

# Current Affairs Update (Jan 1-6)

## National

### Supreme Court upholds demonetisation

The Supreme Court upheld the government's decision to demonetise currency notes of Rs 500 and Rs 1,000 by a 4:1 majority.

**Background:** On November 8, 2016, the PM of India announced that the two notes would no more be legal tender, with immediate effect. Introduced new notes of Rs 2,000 and Rs 500 for public circulation.

**Two primary reasons:** to curb fake currency notes and reduce black money stored as cash.

**The SC's (4:1) verdict on demonetisation:**

## Judgment notes

In a 4:1 verdict, the Supreme Court upheld the demonetisation process. A snapshot of the majority and dissenting observations



**Justice B.R. Gavai** (for the majority): Demonetisation notification does not suffer from any flaw

in the decision-making process; satisfies the test of proportionality

■ The contention that the notification is liable to be set aside on the ground that it caused hardship to individual citizens will hold no water. Individual interests must yield to the larger public interest sought to be achieved



**Justice B.V. Nagarathna** (dissenting): The RBI Act does not envisage initiation of demonetisation of bank notes by the Centre. Sub-section (2) of Section 26 of the Act, contemplates

demonetisation of bank notes at the instance of the Central Board of the Reserve Bank of India

- The Centre's notification was **valid and satisfied the test of proportionality** – a reasonable nexus between the objectives and the means to achieve the objectives.
- From the record, it appears that there was a **consultative process** between the central government and RBI for over 6 months before the decision was taken.
- The Decision-making process **cannot be faulted merely because the proposal emanated from the centre** (as the government and RBI are not in 'isolated boxes') and the court cannot replace the wisdom of the executive with its wisdom.
- The action taken by the Central Government has been validated by the **Specified Bank Notes (Cessation of liabilities) Act, 2017**, which prohibited and penalised the holding or transferring or receiving of demonetised currency.

### The dissenting judgement:

- While the measure was “**well-intentioned**”, it was to be declared **unlawful purely on legal grounds** as the record demonstrates that there was **no independent application of mind** by RBI.
- Violation of Section 26(2), as the proposal for demonetisation, is **to emanate from the central board of the RBI** and the demonetisation has to be done **through legislation rather than through executive notification**.

### Cooperatives in India

- Out of **30 lakh cooperatives in the whole world**, 9 lakh cooperatives are in India
- **91%** of the villages of the country’s population are connected to the cooperatives
- **Contributions: 19% of our agriculture finance** is through cooperative societies, **35% through fertilizer distribution, 30% through fertilizer production, 40% through sugar production, 13% wheat and 20% paddy procurement** is through cooperatives only
- Cooperative is **Production for Masses, Production by Masses**
- **Successful models:** Amul, IFFCO, and Lizzat Papad have set a successful example in front of the world
- **The White Revolution in Gujarat** has changed the fortunes of farmers and through Amul, 60,000 crore rupees are deposited into the bank accounts of about 36 lakh women annually

### Constitutional provisions:

- **The Constitution (97th Amendment) Act, 2011** added a new **Part IX** Bright after Part IXA (Municipals) regarding the cooperatives working in India.
- **Article 19(1)(c):** The word “cooperatives” was added after “unions and associations” in Article 19(1)(c). This enables all the citizens to form cooperatives by giving it the status of the fundamental right of citizens
- **Article 43B** was added in the **Directive Principles of State Policy (Part IV)** regarding the “promotion of cooperative societies”

### The Maharashtra-Karnataka border dispute

- When state boundaries were redrawn on linguistic lines as per the **States Reorganisation Act of 1956**, Belagavi became part of the erstwhile Mysore state.
- **Maharashtra claims** that parts of Belagavi, where Marathi is the dominant language, should remain in Maharashtra.
- In 1966, the Centre set up the **Mahajan Commission**, to resolve the border dispute in Maharashtra, Karnataka and Kerala.
- The Commission recommended that **Belgaum and 247 villages remain with Karnataka**. Maharashtra rejected the report and moved the SC in 2004.

- The Union Home Minister met the Chief Ministers of both states and asked them to form a **six-member team**, comprising three ministers from each side, to address all boundary issues.
- However, **both states hardened their stance** passing a unanimous resolution to support a legal battle to resolve the dispute.

**Judicial redressal: Article 131: Supreme Court** has the **original jurisdiction** in any dispute between –The Government of India and one or more States; or The Government of India and any State or States on one side and one or more other States on the other; or Two or more States,

### Mango shower

- Mango showers is a **colloquial term to describe the occurrence of pre-monsoon rainfall**.

#### Significance:

- In India, mango showers occur as the **result of thunderstorm development** over the Bay of Bengal.
- They are also known as **‘Kaal Baisakhi’ in Bengal, as Bordoisila in Assam and as Cherry Blossom showers or Coffee Showers in Karnataka**.
- They help in the **early ripening of mangoes and are hence often referred to as “Mango showers.”**

**Why in news?** Mango flowering has started since the third week of December in Telangana and Odisha, which is **at least a month sooner than the normal period of flowering**.

### Prahari App

Union Home and Cooperation Minister Shri Amit Shah launched the Border Security Force (BSF) mobile app ‘Prahari’. **‘Prahari’ in Hindi means ‘a guard’**: A guard is someone such as a soldier or prison officer who is guarding a particular place or person.

#### Importance of the app:

- Jawans can get personal and service-related information, housing, Ayushman-CAPF and leave related information on their mobile phones.
- BSF Jawans can also get GPF, Bio Data or grievance redressal on the “Centralized Public Grievance Redress and Monitoring System” (CP-GRAMS) or information on various welfare schemes through the app.
- This app will also connect them with the portal of the Ministry of Home Affairs

### Triple test survey

The Supreme Court put forth the triple test in the case *Vikas Kishanrao Gawali vs. State of Maharashtra and others* on March 2, 2021. It involves the government implementing three tasks to finalize the reservation to the OBCs in the local bodies. These tasks are:

1. Constitute a dedicated commission to conduct a rigorous empirical study into the nature and implications of the backwardness in local bodies
2. To specify the proportion of reservation required in local bodies based on the commission's recommendations
3. To ensure that the reservations for SCs, STs and OBCs together do not surpass the aggregate of 50 percent of the total seats.

### Kalasa-Banduri Canal Construction Project

Recently centre has given approval for the implementation of this project by the **Karnataka government**. The project will divert water from two tributaries of the **Mahadayi River** (Mandovi River)- **Kalasa and Banduri** to the Malaprabha river.

**Objective:** The project aims to improve the drinking water supply to four drought-hit districts in Karnataka— **Belagavi, Bagalkot, Dharwad and Gadag**. However, the **Goa government** has been opposing the project.

**The Mahadayi/Mandovi River** is described as the **lifeline of the Indian state** of Goa. The **Mandovi and the Zuari** are the two primary rivers in the state of Goa. **Mandovi joins with the Zuari** at a common creek at Cabo Aguada, forming the **Mormugao harbour**.

**Mandovi river originates** from a cluster of **30 springs at Bhimgad** in the Western Ghats in the Belagavi district of Karnataka. The river also houses the **island of Chorao** (Goa) where the **Salim Ali Bird Sanctuary** is located. **Dudhsagar** falls ( in Goa) lies on this river.

**The Malaprabha River** is a tributary of the **Krishna River** and flows through the state of Karnataka in India. The river joins the Krishna River at Kudalasangama in the Bagalkot district

### Online gaming

- The **Ministry of Electronics and Information Technology (MeitY)** has been appointed the nodal industry for online gaming in India; **for e-sports, the nodal agency is the Department of Sports**, under the Ministry of Youth Affairs and Sports.
- A glance at the rulings of the Supreme Court and several High Courts clearly establishes '**Games of Skill**' as **legitimate business activities protected under Article 19(1)(g) of the Indian**

**Constitution.** These rulings have also emphasized a clear distinction between ‘Games of Skill’ and ‘Games of Chance’.

#### Issues with Online Gaming:

- There is confusion about the **definitions of a ‘game of chance’ like fantasy games, and a ‘game of skill’**, a term, which has been used in the Public Gaming Act (1867) but has not been spelt out.
- There are **risks from cybercrimes** as well.
- Despite court rulings, online skill games have **faced restrictions in a few States due to addiction, financial losses and the thin line between skill and chance.**

### Rani Velu Nachiyar

Rani Velu Nachiyar was an **18th-century warrior queen** who belonged to the **Sivagangai estate** in present-day **Tamil Nadu**. She was the only daughter of the royal couple of the **Sethupathi dynasty** and was trained in martial arts, archery, and horseback riding. Rani Velu Nachiyar was also **multilingual**, with proficiency in languages such as French, English, and Urdu. On her birth anniversary, Prime Minister Narendra Modi paid tribute to her “courageous” spirit and her contributions to the fight against colonialism and for the welfare of society.

Tragedy struck early on in Rani Velu Nachiyar’s life when her husband, Muthu Vaduganatha Thevar, was killed by the British and the son of the Nawab of Arcot during the Kalaiyar Koil War. Following this event, Velu Nachiyar and her daughter were forced to flee from their land.

After fleeing, Rani Velu Nachiyar sought refuge with Gopal Naicker, the ruler of Dindigul. While under Naicker’s protection, she also met Haider Ali, the Sultan of Mysore, and impressed him with her fluent Urdu and intellect.

With the support of Naicker and Sultan’s forces, Rani Velu Nachiyar set out to regain control of her kingdom in 1780. This historic event is also believed to be the **first instance of suicide bombing in India**, with Velu Nachiyar and her military commander, Kuyuli, devising the plan to destroy British weapons.

Kuyuli sacrificed herself by setting herself on fire and walking into the armoury chambers of the fort captured by the British, thereby paving the way for Rani Velu Nachiyar to launch an attack and win her kingdom back. She earned the title “Veeramangai,” or “the brave one,” for her bravery in fighting the British and the Nawab of Arcot.

## International

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## Croatia's switch to Euro

Croatia has taken two major steps towards further integration with the European Union (EU) by adopting the euro and joining the Schengen zone. The country officially became the **20th member of the eurozone** on January 1st, and the removal of land border controls with neighboring Slovenia and Hungary marks its inclusion in the Schengen zone.

The inclusion of Croatia in the **Schengen zone**, which allows for passport-free travel between 26 European countries, is expected to **boost tourism** in the country. The tourism industry accounts for 20% of Croatia's GDP, and the end of land border controls with Slovenia and Hungary is expected to make it easier for tourists to visit the country's popular **Adriatic coastline**.

## Wassenaar Arrangement

India will assume **chairmanship** of the plenary of the Wassenaar Arrangement for a year on January 1, 2023, just five years after **joining the 42-member voluntary export control regime** that monitors transfers of conventional weapons and dual-use goods.

It facilitates **Information sharing** and **standard setting** on the **conventional arms and dual-use goods and technology**

## 50 years of the Stockholm Conference

"**Stockholm+50: A healthy planet for the prosperity of all — our responsibility, our opportunity**" was held in the year 2022 to mark the **50 years of the Stockholm Conference** (Report of United Nations Conference on the Human Environment).

### About Stockholm Conference, 1972

- This was the **first global convergence on the planetary environment and natural resources**.
- Also termed the "**Swedish Initiative**", the idea of the Stockholm Conference was first proposed by Sweden.
- The theme was '**Only One Earth**'.
- Stockholm Declaration: To build the "**interconnections between development, poverty and the environment**".

### Significance:

- The Stockholm Conference of 1972 put **environmental issues on the global agenda for the first time**.
- No country had an environment ministry until 1972. Today, over **176 countries have environmental framework laws**; 150 countries have enshrined **environmental protection or the right to a healthy environment** in their **constitutions**; and 164 countries have created **cabinet-level bodies responsible for environmental protection**

# Science-Tech & Environment

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## The National Geospatial Policy, 2022

- The **Ministry of Science and Technology** has notified the National Geospatial Policy, 2022. **“The National Geospatial Policy, 2022 is a citizen-centric policy** that seeks to strengthen the geospatial sector to support national development, economic prosperity and a thriving information economy
- **Aim:** The **13-year guideline** promote the **country’s geospatial data industry** and **develops a national framework** to use such data for improving citizen services, and more.
- **Themes:** The policy has divided **14 Geospatial Data Themes** to support the development of commercial geospatial applications in various sectors e.g., disaster management, mining, forestry etc.

### Technology Infrastructure:

**Geospatial Knowledge Infrastructure (GKI):** The government will establish an **Integrated Data and Information Framework by 2030 (to develop GKI)**. The government will also establish **National Digital Twin** (for high-resolution topographical survey and mapping by 2035)

### Institutional Infrastructure:

**Geospatial Data Promotion and Development Committee**(‘GDPDC’) will be constituted for formulating and implementing guidelines, strategies, and programs for the promotion of activities related to the Geospatial sector.

Will put in place a **legal framework** (by 2025) that supports the **liberalization** of the geospatial sector, and **democratization** of data for **enhanced commercialization** with value-added services.

### Significance of the policy:

- **Increased Coverage:** Government has **opened its geospatial data and services** offered by government agencies, academic and research institutions, private organizations, NGOs, and individuals.
- **No prior approval required:** Government has removed the requirement for prior approval, security clearance, or other restrictions on the management of geospatial data. **Self-Certification** will be sufficient for adherence to the guidance
- **Freehand at Processing of geospatial data:** Anyone can process the acquired geospatial data, build new applications and solutions using it and use it for profit (except for defence or security-related data)

- **Multi-dimensional Applications:** E.g., economy, sustainable national development initiatives, Agriculture etc.
- **Focus on 'local' relevance:** The Policy recognizes the importance of locally available and locally relevant Maps and Geospatial Data
- **Promoting Start-ups:** The Policy enables and supports innovation, creation and incubation of ideas and start-up initiatives in the Geospatial sector
- **Support India's 'Blue Economy':** By 2035, the policy will include mapping of sub-surface infrastructure in major cities and towns across India, and the development of accurate bathymetric geospatial data (resources and economy of inland waters, and sea surface topography of shallow and deep seas)

### GNB1 Encephalopathy

- GNB1 Encephalopathy is a **kind of neurological disorder, which affects individuals in the foetus stage.** Scientists say delayed **physical and mental development, intellectual disabilities, and frequent epileptic seizures, are among the early symptoms of the disease**
- A single **nucleotide mutation** in the GNB1 gene that makes one of the G-proteins, the "Gβ1 protein," causes this disease.
- Children born with GNB1 mutation experience mental and physical developmental delay, epilepsy (abnormal brain activity), and movement problems.
- **Why in news?** Researchers at the Indian Institute of Technology (IIT), Madras, Tel Aviv University and Columbia University are studying a rare **genetic brain disease called "GNB1 Encephalopathy" and trying to develop a drug to treat it effectively.**

### James Webb Telescope

- James Webb Telescope is an **international collaboration between NASA, European Space Agency (ESA), and the Canadian Space Agency.**
- The telescope **uses infrared light, which cannot be perceived by the human eye,** to study every phase in cosmic history.

#### Mission objectives:

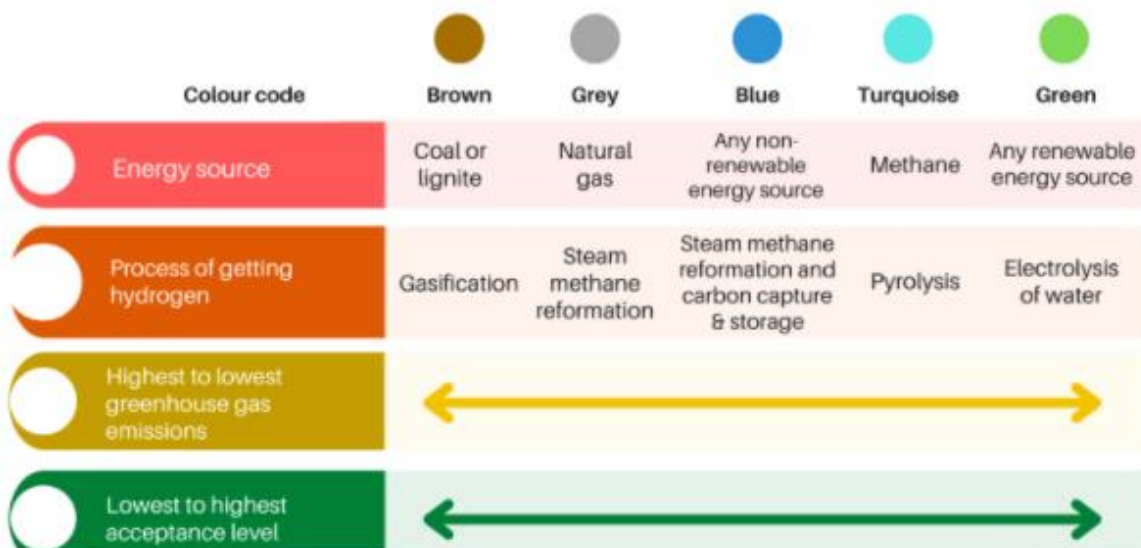
- It will help in a broad range of **investigations across the fields of astronomy and cosmology.**
- It will help to **understand the origins of the universe, the evolution of our own Solar System, and search for signs of life on faraway planets.**
- It can also **analyze the atmospheres of exoplanets** that pass in front of their stars.
- It will look at a large number of things in the universe including icy moons, distant exoplanets and galaxy clusters.



## India is all set to go for its first waste-to-hydrogen project

- Hydrogen generated at a facility in **Pune will be utilized locally** to help the city lower its emissions, and manage waste optimally.
- Pune Municipal Corporation (PMC) has collaborated with business management consultant **The Green Billions (TGBL) to manage its waste and generate it into useable green hydrogen.**
- The new facility will solve two major problems: **Inefficient waste management and carbon emissions.** Waste management is one of the prime issues in the country, which is blamed for generating the pollution in the surroundings.
- With this project, Pune city can **reduce up to 2.5 million tonnes of carbon dioxide equivalent, over 3.8 million tonnes of waste would be diverted from the landfill/dumping site and more than 180,000 estimated households will be served directly.**

### Hydrogen colour palette



## Dexa

- Dexa, also known as the bone density test, is an X-ray technology that measures bone strength.
- It can help identify if a person has a risk of breaking or losing bones, and can be used to determine if a player is at risk of fracturing any body parts.
- Dexa can also measure body composition and record body fat and muscle mass.
- DEXA, or dual-energy x-ray absorptiometry, is a method of determining bone mineral density using spectral imaging.
- Two X-ray beams at different energy levels are directed at the bone, and the resulting chart shows the current bone density and mineral content of the bone.

**Why in news?** The Board of Control for Cricket in India (BCCI) announced on January 1st that the Dexa bone density test will be mandatory for Indian players to be selected for the national team.

### Nilgiri Tahr Project

- The state government of Tamil Nadu has launched the Nilgiri Tahr project to conserve the state animal.
- The Nilgiri Tahr is an ungulate that is endemic to the southern portion of the Western and Eastern Ghats in Kerala and Tamil Nadu. It is mainly found the Nilgiri Hills. It is the state animal of Tamil Nadu. It is the only mountain ungulate in southern India among the 12 species found in India.
- The species has been listed as Endangered in the IUCN Red List of Threatened Species. Due to the numerous threats the ungulate faces, it is protected under Schedule I of the Wildlife (Protection) Act of India, 1972.
- Furthermore, the state government has designated October 7 as the 'Nilgiri Tahr Day' in honour of E.R.C. Davidar, who played a major role in pioneering one of the earliest studies on the species in 1975.

### Deepfakes

- **Deepfakes are digital media** – video, audio, and images **edited and manipulated using Artificial Intelligence (AI)** to inflict harm on individuals and institutions.
- **AI-Generated Synthetic media or deepfakes** have clear **benefits** in certain areas, such as accessibility, education, film production, criminal forensics, and artistic expression.
- However, it can be **exploited** (hyper-realistic digital falsification) **to damage the reputation**, fabricate evidence, defraud the public, and undermine trust in democratic institutions with **fewer resources** (cloud computing, AI algorithms and abundant data).

#### Threats:

- **96%** of deepfakes are pornographic videos, **reducing women to sexual objects** and causing emotional distress.
- Deepfake can **depict a person as indulging in antisocial behaviours** and can create **social discord, increase polarization**, and can even influence the **election outcome**
- Deepfakes can accelerate the **trust deficit in traditional media** and could be used by **nation-state actors** to create chaos in the target country, undermining trust in institutions

**Regulation: In India**, there are **no legal rules** against using deep fake technology. However, specific laws can be addressed for misusing the tech, which includes Copyright Violation, Defamation and cybercrimes.

## Ethylene Glycol (Quality Control) Order, 2022

- The **Department of Chemicals and Petrochemicals** under the Ministry of Chemicals and Fertilizers issued a gazette notification titled **Ethylene Glycol (Quality Control) Order, 2022**
- Recently, Uzbekistan alleged **18 child deaths** in Samarkand from the consumption of medicinal syrup manufactured by an Indian drugmaker (Marion Biotech's cough syrup Dok 1 Max). The syrup is manufactured containing **ethylene glycol**
- Previously, In October, **four sub-standard India-made** products typically used to treat cough symptoms had caused the deaths of **66 children** in Gambia (Africa)

### Why is ethylene glycol toxic to humans?

Ethylene glycol's toxicity mainly results from the accumulation of its toxic **metabolites**. Ethylene glycol is a **central nervous system (CNS) depressant** that produces acute effects similar to those of ethanol. (more in the Infographic above)

### How can Cough syrups kill children?

If glycerine, a key ingredient in cough syrup, is replaced with toxic industrial solvents **diethylene glycol (DEG)** or **Ethylene Glycol (EG)**, the cough syrups become toxic.

## WALLABY

- WALLABY, or the **Widefield ASKAP L-band Legacy All-sky Blind survey**, is a radio telescope in Western Australia that is helping astronomers build a **three-dimensional map of the night sky, mapping galaxies as far as a billion light years away.**
- Radio astronomy involves tracking the **signals from radio waves and helps detect and trace stellar objects that cannot be traced by light.**

## Lumpi-ProVac

- **ICAR** (Indian Council of Agricultural Research) has developed this vaccine for Lumpy Skin Disease (LSD)
- Lumpi-ProVac is safe in animals and induces **LSDV-specific antibodies and cell-mediated immune response.**
- The vaccine is used for the **prophylactic immunization of animals against Lumpy Skin Disease**, which illicit protection for **about one year**
- The vaccine is a **homologous, live attenuated vaccine** (see infographic below) to protect against **Capripoxvirus** (which causes LSD).
- The **virus** is transmitted **by flies and mosquitoes or ticks** (blood-feeding insects).
- **LSD doesn't affect humans**

## Virovore

The first known “virovore” - an **organism that eats viruses**- has been found.

### Key findings:

- Two plankton organisms named **Halteria and Paramecium**, can not only feed on viruses but also **thrive by consuming them**.
- Scientists found that a **species of Halteria** – which are microscopic ciliates that populate freshwater throughout the world – **can eat huge numbers of infectious chloroviruses**. Both share an aquatic habitat.
- The research also notes the **different patterns of consumption between Halteria and Paramecium** as the formerly used **chlorovirus as a source of nutrients and while the latter did consume the viruses, it did not grow much in population**.

# Economics

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## Bank's Loan recovery mechanisms

- **Lok Adalat:** Conducted by NALSA, the awards of Lok Adalat are final and binding on all parties
- **IBC:** Introduced in 2016 and amended in 2021, IBC provides a time-bound process of resolving the insolvency of corporate debtors (330 days)
- **Debt Recovery Tribunals (DRTs):** Along with Debts Recovery Appellate Tribunals (est. Under Recovery of debts and Bankruptcy Act, 1993) for expeditious adjudication and recovery of debts.
- **Securitisation and Reconstruction of Financial Assets and Enforcement of the Security Interest Act (SARFAESI Act 2002):** Under this, banks can take control of securities pledged against the loan and manage or sell them to recover dues without any court intervention.

# Ethics

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## President's note for IPS probationers

The President of India, Smt Droupadi Murmu addressed **the probationers of the 74th Batch of the Indian Police Service at the Sardar Vallabhbhai Patel National Police Academy, Hyderabad**.

### President's note:

- **The police are the most visible organ of the government.**
- The quality of their leadership would determine the effectiveness and morale of the force led by them. She advised them to keep in **mind and demonstrate through action**, the five fundamental attributes of **Integrity, Impartiality, Courage, Competence and Sensitivity**.

- Police officers are going to **play the role of change agents in India's achieving greater prosperity** while ensuring sustainable development, especially inclusion.
- Nari Shakti has to play a major role in achieving the targets we have set for ourselves during the 'Amrit Kaal'. A truly 'Atmanirbhar Bharat', pre-supposes 'Atmanirbhar Nari'.

### What are Lokpal and Lokayukta?

- **The Lokpal and Lokayukta Act, 2013** provided for the establishment of Lokpal for the Union and Lokayukta for States (as statutory bodies without any constitutional status)
- **Aim:** "ombudsman" and inquire into allegations of corruption against certain public functionaries and related matters.
- **Till 2011 eight attempts** were made to pass the Bill, but all met with failure.
- **Commission to Review the Working of the Constitution (2002) headed by M.N. Venkatachaliah, 1st ARC and 2nd ARC** recommended the appointment of the Lokpal and Lokayuktas.

# Current Affairs Update (Jan 7-13)

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## National

### Protected monuments

- A protected monument means an **ancient monument** which is declared to be of **national importance** by or under the Ancient Monuments and Archeological Sites and Remains Act, 1958.
- AMASR Act regulates the **preservation of monuments and archaeological sites** of national importance
- The Act protects monuments and sites that are **more than 100 years old**, including temples, cemeteries, inscriptions, cannons, etc.
- According to the provisions of the AMASR Act, **ASI officials are supposed to regularly inspect the monuments**, assess their conditions, issue show cause notices for removal of any encroachment, etc.

### How can a monument go “missing”?

Many of the monuments documented more than a century ago can no longer be found at their designated sites. The reasons can be:

- **Government focus on the social issue rather than heritage: In the decade following the independence, the** focus of successive governments was on health, education and infrastructure, rather than protecting heritage. Even within the scope of heritage, the aim was to **uncover more monuments** and sites, instead of conservation.
- **Rapid urbanization:** 14 monuments have been lost to rapid urbanization
- **Submergence by reservoir/dams:** 12 are submerged by reservoirs/dams
- **Difficulties in tracing in remote locations:** 24 are untraceable

The Ministry of Culture recently told Parliamentary Standing Committee that **50 of India’s 3,693 Centrally Protected Monuments (CPM)** were missing

### Sagol Kangjei

- Home Minister inaugurated a **122-foot-tall statue of a polo player** astride a Manipur Pony in Imphal.
- Modern polo is said to have **originated from Sagol Kangjei**, a sport indigenous to Manipur, in which **players ride horses, specifically the Manipur Ponies**, which are referenced in records dating back to the **14th century**.
- **Marjing** is considered the **God of polo** and features a pony as his carrier.

- **The Lai-Haraoba festival** of the state depicts the life and times of **Khori-phaba**, the polo-playing god of sports.
- The Manipur Pony is one of **five recognised equine breeds of India** and has a powerful cultural significance for Manipuri society.
- The **Marjing Polo Complex has been developed as a way to conserve the Manipur Pony.**

### Science behind the subsidence of Joshimath

- Joshimath is the starting point for many Himalayan Mountain climbing expeditions, pilgrimage sites such as Badrinath and Hemkund Sahib. It is the location of one of **Adi Shankara's** four cardinal monasteries.

#### Location, topography:

- Also known as Jyotirmath, it is a town (of over 20,000 population) in the **Garhwal Himalayas** in **Chamoli** District in **Uttarakhand**, located on the NH-7 (Rishikesh-Badrinath) at an altitude of **1890**
- It is situated in the middle slopes of a hill bounded by the Karmanasa and Dhaknala streams on the west and the east and the **Dhauliganga and Alaknanda rivers** on the south and the north.
- According to the **Mishra Commission report** (1976), the first instance of subsidence in Joshimath was reported way back in **1976** and the town is –
  - Located on the site of **ancient landslides**
  - Covered with thick layer of overburden material
- **The town area is prone to landslides and highly vulnerable** to sinking due to scattered and highly weathered gneissic rocks with a low bearing capacity and loose soil due to seepage from streams uphill.

#### Extreme weather events:

- **Flood events** of June 2013 and February 2021 (flooding of Rishi Ganga) had adverse impact on the landslide zone as a result of **extreme erosion**.
- According to the latest satellite data, **mountain streams have expanded their channels and changed course**, thereby inducing more slope instability in an already fragile belt.

#### Geology:

- According to the Uttarakhand State Disaster Management Authority (USDMA), Joshimath falls in **Zone V** of the Seismic Zonation Map and has witnessed several earthquakes of magnitude of less than 5 on the Richter scale.
- **Joshimath being on a fault line** makes it highly vulnerable to sinking because of tectonic activity.

## Technical textiles

- They are **functional fabrics** that have applications across various industries including automobiles, civil engineering and construction, agriculture, healthcare, industrial safety, personal protection etc.
- **Based on usage, there are 12 technical textile segments:** Agrotech, Meditech, Buildtech, Mobiltech, Clothtech, Oekotech, Geotech, Packtech, Hometech, Protech, Indutech and Sportech.
- The penetration level of technical textiles is low in India varying between 5-10% against the level of 30-70% in developed countries.
- The biggest players are the USA, western Europe, China and Japan (20-40% share).

## National Technical Textiles Mission (NTTM)

- **It was approved in 2020 for four years period** (FY 2020-21 to FY 2023-24) to position India as a global leader in Technical Textiles.
- It further aims to **increase the domestic market size of technical textiles** from USD 40 billion to USD 50 billion by 2024.
- **It has four components:** R&D; Development of the market for technical textiles; export promotion, and focus on education, training and skill development.

## Uniform Civil Code (UCC)

- The SC refused to entertain a PIL challenging the decisions of the Uttarakhand and Gujarat governments to constitute committees for implementing Uniform Civil Code (UCC) in their respective states.
- The constitution of such committees by the states **cannot be challenged for being ultra vires to the Constitution of India**, as **Article 162** empowers the State to constitute such committees. Article 162 of the Constitution states that the executive power of a state shall extend to the matters with respect to which the legislature of the State has power to make laws.
- Also, **Entry 5** (Concurrent List) **of the 7th schedule** of the Constitution gives such power to the states to form a committee.

## Background:

- The promulgation of the UCC emerges as a positive obligation and not duty of the State under **Article 44** of the Constitution in the Directive Principles of State Policy (DPSP).
- **Goa's Portuguese Civil Code of 1867** is an example of a common family law prevalent in a State.
- Both the Uttarakhand and Gujarat governments have constituted committees to look into the issue of implementation of UCC.



## Article 176 of the Indian Constitution

The governor-government tussle in Tamil Nadu erupted in the assembly after the CM objected to the Governor skipping portions of his customary speech to the state legislature and tabled a resolution against him, prompting the latter to leave the House.

**Article 176 (Special address by the Governor):** The Governor shall address the Legislative Assembly or both Houses (in the case of a State having a Legislative Council), assembled together at the **Commencement of the first session** after each general election to the Legislative Assembly and **Commencement of the first session of each year**

## Cold wave

In the plains, the Indian Meteorological Department (IMD) **marks a cold wave in terms of minimum temperatures** –When the minimum temperature is 4 degrees or less or When the minimum temperature is less than 10 degrees and 4.5 to 6.4 degrees below the normal.

**Reasons for the temperature drop in north and north-west India:**

- **Large-scale fog cover**, preventing sunlight from reaching the surface and affecting the radiation balance.
- **Light winds and high moisture near the land surface** have been contributing to the fog.
- Foggy or cloudy nights are usually associated with warmer nights, **but if the fog remains for two or three days, cooling begins even at night.**

# International

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## India to take over Asian Pacific Postal Union (APPU) leadership

- India will take over the charge of secretary General of APPU for 4 years term
- Asian Pacific Postal Union (APPU) is an **intergovernmental organization of 32 member** countries of the Asia-Pacific region. APPU is the only restricted **union of the Universal Postal Union (UPU)** in the region, which is a specialized agency of the United Nations.
- It aims to **extend, facilitate and improve postal relations** between member countries
- **HQ:** Bangkok, Thailand

## Impact of an ageing society in Asia

- **On Finance:** Early retirement ages have bloated the pension bills, making it difficult for governments in Asia to pay retirees enough money.

- **On Workplace:** Companies desperately need workers, and older employees desperately need the work. Thereby the working age has gone beyond 70 years.
- **On rising poverty:** In South Korea, the poverty rate among older people is close to **40 per cent**
- **On Jobs:** Many older workers engage in precarious, low-wage contract jobs after being forced out of their long-term employment by low retirement ages.
- **On Successions Plans:** Many owners of firms in Japan in their **mid-seventies have chosen to accelerate plans** to either hand over control or watch their cherished firms disappear. As a consequence, Japan faces the **most extensive evaporation of know-how and institutional memory** in modern history.

### Young Professionals Scheme

The governments of India and the UK marked **Pravasi Bharatiya Divas on January 9, 2023** by launching the Young Professionals Scheme, which allows up to 3,000 degree-holding citizens aged between **18 and 30** to live and work in each other's countries for a **period of two years**. The scheme, which was announced in November at the G20 summit in Bali, is part of the India-UK Migration and Mobility Memorandum of Understanding signed in May 2021.

The Young Professionals Scheme offers a unique opportunity for young Indians and Britons to gain international experience and expand their cultural horizons. It also has the potential to strengthen ties between the two countries by fostering cultural exchange and building networks of professionals.

**Pravasi Bharatiya Divas (PBD) Convention** is an annual event that brings together members of the Indian diaspora from around the world. This year's convention, held in Indore in partnership with the Madhya Pradesh government, features over 3,500 representatives from 70 countries and is being celebrated under the theme **"Diaspora: Reliable Partners for India's Progress in Amrit Kaal."**

### 80th Golden Globe Awards

- In the motion picture categories, **Steven Spielberg's The Fablemans** won for Best Motion Picture (Drama) and **Banshees of Inisherin** won for Best Motion Picture – Musical or Comedy.
- On the television side, HBO's Game of Thrones prequel **House of the Dragon** won for Best TV Series Drama
- Best Director went to Steven Spielberg for **The Fablemans**
- One of the films in contention at the Golden Globe awards was Telugu title **RRR**, directed by SS Rajamouli. The film ultimately won the award for **Best Original Song for "Naatu Naatu"** out of the two categories it was nominated for.

## Science-Tech & Environment

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## National Green Hydrogen Mission

Union Cabinet has approved the **National Green Hydrogen Mission**, which is aimed at **making India the global hub** for the production of green hydrogen. **National Hydrogen Mission** was launched on **August 15, 2021**, with a view to cutting down carbon emissions and increasing the **use of renewable sources of energy**.

**Nodal Agency:** The Ministry of New and Renewable Energy (MNRE) will formulate the scheme guidelines for implementation.

### Expected Mission Outcomes:

- Development of **Green Hydrogen Production Capacity** of at least **5 MMT** (Million Metric Tonne) per annum
- **Renewable energy capacity** addition of about **125 GW in the country by 2030**
- **Over 8 lakh crores** in total investments
- Creation of over **6 lakh jobs by 2030**
- Saving over **1 lakh crore** in **fossil fuel import**
- **Reduction in about 50 MMT** of annual greenhouse gas emissions by 2030

### Components of the Mission:

- **SIGHT** (Strategic Interventions for Green Hydrogen Transition Programme) under this, two **financial incentive mechanisms** have been created:
  - **Targeting domestic manufacturing** of electrolyzers
  - **Production of green hydrogen**
- **Strategic Hydrogen Innovation Partnership (SHIP):** Under this **Public-private partnership framework for R&D** will be facilitated under the mission.
- **Green Hydrogen Hubs:** Regions capable of supporting large-scale production and/or utilization of hydrogen will be identified and developed as Green Hydrogen Hubs
- **Policy Framework:** An enabling policy framework will be developed to support the establishment of the green hydrogen ecosystem.
- **Standards and regulations framework** will be also developed
- **A coordinated skill development programme** will also be undertaken
- **Support pilot projects** in emerging end-use sectors and production pathways

### Benefits of the Mission:

- **Creation of export opportunities** for Green Hydrogen and its derivatives
- **Decarbonization** of Industrial, mobility and energy sectors
- **Reduction in dependence** on imported fossil fuels and feedstock
- Development of **indigenous manufacturing capabilities**
- Creation of **employment** opportunities
- Development of **cutting-edge technologies**

### Animal research debate

Animal research or Experimentation involves the **use of animals to develop and test the safety of new medicines, drugs, cosmetics, medical procedures and other industry products.**

#### Ethical issues involved in animal research:

- The moral status of an animal.
- Innate rights of animals
- Distinguish between testing on animals and infants or disabled humans
- The inability of the animals to consent.
- Lack of proven benefits to humans, out of these methods.

#### Arguments in favour of Animal research:

- Life-saving cures and treatments
- No proper alternative for testing.
- Overcome **ethical considerations** involved in the **use of human subjects**
- Shorter life cycles of animals.
- **Animal treatments** are developed during their experimentation

#### Arguments against Animal research:

- Time- and resource-intensive
- In many cases, do not correctly predict real-world human reactions and do not ensure safety
- **Anatomic, metabolic, and cellular differences** between animals and humans.

### Silent Valley National Park

- The park is located in **the Nilgiri hills**. It is situated in the **core of the Nilgiri Biosphere Reserve**.
- Silent Valley is home to the largest population of **Lion-tailed macaques, an endangered primate specie**.
- **River Kunthi** descends from the Nilgiri hills and traverses the entire length of the valley.

Why in news? A **bird survey conducted at the Silent Valley National Park** identified 141 species, of which 17 were new. So far, **175 species of birds have been spotted in Silent Valley**. The survey is the **30th anniversary of the first bird survey in Silent Valley**.

### Kala-azar

- **Visceral leishmaniasis (VL), also known as kala-azar**, is the most severe form of leishmaniasis and, without proper diagnosis and treatment, is associated with high fatality.
- There has been a **98.7 per cent** decline in cases of Kala-azar from 44,533 in 2007 to 834 in 2022 in India
- India is committed to **eliminating Kalaa-Azar** from the country by **2023**
- **Elimination** is defined as **reducing the annual incidence of Kala Azar (KA) to less than 1 case per 10,000 people** at the sub-district level.
- It is also a **neglected tropical disease (NTD)**
- **Spread:** Caused by **protozoan parasites** of the Leishmania genus (transmitted through the bite of Sand flies), migrates to the internal organs such as the liver, spleen (hence “**visceral**”), and bone marrow.
- **Signs and symptoms** include fever, weight loss, fatigue, anaemia, and substantial swelling of the liver and spleen.
- Kala-azar is considered the **second deadliest parasitic killer** in the world after **Malaria**
- Kala-azar is **endemic to the Indian subcontinent** in 119 districts in four countries (Bangladesh, Bhutan, India and Nepal)
- It is endemic to **four states** Bihar, Uttar Pradesh, Jharkhand and West Bengal
- It is a **treatable disease with anti-leishmanial** medicines

### Airglow

The glow produced by atoms and molecules in the atmosphere is called airglow. The distinct colours of airglow are the result of **atoms and molecules releasing particular amounts of energy (quanta) in the form of light**.

In visible light,

- Oxygen produces green and red light.
- Hydroxyl (OH) molecules produce red light.
- Sodium produces a sickly yellow.
- Nitrogen does not contribute much to airglow.

At high altitudes ultraviolet light can split oxygen molecules ( $O_2$ ) into pairs of oxygen atoms. When these oxygen atoms later recombine into **oxygen molecules, they produce a distinct green light**.

Sodium atoms make up a minuscule fraction of our atmosphere, but they make up a big part of airglow. These sodium atoms in atmosphere unusually originate from the smoke trails of shooting stars.

### Theme for “National Science Day 2023”

Science and Technology Minister Jitendra Singh recently announced the theme for National Science Day 2023: “**Global Science for Global Wellbeing**”. This year’s theme highlights India’s emerging role on the global stage and its increasing visibility in the international community.

National Science Day is celebrated annually on February 28th to honor the discovery of the “Raman Effect” by Indian physicist Sir C V Raman, who received the Nobel Prize in 1930 for his discovery.

### What is LNG?

- **LNG is natural gas** reduced to a liquid state (liquefaction) through intense cooling to around -161 degrees Celsius (-259 Fahrenheit).
- This liquid gas is **600 times smaller** than the original volume and is **half the weight of water**, thus, can be transported around the world by ship.
- After arriving at its destination, the cargo is regasified in a floating terminal and redistributed through pipelines.

**Why in news?** The EU is replacing piped Russian gas imports with rapidly increasing imports of liquefied natural gas (LNG), much of which is fracking in the US.

### Limitations:

- This compressed fossil fuel is wholly made up of methane – **a potent greenhouse gas (GHG)**.
- Despite LNG’s export potential, **the high cost of liquefaction** and producing LNG has limited its market.
- The cooling, liquefying and transport processes, as well as the post-transport regasification procedures, **require a lot of energy**.
- Also, between 10-25% of the **energy of the gas is being lost** during the liquefaction process.

### What’s the climate impact?

- LNG emits **about twice as much GHG** as ordinary natural gas, emits 14 times as much carbon as solar power when producing the equivalent amount of energy, and 50 times as much carbon as wind power.
- **Risk of methane leakages** across the supply chain, makes LNG much more emissions-intensive.
- Processing LNG is so **energy and carbon-intensive** that it can create almost 10 times more carbon emissions than piped gas.

## Ozone hole

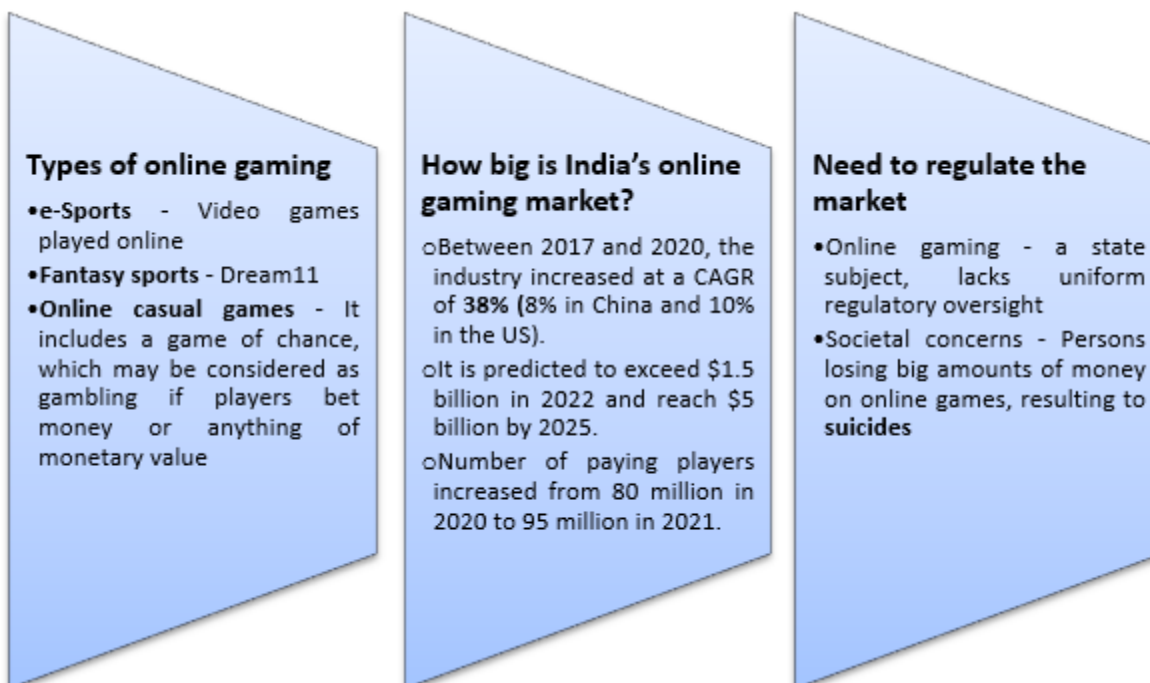
The ozone hole, previously thought to be the most serious threat to planetary life, is now predicted to be completely healed by 2066. This is stated in an UN-backed scientific team report titled 'Scientific Assessment of Ozone Depletion 2022'.

### Key highlights of the report:

- **The ozone layer is predicted to return to 1980 levels** over Antarctica by 2066, 2045 for the Arctic, and 2040 for the remainder of the planet.
- The ozone hole has been steadily improving since 2000, thanks to the **Montreal Protocol's** (1987) effective implementation. The Montreal Protocol mandates countries to phase out production of all main **ozone depleting substances** (ODSs).
- **The Kigali Amendment** (2016) to the Montreal Protocol aims to phase down 80-90% of the hydrofluorocarbons (HFCs) currently in use by 2050.
- **HFCs have replaced chlorofluorocarbons** (CFCs) in industrial use and the amendment seeks to prevent additional 0.3 to 0.5 degree Celsius of global warming by the end of the century. HFCs do not cause much ozone layer damage, which is why they were not originally prohibited, but they are **extremely powerful greenhouse gases** (GHGs).
- Nearly 99% of the Montreal Protocol-banned substances have now been phased out of usage, resulting in a **slow but steady rebuilding of the ozone layer**.

## Economics

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## The New Industrial Policy

- The **Department for Promotion of Industry and Internal Trade (DPIIT)**, Ministry of Commerce & Industry, is working on a new industrial policy.
- This will be the **third industrial policy (after 1956 and 1991)**, which is likely to replace the 1991 policy, which was prepared against the backdrop of the balance of payment crisis.

### Objectives of the New Industrial Policy:

- Focus on **competitiveness** and **capability**;
- **Economic integration** and moving up the global value chain;
- Promoting India as an attractive **investment destination**;
- **Nurturing innovation** and **entrepreneurship**;
- Achieving **global scale** and standards.

### The proposals of the New Industrial Policy:

- It seeks to achieve –
  - **One Nation-One Standard**,
  - Promote **startups** in every district,
  - **Create startup innovation zones** at the level of urban local bodies,



- Formulation of a **national capacity development program**, and
- **Incentivise Indian speciality products** by creating premium international brands.
- **To increase financing sources**, promote the **Made in India** brand, enhance local value addition and the country's credibility as a source of quality products.
- It has suggested **various ways for wider access to finance** for the industry such as setting up –
  - A **development finance institution** to provide finance at competitive rates and
  - Considering using some part of forex reserves for such funding.
- An **integrated investment promotion strategy** involving district, state, national and international market synergies.
- **Creating a national digital grid**, developing a robust data protection regime, setting up a technology fund, and creating a task force to continuously identify skill gaps.
- **Strengthening of the export finance systems** for enhancing export competitiveness.

## Apiculture

- **Apiculture** is the science and culture of **honeybees and their management**.
- As per the FAO, India **ranked eighth** in 2017-18 in the world in terms of honey production.
- National Beekeeping and Honey mission was launched to achieve the goal of **Sweet Revolution**.

### Opportunities in the Beekeeping sector

- Low investment and highly skilled enterprise model.
- The demand for good-quality honey has grown
- Role in pollination
- Scaling up beekeeping will double farmers' income.

### Challenges faced by the Beekeeping sector

- **Indigenous method** of beekeeping: This is the **primitive and unplanned method** of apiculture.
- **Using the Correct Species for Beekeeping**
- **Lack of Technical Knowledge for Efficient Management of Colonies for High Honey Yields**
- **Lack of Infrastructure at the Grass Roots and National Level for Beekeeping**
- **Poor Quality Control for the Production of Honey:** contaminated not only by the use of **sugar syrup in processing** but also **through pesticide and antibiotics use**.
- **Availability of Genetically Superior Queens** for Increased Honey Production

- **Lack of sufficient financial help** from government and lending institutions for the development of beekeeping.
- **No Control on the Use of Pesticides** by Farmers Leading to Death of Bee Colonies in Field Locations.

### India now has 212 indigenous livestock breeds

The Indian Council of Agricultural Research (ICAR) **has registered 10 new breeds of livestock species**, including **cattle, buffalo, goat and pig**. This has taken the total number of indigenous breeds to 212.

The 10 new breeds included three new **cattle breeds (Kathani, Sanchori, Masilum)**, **one buffalo breed (Purnathadi)**, **three goat breeds (Sojat, Karauli, Gujari)** and **three pig breeds (Banda, Manipuri Black, Wak Chambil)**

### The Great Resignation

**The Great Resignation**, also known as the 'Big Quit' and the 'Great Reshuffle', is an ongoing economic trend in which employees have voluntarily resigned from their jobs en masse, beginning in early 2021 in the wake of the COVID-19 pandemic.

A record **4.3 million people** resigned in August 2021, up 2,42,000 from July, according to the US Bureau of Labor Statistics (BLS).

#### Underlying factors:

- **COVID Pandemic** has led to people working from home, and many resigned to take care of their loved ones during periods of sickness.
- **Burnout**: Working from home and being double burdened with psycho-social issues due to isolation and low-leisure time also led to burnout feeling.
- **Anti-work movement**: It grew strong in 2021 and improvement in labour conditions and wage hikes were key demands that not being met resulted in resignation.
- **Gig economy**: Freelance and gig work became strong during the pandemic period and many sought gig works and moonlighting in new fields.
- **Skilling**: moonlighting in new fields also meant leaving the conventional job to acquire new skills.

# RECESSION

**RECESSION** refers to slowdown in the economic activities, usually due to a fall in the spending levels. Fall in GDP and profits, a rise in unemployment are a few indicators of the economy in a recessionary phase.

## CAUSES OF RECESSION

<b>ECONOMIC SHOCK</b> arising due to unforeseen events (like Coronavirus, the most recent example).	<b>EXCESSIVE DEBT</b> – where individuals & businesses take too much loan and are unable to repay.	<b>ASSET BUBBLES</b> develop when investors become too optimistic about stock and keeps on investing and it then bursts.
<b>HIGH INFLATION</b> gets out of control, it could increase interest rates. This may slow down the economy.	<b>HIGH DEFLATION</b> - Similar to excessive inflation, an out-of-control deflation can also result in a recessionary phase.	<b>TECHNOLOGICAL CHANGES</b> may also lead to recession, as it may lead to great job losses.

## INDICATORS

- If the GDP growth numbers are negative, it may be a sign of a recession.
- A fall in real income usually results in a drop in purchases and demand as well.
- A high level of unemployment at a specific time also indicate the health of the economy.
- The low manufacturing level in an economy is also a sign of the recessionary period.
- A fall in demand of wholesale and retail is a sign of recession.
- If the GDP estimates are not optimistic, it should ring a warning bell of a possible recessionary phase.

**The only benefit of recession is that it keeps a check on inflation.**

## Ethics

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# Current Affairs Update (Jan 14-20)

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## National

### Corbusier's vision for Chandigarh

The SC directed the Centre and the UT administration to take a number of steps to preserve Le Corbusier's Chandigarh. It prohibited fragmentation/ division/ bifurcation/ apartmentalisation of a residential unit in Phase I of Chandigarh.

#### Feature of Corbusier's architectural plan:

- **The theme of his planning:** 'Care for the body and spirit'. This would fulfil four functions – **living, working, movement and recreation.**
- A rectangular grid that would privilege the automobile. This encouraged self-sufficient units, dividing the city into **different sectors.** The residences fell into 13 categories based on the rank and income of the government officials who would inhabit them.
- **Garden City**, where high-rise buildings were unacceptable in commercial areas.
- His plan would have **a heart, a head and hands.** The "head" would contain the Capital Complex, the "heart" the commercial area and the "hands" would host recreational spaces and academic institutions.

### SPRINT Scheme

**Indian Navy** has signed an agreement with **Sagar Defence Engineering Pvt. Ltd** for **armed autonomous boat swarms** under 'SPRINT' (Supporting Pole-vaulting In R&D), an initiative to promote the development of niche defence technologies by domestic companies.

This is the **50th contract under 'SPRINT'**, which aims at the development of **75 indigenous technologies** by the industry for the Navy by **August 15, 2023, as part of Azadi ka Amrit Mahotsav**

### Gujarat's Harappan necropolis

- Excavations at one of the **biggest necropolises at Juna Khatiya village** (Kutch, Gujarat) show rows of **graves with valuable items** such as Ceramic pots, beaded jewellery, animal bones etc. They date back to **3200BCE to 2600BCE** (predating several other Harappan sites)
- **Dholavira** ( a UNESCO world heritage site in Gujarat) has a cemetery in and around the town, but no major habitation has been discovered around Juna Khatiya.
- A necropolis is a **large, designed cemetery with elaborate tomb monuments.** The name stems from the Ancient Greek meaning "**city of the dead**". The **pyramid at Giza**, in Egypt, is an example of a necropolis — it's the tomb of an Egyptian pharaoh.

- Juan Khatiya demonstrate **the transition from earth-mound burials to stone graves**. The **pottery** has features and style similar to those excavated from **early Harappan sites in Singh and Balochistan**

### The basic structure doctrine

The Doctrine of Basic Structure is a form of **judicial review** that is used to test the legality of any legislation by the courts. The doctrine was evolved by the Supreme Court in the **1973 landmark ruling in Kesavananda Bharati v State of Kerala**. In a **7-6 verdict, a 13-judge Constitution Bench** ruled that the 'basic structure' of the Constitution is **inviolable**, and could not be **amended** by Parliament.

#### Basic Structure Doctrine (BSD) test:

- If a law is found to **"damage or destroy" the "basic features of the Constitution"**, the Court declares it **unconstitutional**.
- The test is applied to **constitutional amendments** to ensure the amendment does not dilute the fundamentals of the Constitutional itself.
- The test is widely regarded as a **check on majoritarian impulses of the Parliament** since it places substantive limits on the power to amend the Constitution.

#### Significance of Basic Structure:

- It is a **testimony to the theory of Constitutionalism** to prevent the damage to the essence of COI by the brute majority of the ruling majority.
- It saved the Indian democracy **as it acts as a limitation of constituent power** or else unlimited power of parliament might have turned India into a totalitarian regime.
- **It helps us to retain the basic tenets of our constitution** so meticulously framed by the founding fathers of our Constitution.
- **It strengthens our democracy by delineating a true separation of power** where the Judiciary is independent of the other two organs.

### Registrar General of India (RGI) & ST criteria

The Office of the Registrar-General of India (RGI) is following the set of criteria set out by the Lokur Committee **nearly 60 years ago** to define any new community as a Scheduled Tribe. The **Office of the RGI's nod is mandatory** for the **inclusion of any community in ST lists**, as per the procedure for scheduling tribes.

#### The criteria of the Lokur Committee for recognition of any community under the ST list are:

- Indications of primitive traits
- Distinctive culture
- Geographical isolation

- The shyness of contact with the community at large
- Backwardness

### World's Longest River Cruise

The **Ganga Vilas Cruise** will cross through four states in India, including Uttar Pradesh, Bihar, and Assam, over a journey of 51 days. The cruise is expected to create new history in the waterways sector of India and marks the beginning of a new era of river cruise tourism in the country. The cruise will also take tourists through places with rich history and mythology associated with the river Ganges.

The Ministry of Culture in India recently organized a grand curtain raiser program called 'Sur Sarita – Symphony of Ganga' at the Kashi Vishwanath Corridor in Varanasi, on the eve of the launch of the world's longest river cruise.

**MV Ganga Vilas** is the **first river cruise** to connect Uttar Pradesh, Bihar, Jharkhand, West Bengal and Assam. It begins in Varanasi (UP) and concludes in Dibrugarh (Assam). This cruise will cover a distance of more than **3,200 km across NW1** (Ganga-Bhagirathi-Hooghly), **Indo-Bangladesh Protocol (IBP) Route 1 and NW2** (Brahmaputra).

### India's First School of Logistics, Waterways, and Communication

India's first School of Logistics, Waterways, and Communication was launched in **Agartala**. The school is set up under the State Institute of Public Administration and Rural Development (SIPARD) and will facilitate in conducting studies/research, training, workshops/seminars for stakeholders like businesses, exporters/importers, Chambers of Commerce and Industries, local entrepreneurs, tourist operators, etc.

### Magh Bihu

- It is a harvest **festival of Assam where people express gratitude** for a good harvest and marks the end of the harvest season.
- It believes in sharing the gifts of nature as a community and strengthening a sense of identity and belonging.
- The festival of Bihu has three forms: **Bohag Bihu, Kati Bihu, and Magh Bihu**. Each of these falls in the agriculture calendar.

This day is considered auspicious in the Hindu lunar year as well and **is known as the Makar Sankranti**, i.e., the day when the sun begins its northward journey or **Uttarayan and transitions into the Hindu zodiac sign of Makara**.

On this day the Sun God is worshipped in various parts of India in the form of different festivals such as **Pongal (Tamil Nadu), Maghi (Punjab), and Uttarayan (Gujarat)**.

## Jallikattu

The bull-taming sport of Jallikattu, also known as 'Eru Thazhuvuthal' and 'Mancuvirattu', has begun in full swing in the Palamedu of Madurai district. This traditional event, which is a part of the Pongal celebrations and is held on the day of Mattu Pongal, is a sport where a bull is let loose among a crowd, and participants attempt to take control of the bull by holding on to its hump for as long as they can.

The sport of Jallikattu has been a controversial topic in India, with some arguing that it violates animal rights while others argue in favor of preserving the "culture and customs" of the local populace.

In Karnataka Jallikattu is called Kambala. The Karnataka Government too passed a law to save the sport. Except in Karnataka and Tamil Nadu, the sport is banned in other states such as Punjab, Andhra Pradesh and Maharashtra.

## Votive stupas

Archeological Survey of India (ASI) has discovered **two 1200-year-old miniature votive stupas** during landscaping activities near Sarai Tila mound on the premises of 'Nalanda Mahavihara', a world heritage site in Nalanda district. The stupas, carved from stone, depict Buddha figures.

### What are stupas?

A Stupa is a hemispherical structure which **symbolizes the burial mound of Buddha**. It rose to prominence after the advent of Buddhism and peaked during **Ashoka's reign**. Stupas evolved as **Chorten in Tibet and pagodas in East Asia**.

### What is a votive stupa?

The form of the stupa, with its distinctive domelike drum, **originates in eight cylindrical structures in which the Buddha's relics were placed after his death**. **Votive stupas were offered in fulfilment of a vow**. Beginning in the **7th century CE in India**, small miniature terracotta stupas became popular as votive offerings.

## How is the age for marriage determined in India?

- **Personal laws** that govern marriage for communities prescribe certain criteria for marriage, **including age**.
- For example, **The Hindu Marriage Act, of 1955**, sets a minimum age of 18 for the bride and 21 for the groom (same for Christians under the Indian Christian Marriage Act, 1872 and the Special Marriage Act).
- **For Muslims**, the criterion is attaining puberty, which is assumed when the bride or groom turns 15. This means that the legal age of marriage is **not uniform across communities**.

**Why in news?** The SC agreed to examine whether girls as young as 15 years old can enter into marriage on the basis of custom or personal law although such marriages are illegal under statutory law.

**Background:**

- Last year, Punjab and Haryana HC declared in a Habeas Corpus petition that a Muslim girl is free to marry whoever she wants **after reaching puberty** if she is under the age of 18.
- **The National Commission for Protection of Child Rights** (NCPCR) had moved the SC against the HC ruling, arguing that the HC’s ruling essentially allowed a child marriage violating the Prohibition of Child Marriage Act, 2006, which is secular legislation.
- While agreeing to hear an appeal on the case, a bench headed by the Chief Justice of India said that the **HC’s decision should not be relied on as a precedent in any other case.**
- The SC’s intervention opens up the **issue of regulating the minimum age of marriage for women** and the impact it has on personal law.

## International

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### What is the “Pineapple Express” Phenomenon?

- “Pineapple Express” is a specific example of a common atmospheric phenomenon known as atmospheric rivers. These “rivers in the sky” according to the National Oceanic and Atmospheric Administration, are long, narrow regions in the atmosphere that transport most of the water vapor outside the tropics. They carry a lot of moisture – enough water vapor to equal or sometimes exceed the average flow of the Mississippi River at the point where it flows into the Gulf of Mexico.
- For an atmospheric river to be classified as a “true Pineapple Express,” its location is key. The tail end, where the moisture is pulled into the atmosphere, must start near Hawaii. Then the river must stretch continuously through the atmosphere to the U.S. West Coast. This type of atmospheric river is known to bring heavy precipitation to the West Coast, as it is a continuous flow of moisture.
- Over the past two weeks, California and other parts of the West Coast have been hit with a series of what meteorologists call atmospheric rivers.

### What is the global south?

**The concept of Global South** is used to describe a grouping of countries along socio-economic and political characteristics. The Global South is a term often used to identify regions within Latin America, Asia, Africa, and Oceania. The global south consists of the **poorest and least industrialized countries**, which are mainly in the southern part of the world.



## World's Strictest Anti-Smoking Laws

**Mexico** has recently imposed one of the world's strictest anti-tobacco laws, setting in force a total ban on smoking in public places, including hotels, beaches, and parks. The new law, which is part of the country's General Law for Tobacco Control reform, came into force and will also see the total ban on the promotion, advertising, and sponsorship of tobacco products. The sale and use of e-cigarettes and vapes are also due to face new restrictions. Mexico's new law follows similar smoking bans in other countries such as **the United Kingdom, Thailand, and Russia**.

## Blacklisting of terrorists

The UN Security Council's (UNSC) **1267 Al Qaeda Sanctions Committee** added 68-year-old Abdul Rehman Makki to its list of designated terrorists upon China withdrew its 'technical hold'.

Pakistan-based Makki is the deputy chief of the terror outfit Lashkar-e-Taiba and the brother-in-law of its founder (Hafiz Saeed).

### Significance for India:

- **Threats from terrorist organisations in the region remain high.** (Makki being linked to seven terror attacks in India)
- Listings and sanctions by the UNSC are effective tools to **curb such threats and dismantle terror infrastructure** in the region.
- **It validates India's commitment to a zero-tolerance policy toward terrorism.**
- It will also inspire India to press the international community to take credible, verifiable, and irreversible action against terrorism.

### What is the 1267 Al Qaeda Sanctions Committee?

- **The committee is part of the UNSC** and its job is **to implement international sanctions** against terrorists.
- It was established as the Al-Qaida and Taliban Sanctions Committee in **1999** after **UNSC Resolution 1267 designated** Al-Qaida and the Taliban as terrorist bodies. In 2011, a separate committee was formed for the Taliban.

# Science-Tech & Environment

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## What is Generative AI?

**Generative AI** is a type of **artificial intelligence** that involves **creating new, original content or data** using machine learning algorithms. It can be used to generate text, images, music, or other types of media.

### Uses of Generative AI:

- Create realistic **images and animations**. **Text-to-image programs such as Midjourney, DALL-E and Stable Diffusion** have the potential to change how art, animation, gaming, movies and architecture, among others, are being rendered
- Generative AI can be used to **compose music and create art**
- **Create brand logo**: E.g. many startups are exploring services like DALL.E2, Bing Image Create, Stable Diffusion, and MidJourney to create their brand logo
- **Generate text messages**.g. ChatGPT to generate news articles, poetry, and even code.
- AI-assisted **drug discovery**
- Generative AI can be used to **design and control robotic systems**
- **Automate things e.g.** Microsoft-owned **GitHub Copilot**, which is based on **OpenAI's Codex** model, suggests code and assists developers in autocompleting their programming tasks.

### Issues Associated with Generative AI:

- **Governance**: Companies such as OpenAI are self-governing the space through limited release strategies, and monitored use of models, however, self-governance leaves chances for manipulation
- **Fear of Job losses**:g. automation of tasks that were previously done by humans, such as writing news articles or composing music.
- **Reduced need for human cognition**:g. young children who will see AI as their friend to do their homework.
- **Fear of Societal Bias** being replicated by AI
- **Issues surrounding intellectual property and copyright**: The datasets behind generative AI models are generally scraped from the internet **without seeking consent from living artists** or work still under copyright
- **Fear of Misinformation and Mistrust by manipulation of information**, creating fake text, speech, images or video
- **Fear of Concentration of Power** in the hand of a few companies
- **Risks for national security using** automated troll bots, with advanced capabilities

### Chrome plating

**Chrome plating** (less commonly chromium plating) is a technique of **electroplating a thin layer** of chromium onto a metal object. The chromed layer can be **decorative, provide corrosion resistance, ease of cleaning**, or increase surface hardness.

**Issues with Chrome plating**: Chromium contains **Hexavalent chromium**, which is a known **carcinogen**. The plating process uses lead, which can be absorbed through the skin and can cause liver, organ and brain damage.

## Neelakurinji

- The Ministry of Environment, Forest and Climate Change (MoEF) has listed Neelakurinji (*Strobilanthes kunthiana*) under **Schedule III of the Wildlife (Protection) Act, 1972**, including it on the list of protected plants. This move is aimed at protecting the plant from being destroyed or uprooted, which has become a major threat to the flowering areas.
- As per the new order, those who uproot or destroy the Neelakurinji plant will invite a fine of **₹25,000 and three years' imprisonment**. The cultivation of Neelakurinji and its possession is also not allowed.
- Neelakurinji is an endemic plant found in a small stretch in the **Western Ghats**, from the Mangaladevi hills to the Nilgiris hills. The most popular Neelakurinji is *Strobilanthes kunthiana* which blooms once in 12 years.

## National Clean Air Programme

Four years since the Centre launched the National Clean Air Campaign (NCAP), analysts found that progress has been slow and pollution has only incrementally reduced in most cities.

**The Launch:** In January 2019, the Ministry of Environment, Forest and Climate Change (MoEFCC) launched the National Clean Air Programme (NCAP) to prepare clean air action plans.

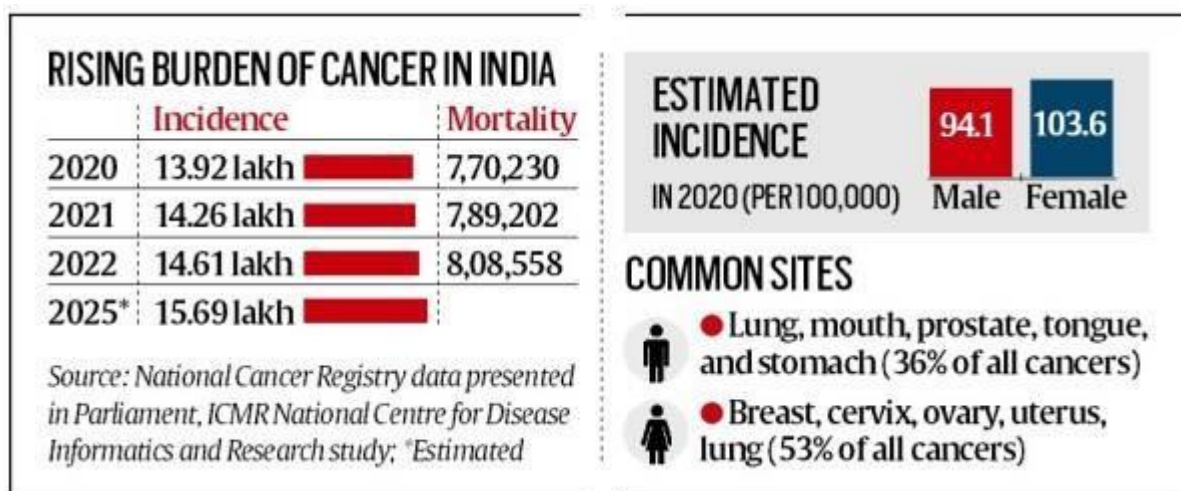
**The mandate of the National Clean Air Programme (NCAP); –**

- **The goal of NCAP (annual average ambient air quality standards at all locations in the country): 20%–30% reduction of PM<sub>2.5</sub> and PM<sub>10</sub> concentration by taking 2017 as the base year** for the comparison of concentration.
- Under NCAP, **132 non-attainment cities** have been identified across the country based on the **Air Quality data from 2014-2018**.
- **Preparation of the city-specific action plans** including measures to strengthen the monitoring network, reduce vehicular/industrial emissions, and increase public awareness.
- **Implementation** of the city-specific action plans to be regularly monitored by Committees at the Central and State level namely Steering Committee, Monitoring Committee and Implementation Committee.

## Incidence of cancers

- **The incidence of cervical cancer has dropped** in India over the last 50 years from 45 to 10 per 100,000 population. The decline is because of **late marriages, fewer children**, better hygiene, and vaccination (human papillomavirus vaccine (HPV)).
- At the same time, there is **an increase in rates of breast cancer**, especially in urban centres (45 per 100,000 in Hyderabad). This is because of the same reasons (which resulted in cervical cancer decline) – late marriages, having the first child at a later age, not breastfeeding, and a high protein diet.

- **The rates of tobacco-related cancers** (oral, oesophageal) are also coming down, largely due to tobacco laws that have brought down smoking in public places.
- **Lung cancers**, however, remain a cause for concern. It is caused not only by smoking but also by pollution. **For example**, lung cancer rates are high in Arunachal Pradesh because they light fires indoors in winter. The survival rate for lung cancer is not very high and it is mostly diagnosed in the late stages.



## Exoplanet discovered

**James Webb Space Telescope** has discovered its **first new exoplanet**. The planet is named **LHS 475 b**, and it is roughly the same size as Earth.

### About Exoplanets:

- Exoplanets are planets that **orbit other stars and are beyond our solar system**.
- If an exoplanet is too close to the star, it might be too hot to sustain liquid water.
- If it's too far, it might only have frozen water.
- When a planet is at a distance that **enables it to have liquid water, it is said to be in the "Goldilocks zone"**.

## GAEA initiative

The **World Economic Forum**, in partnership with over 45 organizations, has launched the Giving to Amplify Earth Action (GAEA) initiative. The goal of GAEA is to fund and grow new and existing public, private, and philanthropic partnerships (**PPPPs**) to unlock the \$3 trillion of financing needed each year to reach net zero, reverse nature loss, and restore biodiversity by 2050.

### The Role of Philanthropy

Philanthropic giving can address this funding gap, with unique qualities not found in other financing. Philanthropy is nimble, more tolerant of risks and is driven by values and long-term outcomes rather than quarterly returns

## Economics

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### Duty Drawback Scheme

The Duty Drawback Scheme provides **exporters with a refund of customs duty paid on unused imported goods, or goods** that will be treated, processed or incorporated into other goods for export. Claims must be **lodged within 4 years** from the date the goods were exported.

As per the GST authorities, exporters are misusing the government's **duty drawback scheme (DDS)** by claiming it along with refunds of integrated goods and services tax (GST).

**Over 100 exporters** (mainly in apparel, drugs and leather) have **"illegally"** drawn benefits from the integrated GST refund claims on exports while also claiming under DDS. Duty drawback can be only claimed for compensating unrelated taxes and duties and not for GST.

### Green Steel

Green Steel is the manufacturing of steel using **renewable or low-carbon energy sources** such as hydrogen, coal gasification, or electricity instead of the traditional carbon-intensive manufacturing route of coal-fired plants.

#### Government programmes for green steel:

- **National Hydrogen Energy Mission (NHM)** capitalizes on hydrogen for a cleaner alternative fuel option
- **Petroleum and Natural Gas Ministry launched Pradhan Mantri Urja Ganga Project** in Eastern India in 2019 to provide gas to all steel plants located in the area

### Microfinance institutions (MFIs)

Microfinance institutions (MFIs) are **financial companies that provide small loans to people who do not have any access to banking facilities**. The definition of "small loans" varies between countries. In India, all loans that are below Rs. 1 lakh can be considered microloans.

#### Significance of microfinance institutions in the economy

- **Empowerment of women: About 95 per cent** of some loan products extended by microfinance institutions are given to **women, as well as those with disabilities**

- **Access to credit esp. for the poor:** It has acted as a financial support system to low-income households by offering credit **access to six crore borrowers** in the last few years
- **Poverty alleviation:** Microfinance disrupts the cycle of poverty by making more money available. They provide easy credit and offer **small loans to customers, without any collateral.**
- **Savings in rural households:** It helps the poor and marginalized section of society by making them **aware of the financial instruments available** for their help and also helps in developing a culture of saving.
- **Creating employment**
- **Social benefits:** Families benefiting from microloans are more likely to **provide better and continued education** for their children and **quality healthcare facilities** for family members.
- **Digitization:** From 2017 onwards, the Indian MFI industry embraced the digital route by using online delivery channels, mobile banking and e-wallets.

## Oxfam Report

As per the latest **Oxfam Report** titled '**Survival of the Richest**':

- **Global:** Richest 1% bag nearly twice as much wealth as the rest of the world put together over the past two years
- **India:** The **richest 1%** in India now own more than **40% of the country's total wealth**, while the bottom half of the population together share **just 3%** of wealth between **2012 and 2021**
- **Female workers** earned **only 63%** of male workers earning
- Since the Pandemic, **billionaires' wealth** has surged more than 100%
- **Suggestions:** Introduce Wealth taxes and windfall taxes, and raise taxes on capital gains.

## Sports

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### FIH Men's Hockey World Cup 2023

- The 15th edition of the FIH Men's Hockey World Cup is set to begin on January 13th in India. The tournament, which is held every four years, will feature **16 teams** from around the world competing for the coveted title.
- The tournament has a rich history, with Pakistan being the most successful team with four titles, followed by Netherlands and Australia with three titles each, and Germany with two titles.
- India has only won the World Cup once, back in 1975.
- In the last edition of the tournament, Belgium became the sixth team to win the World Cup after defeating Netherlands in the penalty shoot-out.

# Ethics

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## Conflict Of Interest

A “conflict of interest” involves a conflict between the **public duty and private interests of a public official, in which the public official has private-capacity interests**, which could improperly influence the performance of their official duties and responsibilities.

### Current example:

- The UAE, which will host **this year’s annual climate change conference** has named one of its ministers, **Sultan Al Jaber**, who is also the CEO of an oil company as the president of the conference.
- The fact that the CEO of an oil company has been **named to preside over a conference on climate change when the world is attempting to move away from oil and other fossil fuels is being seen as a conflict of interest.**
- This is the first time that anyone having a direct connection to the fossil fuel industry has been appointed as president of the climate change conference.

## Kollam

Kollam is India’s first Constitution-literate district.

**2,200 trainees:** As part of the ambitious campaign, around **16.3 lakh people** in the district above the age of 10 have been educated on various aspects of the Constitution and the strenuous process involved 2,200 trainers called ‘**senators**’.

**During the seven-month campaign**, the senators visited schools, offices, auto stands and tribal councils to spread awareness. As part of the campaign, **the Preamble of the Constitution** has been **distributed** in all households and installed at government, quasi-government and private institutions and schools

## The issue of fake news in India

Fake news is any piece of **misleading maliciously false information** circulating through print media, electronic media or social media. ‘**Yellow Journalism**’ and ‘**Tabloid Journalism**’ are the terms used for fake news.

### Motive:

- **To increase their viewership and TRP** through eye-catching headlines and cooked-up news.
- To spread **propaganda/personal agenda/image building/defaming**

### Impact:

- Negative impact on **law and order** of the state as well as the **safety and security** of the citizens. (31 mob lynchings due to fake news of being child abductors)
- Breed **communal hatred** and disturbs the **communal harmony** in a society.
- Affects the **election outcomes** via fabricated articles, audio, videos, and election campaigns. (Fake news accused of tampering U.S Presidential elections)

#### Laws to curb fake news:

- Section 66 D of the **IT Act 2008** regulates offences related to electronic communication.
- **The Disaster Management Act 2005** and the Epidemic Diseases Act 1897 (especially during Covid-19) regulate the circulation of fake news or rumours that can cause panic among citizens.
- **The Indian Penal Code of 1860** regulates fake news that causes riots and information that causes defamation.

#### Challenges in curbing fake news:

- **India has 451 million** active monthly internet users and the role of the different social digital platforms is on the rise.
- **Due to end-to-end encryption** of messages, third parties will not have any access to these messages. Hence, such fake news comes to the attention of the administration only **if it is reported**.
- There is **no dedicated fake news law**.
- **The use of internet shutdowns** to curb the spreading of fake news has been an effective way.

#### Concerns related to Rule 3(1)(b)(v) of the amended version of the IT Rules 2021:

- Anything contradicted by the government might be used to justify-content takedowns.
- **The PIB's fact-checking unit** (established in 2019) verifies news about government ministries, departments, and schemes. But **it rarely explains** why information has been identified as false or misleading and, on some occasions, it tweeted incorrect information.



# Current Affairs Update (Jan 21-27)

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## National

### Charaideo Moidams

- It is also known as the 'Pyramids of Assam' and was the original capital of the Ahom Kings. It contains **sacred burial grounds of Ahom kings and queens** and is also the place of the ancestral Gods of the Ahoms.
- **Che-Rai-Doi:** "Che" means city or town, "Rai" means "to shine" and "Doi" means hill. In short, Charaideo means, "**a shining town situated on a hilltop.**"
- A moidam is a tumulus – **a mound of earth** raised over a grave
- **Built by:** Chaolung Sukhapa (founder of the Ahom dynasty in about 1253 CE)
- **Located at** around 30 Km from the historical Sivasagar town in Assam at the foothills of Nagaland
- **Features:** It comprises a **massive underground vault with one or more chambers having domical superstructure** and covered by a heap of earthen mounds and externally it appears a hemispherical mound.

**Why in news?** Central government has decided to put forth the name of **Assam's Charaideo moidams burial sites in addition** to United Nations Educational, Scientific and Cultural Organization's (UNESCO) World Heritage Sites list for 2023-24. If selected it will be the only cultural heritage site in the North East to get the coveted status

### Andaman Islands after Param Vir Chakra recipients

- PM Modi named the **21 largest unnamed islands of Andaman & Nicobar Islands** after India's 21 Param Vir Chakra awardees.
- The ceremony was organised on the occasion of **Parakram Diwas, Netaji Subhas Chandra Bose's birth anniversary**
- Previously, **Ross Island was renamed Netaji Subhash Chandra Bose Dweep** by PM Modi during his visit to the Island in 2018
- The Param Vir Chakra is **India's highest military decoration**, awarded for displaying distinguished acts of valour during wartime. Param Vir Chakra translates as the "**Wheel of the Ultimate Brave**", and the award is granted for "**most conspicuous bravery in the presence of the enemy**". It was **1<sup>st</sup> awarded in 1947 and last awarded in 1999**

## Caller Name Presentation (CNAP)

Telecom operators have said that a proposal – CNAP – by the Telecom Regulatory Authority (TRAI) of India to display callers' names could have privacy implications. Currently, there are some applications (Truecaller) which offer a similar service. However, all of them are **third-party apps and depend on crowd-sourced data**.

### What is CNAP?

- The CNAP feature will allow users to know the identity of the person calling them.
- The basic idea is that if people are aware of the person who is calling them, they can make an **informed choice about those calls**.
- At the same time, such a feature could potentially help in **curbing harassment and other spam calls**.

### Concerns about CNAP:

- **Privacy concerns:** Given that handset manufacturers and OS providers have control over the data obtained through the CNAP, this could result in the breach of subscriber data privacy. **Women**, in particular, could be the most vulnerable
- **Technical challenges:** The time-division multiplexing (TDM) based interconnection between telcos does not support CNAP. Further, there are no standards for CNAP over 2G/3G networks.
- **Could be inaccurate:** Several people purchase SIM cards using forged identity cards and TRAI's proposal to use SIM registration data might be fraught with inaccuracies.

## POCSO and Beyond: Understanding Online Safety during COVID Report

- Adolescent girls and boys **within 14-18 years**, belonging to **the lower income strata were figured as the most vulnerable age group**.
- **Just 30 per cent of the parents said they would go to the police station** and file a complaint, while **70 per cent ruled out that possibility**.
- Only **16 per cent of parents claimed to be familiar with any OCSEA (Online sexual exploitation and abuse)-related laws**, indicating a lack of information and faith in the legal system and law enforcement.
- Nearly **33 per cent of the parents** among the respondents reported that **strangers approached their children via Online Platforms**.

### Laws on sharing of online Child Sexual Abusive Material (CSAM) in India:

- In India, **viewing adult pornography in private is not an offence**.
- As per the **Information Technology (IT) Act, 2002**, it is punishable to show children any pornographic content.

### Major Initiatives for Preventing Child Sexual Abuse in India:

- POCSO Act, 2012
- Integrated Child Protection Scheme
- Child Abuse Prevention and Investigation Unit
- Juvenile Justice Act/Care and Protection Act, 2000
- Child Marriage Prohibition Act (2006)
- Child Labour Prohibition and Regulation Act, 2016

### PARAKH

- National Council for Education Research and Training (NCERT) has notified India's first national assessment regulator, **PARAKH**
- PARAKH has been launched as part of the **implementation of the National Education Policy (NEP)-2020** that envisaged a standard-setting body:
- To **advise school boards** regarding **new assessment patterns and the latest research**, and promote collaborations between them
- To **facilitate students** for self-assessment of learning outcomes
- To **remove disparities** in the score of students enrolled with different boards

### Challenges faced by the Indian rural healthcare sector

- There is a shortage of 83.2% of **surgeons**, 74.2% of obstetricians and **gynaecologists**, 79.1% of **physicians** and 81.6% of **paediatricians**.
- Low quality of care
- Poor accountability
- **Absenteeism**: "Even if the personnel are present, their level of participation in providing health services, may not be at desirable levels due to lack of supplies, inadequate infrastructure facilities, poor monitoring of the staff, and so on."-Economic Survey 2018-19
- Lack of awareness
- Limited access to facilities
- According to the National Health Profile (NHP) 2019, there are only **5 government hospitals per 100,000 population in rural India**, compared to 3.5 in urban areas

### Issues faced by the news industry

- Post-Covid the **financial health** of both the digital news industry and its parent – the print news industry, is under strain.
- This led to journalists losing jobs → **journalism reducing in quality** → a negative feedback loop.
- **The changing dynamics of the news publishing industry** (with technological changes), their businesses and their impact on the social lives of citizens have raised questions.

- It is obvious that if the traditional news industry continues to suffer, **the future of journalism/Fourth Pillar will suffer** as well.

#### Suggestions:

- **A fair share of the revenue** from the Big Tech platforms (aggregator of the content) to original creators.
- **Political Will:** Political support across party lines is essential in markets like India to level the playing field between Big Tech and the news media
- **The upcoming Digital India Act** will address this issue of disproportionate control and the imbalance in the dynamics between content creation and content creators' monetisation requirements – and the power that adtech companies and adtech platforms have.

#### Issues affecting children with disabilities (CWD)

- **'State of the Education Report for India 2019: Children with Disabilities'** by UNESCO mentioned that CWD **comprises 1.7%** of the total child population in India (Census 2011).
- **Physical:** Inaccessible school buses. Inaccessible facilities in schools (drinking water facilities, canteens, and toilets). Inappropriate infrastructure in classrooms (uncomfortable seating, slippery flooring, and low illumination)
- **Institutional:** Lack of policy implementation by agencies
- **Social:** Misinformed attitudes and perceptions among parents, teachers, staff, and communities
- **Communication barriers**
- **Economic** burden and lack of opportunities

#### Ken-Betwa Link Project

It is a “flagship” project that is critical for the **water security and socio-economic development of the Bundelkhand region** (of MP and UP). The link will be in the form of a **canal** (flow through Chhatarpur, Tikamgarh and Jhansi districts) that will be fed by the **new Daudhan Dam on the Ken**, to be built **within Panna Tiger Reserve**. The dam will generate **103 MW of hydroelectric power** and is expected to **irrigate 6.3 lakh hectares** of land every year.

#### Concerns:

- **Hydrological and ecological concerns:** The ‘surplus and deficit’ model has little basis in science (as these could be seasonal phenomena too) and it may **endanger the water security of the Panna district** (Ken – a non-perennial river). The project has not yet received a **complete forest clearance**. The NGT is currently hearing a challenge to the project's environmental approval.
- **The legal problems:**

- Approval by the National Board for Wildlife violates Section 35(6) of **the Wildlife (Protection) Act 1972** – improvement and better management of wildlife.
- According to the SC, the creation of a high reservoir dam on the Ken River in the Panna National Park and Tiger Reserve for the KBLP is ultra vires to the WPA 1972.
- The destructive impact of the proposed dam on the flow of water into and outside of the **Ken Gharial Sanctuary** (downstream of the Panna national park) is evident.
- **Impact on Panna's tigers and other wildlife:** The deep gorges of Panna will be drowned if the new dam is built. **By 2009**, there were no tigers in the Panna Tiger Reserve, **necessitating an incredible effort** that lasted almost a decade to reintroduce them. The key wildlife species that will be affected include **endangered vultures, mahseer fish, and the critically endangered Gangetic gharial** (*Gavialis gangeticus*) in the Ken Gharial Sanctuary.

### Architect BV Doshi

- Renowned architect of **post-Independent India**, **Balkrishna Doshi** died on January 24 at his residence in Ahmedabad
- **His Contribution to the evolution of architecture:** Founder of **Ahmedabad's School of Architecture**. Having worked under **Le Corbusier and Louis Kahn**, he is a pioneer of modernist architecture in India
- **Infrastructure projects:** Designer of IIM Bangalore, IIM Udaipur, NIFT Delhi, Amdavad ni Gufa, CEPT University, NIFT Delhi and the **Aranya Low-Cost Housing development in Indore** which was awarded the **Aga Khan Award** for Architecture.

## International

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### Leopard 2 tank

- The **Leopard 2 is one of the world's leading battle tanks**, used by the German Army for decades and by the **militaries of more than a dozen other European nations**, as well as by the armies of countries as far apart as Canada and Indonesia. It has seen service in conflict zones of Afghanistan, Kosovo, and Syria.
- The tank, which is **powered by a diesel engine, features night-vision equipment and a laser range finder** that can measure the distance to an object, enabling it to better aim at a moving target while travelling over rough terrain.
- Germany is under pressure to **authorize sending Leopard 2 tanks to Ukraine** from other European nations.

### SL's 13<sup>th</sup> Amendment

- The 13th amendment, originally certified on November 14, 1987, states that Tamil will be one of Sri Lanka's official languages and that provincial councils, with substantial authority, will be established throughout the country.
- India has reiterated that full implementation of 13A is "critical" for achieving reconciliation with the minority Tamil community.

### New Zealand's Next Prime Minister

**Chris Kipkins** of New Zealand is to succeed Jacinda Ardern as PM. He belongs to the Labour Party of NZ. He is to take charge by February 2023. Currently, Chris serves as the Education minister of the country. He played a big role as Health Minister during the pandemic.

### WTO's new Agreement on Fisheries Subsidies

- Switzerland has become the **first WTO member** to formally submit its acceptance of the **WTO's new Agreement on Fisheries Subsidies**, paving the way for the historic agreement for ocean sustainability to enter into force.
- **Acceptance of 2/3rd of WTO members** is needed for the agreement to come into effect
- **The Agreement was adopted at WTO's** conference in Geneva (2022)
- **It is the 1st WTO agreement** (for the environment) and the **2nd agreement reached at WTO** since its inception.

#### What will Fisheries subsidies do?

- It will prohibit subsidies from being provided for **Illegal, Unreported and Unregulated (IUU) fishing, fishing in high seas** and overfished stocks.
- **Transition Period Allowance:** Developing Countries and Least Developed Countries (LDCs) have been allowed a transition period of **two years** from the date of entry into force of this Agreement.
- **Fund for developing and least-developed countries:** For technical assistance and capacity building

## Science-Tech & Environment

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### Norovirus cases

- The Kerala Health Department confirmed two cases of the **gastrointestinal infection norovirus**.
- **Symptoms: Stomach and intestinal inflammation**, leading to symptoms such as **nausea, vomiting, diarrhoea, and stomach cramps**.

- **Mode of Transmission** – highly contagious, contact with an infected person, consuming contaminated food or water, or touching contaminated surfaces and then touching the mouth, through the air by tiny droplets when an infected person vomits.
- **The virus: Capable of surviving low temperatures**, common during the **winter and in colder countries**, hence referred to as “**winter vomiting disease**”.
- **The severity of infection: Estimated to kill 200,000** persons globally every year, with most deaths occurring among those **below the age of five years and those over the age of 65 years**.
- **Vaccines: Not Available**
- **Prevention method: Practice good hygiene.**

### Nature Risk profile (NRP)

- The UN Environment Programme (UNEP) and S&P Global launched ‘**Nature Risk Profile**’, a new methodology for analyzing companies’ impacts and dependencies on nature.
- It was released at **Davos World Economic Forum Summit**
- Its methodology is based on **Kunming-Montreal Global Biodiversity Framework (GBF)**

**Aim of NRP:** The Nature Risk Profile is aimed at enabling the financial sector to measure and address nature-related risk by providing scientifically robust and actionable analytics on nature impacts and dependencies.

**Importance:** With half of the world’s GDP highly dependent on nature, biodiversity loss is a growing concern for **global business leaders**.

### GFANZ

- **The Glasgow Financial Alliance for Net Zero (GFANZ)** is a global coalition of leading financial institutions that claim to be committed to **accelerating the decarbonisation of the economy**.
- It was launched in 2021 by the UN Special Envoy on Climate Action and Finance and COP26 along with UNFCCC Race to Zero Campaign. It has over 550 members.
- Race to Zero is the **UN-backed global campaign rallying non-State actors** – including companies, cities, regions, financial, educational, and healthcare institutions – to take rigorous **and immediate action to halve global emissions by 2030** and deliver a healthier, fairer zero-carbon world in time.

### Spot Bellied Eagle Owl

- The bold **predatory bird**, measuring 20-25 inches in length and weighing between 1.5 kg and 2 kg, feeds **on small rodents and lizards**.
- The bird makes a **strange scream similar to humans** and it is hence called the ‘**Ghost of the Forest**’ in India and ‘**Devil Bird**’ in Sri Lanka.
- It is a forest-inhabiting species found in **the Indian Subcontinent and Southeast Asia**
- **IUCN Status: Least Concern**

- A 'Spot Bellied Eagle Owl' (Bubo Nipalensis) was spotted for the first time in the Seshachalam forest, and for the third time in Andhra Pradesh.

## Mercury & Superconductivity

Mercury is a **naturally occurring element** that is found in air, water and soil. It is released into the atmosphere through **natural processes** such as weathering of rocks, volcanic eruptions, geothermal activities, forest fires, etc. It is the **only metal which remains liquid at room temperature**.

Superconductivity was first discovered in **mercury**, yet scientists required **111 years** to explain how it becomes superconducting. In 1911, Dutch physicist **Heike Kamerlingh**

**Onnes** discovered superconductivity in mercury. He found that at a very low temperature, called the **threshold temperature**, **solid mercury** offers no resistance to the flow of electric current.

**Superconductors** are materials that **conduct electricity** with no resistance. Unlike the more familiar conductors such as copper or steel, a superconductor can **carry a current indefinitely without losing any energy**.

**Advantages of superconductors:** low power dissipation, high-speed operation, and high sensitivity

**Application:** E.g. MRI machines, Particle accelerators, Power utilities, electronics companies, the military, and transportation.

**Meissner effect:** When a **material makes the transition** from the normal to the superconducting state, it actively excludes magnetic fields from its interior; this is called the Meissner effect.

## Govt exempts key infra projects from wildlife fund rules

The Centre has exempted road, rail, and transmission line projects from having to deposit **2%** and **0.5%** of the total project cost towards the cost of the **Wildlife Management Plan (WMP)** and **Soil and Moisture Conservation Plan (SMCP)** in a move that will benefit developers, but which has been criticised by environmentalists

### Previous guidelines:

The Union environment ministry under **guidelines issued on June 7, 2022** made it mandatory for all projects to **deposit 2% of the total project cost** towards the cost of implementation of WMP and **0.5%** for **SMCP**, as the case may be, to obtain Stage-II (final forest) clearance under the Forest Conservation Act 1980 (FCA).

### Why are the changes now?

The government decided to tweak the guidelines **for road and other linear projects** such as rail lines, sidewalks, trails, and transmission lines after it was pointed out that these projects would end up



paying for the entire length of the project even though only a small part would pass through a forest. Now the cost of WMP and SMCP will be **proportionate to extent of forest land** involved instead of the total project cost

## BharOS

The BharOS is an **operating system** used in mobile phones. It was developed by JandK Operations Private Limited. IIT Madras was the pioneer in developing the app. It is funded by the Science and Technology department of the Government of India.

The main objective of BharOS operating system is **security**. The OS is unique as it allows only safe and trusted applications to be installed on the OS. BharOS screens the applications before installation begins. If the app is not safe, then the OS doesn't provide access.

## Exercise Cyclone-I

The first-ever joint exercise between the special forces of the Indian Army and the Egyptian Army named "Exercise Cyclone-I" is in progress at Jaisalmer in Rajasthan since 14 January 2023.

## INS Vagir commissioned into the Indian Navy

- The Indian Navy commissioned the **fifth diesel-electric Kalvari-class submarine Vagir**. It is among the **six submarines being built by the Mazagon Dock Shipbuilders Limited (MDL), Mumbai, in collaboration with the French M/s Naval Group under Project 75**.
- The latest submarine gets its name **from the erstwhile Vagir**, a submarine which served the Navy between 1973 and 2001.
- The construction of the **new Vagir began in 2009** also known as **Sand Shark**.
- Vagir represents **stealth and fearlessness**, as it comes **with features like an advanced acoustic absorption technique**.

## Bhoj Wetland

- The wetland (man-made) is a **Ramsar site with international importance** and has two lakes, Upper Lake, also called Bhojtal and Lower Lake or Chhota Talaab. It provides drinking water to over **1 million people**
- The State government allowed **cruises of capacity 50 passengers (2011)** and plans to launch higher-capacity cruises in 2023. However, cruise vessels have been known to cause pollution in the lake and are in clear violation of EPA, 1986, and the state government's own notification of 2022 ("only non-motorized boats are permitted")
- The National Green Tribunal has directed the **Central Pollution Control Board (CPCB)** and **Madhya Pradesh Pollution Control Board (MPPCB)** to periodically monitor the activities of a cruise vessel polluting the Bhoj wetland in Bhopal, MP.

## Sankhya Sagar

- An artificial lake in MP's Shivpuri district – **Sankhya Sagar**, has virtually disappeared under a thick layer of an invasive aquatic plant (hyacinth), threatening the biodiversity of the water body.
- Sankhya Sagar – a **Ramsar** site (declared in 2022), is a wetland site designated internationally important by **UNESCO**.
- The lake spreads across 248 hectares (612.82 acres) and helps maintain the ecological balance of the **Madhav National Park**.
- The lake is home to marsh crocodiles aka 'Mugger' (*Crocodylus palustris*), which is a **Schedule I** reptilian species protected under the Indian Wildlife (Protection) Act, 1972.
- **Water hyacinth** (*Pontederia crassipes*) is an invasive plant species (macrophytes) native to South Africa.
- Although the plant has some uses (**acts as a water purifier** by removing heavy metals), it poses a threat to aquatic biodiversity when it covers the entire surface of a water body.

## Light pollution

- Light pollution is **excessive, misdirected or obtrusive artificial (usually outdoor) light** that obstructs starlight in the night sky, interferes with astronomical research, disrupts ecosystems, has adverse health effects and wastes energy.
- Visible light emitted by many sources (except lasers) is **divergent**, so the light emitted could find its way into the sky.
- Almost all surfaces in cities also reflect light, meaning a portion of entirely down-cast light will be **reflected upwards**, contributing to nighttime light pollution.
- A recent study found that **non-natural light had increased the brightness of the artificial glow of the night sky, or skyglow, by 9.2-10% every year between 2011 and 2022**. Specifically, it had brightened annually by about 6.5% over Europe, 10.4% over North America, and 7.7% over the rest of the world.

### What is the situation in India?

- A recent study reported that **19.5% of India's population** – the lowest among G20 countries – experiences a level of skyglow that keeps the Milky Way out of sight and makes it impossible for human eyes to adjust to the dark.

## Economics

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## Union Budget

- On February 1, **Finance Minister Nirmala Sitharaman** will present the Union Budget for the **next financial year (2023-24)**.
- According to **Article 112 of the Indian Constitution**, the Union Budget for a year is referred to as the **Annual Financial Statement (AFS)**.
- It is a statement of the **estimated receipts and expenditures of the Government in a Financial Year**.
- The Budget Division of the **Department of Economic Affairs** in the Ministry of Finance is the nodal body responsible for preparing the Budget.

### Important facts:

- **RK Shanmukham Chetty presented the 1<sup>st</sup> Union Budget of independent India** on Nov 26, 1947.
- Till 2017 Rail Budget and Union Budget came separately (Done through **Acworth Committee – 1924**) but **now both are merged together**.
- **Jawaharlal Nehru, Indira Gandhi and Rajiv Gandhi are the only prime ministers** to have presented a Budget.
- The date of the Union Budget presentation was **changed in 2017 by then finance minister Arun Jaitley from ‘last working day of February’ to ‘February 1’**.
- On 1<sup>st</sup> Feb 2021, Finance Minister Nirmala Sitharaman **presented the first paperless budget**. This was done due to the ongoing COVID- 19 pandemic in India.

## Reasons a nation’s economy may be at risk from moving to clean energy

- **High upfront costs:** The initial investment required to transition to clean energy, such as building solar or wind power plants, can be significant.
- **Job losses in certain industries:** This could have negative effects on the economy and could lead to higher unemployment.
- **Dependence on foreign technology:** Many countries may have to import clean energy technology from other nations, which can be expensive.
- **Lack of infrastructure:** The transition to clean energy requires a significant overhaul of the existing energy infrastructure, which may be costly and time-consuming.
- **Uncertainty of investments and regulations:** The transition to clean energy may be slowed down by the lack of clear regulations and policy frameworks, which can make it difficult for companies to make long-term investments.

## Gini index

The **Gini index** measures the extent to which the distribution of income among individuals or households within an economy deviates from a perfectly equal distribution. A Gini index of 0 represents

perfect equality, while an index of 100 implies perfect inequality. For India, it was **35.7 in 2019**(World Bank Data)

### Changes in criteria for WEF's Gender Gap Reports

The World Economic Forum (WEF) will take into account the **participation of women** at the **panchayat level to rank countries** in its future Global Gender Gap reports.

This will improve India's position at the global level (currently **India ranks 135 Out Of 146** in the 2022 Gender Gap report). Previously, India had reiterated the "**flaws**" in the ranking system.

**The Global Gender Gap Index** benchmarks the current state and evolution of gender parity across four key dimensions:

- Economic Participation and Opportunity
- Educational Attainment
- Health and Survival
- Political Empowerment

### Digital Public Goods

Digital public goods are **public goods in the form of software, data sets, AI models, standards or content** that are generally free works and contribute to economic digital development. E.g., **Aadhaar, UPI or Free and open-source software (FOSS)** are an example of digital public good

## Sports

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### Issues faced by women in sports

- **Gender Pay disparity:** The first challenge that female athletes have to face is **being paid half or less of what is given to their male counterparts.**
- **Being objectified:** From coaches to commentators, to the audience, **women are looked at as commodities showcasing themselves for men's pleasure**, not as entities of potential and talent. **Eg: India's** popular badminton player Jwala Gutta faced issues related to **objectification** and **body shaming.**
- **Lack of access to facilities:** A lack of access to adequate playing facilities near their homes, makes it more difficult for girls to engage in sports.
- **Safety and transportation issues:** Sports require a place to participate – and for many girls, especially in dense urban environments, that **means travelling to facilities through unsafe neighbourhoods or lacking any means to get to a good facility miles away.** Eg: Manipur is a

sporting powerhouse, but **48 % of female athletes travel over 10km to reach the practice facility**

- **Social stigma:** Girls in sports may experience **bullying, social isolation, and negative performance evaluations.**
- **Mental Health: Mental safety is essential.** Institutes and coaches must provide access to **sports psychologists.** According to the *IOC Mental Health in Elite Athletes Toolkit(2021)*, anxiety and depression are more common in women athletes.
- **The disparity in Access to Quality Training & Infrastructure:** The availability of **quality, trained coaches may be lacking in their community or these coaches may be more focused on the boys' programs that have more money for training.** Equipment and even uniforms aren't funded for many girls' programs at the same levels as boys. Thus, their ability to improve and enjoy the sport is diminished.
- **Inadequate Budget Allocated for Women in Sports:** Budgets are being slashed in all sports, especially for women leading to poor infrastructure.

## Ethics & Society

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### Corporate Governance & Gandhian economics

- Corporate governance is a set of accepted principles by the **management of the inalienable rights of the shareholders as the actual owner of the corporation and of their own role as trustees on behalf of the shareholders.**
- Gandhian economics stands for a commitment to values, ethical leadership conduct, and transparency and makes a distinction between personal and corporate funds in the management of a company.
- Mahatma Gandhi often talked about **Antyodaya (the rise of the last person in the line) and Sarvodaya (the rise of all).**
- 'It is wrong to think that business is incompatible with ethics. I know that it is perfectly possible to carry on one's business profitably, and yet honestly and truthfully.' – **Mahatma Gandhi**

### “Shadow Banning”

- The term refers to the **perception** — real or imagined — that **social media companies are taking stealth actions** to limit a post’s visibility.
- Last month, Elon Musk (Twitter’s new owner) — used the term to show that Twitter officials had debated blocking reporting from The New York Post on Hunter Biden, son of the current president, in October 2020.
- **Usages:** The term can be used in ethics/Essays to show the **unethical use of technology** to enforce unarticulated rules secretly. It also goes against the **principle of free speech and ‘consent’**.

### ‘Endorsement’

- Endorsements are a **form of advertising that uses famous personalities or celebrities** who command a high degree of recognition, trust, respect, or awareness among the people.
- Advertisers and clients **hope such approval, or endorsement by a celebrity, will influence buyers favourably**. For example, **Sachin Tendulkar endorsing motorcycles and biscuits** can influence young men or children who look up to him as a role model.
- A report by **iCubesWire Survey**, a digital media marketing company, **suggests that a major percentage of Indians choose brands based on the suggestions by influencers**.
- **34 per cent of the respondents of the survey** said they buy products or services after watching the social media posts of influencers. This content can be in the form of **reels on Instagram or videos on popular social media platforms, including YouTube, Facebook, and Twitter, among others**.

**A material connection could include but is not limited to benefits and incentives, such as:**

- Monetary or other compensation.
- Free products with or without any conditions attached, including those received unsolicited, discounts, and gifts.
- Contest and sweepstakes entries.
- Trips or hotel stays.
- Media barters.
- Coverage and awards.
- Any family, personal, or employment relationship.

**Ethical consumerism** is the practice of making conscious & informed purchasing decisions based on a company’s social and environmental impact. It involves considering factors such as a company’s labour practices, environmental impact, and contributions to society when making a purchase.

## Period poverty

**Period poverty** refers to the lack of access to menstrual hygiene products and education, which can have a negative impact on a person’s health, education, and overall well-being. It can lead to health complications, the perpetuation of myths and taboos, absenteeism from school or work and can affect the education and economic opportunities of those who experience it.

Kerala government announced that it will grant **menstrual leave for female students in all state universities** under the Department of Higher Education as part of the government’s “**commitment to realise a gender-just society**”

In accordance with the decision, **a girl of age 18 years** and above is eligible to avail of 60 days of menstrual leave in a year. With this, the attendance percentage of girl students is sealed at **73% as against the usual 75%**.

### Distinction between FIR Charge sheet

FIR	Charge sheet
It is preliminary report	It is final report
It is prepared by victim of crime	It is prepared by investigation officer
It is file in police station	It is file in court
It is having purpose of investigation	It is having purpose of trail
It can be with draw in petty offences	It cannot be with draw