tamil Brahmin weddings, the groom embarks on a **Kashi Yatra** before he is called back to marry the bride.

- There are also references to Kashi in Tamil texts such as **Kalittokai** and **Thiruppugazh**.

### 3) Aurobindo Ghosh

#### About Aurobindo Ghose

- Aurobindo Ghose was a **revolutionary, nationalist, poet, educationist and philosopher**. He was born on August 15, 1872, in **Calcutta**.
- Ghose studied in **England** where he learned Latin, Greek, German, Italian, French, Arithmetic and Geography.
- He studied for the **Indian Civil Service** and became a **state service officer** on his return to India in 1893.

#### Role in Freedom Struggle

- After the declaration of the **Partition of Bengal** in 1905, he shifted to the then Calcutta. There, he joined active politics through **non-cooperation movements and passive resistance**.
- However, he **formed many secret revolutionary groups** in Calcutta. He inspired radical politicians such as Surendranath Tagore, Jatindra Nath Banerjee and Jatindranath Mukherjee to join his group of rebels. He formed **Anushilan Samiti**, one of the first youth clubs in India, to protest against imperial atrocities.
- He joined the **Congress Party** in 1906 and started visiting different parts of the country for political propaganda.
- He was one of the first political leaders in India to openly put forward, in his newspaper **Bande Mataram**, the **idea of complete independence** for the country.

- Ghose was arrested in May 1908 on charge of being a part of **Alipore Bomb Case**, a bombing incident in protest of the Bengal partition, which changed the course of Indian freedom movement.
- His trial went on for a year, along with Rashbihari Bose and other freedom fighters. **Chittaranjan Das** stepped up as Ghose's defence counsel in the trial. When he was out of the prison, Ghose started two publications named **Karmayogin** in English and **Dharma** in Bengali.
- After his release, he addressed the people of India in his famous **Uttarpara Speech**, where he declared his transformation from a rebel to a person in quest of **spiritual salvation**.

#### Spiritualism

- He decided to give up active politics and devoted himself to **spiritualism**. He left Kolkata and moved to Pondicherry where he established **Sri Aurobindo Ashram** in 1926.
- The main objective of his teachings was to **increase the level of consciousness of people and to aware people of their true selves**.
- He started a monthly magazine on spiritual matters, named **Arya**.
- His work got him nominated for the **Nobel Prize in Literature** in 1943. He was also nominated in 1950 for the **Nobel Prize for Peace**.
- Aurobindo Ghose died on December 5, 1950.

#### Why in News?

- Several events were held by the government to commemorate Sri Aurobindo's 150th birth anniversary.

# Defence

## 1) INS Vagir

### About Project 75

- In 1999, the **Cabinet Committee on Security** had approved a plan for the Indian Navy to **indigenously build and induct submarines by 2030**. It was broken down in **two phases** — the **P-75 and P-75I**.
- Under the first phase of Project 75 (P75), signed in 2005, India and France signed a \$3.75 billion **technology transfer deal** for building **six Scorpene class submarines (diesel-electric attack submarines)**.
- The executing company on the Indian side was **Mazgaon Docks Ltd**, and on the French side, it was **DCNS**, which is now called **Naval Group**.
- At present the Navy has four submarines from this project—**INS Kalvari**, **INS Khanderi** (commissioned in 2019), **INS Karanj** and **INS Vela** (commissioned in 2021).

### What are Scorpene-class submarines?

- The Scorpene-class submarines are the **most advanced conventional submarines with superior stealth features**, such as advanced acoustic silencing techniques, low radiated noise levels and ability to attack with precision-guided weapons on board.
- They are designed to **operate in all theatres, with enhanced interoperability with other components of a naval task force**.
- Scorpene class submarines can undertake **multifarious missions** such as anti-surface warfare, anti-submarine warfare, intelligence gathering, mine-laying and area surveillance.

- With 350 meters diving depth, it can travel upto 20 knots speed (37.04 kmph) and submerged upto 21 days.

### Why in News?

- The fifth Scorpène-class conventional submarine, **Vagir**, was delivered to the Navy by Mazagon Dock Shipbuilders Limited (MDL) Mumbai
- Vagir was launched into water in November 2020 and commenced sea trials in February 2022.
- The sixth and last of the Scorpène-class submarines, **Vagsheer**, was launched into water in April 2022 and is expected to be delivered to the Navy by end 2023.



### Related Information

#### Project-75 (I)

- In 2021, the Defence Acquisition Council (DAC), chaired by Defence Minister Rajnath Singh, formally cleared India's ambitious but long-delayed Rs.43,000-crore project for construction of **six conventional submarines with better sensors and weapons and the Air Independent Propulsion System (AIP)**.
- AIP will enable them to stay underwater for longer periods of



time, enhancing their combat capabilities and providing the Navy with added underwater firepower.

- The programme, codenamed **Project-75 (I)**, with the “I” standing for India, is aimed at India’s capability to progressively

**build indigenous capabilities in the private sector** to design, develop and manufacture complex weapon systems for the future needs of the Armed Forces.

- Project-75(I) is currently in the **request for proposal stage.**

## Miscellaneous

### 1) Money Transfer Options in India

#### Immediate Payment Service (IMPS)

- IMPS is an **electronic-enabled, immediate, inter-bank real-time fund transfer method.**
- The service is available anytime, anywhere across India. Using IMPS customers can **transfer money real-time to any person or to a merchant, for any personal or commercial purpose.**
- IMPS is **available round-the-clock** and operates even during bank holiday, weekends or festive holidays.
- IMPS can be used on any platform - **Mobile, Internet and ATM** across any bank in India.
- This service is offered by **National Payments Corporation of India (NPCI).**
- With IMPS, any user can transfer funds **as low as Rs.1.** The per transaction limit on IMPS is **Rs. 5 lakh.**

#### National Electronic Fund Transfer (NEFT)

- NEFT is a nation-wide centralised payment system **owned and operated by the Reserve Bank of India.**
- It facilitates funds transfers from one bank account to another. One can access this service either by using Internet banking or by visiting the bank branch.
- Once we initiate the transfer, the money reaches the beneficiary account **within hours.**
- There is **no limit on the minimum or maximum amount** one can transfer, however, individual banks may put restrictions on a per transaction amount.

#### Real Time Gross Settlement (RTGS)

- RTGS is a system where there is **continuous and real-time settlement of fund-transfers.** It also falls under the purview of the **Reserve Bank of India.**
- 'Real Time' means the processing of instructions **at the time they are received;** 'Gross Settlement' means that the settlement of funds transfer instructions occurs **individually.**
- On the other hand, in NEFT, **transactions received up to a particular time are processed in batches.**
- The RTGS system is **primarily meant for large value transactions.** The **minimum amount** to be remitted through RTGS is **₹ 2,00,000/-** with **no upper or maximum ceiling.**

#### Why in News?

- Several banks have revised service charges for IMPS, RTGS and NEFT transactions.