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# Current Affairs (CONSOLIDATION)

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# Polity and Governance

## Highlights

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- Draft Medical Devices Bill
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- National Anti-Doping Bill, 2021
- Coffee Promotion Bill
- Agriculture Census

## National Emblem

### Why in News?

The Prime Minister of India unveiled the 6.5 metre-tall **National Emblem** on top of the under-construction **new Parliament building** recently.

### What do we know about the National Emblem of India?

#### ➤ About:

- The **State Emblem of India** is the national emblem of the Republic of India and is used by the union government, many state governments, and other government agencies.



सत्यमेव जयते

#### ➤ History:

- The State emblem is an adaptation from the **Sarnath Lion Capital of Ashoka** (Varanasi, Uttar Pradesh).
  - In the original, there are **four lions**, standing back to back, mounted on an abacus with a frieze carrying sculptures in high relief of an elephant, a galloping horse, a bull and a lion separated by **intervening wheels over a bell-shaped lotus**.
  - **Carved out of a single block** of polished sandstone, the capital is crowned by the **Wheel of the Law (Dharma Chakra)**.

#### ➤ Emblem Adopted:

- In the State emblem, adopted by the Government of India on **26<sup>th</sup> January 1950**, **only three lions are visible**, the fourth being hidden from view.

Note:



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- The **wheel appears in relief in the centre** of the abacus with a **bull on right** and a **horse on left** and the outlines of other wheels on extreme right and left.
- **The bell-shaped lotus has been omitted.**

### **What are the salient features of the National Emblem of India?**

- The State emblem of India is the **official seal of the Government of India.**
- Four animals are shown **representing four directions:**
  - **A Galloping Horse:** West
    - The Horse represents the horse **Kanthaka**, which **Buddha is said to have used** for leaving his princely life.
  - **An Elephant:** East
    - The Elephant depicts the **dream of Queen Maya**, where a white elephant enters her womb.
  - **A Bull:** South
    - The Bull depicts the **Zodiac sign of Taurus**, the month in which **Budhha was born.**
  - **A Lion:** North
    - The Lion shows the **attainment of enlightenment.**
- The animals seem to follow each other turning the wheel of existence till eternity.
- The words **Satyameva Jayate from Mundaka Upanishad**, meaning 'Truth Alone Triumphs', are inscribed below the abacus in **Devanagari Script.**
- The Capital is crowned by the **Wheel of the Law (Dharma Chakra)**
- The four **Lions** symbolise **Buddha spreading Dharma in all directions.**
  - It was built in the commemoration of the **first sermon by Buddha known as Dharmachakrapravartna.**
- **Legal Provisions:**
  - **State Emblem of India (Prohibition of Improper Use) Act 2005** and the **State Emblem of India (Regulation of Use) Rules 2007:**
    - According to these rules, the National Emblem of India **can only be used as per provisions of the State Emblem of India (Prohibition of Improper Use) Act 2005** and any unauthorized use is punishable under law.

- There is a **punishment for imprisonment** of up to 2 years or a fine up to Rs 5,000 if someone violates the law.

#### ➤ **Usage:**

- On the **Letterheads** of the Central Government, State Government and other government agencies.
- On the **Currency** of India
- On the **Passports** of India
- The **Ashoka Chakra in the National Flag** is taken from the National Emblem
- **Buildings:**
  - Rashtrapati Bhawan
  - Parliament House
  - **Supreme Court**
  - **High Courts**
  - Central Secretariat
  - Secretariat Buildings of States and Union Territories
  - Raj Bhawan/Raj Niwas
  - State Legislature
  - Premises of India's Diplomatic Mission abroad
  - Residence of Heads of Missions in the countries of their accreditation
  - At the entrance doors of buildings occupied by Indian Consulates abroad

### **What do we need to know about Mauryan Pillars?**

- The Mauryan pillars are **rock cut pillars** thus displaying the carver's skills
- **Stone pillars were erected by Ashoka**, which have been found in the **north Indian part of the Mauryan Empire** with inscriptions engraved on them.
- The top portion of the pillar was carved with capital figures like the **bull, the lion, the elephant, etc.**
- All the capital figures are **vigorous** and carved **standing on a square or circular abacus.**
  - Abacuses are decorated with stylised lotuses.
- **Some examples of Mauryan Pillars:**
  - Lauria Nandangarh Pillar (West Champaran, Bihar)
  - Ashoka Pillar (Sanchi, Madhya Pradesh)
  - Lion Capital of Ashoka (Sarnath, Varanasi, Uttar Pradesh)

Note:

### What are some other National Symbols of India?

#### ➤ National Flag:

- The National Flag is a horizontal tricolour of **India saffron (kesaria) at the top, white in the middle and India green at the bottom in equal proportion**. The ratio of width of the flag to its length is **two to three**. In the centre of the white band is a **navy-blue wheel which represents the chakra**.
- The design of the National Flag was adopted by the **Constituent Assembly of India on 22 July 1947**.

#### ➤ National Anthem:

- The National Anthem of India Jana-gana-mana, composed originally in Bengali by Rabindranath Tagore, **was adopted in its Hindi version by the Constituent Assembly as the National Anthem of India on 24 January 1950**.
- It was first sung on **27 December 1911** at the **Kolkata Session** of the **Indian National Congress**.

#### ➤ National Song:

- The song Vande Mataram, composed in Sanskrit by **Bankimchandra Chatterji**.
- **On January 24, 1950, the President, Dr. Rajendra Prasad** came up with a statement in the Constituent Assembly, **“the song Vande Mataram, which has played a historic part in the struggle for Indian freedom, shall be honoured equally with Jana Gana Mana and shall have equal status with it.”**

#### ➤ National Animal:

- The magnificent **tiger, Panthera tigris** is a striped animal. It has a thick yellow coat of fur with dark stripes

#### ➤ National Flower:

- **Lotus (Nelumbo Nucifera Gaertn)** is the National Flower of India.

## State Assembly Sittings

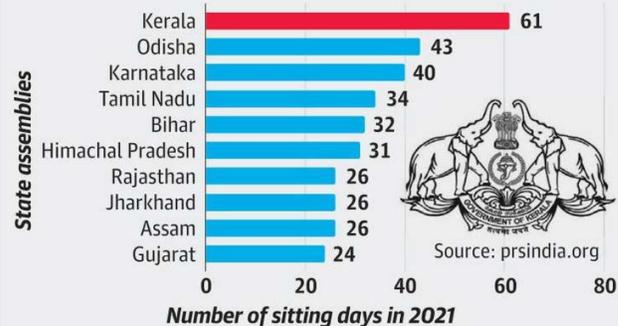
### Why in News?

Recently, a report titled **“The Annual Review of State Laws, 2021”** was released by PRS Legislative Research.

- As per the report, Kerala got first place in 2021, with its House sitting for 61 days, the highest for any State.
- Kerala had also **promulgated 144 ordinances**, the highest in the country last year.

### Counting the sittings

The chart shows the State Assemblies which sat for more than 20 sessions in 2021. Kerala recorded the most such sittings last year followed by Odisha and Karnataka



### What are the Highlights of the Report?

#### ➤ Sittings:

- States such as Manipur, Odisha, Punjab and Uttar Pradesh have laid down a **minimum number of sitting days through the Rules of Procedure**, varying from 40 days in Punjab to 90 days in Uttar Pradesh.
- In 2005, Karnataka even came out with a law — the **Karnataka Conduct of Government Business in the State Legislature Act** — with the stipulation of a minimum of 60 days

#### ➤ Ordinance:

- **Andhra Pradesh** with 20 ordinances and **Maharashtra** with 15 followed **Kerala**, wherein Bills replacing 33 ordinances became Acts.
- Andhra Pradesh and Madhya Pradesh also **promulgated ordinances** to give effect to budget proposals.

#### ➤ Passage of Bill:

- 44% of the **Bills** adopted by 28 State Assemblies were passed within a day of their introduction.
  - Gujarat, West Bengal, Punjab and Bihar were among the eight States which **passed all Bills on the day of introduction**.
- Karnataka, Kerala, Meghalaya, Odisha and Rajasthan **took more than five days** to pass a majority of their Bills.

Note:

- In **Kerala**, 94% of the Bills were passed after at least five days of their introduction in the legislature.
- In respect of **Meghalaya**, it was 80% and in the case of **Karnataka**, 70%.

#### ➤ Focus Areas of Sittings:

- **Education** was the top priority with 21% of all laws passed in 2021 related to this subject.
- After Education, **Taxation and Urban Governance** accounted for the largest share of state laws passed in 2021.
- Several of the other sectors saw crucial legislations, including ones relating to **online gaming, reservation** of jobs for local candidates from the state, and the **safety of women and children**.

#### **How often should an Idle State Assembly Meet?**

#### ➤ National Commission to Review the Working of the Constitution:

- **The National Commission to Review the Working of the Constitution (2000-02)**, headed by former Chief Justice of India M.N. Venkatachaliah, had prescribed that:
  - The Houses of State (/Union Territory) legislatures with:
    - **Less than 70 members** (Example: Puducherry) should meet for **at least 50 days a year**.
    - **Other Houses (Tamil Nadu)**, at least 90 days a year.

#### ➤ The Presiding Officers Conference:

- **The Presiding Officers' conference**, held in Gandhinagar during January 2016, suggested:
  - State legislatures hold a **minimum of 60 days of sittings in a year**.
    - Between 2016 and 2021, **the PRS points out, 23 State Assemblies met for an average of 25 days**.

#### **What are the Benefits of Increased House Sittings?**

#### ➤ Healthy Discussion:

- Increased sitting in Houses (State or Parliament) would provide **more time to the members for**

**discussion on the bills**, have a **healthy debate** by providing facts and arguments which would eventually lead to **healthy functioning of the house**.

#### ➤ Ease in Passing of Bills:

- As the number of sitting in a house increases, **more bills could be tabled** as passed in a particular session.
  - Increased number of bills passed on various spheres would enable the government to bring out **efficient and effective governance**.

#### ➤ Guillotine Closure:

- It is one when the **undiscussed clauses of a bill or a resolution** are also put to vote along with the discussed ones **due to wanting of time** (as the time allotted for the discussion is over).
  - Increased sittings would provide more time for the discussion and reduce the cases of **guillotine closure**.

#### ➤ Private Member Bills:

- Only 14 **private member bills** out of thousands became laws since 1952.
  - Increased sittings would **provide more time to the private members** to not only prepare and present the bill in the house, but also have a detailed and healthy discussion for its passage.

## **Rules regarding Suspension of MPs**

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

Recently, **Lok sabha** has suspended four (Member of Parliament) MPs and **Rajya Sabha** also suspended 23 MPs as they were disrupting the proceedings of the house.

#### **Why is the Disruption Done by the MPs?**

- As per the analysis done by political leaders, and presiding officers there is **four main causes that lead to disruption**:
  - MPs do not have enough time to raise crucial issues.
  - The government's unresponsiveness and the Treasury benches their retaliatory posture.

Note:



- Parties intentionally cause disturbance for political or publicity reasons.
- The failure to take immediate action against MPs who interrupt parliamentary proceedings.

### Who can suspend MPs?

#### ➤ General Principle:

- The general principle is that it is the role and duty of the **Presiding Officer — Speaker of Lok Sabha and Chairman of Rajya Sabha — to maintain order so that the House can function smoothly.**
- In order to ensure that proceedings are conducted in the proper manner, **the Speaker/ Chairman is empowered** to force a member to withdraw from the House.

#### ➤ Rules of Procedure and Conduct:

- **Rule 373:** The Speaker can direct a member **to withdraw immediately from the House** if he finds the member's conduct disorderly.
  - Members so ordered to withdraw shall do so forthwith and shall remain absent during the remainder of the day's sitting.
- **Rule 374:** The Speaker can name a member **who disregards the authority of the Chair or abuses the rules of the House** by persistently and wilfully obstructing the business thereof.
  - And the member so named will be suspended from the House for a period not exceeding the remainder of the session.
  - A member suspended under this rule shall forthwith withdraw from the precincts of the House."
- **Rule 374A:** Rule 374A was incorporated in the Rule Book in December 2001.
  - In case of gross violation or severe charges, on being named by the Speaker, the member stands automatically suspended from the service of the House for five consecutive sittings or the remainder of the session, whichever is less.
- **Rule 255 (Rajya Sabha):** Under Rule 255 of the General Rules of Procedure of the Rajya Sabha, the presiding **officer of the House can invoke suspension of the Member of Parliament.**
  - The Chairman as per this rule can direct any member whose conduct in his opinion was not right or was disorderly.

- **Rule 256 (Rajya Sabha):** It provides **for suspension of members.**

- The Chairman can suspend a member from the service of the Council for a period not exceeding the remainder of the Session.

### What are the terms of Suspension?

- The maximum period of suspension is for the remainder of the session.
- Suspended members cannot enter the chamber or attend the meetings of the committees.
- He will not be eligible to give notice for discussion or submission.
- He loses the right to get a reply to his questions.

### What are Interventions by the Court?

- **Article 122 of the Constitution** says parliamentary proceedings cannot be questioned before a court.
- Although courts have intervened in the procedural functioning of the legislature like,
  - Maharashtra Legislative Assembly passed a **resolution in its 2021 Monsoon Session suspending 12 BJP MLAs for a year.**
  - The matter came before the **Supreme Court**, which held that the resolution was **ineffective in law beyond the remainder of the Monsoon Session.**

## UN Guidelines for Displaced Children

### Why in News?

Recently, the **United Nations**-backed agencies have issued guidelines to provide the **first-ever global policy framework** to protect children displaced due to climate change.

### What Impact is Climate Change having on Children?

- **Climate change** is intersecting with existing environmental, social, political, economic and demographic conditions that are **contributing to people's decisions to move.**

Note:

- Millions more children could be forced to move in the coming years.
- Nearly **10 million children were displaced following weather-related shocks in 2020 alone.**
- Additionally, **nearly half of the world's 2.2 billion children, or roughly one billion boys and girls, live in 33 countries at high risk of the impacts of climate change.**
- Further, **extreme climates like rising sea levels, hurricanes, wildfires, and failing crops** are pushing more and more children and families away from their homes.
  - Around the world, migrant children are facing **alarming levels of xenophobia**, the **socioeconomic consequences of the Covid-19 pandemic**, and limited access to essential services.
  - Displaced children are at **greater risk of abuse, trafficking, and exploitation.**
    - They are **more likely to lose access to education and healthcare.** And they are frequently forced into early marriage and child labour.

### **What are the UN Guidelines for Displaced Children?**

- These guidelines are a joint initiative of the **International Organisation for Migration (IOM), UN Children's Fund (UNICEF), Georgetown University,** and the **United Nations University.**
  - The guidelines cover both internal as well as cross-border migrations.
- It contains a set of **nine principles** that address the unique vulnerabilities of children who have been uprooted.
  - The principles are based on the **Convention on the Rights of the Child** and are informed by existing operational guidelines and frameworks.
- These nine principles are as follows:
  - Rights-based approach
  - Best interests of the child
  - Accountability
  - Awareness and participation in decision-making
  - Family unity
  - Protection, safety, and security

- Access to education, health care, and social services.
- Non-discrimination
- Nationality

### **What is the UN Convention on the Rights of the Child?**

- It is a treaty **adopted** by the United Nations General Assembly in **1989.**
- It recognises a child as every human being under 18 years old.
- It sets out the **civil, political, economic, social and cultural rights of every child**, regardless of their race, religion or abilities.
  - It includes rights such as Right to Education, Right to Rest and Leisure, Right to Protection from Mental or Physical Abuse including Rape and Sexual Exploitation.
- It is the **world's most widely ratified human rights treaty.**

### **Why was There a Need for These Guidelines?**

- There is currently **no global policy framework for addressing the needs and rights of children** moving in the context of climate change.
  - Where child-related migration policies do exist, they **do not consider climate and environmental factors**, and where climate change policies exist, they usually overlook children's needs.
- The **climate emergency has and will continue to have profound implications** for human mobility.
  - Its impact will be most severe with particular segments of our communities such as children.
  - These would serve as a **framework for national and local governments, international organizations, and civil society groups** to develop policies that protect children's rights.

### **What other Assessments are there for Children vis-a-vis Climate Change?**

- **Children's Climate Risk Index:**
  - It **ranks countries based on children's exposure to climate and environmental shocks**, such as **Cyclones** and **Heatwaves**, as well as their vulnerability to those shocks, based on their access to essential services.
  - **It is the first comprehensive analysis of climate risk from a child's perspective.**

Note:

➤ **Notre Dame Global Adaptation Initiative (ND-GAIN) Index:**

- The index shows that children bear the brunt of climate change as it affects their fundamental rights of survival, protection, development and participation.
- Other potential effects of climate change on children are orphanhood, trafficking, child labour, loss of education and development opportunities, separation from family, homelessness, begging, trauma, emotional disruption, illnesses, etc.

## Swachh Sagar, Surakshit Sagar Campaign

### Why in News?

Recently, the Ministry of Earth Sciences has launched a Coastal Clean Up Drive under Swachh Sagar Surakshit Sagar Campaign to clean 75 beaches across the country in 75 days.

### What is the Swachh Sagar, Surakshit Sagar Campaign?

➤ **About:**

- It is the first-of-its-kind and **longest running coastal cleanup campaign** in the world with the highest number of people participating in it.
- The Campaign will culminate on **“International Coastal Clean-up Day” (17<sup>th</sup> September 2022)**.
  - The day aims to **increase public awareness about the accumulation and negative impacts of litter in oceans**, on coastlines and on beaches.
- Globally, **“International Coastal Clean Up Day”** is celebrated on the third Saturday of September, every year.
- Through this campaign, **a mass behavioural change among the masses is intended by raising awareness about how plastic usage is destroying the marine life.**
- A mobile app **“Eco Mitram”** has been launched to spread awareness about the campaign and also for the common people for voluntary registration for the beach cleaning activity.

➤ **Objectives:**

- Running a **cleanliness campaign** along India’s entire coastline.
- To **reduce** marine litter.
- Minimising the **use of plastics**.
- Encouraging **segregation of waste at source and waste management**.

### What is the Significance of a Clean Ocean?

- The ocean is a **vital source of nourishment**, especially to people in the world’s poorest nations.
- Many depend on fish for their **primary source of protein; fisheries and aquaculture support the livelihoods of about 540 million people (8% of the world’s population)** directly or indirectly.
- Overfishing, loss of biodiversity and the **possible extinction of species put a stress on these limited resources**. This could lead to famine, increased poverty and conflicts, including war.
- Learning to manage the ocean sustainably **is the only path to global prosperity and peace**.

### What are the Related Initiatives?

- **Ban on Single-Use Plastics**
- **Extended Producer Responsibility (EPR) Policy.**
- **Environment (Protection) Act, 1986**
- **World Oceans Day**
- **GloLitter Partnerships Project**

## Startups

### Why in News?

Various reforms and initiatives by the Government have led to booming of the **Indian Startup ecosystem**.

### What are Startups?

➤ **About:**

- The term startup refers to a company in the first stages of operations. Startups are founded by one or more entrepreneurs who want to develop a product or service for which they believe there is demand.
- These companies generally start with high costs and limited revenue, which is why they look for capital from a variety of sources such as venture capitalists.

Note:

- **Growth of Startups in India:**
  - The **Department for Promotion of Industry and Internal Trade (DPIIT)** has recognized startups which are spread across 56 diversified sectors.
    - More than 4,500 Startups have been recognized in sectors relating to emerging technologies such as **Internet of Things (IoT), robotics, artificial intelligence**, analytics, etc.
  - Sustained Government efforts in this direction have **resulted in increasing the number of recognized Startups from 471 in 2016 to 72,993 in 2022.**

### ***How Startup-India Scheme has Facilitated the Growth of Startups in India?***

Various programs undertaken by the Government of India to promote startups under Startup India initiative has facilitated this growth:

- **Startup India Action Plan:** It comprises of 19 action items spanning across areas such as Simplification and handholding, Funding support and incentives and Industry- academia partnership and incubation.
  - The Action Plan laid the **foundation of Government support, schemes and incentives envisaged to create a vibrant startup ecosystem in the country.**
- **Startup India Hub:** It is a one of its kind **online platforms for all stakeholders of the entrepreneurial ecosystem in India to discover, connect and engage with each other.**
  - The Online Hub hosts Startups, Investors, Funds, Mentors, Academic Institutions, Incubators, Accelerators, Corporates, Government Bodies and more.
- **Income Tax Exemption for 3 years:** Startups incorporated on or after 1st April 2016 Ministerial Board Certificate are exempted from income-tax for a period of 3 consecutive years out of 10 years since incorporation.
- **Startup India Seed Fund Scheme (SISFS):** It aims to provide financial assistance to startups for proof of concept, prototype development, product trials, market entry and commercialization.
- **International Market Access to Indian Startups:** Startup India has launched bridges with over 15 countries (**Brazil, Sweden, Russia, Portugal, UK, Finland, Netherlands, Singapore, Israel, Japan,**

**South Korea, Canada, Croatia, Qatar and UAE)** providing a soft- landing platform for startups from the partner nations and aid in promoting cross collaboration.

### ***What Other Factors have Provided Handholding to Startups?***

- **Government Schemes:**
  - **Department of Science and Technology (DST)** had launched an **umbrella programme called National Initiative for Developing and Harnessing Innovations (NIDHI)** for nurturing ideas and innovations (knowledge-based and technology-driven) into successful startups,
  - **Promoting and Accelerating Young and Aspiring Innovators and Startups (PRAYAS)** program was launched for providing financial support to startups.
- **Enhancing Biotechnology:**
  - To foster **biotechnology innovation**, the Department of Biotechnology, through the **Biotechnology Industry Research Assistance Council (BIRAC)**, promotes and nurtures biotechnology firms.
- **Defense Sector:**
  - The **Department of Defense Production launched the Innovations for Defence Excellence (iDEX)** programme to achieve self-reliance and foster innovation and technology development in defence and aerospace by engaging industries, R&D institutes, and academia and providing them with grants to carry out R&D.
- **Atal Innovation Mission:**
  - Under the **Atal Innovation Mission**, the Government has set up Atal Incubation Centres (AIC) to incubate startups in various sectors.
  - It has also launched **Atal New India Challenge (ANIC)** program to directly aid startups with technology-based innovations that solve sectoral challenges of national importance and societal relevance.
- **Role of Forex Flow:**
  - **The inflow of forex especially from leading tech companies** such as Facebook, Google, and Microsoft into the Indian start-up ecosystem signals the immense potential of the domestic market.

Note:

### ➤ Role of Technology:

- With the rise of new technological tools, the startup community is leveraging new-age technologies such as **artificial intelligence, internet of things, data analytics, big data, robotics**, etc., to **bridge wide-ranging gaps** that were introduced in the market.



## Human-Animal Conflict

### Why in News?

Recently, the Minister of State for Forest, Environment and Climate Change, informed in the **Lok Sabha** that there is a rise in the number of **Human-Animal conflicts**.

### What is Human-Animal Conflict?

#### ➤ About:

- It refers to struggles that arise when the presence or behavior of **wildlife poses actual or perceived direct**, recurring **threats to human interests or needs**, often leading to disagreements between groups of people and negative impacts on people and/or wildlife.

#### ➤ Causes:

- Habitat loss
- Growth of the population of wild animals

- Changing cropping patterns that attract wild animals to farmlands
- Movement of wild animals from forests area to human-dominated landscapes for food and fodder
- Movement of human beings to forests for illegal collection of forest produce
- Habitat degradation due to the growth of invasive alien species, etc.

#### ➤ Impacts:

- Loss of life
- Injury to both animal and human
- Damage of crops and agriculture land
- Rise in violence against animals

#### ➤ Related Data:

- There were 222 elephants were killed by electrocution across the country between 2018-19 and 2020-21.
- Further, 29 tigers were killed by poaching between 2019 and 2021, while 197 tiger deaths are under scrutiny.
- Among human casualties of conflict with animals, **elephants killed 1,579 humans in three years** — 585 in 2019-20, 461 in 2020-21, and 533 in 2021-22.

- Odisha topped the number of deaths with 332, followed by Jharkhand with 291, and West Bengal with 240.

- Whereas, **Tigers killed 125 humans in reserves between 2019 and 2021**.

- Maharashtra accounted for nearly half these deaths, at 61.

### What are the Initiatives

#### Taken to Tackle the Conflict?

- **Advisory for Management of Human-Wildlife Conflict (HWC):** This has been issued by the Standing Committee of the **National Board of Wildlife** (SC-NBWL).
  - **Empower Gram Panchayats:** The advisory envisages empowering gram panchayats in dealing with problematic wild animals as per the **WildLife (Protection) Act, 1972**.
  - **Provide Insurance:** Utilising add-on coverage under the **Pradhan Mantri Fasal Bima Yojna** for crop compensation against crop damage due to HWC.

Note:

- **Augmenting Fodder:** Envisages augmenting fodder and water sources within the forest areas.
- **Take Proactive Measures:** Prescribes **inter-departmental committees** at the local/state level, adoption of **early warning systems, creation of barriers, dedicated circle-wise Control Rooms** with toll-free hotline numbers, Identification of hotspots, etc.
- **Provide Instant Relief:** Payment of a portion of ex-gratia as interim relief within 24 hours of the incident to the victim/family.

## Draft Medical Devices Bill

### **Why in News?**

Recently, the **Union Health Ministry** released a draft of the proposed **Drugs Medical Devices and Cosmetics Bill, 2022** which would replace the existing Drugs and Cosmetics Act, 1940, and other several rules.

- It focuses on creating a **separate regulation for medical devices**, which makes provision for fines and imprisonment for injury and death related to **clinical trials or investigations and seeks to regulate e-pharmacies**.

### **What are Medical Devices?**

- The medical device industry is a **unique blend of engineering and medicine**. It involves the creation of machines that are used to support life within the human body.
- Medical devices include Surgical Equipment, Diagnostic equipment like Cardiac imaging, CT scans, X-ray, Molecular Imaging, MRI and Ultrasound-imaging including hand-held devices; Life Support equipment like ventilator, etc. as well as Implants and Disposables.

### **What are the key Highlights of the Draft Bill?**

- **Provisions for the Clinical Trials and Investigations:**
  - **Compensation to Heir:** It makes provisions for **compensation to participants or their legal heirs for injury or death suffered in clinical trials and investigations** for drugs and medical devices.
    - The draft also lays the onus on providing medical management for any injury arising due to the trial of the investigators.

- **Penalty & Fines:** Provision for **imprisonment, and fines** amounting to double the compensation amount **if the compensation is not paid**.
- **Prohibition of Clinical Trials:** It **prohibits clinical trials or clinical investigations** of drugs and medical devices **without permission from the central licensing authority**.
  - It provides for debarring the investigators and sponsors of a trial or investigation if the laid-down provisions are not followed.
- **Medical Devices Technical Advisory Board:** The draft bill provides for the creation of a **Medical Devices Technical Advisory Board on the lines of the existing drugs technical advisory board**, with people who have technical knowledge of the engineering of these devices, and members of the industry.
  - Other than officials of the Health Ministry, the board will have officials from the Department of Atomic Energy, Department of Science and Technology, Ministry of Electronics and Information Technology, Defense Research and Development Organization, and experts from the fields of Biomedical Technology, Biomaterials, and Polymer Technology.

### **What are the Issues Related to it?**

- The draft mainly confronted the issues of **E-pharmacy** and how they violate the existing regulations as follows:
- There is hardly any provision for the regulation of online pharmacies exist in the 1940 law.
  - At present all these **online pharmacies are working outside the law, most of them have licenses for physical shops or storage units**.
  - They deliver medicines without any prescription.
  - In case of violation regulatory authorities don't know under which provision of law to file suit against these companies.
  - Sometimes these **companies held licenses from another state and operate in other states**.

### **What is the Present Status of Medical Devices Industry of India?**

- **About:**
  - The current market size of the medical devices industry in India is estimated at USD 11 bn, represents a sunrise sector of the Indian economy.

Note:

- The medical devices industry in India consists of large multinationals as well as **Small and Medium Enterprises (SMEs)** growing at an unprecedented scale.
- The medical device sector has been growing steadily at a **CAGR of 15% over the last 3 years**.
- The medical devices industry in India is poised for significant growth with the market size expected to reach USD 50 bn by 2025.
- **100% FDI is allowed under the automatic route** for both brownfield and greenfield setups. Strong FDI inflows reflect the confidence of global players in the Indian market.
- **Initiatives:**
  - **Production Linked Incentive Scheme for Promoting Domestic Manufacturing of Medical Devices:**
    - **The Production Linked Incentives Scheme (PLI)** Scheme for Medical Devices manufacturing proposes a **financial incentive to boost domestic manufacturing and attract large investment** in medical devices segments such as cancer care devices, radiology and imaging devices, anesthetics devices, implants, etc.
  - **Promotion of Medical Device Parks:**
    - Promotion of **Medical Device Parks** aims to **strengthen the infrastructure base and develop a robust manufacturing ecosystem** for medical devices in the domestic market.
    - Grants under the Scheme for development of **world-class standard testing and infrastructure facilities** will build momentum for domestic production and deepen the value chain of Medical Devices in India.
- Additionally, these are expected to **reduce the cost of manufacturing significantly**, leading to better accessibility and affordability of medical devices in the country.
  - Medical devices have been recognised as a **sunrise sector** under the **'Make in India' campaign** in 2014.

### What was the Need to Bring this Bill?

- Almost **80% of the medical devices currently sold in the country are imported**, particularly high-end devices.

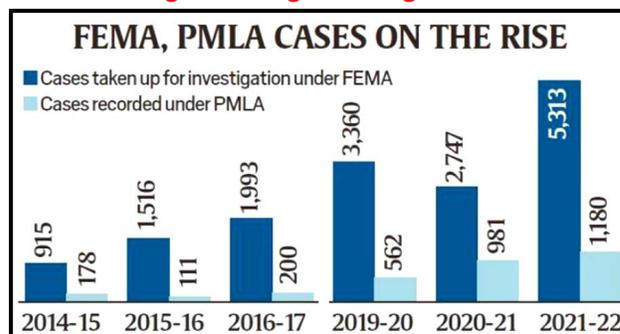
- Indian players in the space have so far typically focussed on low-cost and low-tech products, like consumables and disposables, leading to a higher value share going to foreign companies.
- It aims to **reduce India's import dependence from 80% to nearly 30% in the next 10 years** and become one of the top five global manufacturing hubs for medical devices by 2047.
- It is also aimed at **increasing India's per capita spend on medical devices**.
  - India has **one of the lowest per capita spend on medical devices at USD 3**, compared to the global average of per capita consumption of USD 47, and significantly lower than the per capita consumption of developed nations like the USA at USD 415 and Germany at USD 313.

## FEMA & PMLA

### Why in News?

**The Directorate of Enforcement (ED)** has registered **14,143 cases under FEMA and PMLA between 2019-20 and 2021-22** as compared to 4,913 cases in 2014-15 to 2016-17.

- **Year 2021-22 saw the highest number of money laundering and foreign exchange violation cases.**



### What is Foreign Exchange Management Act, 1999?

- The legal framework for the **administration of foreign exchange transactions** in India is provided by the **Foreign Exchange Management Act, 1999**.
- Under the FEMA, which came into force with effect from 1<sup>st</sup> June 2000, **all transactions involving foreign exchange have been classified either as capital or current account transactions**.

Note:

### ○ Current Account Transactions:

- All transactions undertaken by a **resident** that do not alter his / her assets or liabilities, including contingent liabilities, outside India are **current account transactions**.
  - Example: payment in connection with **foreign trade**, expenses in connection with **foreign travel**, **education** etc.

### ○ Capital Account Transactions:

- It includes those transactions which are undertaken by a **resident** of India such that his/her assets or liabilities outside India are **altered** (either increased or decreased).
  - Example: **investment in foreign securities**, **acquisition of immovable property outside India** etc.

### ➤ Resident Indians:

- A '**person resident in India**' is defined in **Section 2(v) of FEMA, 1999** as:
  - Barring few exceptions, a person **residing in India for more than 182 days** during the course of the preceding financial year.
  - Any person or body corporate **registered or incorporated in India**.
  - An office, branch or agency in India **owned or controlled by a person resident outside India**.
  - An office, branch or agency outside India **owned or controlled by a person resident in India**.

### **What is the Prevention of Money Laundering Act, 2002?**

- It forms the **core of the legal framework** put in place by India to combat **Money Laundering**.
- The provisions of this act are applicable to all financial institutions, banks (Including RBI), mutual funds, insurance companies, and their financial intermediaries.
- **PMLA (Amendment) Act, 2012:**
  - Adds the concept of '**reporting entity**' which would include a **banking company, financial institution, intermediary** etc.
  - PMLA, 2002 levied a **fine up to Rs 5 lakh**, but the **amendment act has removed this upper limit**.
  - It has provided for **provisional attachment and confiscation of property** of any person involved in such activities.

## Right to Health

### **Why in News?**

Recently, there was an intense discussion on a Private Member's Bill — The Right to Health Bill in Rajya Sabha.

- The goal is to attain the highest possible level of health and well-being for all at all ages, through a preventive and promotive health care orientation in all developmental policies.
- The Bill seeks to make health a fundamental right to all citizens and ensure equitable access and maintenance of a standard of physical and mental health conducive to living a life in dignity.

### **What do we know about Right to Health?**

#### ➤ About:

- The **Right to health**, as with other rights, includes both **freedoms and entitlements**:
  - **Freedoms** include the right to **control one's health and body** (for example, sexual and **reproductive rights**) and to be free from interference (for example, **free from torture and non-consensual medical treatment and experimentation**).
  - **Entitlements** include the right to a **system of health protection** that gives everyone an equal opportunity to enjoy the highest attainable level of health.

#### ➤ Related Provisions in India:

##### ○ International Conventions:

- India is a signatory of the Article 25 of the **Universal Declaration of Human Rights** (1948) by the **United Nations** that grants the right to a standard of living adequate for the health and well-being to humans including food, clothing, housing and medical care and necessary social services.

##### ○ Fundamental Rights:

- **Article 21** of the Constitution of India guarantees a fundamental right to life & personal liberty.
  - The right to health is inherent to a life with dignity.

Note:

- **Directive Principles of State Policy (DPSP):**
  - Articles 38, 39, 42, 43, & 47 (**DPSP**) put the obligation on the state in order to ensure the effective realization of the right to health.
- **Judicial Pronouncements:**
  - **The Supreme Court** in *Paschim Bangal Khet Mazdoor Samity case (1996)* held that in a welfare state, the primary duty of the government is to **secure the welfare of the people** and moreover it is the obligation of the government to provide **adequate medical facilities for its people**.
  - Also, in its landmark judgment in *Parmanand Katara Vs Union Of India (1989)*, Supreme Court had ruled that **every doctor whether at a government hospital or otherwise has the professional obligation** to extend his services with due expertise for protecting life.
- **Significance:**
  - **Right Based Healthcare Services:**
    - The people are **entitled to the right to health** and it puts a **compulsion** for the government to take steps toward this.
  - **Wide Access to Health Services:**
    - Enables everyone to **access the services and ensures that the quality of those services is good enough** to improve the health of the people who receive them.
  - **Reduce Out of Pocket Expenditure:**
    - Protects people from the **financial consequences of paying for health services** out of their own pockets and reduces the risk of people getting pushed into poverty.

### **What are the Challenges in the Health Sector?**

- **Lack of Primary Healthcare Services:**
  - The existing public primary health care model in the country is **limited in scope**.
  - Even where there is a well-functioning public primary health centre, **only services related to pregnancy care, limited childcare and certain services related to national health programmes are provided**.
- **Inadequate Funding:**

- **Expenditure on public health** funding has been consistently low in India (approximately 1.3% of **GDP**).
- As per OECD, India's total out-of-pocket expenditure is around 2.3% of GDP.
- **Sub-optimal Public Health System:**
  - Due to this, it is challenging to tackle **Non-communicable Diseases**, which is all about prevention and early detection.
  - It diminishes preparedness and effective management for new and emerging threats such as pandemic like **Covid-19**.

## **Right to Repair**

### **Why in News?**

Recently, the **Department of Consumer Affairs** announced that it has set up a **committee** chaired by **Nidhi Khare**, Additional Secretary to develop a comprehensive framework on '**Right to Repair**'.

### **What do we need to know about Right to Repair?**

- **About:**
  - **The Right to Repair** refers to government legislation that is intended to allow consumers the **ability to repair and modify their own consumer electronic devices**, where otherwise the manufacturer of such devices require the consumer to use only their offered services.
    - When customers buy a product, it is inherent that they must **own it completely**, for which the consumers should be able to **repair and modify the product with ease and at reasonable cost**, without being captive to the whims of manufacturers for repairs.
  - The idea originally originated from the USA where the **Motor Vehicle Owners' Right to Repair Act 2012**, required the manufacturers to provide the necessary documents and information to allow anyone to repair their vehicles.
- **Proposed Framework:**
  - Under this regulatory framework, it would be mandatory for manufacturers to **share their product details with customers** so that they can either

Note:

repair them by self or by third parties, rather than depending on original manufacturers.

- The law also aims to help **harmonise the trade between the Original Equipment Manufacturers (OEMs) and third-party buyers and sellers**, thus also creating new jobs.
- **Global Status:**
  - The right to repair has been recognised in many countries across the globe, including the **US, UK and European Union**.
  - In the US, the **Federal Trade Commission** has directed manufacturers to **remedy unfair anti-competitive practices** and asked them to make sure that consumers can make repairs, either themselves or by a third-party agency.
- **Benefits:**
  - This will help **boost business for small repair shops**, which are an important part of local economies.
  - It will help **reduce the vast mountain of electrical waste (e-waste)** that piles up each year on the continent.
  - It will **save consumers' money**.
  - It will contribute to **circular economy** objectives by improving the life span, maintenance, re-use, upgrade, recyclability and waste handling of appliances.
- **Proposed Sectors for Implementation:**
  - Farming equipment
  - Mobile phones/ tablets
  - Consumer durables
  - Automobiles/automobile equipment

### Why do we need the Right to Repair?

- Generally, **manufacturers retain proprietary control** over spare parts, including their design, this kind of monopoly on repair processes **infringes the customer's "Right to Choose"**.
- **Warranty cards** of several products mention that getting them repaired from an outfit not recognised by the makers **would lead to customers losing their warranty benefit**.
- Companies also tend to **avoid the publications of manuals that can help users make repairs easily**.

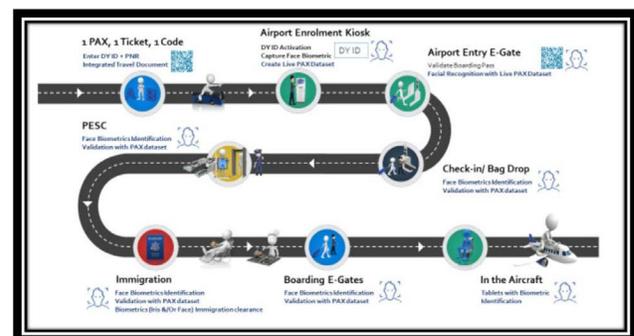
- The technical service/product companies **do not provide complete knowledge and access to manuals, schematics, and software updates**.
- Manufacturers are encouraging a culture of **"planned obsolescence"**.
  - This is a system whereby the design of any gadget is such that it **lasts a particular time only and after that particular period it has to be mandatorily replaced**.
  - A product that cannot be repaired or falls under planned obsolescence i.e. designing a product with an artificially limited useful life, **not only becomes e-waste but also forces the consumers to buy new products** for want of any repair to reuse it.
- India has recently launched the concept of **LiFE movement (Lifestyle for Environment)** in India.
  - This includes the concept of **reuse and recycling various consumer products**.
  - Right to Repair will assist in achieving the targets under LiFE.

## DIGI YATRA

### Why in News?

Recently, the **Consultative Committee meeting of the Ministry of Civil Aviation** was held in New Delhi to discuss 'DIGI YATRA'.

### What do we need to know about DIGI YATRA?



- **About:**
  - It is a project conceived to achieve **contactless, seamless processing** of passengers at Airports, based on **Facial Recognition Technology (FRT)**.

Note:

- The project envisages that any traveller may pass through various checkpoints at the airport through a **paperless and contactless processing**, using facial features to establish the identity which would be linked to the boarding pass.
- It provides a **decentralized mobile wallet-based identity management platform** which is cost effective and addresses **privacy/data protection** issues in implementation of Digi Yatra.

#### ➤ **Digi Yatra Foundation:**

- It has been set up as a **joint venture (JV)** company in 2019 under Section 8 of the **Companies Act, 2013**.
- The Foundation was formed, with the objective of **creating the Digi Yatra Central Ecosystem (DYCE)**.
- Digi Yatra Foundation will be a **pan-India entity and the custodian** of the Passenger ID validation process.
- It will also develop **consensus** amongst the Aviation Stakeholders in India.
- It would also define the criteria for compliance and guidelines for the local airport systems.

#### ➤ **Implementation:**

- In the first phase, Digi Yatra is proposed to be rolled out at two Airports namely **Varanasi and Bengaluru in August 2022** and at five Airports namely **Pune, Vijayawada, Kolkata, Delhi and Hyderabad by March next year**.
- **Airports Authority of India (AAI)** will identify their airports where Digi Yatra would be implemented in a phased manner.

#### **What are the Objectives of DIGI YATRA?**

- **Enhance passenger experience and provide a simple and easy experience to all air travellers.**
- **Achieve better throughput through existing infrastructure using "Digital Framework".**
- **Result in lower cost operations.**
- **Digitize current manual processes and to bring better efficiencies**
- **Enhance security standards and improve current system performance.**
- Rollout of "Digi Yatra" system with a digital "ID" backed by a strong verifiable government issued identity like AADHAAR.

## **Pradhan Mantri Fasal Bima Yojana (PMFBY)**

### **Why in News?**

Recently, after opting out in 2019-20, the Andhra Pradesh government has returned to the crop insurance scheme **Pradhan Mantri Fasal Bima Yojana (PMFBY)**.

### **What is Pradhan Mantri Fasal Bima Yojana?**

#### ➤ **About:**

- Launched in 2016 and is being **administered by the Ministry of Agriculture and Farmers Welfare**.
- It replaced the **National Agricultural Insurance Scheme (NAIS)** and **Modified National Agricultural Insurance Scheme (MNAIS)**.

#### ➤ **Eligibility:**

- Farmers including **sharecroppers** and **tenant farmers** growing notified crops in the notified areas are eligible for coverage.

#### ➤ **Objectives:**

- To provide **insurance coverage and financial support to the farmers in the event of failure** of any of the notified crops as a result of natural calamities, pests & diseases.
- To **stabilize the income of farmers** to ensure their continuance in farming.
- To encourage farmers to adopt innovative and modern agricultural practices.
- To ensure the flow of credit to the agriculture sector.

#### ➤ **Premium:**

- There will be a **uniform premium of only 2% to be paid by farmers** for all Kharif crops and 1.5% for all Rabi crops.
- In the case of **annual commercial and horticultural crops**, the premium to be paid by farmers will be only 5%.
- The premium rates to be paid by farmers are very low and the balance premium will be paid by the Government to provide full insured amount to the farmers against crop loss on account of natural calamities.
- **There is no upper limit on Government subsidies. Even if the balance premium is 90%, it will be borne by the Government.**

Note:

- Earlier, there was a **provision of capping the premium rate** which resulted in low claims being paid to farmers.
  - This capping was done to **limit Government's outgo on the premium subsidy**.
  - This capping has now been removed and farmers will get a claim against the full sum insured without any reduction.
- **Use of Technology:**
- **Crop Insurance App:**
    - Provides for easy enrollment of farmers.
    - Facilitate easier reporting of crop loss within 72 hours of occurrence of any event.
  - **Latest Technological Tools:** To assess crop losses, satellite imagery, remote-sensing technology, drones, artificial intelligence and machine learning are used.
  - **PMFBY Portal:** For integration of land records.
- **Recent Changes:**
- The scheme was once **mandatory for loanee farmers**; but 2020, the Centre changed it to make it optional for all farmers.
    - Earlier the rate of average premium subsidy including the difference between the actuarial premium rate and the rate of the insurance premium payable by the farmer was shared by the state and center, further states and UTs were free to extend additional subsidies over and above the average subsidy from their budgets.
  - The Centre decided in February 2020 to **limit its premium subsidy to 30% for unirrigated areas and 25% for irrigated ones** (from the existing unlimited). Previously, the central subsidy had no upper limit.



### What were the Issues Related to the Scheme?

- **Financial Constraints of States:** The financial constraints of the state governments and low claim ratio during normal seasons are the major reasons for non-implementation of the Scheme by these States.
- States are **unable to deal with a situation** where insurance companies compensate farmers less than the premium they have collected from them and the Centre.
  - The State governments **failed to release funds on time** leading to delays in releasing insurance compensation.
  - This defeats the very purpose of the scheme which is to provide timely financial assistance to the farming community.
- **Claim Settlement Issues:** Many farmers are dissatisfied with both the level of compensation and delays in settlement.
- The role and power of Insurance companies is significant. In many cases, **it didn't investigate losses** due to a localised calamity and, therefore, did not pay the claims.
- **Implementation Issues:** Insurance companies **have shown no interest in bidding** for clusters that are prone to crop loss.
- Further, it is in the nature of the insurance business for entities to make money when crop failures are low and vice-versa.

## NIRF Rankings 2022

### Why in News?

Recently, the Ministry of Education has released 7<sup>th</sup> Edition of **National Institutional Ranking Framework (NIRF) Rankings 2022**.

### What is the National Institutional Ranking Framework?

- **Launch:** The National Institutional Ranking Framework (NIRF) was approved by the Ministry of Education (Erstwhile Ministry of Human Resource Development) in September 2015.
- It is the first-ever effort by the government to rank **Higher Education Institutions (HEIs)** in the country.

Note:

- Participation in NIRF was made compulsory for all government-run educational institutions in 2018.
- **Assessment on Five Parameters:**
  - Teaching, Learning and Resources (TLR)
  - Research and Professional Practice (RP)
  - Graduation Outcomes (GO)
  - Outreach and Inclusivity (OI)
  - Peer Perception.
- **11 Categories:** Best institutions across **11 categories are listed out** - overall national ranking, universities, engineering, college, medical, management, pharmacy, law, architecture, dental and research.
- **Reason for Launch:** The subjectivity in the ranking methodology developed by **QS World University Rankings and the Times Higher Education World University Ranking** led India to start its own ranking system for Indian HEIs on the line of Shanghai Rankings.
  - The long-term plan of NIRF is to make it an international league table.
- **No. of Participating Institutions in 2022:** More than **7,000 institutes participated** in NIRF Rankings.

### **What are the Highlights of the Ranking 2022?**

- **Overall:** IIT-Madras, IISc-Bangalore, and IIT-Bombay the country's top three higher education institutions
- **University:** IISc, Bengaluru tops the category.
- **Colleges:** Miranda College retains 1<sup>st</sup> position amongst colleges for the 6<sup>th</sup> consecutive year, followed by Hindu College, Delhi and Presidency College Chennai.
- **Research Institution:** IISc, Bengaluru is ranked the best research institution followed by IIT Madras.
- **Engineering:** Among engineering institutions, IIT-Madras remained number one.
- **Management:** Indian Institute of Management (IIM) Ahmedabad was ranked one followed by IIM Bengaluru.
- **Medical:** All India Institute of Medical Sciences, New Delhi occupies the top slot in Medical for the fifth consecutive year.
- **Pharmacy:** Jamia Hamdard tops the list in Pharmacy subject for the fourth consecutive.
- **Architecture:** IIT Roorkee takes the top slot for the **second time** in Architecture subject.

- **Law:** National Law School of India University, Bengaluru retains its first position in Law for the fifth consecutive year.
- **Dental:** Saveetha Institute of Medical and Technical Sciences, Chennai got the 1<sup>st</sup> Rank.

## **Minority Status in India**

### **Why in News?**

Recently, while hearing a petition, the **Supreme Court** has said that the Minority status of religious and linguistic communities is **"State-dependent"**.

### **What was the Petition about?**

- Petition complains that **followers of Judaism, Bahaism, and Hinduism are the real minorities in Ladakh, Mizoram, Lakshadweep, Kashmir, Punjab and the North-East States.**
- However, they **cannot establish and administer educational institutions** of their choice because of the **non-identification of 'minority' at the State level.**
- Religious communities such as **Hindus here are socially, economically, politically non-dominant and numerically inferior** in several States.

### **What was the Ruling?**

- Every person in India can be a minority in one State or the other.
- A Marathi can be a minority outside his home State e.g., Maharashtra.
- Similarly, a Kannada-speaking person may be in minority in States other than Karnataka.
- Court indicated that **a religious or linguistic community which is a minority in a particular State, can inherently claim protection and the right to administer and run its own educational institutions under Articles 29 and 30 of the Constitution.**

### **Who are the minorities notified by the Government of India?**

- Currently, only those communities notified under section 2(c) of the **NCM (National Commission for Minorities) Act, 1992**, by the central government are regarded as minority.

Note:



- Despite the **Supreme Court's 11-judge bench judgment in T.M.A Pai case**, which clearly determined that linguistic and religious minorities must be identified at the state level rather than at the national level, section 2(c) of the National Commission for Minorities (NCM) Act 1992 gave the Centre "unbridled power" to inform minorities.
- In 1992, with the enactment of the NCM Act, 1992, the MC became a statutory body and **was renamed as the NCM**.
- In 1993, the first Statutory National Commission was set up and five religious communities viz. **The Muslims, Christians, Sikhs, Buddhists and Zoroastrians (Parsis) were notified as minority communities**.
- In 2014, **Jains were also notified** as a minority community.

### **What are the Constitutional Provisions for Minority?**

- **Article 29:**
  - It provides that any section of the citizens residing in any part of India having a distinct language, script or culture of its own, **shall have the right to conserve the same**.
  - It grants **protection to both religious minorities as well as linguistic minorities**.
  - However, the SC held that the scope of this article is not necessarily restricted to minorities only, as use of the word '**section of citizens**' in the Article includes minorities as well as the majority.
- **Article 30:**
  - All minorities shall have the **right to establish and administer educational institutions** of their choice.
  - The protection **under Article 30 is confined only to minorities** (religious or linguistic) and does not extend to any section of citizens (as under Article 29).
- **Article 350-B:**
  - The **7<sup>th</sup> Constitutional (Amendment) Act 1956** inserted this article which provides for a Special Officer for Linguistic Minorities appointed by the President of India.

- It would be the duty of the **Special Officer to investigate all matters relating to the safeguards provided for linguistic minorities** under the Constitution.

## **Legal Metrology (Packaged Commodities) Rules 2011**

### **Why in News?**

The Ministry of Consumer Affairs, Food & Public Distribution has amended the **Legal Metrology (Packaged Commodities) Rules 2011** for **ease of doing business** and reducing the compliance burden for the **electronic industries**.

- Earlier, **Rule 5 of the Legal Metrology (Packaged Commodities), Rules 2011** was omitted to **safeguard interest of consumers**.
  - Rule 5 defines the Schedule II prescribing the pack sizes of various types of commodities.

### **What are the Amendments?**

- Allows the electronic products to **declare certain mandatory declarations through the QR (Quick Response) Code** for a period of one year, if not declared in the package itself.
  - The option is given for one year because the **government is trying to use the technology for the first time on a pilot** basis and will decide to extend it based on the feedback.
- But the industry, however, will have to declare on the package itself the mandatory details like maximum retail price (MRP), phone number and e-mail address.
  - The additional mandatory declarations such as the address of the manufacturer, the common name of the commodity, the size and dimension of the commodity and customer care are allowed through QR code.
- Earlier, all the prepackaged commodities including the electronic products are required to declare all the mandatory declarations as per the Legal Metrology (Packaged Commodities), Rules 2011 on the package.

### **What are Legal Metrology (Packaged Commodities) Rules, 2011?**

- It **regulates pre-packaged commodities in India** and inter – alia mandate certain **labelling requirements prior to sale** of such commodities.

Note:

- The main aim of the Legal Metrology Act, 2009 is to establish and enforce standards of weights and measures, **regulate trade and commerce in weights, measures and other goods which are sold or distributed by weight**, measure or number and any other matter that is connected to the same.
  - According to the Act, the Central Govt. may appoint a Director of Legal Metrology **to perform duties related to inter-state trade and commerce**.
  - The State Govt. may appoint a Controller of Legal Metrology to perform duties related to intra-state trade and commerce.

#### What are the Related Initiatives?

- **Consumer Protection Act, 2019**
- **Draft Food Safety And Standards (Labelling And Display) Regulation.**
- **Consumer Welfare Fund**
- **Central Consumer Protection Council**
- **Consumer Protection Rules, 2021**
- **Consumer Protection (E-Commerce) Rules, 2020**
- **National Consumer Day**

## Renunciation of Indian Citizenship

### Why in News?

The Ministry of Home Affairs stated that **over 1.6 lakh Indians renounced their Indian citizenship** in 2021.

- The numbers marked a sharp increase in comparison to the 85,256 people who gave up their Indian citizenship in the Covid-hit year of 2020, and a somewhat smaller increase over the **1.44 lakh who surrendered their passports in 2019**.



### What is Citizenship?

#### ➤ Constitutional Provisions:

- Citizenship is listed in the **Union List** under the **Constitution** and thus is under the **exclusive jurisdiction of Parliament**.
- The Constitution does not define the term 'citizen' but details of various categories of persons who are entitled to citizenship **are given in Part 2 (Articles 5 to 11)**.

#### ➤ Acquisition of Indian Citizenship:

- **The Citizenship Act of 1955 prescribes five ways** of acquiring citizenship, viz, birth, descent, registration, naturalisation and incorporation of territory.

#### ➤ Citizenship (Amendment) Act, 2019:

- The **Act amended** the law to **fast-track citizenship for religious minorities**, specifically Hindus, Sikhs, Buddhists, Jains, Parsis and Christians, from Afghanistan, Bangladesh and Pakistan who entered India prior to 2015.
- The requirement for them to stay in India for at least 11 years before applying for Indian citizenship has been reduced to five years.

### Why do People Relinquish Citizenship?

#### ➤ General:

- People **leave their countries for better jobs and living conditions**, and some are pushed out by **climate change** or **unfavourable political situations** at home.
- **According to a 2020 report by the Global Wealth Migration Review**,
  - High net worth individuals around the world who renounce citizenship acquired at birth may do so for **reasons of rising crime rates or the lack of business opportunities at home**.
  - It can also be a sign of bad things to come as (they) are often the first people to leave — they have the means to leave unlike middle class citizens.
  - Among the other reasons are **safety of women and children**, lifestyle factors like climate and pollution, financial concerns including taxes, better healthcare for families and educational opportunities for children, and **to escape oppressive governments**.

Note:

➤ **India:**

- For India with newer generations holding passports of other countries, **some older Indians are choosing to leave to be with family settled overseas.** In some high-profile cases, people who leave India may be fleeing the law or fear legal action for alleged crimes.
  - The **post-Independence diasporic community has been going (out of India) for jobs and higher education but the pre-Independence diasporic movement was completely different, witnessing forced and contractual labour.**
- Since India does not provide dual citizenship, therefore one has to renounce his/her Indian Citizenship. **for acquiring citizenship of another country.**
- Countries **where Indians have been migrating for long or where people have family or friends would be more automatic choices,** as would considerations such as easier paperwork and more welcoming social and ethnic environments.

### **What are the Ways to Renounce Citizenship in India?**

➤ **Voluntary Renunciation:**

- If an Indian citizen wishes, who is of full age and capacity, **he can relinquish citizenship of India by his will.**
- When a person relinquishes his citizenship, **every minor child of that person also loses Indian citizenship.** However, when such a child attains the age of 18, he may resume Indian citizenship.

➤ **By Termination:**

- The Constitution of **India provides single citizenship.** It means an Indian person **can only be a citizen of one country at a time.**
- If a person takes the citizenship of another country, **then his Indian citizenship ends automatically.** However, this provision does not apply when India is busy in war.

➤ **Deprivation by Government:**

- The Government of **India may terminate the citizenship of an Indian citizen if;**
  - The citizen has **disrespected the Constitution.**
  - Has obtained citizenship **by fraud. The citizen has unlawfully traded or communicated with the enemy during a war.**

- Within 5 years of registration or naturalisation, **a citizen has been sentenced to 2 years of imprisonment** in any country.
- The citizen has been living **outside India for 7 years continuously.**

## **Government Panel on MSP & Natural Farming**

### **Why in News?**

Recently, the Union Government set up a **committee headed by the former Union Agricultural secretary** to further look into the **issues of Minimum Support Price (MSP) and Natural Farming.**

### **What was the Purpose of forming the Committee?**

- It has been constituted as a follow-up to an announcement by Prime Minister when he had declared the government's intention to **withdraw the three farm laws.**
- The protesting farmers **had demanded a legal guarantee on MSP,** based on **Swaminathan Commission's 'C2+50% formula'.**
  - The Swaminathan Commission Report states that the **government should raise the MSP to at least 50% more than the weighted average cost of production.** It is also known as the C2+50% formula.
  - It includes the **imputed cost of capital and the rent on the land** (called 'C2') to give farmers 50% returns.
- This was in **addition to their demand for repeal of the three farm laws** — Farmers Produce Trade and Commerce (Promotion and Facilitation) Act, 2020; Farmers (Empowerment and Protection) Agreement on Price Assurance and Farm Services Act, 2020; and the Essential Commodities (Amendment) Act, 2020.

### **What would be the Role of the Committee?**

- **On MSP:**
  - It would discuss approaches to develop the **Agricultural Marketing System** in accordance with the changing needs of the country in order

Note:

to ensure higher value to farmers through remunerative prices for their produce by leveraging domestic output and export.

- To give suggestions to **make available MSP to farmers of the country** by making the system more effective and transparent.
- To give suggestions on practicality to give more autonomy to **Commission for Agricultural Costs and Prices (CACP)** and measures to make it more scientific.

➤ **Natural Farming:**

- It would give **suggestions for programmes and schemes** for value chain development, protocol validation, and research for future needs,
- Also, push support for area expansion under the **Indian Natural Farming System** through publicity and through involvement and contribution of farmer organisations.

➤ **Crop diversification:**

- It will **investigate, and map present cropping patterns** of agro-ecological zones in producer and consumer states.
- Promote a **diversification policy approach** to varying the cropping pattern according to the changing needs of the country.

### What is MSP?

➤ **About:**

- **Minimum Support Price (MSP)** is a form of **market intervention by the Government of India to insure agricultural producers against any sharp fall in farm prices.**
- The minimum support prices are announced by the Government of India at the beginning of the sowing season for certain crops on the basis of the **recommendations of the Commission for Agricultural Costs and Prices (CACP).**
- Presently, the government announces minimum support prices for **23 crops.**
  - Crops covered by MSPs include:
    - 7 types of cereals (paddy, wheat, maize, bajra, jowar, ragi and barley),
    - 5 types of pulses (chana, arhar/tur, urad, moong and masur),
    - 7 oilseeds (rapeseed-mustard, groundnut, soyabean, sunflower, sesamum, safflower, nigerseed),

- 4 commercial crops (cotton, sugarcane, copra, raw jute).

➤ **Objectives:**

- MSP is a price fixed by the Government of India to **protect the producer - farmers - against excessive falls in price during bumper production years.**
- The major objectives are to **support the farmers from distress sales** and to procure food grains for public distribution.
  - In case the market price for the commodity falls below the announced minimum price due to bumper production and glut in the market, government agencies purchase the entire quantity offered by the farmers at the announced minimum price.

➤ **Factors Considered for Fixing MSP:**

- The demand and supply of a commodity
- Its cost of production
- The market price trends (both domestic and international)
- Inter-crop price parity
- The terms of trade between agriculture and non-agriculture (that is, the ratio of prices of farm inputs and farm outputs)
- A minimum of 50% as the margin over the cost of production
- The likely implications of an MSP on consumers of that product

### What is Natural Farming?

➤ **About:**

- **Natural Farming** can be defined as “**chemical-free farming and livestock based**”.
- Soundly grounded in agroecology, it is a **diversified farming system that integrates crops, trees, and livestock**, allowing the optimum use of functional biodiversity.
- It **holds the promise of enhancing farmers' income while delivering many other benefits**, such as restoration of soil fertility and environmental health, and mitigating and/or reducing greenhouse gas emissions.
  - This farming approach was **introduced by Masanobu Fukuoka**, a Japanese farmer, and philosopher, in his 1975 book *The One-Straw Revolution*.

Note:

### ➤ Advantages:

- Actual physical work and labor have been reduced by up to 80% compared to other agricultural systems
- Improves soil quality
- Humus is created
- Water retention is improved, so it saves 60 to 80% of water
- Micro-climate around the plants
- Beneficial insects are attracted

## Taranga Hill- Ambaji-Abu Road

### Why in News?

Recently, the Cabinet Committee on Economic Affairs approved the construction of Taranga Hill-Ambaji-Abu Road new rail line.

### What are the Key Highlights of this Project?

#### ➤ About:

- The total length of the new rail line will be 116.65 kms.
- The project will be completed by 2026-27, it will generate direct employment during construction for about 40 lakh man days.
- The route will go via Rajasthan's **Sirohi district**, as well as Gujarat's **Banaskantha and Mahesana districts**.

#### ➤ Significance:

- It would **enhance connectivity and improve mobility** leading to overall socio-economic development of the region.
- As it **connects the important pilgrimage sites** and hence, it **will facilitate easy travel to millions of devotees**.
- It would also **facilitate faster movement of agricultural and local goods**, further enhance connectivity between Gujarat and Rajasthan.
- It would provide **alternative route** for existing Ahmedabad-Abu Road railway line.



### What are the Pilgrimage sites?

- **Ambaji** is a famous pilgrimage temple site located in Gujarat, which is included in 51 Shaktipeeths.
  - It attracts millions of devotees from Gujarat as well as other parts of the country and abroad every year. Hence, this rail line will facilitate easy travel for these millions of devotees.
- Further, the devotees would visit the Ajitnath Jain temple (one of the 24 holy Jain Tirthankaras) at Taranga Hill would also be greatly benefitted by this connectivity.
  - This railway new line between Taranga Hill-Ambaji-Abu Road will connect these two important religious sports with railway's main network.

## National Legal Services Authority

### Why in News?

Recently, the Minister of Law and Justice informed the details of funds allocated by **NALSA (National Legal Services Authority)** to Legal Services Authorities to organise Legal Aid Programmes in India.

### What is NALSA?

#### ➤ About:

- The NALSA was **founded in 1995 under the Legal Services Authorities Act of 1987** to monitor and

Note:

review the effectiveness of legal aid programs and to develop rules and principles for providing legal services under the Act.

- It also **distributes funding and grants to state legal services authorities** and non-profit organisations to help them execute legal aid systems and initiatives.
- **Constitutional Provisions:**
  - **Article 39A** of the Constitution of India provides that **State shall secure that the operation of the legal system promotes justice on a basis of equal opportunity**, and shall in particular, provide free legal aid, by suitable legislation or schemes or in any other way, to ensure that opportunities for securing justice are not denied to any citizen by reason of economic or other disability.
  - **Articles 14 and 22(1)** also make it obligatory for the **State to ensure equality before law and a legal system** which promotes justice on a basis of equal opportunity to all.
- **Objectives of Legal Services Authorities:**
  - Provide **free legal aid and advice**.
  - Spread **legal awareness**.
  - Organise **lok adalats**.
  - Promote settlements of disputes through **Alternative Dispute Resolution (ADR)** Mechanisms. Various kinds of ADR mechanisms are Arbitration, Conciliation, Judicial settlement including settlement through Lok Adalat, or Mediation.
  - Provide **compensation to victims** of crime.

### What are Legal Services Institutions at Various Levels?

- **National Level:** NALSA was constituted under the Legal Services Authorities Act, 1987. The **Chief Justice of India is the Patron-in-Chief**.
- **State Level:** **State Legal Services Authority**. It is headed by the **Chief Justice of the State High Court** who is its Patron-in-Chief.
- **District Level:** **District Legal Services Authority**. The District Judge of the District is its ex-officio Chairman.
- **Taluka/Sub-Division Level:** Taluka/ Sub-Divisional Legal Services Committee. It is headed by a senior Civil Judge.

- **High Court:** High Court Legal Services Committee
- **Supreme Court:** Supreme Court Legal Services Committee

### Who is Eligible for Getting Free Legal Services?

- Women and children
- Members of SC/ST
- Industrial workmen
- Victims of mass disaster, violence, flood, drought, earthquake, industrial disaster.
- Disabled persons
- Persons in custody
- Those persons who have annual income of less than the amount prescribed by the respective State Government, if the case is before any court other than the Supreme Court, and less than Rs. 5 Lakhs, if the case is before the Supreme Court.
- Victims of Trafficking in Human beings or beggar.

### What are the Related Initiatives?

- **Legal Service Mobile App:**
  - To enable equitable access to justice, NALSA has launched **Legal Services Mobile App** on Android and iOS versions to **enable easy access to legal aid to common citizens**.
- **DISHA Scheme:**
  - Department of Justice (DoJ) has launched comprehensive, holistic, integrated and systemic solution on access to justice at pan India level through a scheme titled “Designing Innovative Solutions for Holistic Access to Justice (DISHA)” being implemented from 2021-26.
  - All the Access to Justice Programmes have been merged under DISHA scheme and upscaled to all India level.

DISHA Scheme			
<b>TELE-LAW</b>	<b>NYAYA BANDHU (Pro Bono Legal Services)</b>	<b>NYAYA MITRA</b>	<b>LEGAL LITERACY AND LEGAL AWARENESS</b>
An e-interface platform that aims to empower people through pre-litigation advice for rightfully claiming their entitlements and for timely redressal of their difficulties. It seeks to connect the poor and marginalized sections of society, through a dedicated pool of Panel Lawyers via video conferencing/telephonic facilities available at Common Service Centers (CSCs)	Aims for advancing the culture of pro bono and creating a framework for dispensation of offering pro bono legal services across the country. It links the persons eligible to avail free legal aid under Section 12 of Legal Services Authorities (LSA) Act, 1987 with the pro-bono lawyers	Aims to facilitate District Judiciary for assisting in reduction of pendency of decade old pending cases in the district court & subordinate judiciary with the help of Nyaya Mitra	Pan India Legal Literacy and Legal Awareness aims to enable the vulnerable sections of society to have access to information about their legal rights, entitlements and creating better legal awareness so as to make justice delivery system citizen-centric

Note:

## NEET & Tamil Nadu's Protest

### Why in News?

The legal fight against NEET continues to this day for Tamil Nadu since the **Supreme Court** refusal to grant further exemption from NEET in 2017.

### What do we need to know about NEET?

#### ➤ About:

- **The National Eligibility Entrance Test (NEET)**, formerly the **All India Pre-Medical Test (AIPMT)**, is the qualifying test for **MBBS** and **BDS** programmes in **Indian medical and dental colleges**.
  - It is conducted by the **National Testing Agency (NTA)**.

#### ➤ History:

- **The Medical Council of India (MCI)** (since replaced by the **National Medical Commission**) had mooted the NEET in 2009.
- The following year the MCI had issued a notification to regulate **MBBS and BDS** admissions in the country through a common entrance test.
  - In 2013, the Supreme Court had **struck down the NEET** as **unconstitutional** and ruled that the **MCI had no powers** to issue notifications to regulate admissions in medical/dental colleges.
  - In April 2016, a **five judge bench** headed by Justice Anil. R. Dave (who delivered the dissenting verdict in 2013), recalled its 2013 judgment and eventually **mandated the conduct of NEET**.
  - Following requests from certain stakeholders, the **Union Government promulgated an ordinance** in May 2016 **exempting** State-run medical colleges from the ambit of the Supreme Court mandate for a **year**.
  - NEET was introduced across the country based on a Supreme Court ruling in 2016.
    - The Tamil Nadu government vociferously opposed the entrance test from the beginning and initially got exemption from NEET-based admissions.

### Why is Tamil Nadu Against NEET?

- Tamil Nadu constituted a **committee** headed by retired **High Court** judge **Justice A. K. Rajan** to study the effects of the NEET-based admission process.
  - **Justice A. K. Rajan reported that:**
    - Introduction of NEET as sole criterion for admissions into medical colleges has **adversely affected the share of seats** that were historically enjoyed by students who passed the **Tamil Nadu Board of Secondary Examination (TNBSE)**.
      - It worked to the advantage of the **Central Board of Secondary Education (CBSE)** students.
    - Majority of students, who got admitted in medical colleges post-NEET, had gone for **coaching**.
      - Coaching focuses only on **preparing students to answer questions asked in the particular exam** as opposed to learning a subject.
    - NEET was introduced to ensure that **only meritorious students seeking medical seats get admission** into medical colleges as well as end the practice of collecting capitation fees, which stoked corruption.
      - However, it **assumes** that all aspirants are competing from the same position and with the same constraints.
        - ◆ **The Rajan report highlights this as a flawed approach.**
  - **Politicians argue that:**
    - The percentage of students gaining medical college admission from repeat attempts at NEET **rose from 12.47% in 2016-17 to 71.42% in 2020-21**.
    - Taking the **test for a second or third time** to try and get the coveted medical seat calls for financial and social resources.
      - This is way beyond the reach of families from poorer social backgrounds.

### What are the possible Challenges in NEET?

#### ➤ Coaching Industry:

Note:

- The NEET **overshadows students' efforts** in their higher secondary education and has been known to **spawn multi-billion dollar coaching centres**.
  - It has **shifted the focus** more on cracking the 'be-all-end-all' examination instead of mastering the subjects at the higher secondary level.

#### ➤ **Conduct:**

- There have been **discrepancies in the conduct** of NEET with cases of impersonation being reported.
- Even in the NEET examination conducted recently, the **CBI** unearthed an impersonation racket and arrested eight persons.
  - Such racketeering challenges the very concept of merit.

#### ➤ **Economic Inequality:**

- While it has ensured **merit-based admissions in state-run institutions** where the fees are affordable.
  - In deemed universities and private colleges, students with poor NEET scores with rich economical backgrounds continue to edge out meritorious aspirants belonging to poor, lower- and middle-class families.

### **What is the Current Status of the Issue?**

- **The President** refused **assent** to two Bills adopted by the **Tamil Nadu Legislative Assembly** unanimously in 2017 **seeking exemption from NEET-based admissions** for undergraduate and postgraduate degree medical courses.
- In 2021, a **fresh Bill to admit students for MBBS/ BDS courses only on the basis of their class XII board examination** scores was adopted by the Legislative Assembly.
  - In February 2022, after the **Bill was returned by the Governor**, the Bill was **readopted** by the House and sent back to the Governor.
  - The Bill has since been forwarded to the **Ministry of Home Affairs (MHA)** for Presidential assent.
  - The **Minister of State for Home Affairs** informed the **Lok Sabha** that clarification has been sought from the Tamil Nadu Government on the Bill seeking to dispense with the NEET.

- **The Ministry of Health and Family Welfare and the Ministry of AYUSH** had furnished comments on the Bill which have been shared with the state government of Tamil Nadu for their comments and clarifications.

## **Abortion Law in India**

### **Why in News?**

Recently, the **Supreme Court of India** allowed an **unmarried woman to end her pregnancy** at 24 weeks, after the Delhi High Court refused to allow it, citing the provisions of the **Medical Termination of Pregnancy (MTP) Act**.

### **What was Delhi High Court's Position?**

- It taken the view that she was unmarried and since the Medical Termination of Pregnancy Act allowed only married women to terminate the pregnancy after 20 weeks, she would not be eligible to get an abortion,
  - It mentioned **Rule 3B of the Medical Termination of Pregnancy Rules, 2003**, as it **speaks of change in marital status of woman, as the woman was in a live-in relationship and was not married**.

### **What was Supreme Court's Ruling?**

- It took an expansive view of the issue and interpreted MTP Act 2021, **as the word partner instead of husband**, exhibiting the intention of the **law of the land to not confine it to only marital relationships**.
- It also said that the petitioner **cannot be denied the benefit of the law, on the ground that she was unmarried**, and that doing so would be contrary to the **'object and spirit' of the legislation**.
- Further, the bench directed the **director of the All-India Institute of Medical Sciences (AIIMS) to set up a medical board** of two doctors to examine the woman (as per the provisions of the MTP Act) to determine if it was safe and not a risk to the life of the mother to terminate the pregnancy.
  - If it is their opinion that it is safe to do so, then AIIMS can conduct the procedure on her.

Note:

### What is India's Abortion Law?

#### ➤ Historical Perspective:

- Until the 1960s, **abortion was illegal in India** and a woman could face three years of imprisonment and/or a fine under **Section 312 of the Indian Penal Code (IPC)**.
- It was in the mid-1960s that the government set up the **Shantilal Shah Committee** and asked the group, headed by **Dr Shantilal Shah**, to look into the matter of abortions and decide if India needed a law for the same.
- Based on the report of the Shantilal Shah Committee, a **medical termination bill** was introduced in Lok Sabha and Rajya Sabha and was passed by Parliament in August 1971.
- The **Medical Termination of Pregnancy (MTP) Act, 1971** came into force on 1<sup>st</sup> of April 1972 and applied to all of India except the state of Jammu and Kashmir.
- Also, **Section 312** of the Indian Penal Code, 1860, **criminalises voluntarily "causing miscarriage"** even when the miscarriage is with the pregnant woman's consent, except when the miscarriage is caused to save the woman's life.
  - This means that the woman herself, or anyone else including a medical practitioner, could be prosecuted for an abortion.

#### ➤ About:

- **Medical Termination of Pregnancy (MTP) Act, 1971** act allowed pregnancy **termination by a medical practitioner in two stages**:
  - A single **doctor's opinion was necessary for abortions up to 12 weeks after conception**.
  - For pregnancies **between 12 to 20 weeks old**, the **opinion of two doctors** was required to determine if the continuance of the pregnancy would **involve a risk to the life of the pregnant woman or of grave injury to her physical or mental health** or if there is a **substantial risk** that if the child were born, it would suffer from such physical or mental abnormalities as to be seriously "handicapped" before agreeing to terminate the woman's pregnancy.

#### ➤ Recent Amendments:

- In **2021, Parliament altered the law** to allow for abortions based on the **advice of one doctor for pregnancies up to 20 weeks**.
  - The modified law needs the **opinion of two doctors for pregnancies between 20 and 24 weeks**.
  - Further, **for pregnancies between 20 and 24 weeks, rules specified seven categories of women who would be eligible for seeking termination under section 3B of rules prescribed under the MTP Act**,
    - Survivors of sexual assault or rape or incest;
    - Minors;
    - Change of marital status during the ongoing pregnancy (widowhood and divorce);
    - Women with physical disabilities [major disability as per criteria laid down under the Rights of Persons with Disabilities Act, 2016
    - Mentally ill women including mental retardation;
    - The foetal malformation that has a substantial risk of being incompatible with life or if the child is born it may suffer from such physical or mental abnormalities to be seriously handicapped; and
    - Women with pregnancy in humanitarian settings or disasters or emergencies may be declared by the Government.

#### What are the issues related to the MTP Act?

- While the law recognizes changes in a pregnant woman's marital status with her spouses — such as divorce and widowhood — **it does not address the situation for unmarried women**.
- It is a highly regulated procedure whereby the law transfers the decision-making power from the pregnant woman to the **Recognized Medical Practitioner (RMP)** and provides great discretion to the RMP to determine whether abortion should be provided or not.

Note:

## President of India

### Draupadi Murmu

- India's first tribal President
- Second woman President after Smt. Pratibha Patil
- Coming from Odisha's Mayurbhanj district, Murmu belongs to Santhal tribe – the third largest Scheduled Tribe in India (after Gonds and Bhils)



15<sup>th</sup> President of India

#### Who is a President?

- About:** Head of the Indian State and the first citizen of India
- Election:** Elected by an electoral college consisting of MPs of both Houses of Parliament and MLAs of the states and Delhi and Puducherry. (but not the nominated members of Rajya Sabha, Lok Sabha and Assemblies and members of Councils)
- Constitutional Provisions:** Article 54 - 62

#### What Powers does President Enjoy?

##### Legislative Powers:

- Power to dissolve the Lok Sabha
- Gives final assent to pass a bill
- Promulgate ordinances when the Parliament is not in session
- Power to summon both the Houses of Parliament to meet in a joint sitting

##### Appointing Power:

- Appoints the Prime Minister, CJI and other judges of Supreme Court, Governor of the state, Ambassadors to other countries, Attorney General etc.

##### Military Powers:

- Commander in chief of all the Indian armed forces.
- Appoints the Chiefs of the Army, Navy and Air Force.

- Power to declare war or conclude peace with any country on the advice of a council of ministers headed by the PM.
- Treaties with other countries are signed under his/her name

##### Pardoning Power (Article 72):

- May grant pardons if the punishment of the crime is an offence of against union law, granted by the military court or the punishment is that of death

##### Emergency Powers:

- Can declare three types of emergencies: nation, state and financial, under Articles 352, 356 & 360
- Can rule individual states or the whole nation at times of emergency

#### Important Articles of Indian Constitution

- Article 52:** The President of India
- Article 53:** The executive power of the President
- Article 72:** Powers of the president to grant pardons etc. and to suspend, remit or commute sentences in certain cases
- Article 74:** Council of Ministers to aid and advise the President
- Article 85:** Sessions of parliaments, prorogations and dissolution
- Article 111:** Assent to bills passed by the parliaments
- Article 112:** Union Budget (Annual Financial Statement)
- Article 123:** Power of President to promulgate ordinances
- Article 143:** Power of President to consult the Supreme Court

#### FORMER PRESIDENTS



Dr. Rajendra Prasad (1950-1962)



Dr. Sarvepalli Radhakrishnan (1962-1967)



Dr. Zakir Hussain (1967-1969)



Shri Varahagiri Venkata Giri (1969-1974)



Dr. Fakhruddin Ali Ahmed (1974-1977)



Dr. Shankar Dayal Sharma (1992-1997)



Shri B. Venkataraman (1987-1992)



Giani Zail Singh (1982-1987)



Shri Neelam Sanjiva Reddy (1977-1982)



Shri K. R. Narayanan (1997-2002)



Dr. A. P. J. Abdul Kalam (2002-2007)



Smt. Pratibha Devisingh Patel (2007-2012)



Shri Pranab Mukherjee (2012-2017)



Shri Droupadi Murmu (2022-2027)

#### INTERESTING FACTS



- Rajendra Prasad** was the first President of India. He is also the only President to have served two consecutive terms.
- Zakir Hussain** was the third President of India, and the first Muslim President. He was the shortest serving President of India (less than 2 years).
- So far two Presidents, **Dr. Zakir Hussain** and **Fakhruddin Ali Ahmed** (Fifth President), have died during their terms of office.
- When President **Dr. Zakir Hussain** died in May, 1969, the then Vice-President, **V.V. Giri** was acting as the President.
- Soon after **V.V. Giri** resigned to contest the election of the President. Then the **Chief Justice of India, M. Hidayatullah** worked as the officiating President from 20 July, 1969 to 24 August, 1969.

## Swadesh Darshan Scheme

### Why in News?

Recently, the Ministry of Tourism has revamped its **Swadesh Darshan scheme** as **Swadesh Darshan 2.0 (SD2.0)** with an aim to develop sustainable and responsible infrastructure at destinations.

### What is Swadesh Darshan Scheme?

#### ➤ About:

- It was launched in 2014-15 for integrated development of **theme-based tourist circuits** — Buddhist Circuit, Coastal Circuit, Desert Circuit, Eco Circuit, Heritage Circuit, Northeast Circuit, Himalayan Circuit, Sufi Circuit, Krishna Circuit, Ramayana Circuit, Rural Circuit, Spiritual Circuit, Tirthankar Circuit, Wildlife Circuit and Tribal Circuit.
- It is **100% centrally funded** and efforts are made to achieve convergence with other schemes of Central and State Governments and also to **leverage the voluntary funding available for Corporate Social Responsibility (CSR) initiatives** of Central Public Sector Undertakings and Corporate Sector.

#### ➤ Significance:

- Under the schemes of Swadesh Darshan and **PRASAD (Pilgrimage Rejuvenation and Spiritual, Heritage Augmentation Drive)**, the Ministry of Tourism provides **financial assistance to states and Union Territories for the development of tourism infrastructure**.
- The projects under this scheme are sanctioned subject to availability of funds, submission of detailed project reports, adherence to scheme guidelines and utilisation of funds released previously.

#### ➤ Objectives:

- To position tourism as a major engine of economic growth and job creation;
- Develop circuits having tourist potential in a planned and prioritized manner;

Note:

- Promote cultural and heritage value of the country to generate livelihoods in the identified regions;
- **Enhancing the tourist attractiveness in a sustainable manner** by developing world class infrastructure in the circuit/destinations;
- Follow community-based development and pro-poor tourism approach;
- **Creating awareness among the local communities about the importance of tourism for them in terms of increased sources of income**, improved living standards and overall development of the area.
- To make full use of the potential and advantages in terms of available infrastructure, national culture and characteristic strong points of each and every region throughout the country by development of theme-based circuits.
- Development of tourist facilitation services to enhance visitor experience/satisfaction.

### What is Swadesh Darshan Scheme 2.0?

- With the mantra of 'vocal for local', the revamped scheme namely **Swadesh Darshan 2.0** seeks to attain "Aatmanirbhar Bharat" by realizing India's full potential as a tourism destination.
- Swadesh Darshan 2.0 is not an incremental change but a generational shift to evolve Swadesh Darshan Scheme as a holistic mission to develop sustainable and responsible tourism destinations.
- It will encourage the development of benchmarks and standards for **generic and theme-specific development of tourism destinations** and the States will follow the benchmarks and standards while planning and developing the projects.
- Following **major themes** have been identified for tourism under the Scheme.
  - Culture and Heritage
  - Adventure Tourism
  - Eco-Tourism
  - Wellness Tourism
  - **MICE Tourism**
  - **Rural Tourism**
  - Beach Tourism
  - Cruises – Ocean & Inland.

## Flag Code of India

### Why in News?

Recently, the Government of India has announced that the **national flag can now remain hoisted through the night**, if it is in the open and hoisted by a member of the public.

- Earlier, the tricolour could be hoisted **only between sunrise and sunset**.
- The government had earlier amended the flag code to allow for machine-made and polyester flags to be used.
- As government launched a **Har Ghar Tiranga campaign**, the Ministry of Home Affairs amended the **Flag Code of India 2002** to allow for the **national flag to be flown even at night**.

### What do we know about the Flag Code of India?

- It allowed the **unrestricted display of the Tricolour** as long as the **honour and dignity** of the flag were being respected.
- The flag code **did not replace the pre-existing rules** governing the correct display of the flag.
- It was, however, an **effort to bring together all the previous laws**, conventions and practices.
- It is divided into three parts -
- **General description** of the tricolour.
- Rules on display of the flag by **public and private bodies and educational institutions**.
- Rules for display of the flag by **governments and government bodies**.
- It mentions that the tricolour **cannot be used for commercial purposes** and cannot be **dipped in salute to any person or thing**.
- Moreover, the flag should **not be used as a festoon**, or for any kind of **decoration purposes**.
- For official display, only flags that conform to the specifications as laid down by the **Bureau of Indian Standards** and bearing their mark can be used.

### What is the Har Ghar Tiranga Campaign?

- 'Har Ghar Tiranga' is a campaign under the aegis of **Azadi Ka Amrit Mahotsav** to encourage people to **bring the Tiranga home and to hoist it to mark the 75th year of India's independence**.

Note:

- Our relationship with the flag has always been more formal and institutional than personal.
- Bringing the flag home collectively as a nation in the 75th year of independence thus becomes **symbolic of not only an act of personal connection to the Tiranga but also an embodiment of our commitment to nation-building.**
- The idea behind the initiative is to **invoke the feeling of patriotism** in the hearts of the people and to promote awareness about the Indian National Flag.

### **What do we know about India's National Flag?**

#### ➤ **History:**

##### ○ **1906:**

- **The first national flag**, which consisted of **three horizontal stripes of red, yellow and green**, is said to have been hoisted on 7th August, 1906, at the **Parsee Bagan Square, near Lower Circular Road, in Calcutta (now Kolkata).**

##### ○ **1921:**

- Later, in 1921, freedom fighter **Pingali Venkayya met Mahatma Gandhi** and proposed a **basic design of the flag**, consisting of **two red and green bands.**

##### ○ **1931:**

- After undergoing several changes, the Tricolour was **adopted as our national flag at a Congress Committee meeting in Karachi in 1931.**

##### ○ **1947:**

- The Indian flag was adopted in its present form during a meeting of the **Constituent Assembly held on 22<sup>nd</sup> July 1947.**

#### ➤ **Rules Governing the Tricolour:**

##### ○ **The Emblems and Names (Prevention of Improper Use) Act, 1950:**

- It **restricts the use of the national flag**, the **coat-of-arms** used by a government department, the official seal of the President or Governor, the pictorial representation of Mahatma Gandhi and the Prime Minister, and the Ashoka Chakra.

##### ○ **The Prevention of Insults to National Honour Act, 1971:**

- It prohibits the **deseccration of or insult to the country's national symbols**, including the **national flag, the Constitution, the national anthem and the Indian map.**
- A person who is convicted for the following offences under the Act is **disqualified to contest in the elections to the Parliament and state legislature** for 6 years.
- Offence of insulting the National Flag,
- Offence of insulting the Constitution of India,
- Offence of preventing the singing of the National Anthem.
- **Part IV-A of the Constitution:**
  - **The Part IV-A of the Constitution** (which consists of only one Article 51-A) specifies the eleven Fundamental Duties.
  - According to Article 51A (a), it shall be the **duty of every citizen of India to abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem.**

## **Wastewater Surveillance for Covid-19**

### **Why in News?**

Recently, a study has been carried out in Hyderabad and Bengaluru to check **waste-water based surveillance for Covid-19** as an efficient and foolproof way of collecting information about the virus.

### **What do we need to know about the Study?**

- The aim of this study was to **develop a protocol and standard operating procedures** for doing this, which the researchers hope to hand over to the industry, who can then act as service providers.
- The study in Hyderabad was carried out for a period of about a year and obtained data on a **population** size of about 2.5 lakh.
  - The researchers were able to spot the **temporal dynamics in the viral load in drainage water**, which was consistently high from July to November 2020.

Note:

- A slight increase in February 2021 hinted at the **second wave** which set on in March 2021.
- Samples were collected from Drain:
  - After observation, **the researchers found that most of the virus comes from faecal samples.**
- The group has also studied wastewater samples in Bengaluru.
- They sampled the water from 28 **Sewage Treatment Plants (STPs)** dotted across the city.
  - In an STP, the water is collected throughout the day, treated and let out again. **So it has to be sampled before treatment.**

### **What are the Advantages of Wastewater Surveillance?**

- **Trends of increasing or decreasing viral load** can be gauged well before the waves take off.
- In **RT-PCR** on a single person's sample (where the test result can come quickly), it takes a couple of weeks to do the sequence analysis of the sample.
  - In wastewater surveillance, you are sequencing thousands of individuals' virus contributions.
- **New variants can be spotted** in advance, as can different viruses, such as those that cause **Dengue, Zika, or TB.**
  - This would help the **health department to be prepared** to deal with **epidemics.**
    - Studies can monitor **antimicrobial resistance** genes and point out to civic authorities as to which **antibiotics** are failing.
- Unlike other types of Covid-19 surveillance, wastewater surveillance does not depend on people having access to healthcare, people seeking healthcare when sick, or availability of Covid-19 testing.

## **GOAL 2.0**

### **Why in News?**

Recently, **the Ministry of Tribal Affairs and Meta (formerly Facebook)** have launched the second phase of the **GOAL Programme (GOAL 2.0).**

### **What do we know about the GOAL Programme?**

- **GOAL (Going Online as Leaders)** was launched as a pilot project in **May 2020** and it was completed by **December 2021.**

- It aimed at **digital empowerment of tribal youth and women** through the concept of **mentor and mentee.**
- The programme is **fully funded** by Meta (Facebook India).
- Trainings were provided for **three pillars:**
  - Communication & Life Skills
  - Enabling Digital Presence
  - Leadership & Entrepreneurship

### **What do we need to know about GOAL 2.0?**

- **About:**
  - Goal 2 program will be **open to all people from tribal communities.**
    - In Phase-I, the digital mentorship was provided online by attaching one mentor to 2 mentees.
- **Objective:**
  - The program aims to upskill and digitally enable tribal youth via Facebook live sessions and **Meta Business Coach**, a digital learning tool.
  - There will be special focus on more than 10 lakh members of 50000 **Vandhan Self Help Groups.**
    - They will be **digitally trained** with regard to **market demand, packaging, branding and marketing of their products.**
  - GOAL 2 will enable **maximum participation and percolation of benefits** of the training within the tribal youth with provision of **Chatbot**, need based **on line sessions** from Industry experts in different fields as per requirements from the mentees.
- **Agencies Involved:**
  - **The Ministry of Tribal Affairs in coordination with the Ministry of Electronics and Information Technology**, will be providing 6 digital classes in each of the 175 **Eklavya Model Residential Schools (EMRS)** selected under the program.
  - The project is being implemented by **The Education and Research Network**, which is an autonomous organization under the Ministry of **Electronics and Information Technology (MeITY).**

### **What are some other Initiatives for Skill Development?**

- **Pradhan Mantri Kaushal Vikas Yojana (PMKVY):**
  - Under the **Skill India Mission**, the Ministry of Skill Development and Entrepreneurship (MSDE) is implementing the scheme.

Note:

- Under **PMKVY 3.0**, focus has also been given for **skilling on digital technology** and **Industry 4.0**.
- **Sector Skill Councils (SSCs)** have also created job roles on new and emerging digital technologies and industry 4.0 skills like **Artificial Intelligence (AI)** and **Internet of Things (IoT)**.
- **eSkill India Portal:**
  - **National Skill Development Corporation (NSDC)** under the aegis of the MSDE has initiated **online skilling** through eSkill India portal.
  - The platform offers learning opportunities on emerging technologies like **cybersecurity, blockchain, artificial intelligence** and **machine learning, predictive modelling, statistical business analytics, cloud** and **Internet of Things** along with professional skills like **design thinking, project management** and **digital marketing**.
- **Samagra Shiksha:**
  - Under the **Vocational Education** component of '**Samagra Shiksha**', **National Skill Qualification Framework (NSQF)** compliant vocational courses are offered to the school students including **tribal Students from class 9<sup>th</sup> to 12<sup>th</sup>** in the schools covered under the scheme.
  - It consists of **Communication Skills, Self-Management Skills, Information and Communication Technology Skills, Entrepreneurship Skills** and **Green Skills**.

## Trial by Media

### **Why in News?**

Recently, the **Chief Justice of India (CJI)** said that the Media is Running agenda-driven debates and **Kangaroo Courts**, which is not **healthy for democracy**.

#### **What is a Kangaroo Court?**

- The phrase "Kangaroo Court" is used against a **judicial system where the judgement against the accused is usually predetermined**.
- It is a **self-appointed or mock court set up without much premeditation** for the purpose of delivering judgement arrived at in advance, usually in which the **fate of a disloyal person is decided**.

- This expression may have originated in Australia but it was first recorded in the US during the California Gold Rush of 1849.
- The Kangaroo Courts **were common during the Stalin era in the Soviet Union**, famous as the "Moscow Trails" of the Soviet Great Purge.

### **What is Trial by Media?**

#### ➤ **About:**

- Trial by media is a phrase popular in the **late 20<sup>th</sup> century** and early 21<sup>st</sup> century to describe the **impact of television and newspaper coverage on a person's reputation by creating a widespread perception** of guilt or innocence before, or after, a verdict in a court of law.
- In recent times there have been **numerous instances in which the media has conducted the trial of an accused and has passed the verdict even before the court passes its judgement**.

#### ➤ **Constitutionality:**

- Though the word media trial is not directly defined anywhere. But indirectly, **this power is being given to the media under Article 19** of the Constitution of India.
  - **Article 19 of the Constitution of India provides freedom of speech to each and every person.**

### **What are the Implications of Trial by Media?**

#### ➤ **Affects Judicial Functioning:**

- Concerted campaigns against judges, particularly on social media, and media trials affect judicial functioning.
- Ill-informed, biased and agenda-driven debates in the media on issues pending in courts are affecting justice delivery.

#### ➤ **Unable to Distinguish Fake and Real:**

- New media tools have **enormous amplifying ability but appear to be incapable of distinguishing between the right and the wrong**, the good and the bad and the real and the fake.
- Media trials cannot be a guiding factor in deciding cases.

#### ➤ **Wrongful Portrayal:**

- **Media has been successful in portraying events that have to be kept a secret.**

Note:

- Media trials have caused **wrongful portrayal of alleged accused and have acted as a helping hand in destroying their careers** merely by the fact that they were accused, even though they have not yet been portrayed guilty by the court of law.
- **Not Good for Democracy:**
  - Media has **breached its responsibility, taking democracy two steps backwards**, affecting people and harming the system.
  - Print media still has a certain degree of accountability whereas electronic media has zero accountability as to what it shows vanishes in thin air.
- **Instigate Hatred and Violence:**
  - Paid news and fake news **can manipulate public perception and can instigate hatred, violence, and disharmony** among the various communities within society.
  - The absence of objective journalism leads to the false presentation of truth in a society which affects the perception and opinions of people.
- **Right to privacy:**
  - They invade their privacy which causes a breach of the **Right to Privacy guaranteed under Article 21**.

#### How is the Media Regulated in India?

- The body that regulates and governs the media and entertainment sector in India is **enshrined in the Cable Networks Act, 1995 and the Prasar Bharti Act, 1990**. These are regulated by the Ministry of Information and Broadcasting and Prasar Bharti.
- There are **four bodies in India for media regulation**.
  - **Press Council of India:** Its mandate is to preserve the freedom of the press and to maintain and improve the standards of newspapers and news agencies in India.
  - **News Broadcasting Standards Authority:** It is an Industry Body created by the News Broadcasters Association (NBA).
  - **Broadcasting Content Complaints Council:** This is to deal with complaints against entertainment and general segment television programmes.
  - **News Broadcasters Federation:** It was created by those who left the NBA, called the News Broadcasters Federation.

## Freebie Culture

### Why in News?

- Recently, the **Supreme court** asked the central government whether distributing irrational freebies during election campaigns is financially viable.
- It also referred to use the expertise of the **Finance Commission** in curbing the irrational poll freebies.
  - According to **Election Commission of India**, whether such policies are financially viable or its adverse effect on the economic health of the State is a question that has to be considered and decided by the voters of the State.

### What are Freebies?

- **Political parties promise to offer free electricity/ water supply, monthly allowance** to unemployed, daily wage workers, and women as well as gadgets like laptops, smartphones, etc. in order to **secure the vote of the people**.
  - The states have become habituated to giving freebies, be it in the form of loan waivers or free electricity, cycles, laptops, TV sets, and so on.
- Certain kinds of expenditure that are done under populist pressures or with elections in mind may be questionable.
  - But given that in the last 30 years there has been **rising inequality**, some kind of **relief to the population in the form of subsidies may not be unjustified** but actually necessary for the economy to continue on its growth path.

### Why there is a Need for Freebies?

- **Facilitates Growth:** There are some examples that show that some expenditure outlays do have overall benefits such as the **Public Distribution System, employment guarantee schemes, support for education** and **enhanced outlays** for health, particularly during the pandemic.
- **Helps the Lesser Developed States:** With the states that have a comparatively lower level of development with a larger share of the population suffering from poverty, **such kinds of freebies become need/ demand-based** and it becomes **essential to offer the people such subsidies for their own upliftment**.

Note:

- **Essential for Fulfilling Expectations:** In a country like India where the states have (or don't have) a certain level of development, upon the emergence of the elections, there are **expectations from the part of people which are met by such promises** of freebies.
- **Helps Lesser Developed States:** The states which lack development, **freebies become need/demand-based** and it becomes **essential to offer the people such subsidies for their own upliftment**.

### ***What are the Drawbacks of Freebies?***

- **Macroeconomically Unstable:** Freebies undercut the basic framework of macroeconomic stability, the politics of freebies distorts expenditure priorities and outlays remain concentrated on subsidies of one kind or the other.
- **Impact on States' Fiscal Situation:** Offering freebies, ultimately, have an impact on the public exchequer and most of the states of India do not have robust financial health and often have very limited resources in terms of revenue.
- **Against Free and Fair Election:** The promise of irrational freebies from public funds before elections unduly influences the voters, disturbs the level playing field, and vitiates the purity of the poll process.
- **A Step Away from the Environment:** When the freebies are about giving free power, it would lead to overuse of natural resources and focus from renewable energy system will also get distracted.

## **Family Courts (Amendment) Bill, 2022**

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

Recently, the **Lok Sabha** passed the **Family Courts (Amendment) Bill, 2022** that seeks to amend the **Family Courts Act, 1984** to establish family courts in Himachal Pradesh and Nagaland.

### ***What is the Family Courts Act 1984?***

- **Establishment of Family Courts:**
  - **The Family Courts Act, 1984** was enacted for the establishment of **Family Courts** with a view to **promote conciliation, and secure speedy settlement** of disputes relating to **marriage and family affairs and for related matters**.

- **Appointment of Judges:**
  - **The State Government** may, with the concurrence of the **High Court**, appoint one or more persons to be the **Judge or Judges of a Family Court**.
- **Association of Social Welfare Agencies:**
  - **The State Government** may provide with a Family Court of:
    - **Institutions or organisations** engaged in **social welfare**.
    - **Persons** professionally engaged in **promoting the welfare of the family**.
    - **Persons** working in the field of **social welfare**.
    - **Any other person** whose association with a Family Court would enable it to **exercise its jurisdiction more effectively** in accordance with the purposes of this Act.

### ***What is the Family Courts (Amendment) Bill?***

- It seeks to provide for the **establishment of Family Courts in the State of Himachal Pradesh** with effect from the 15<sup>th</sup> February, 2019 and in the **State of Nagaland** with effect from the 12<sup>th</sup> September, 2008
- It also seeks to insert a new **Section 3A** to **retrospectively validate** all actions under the said Act taken by the State Government of Himachal Pradesh and Nagaland and the Family Courts of those states prior to the commencement of the **Family Courts (Amendment) Act, 2022**.
- According to the bill, all orders of appointment of a family court judge, and the posting, promotion or transfer of such a judge under the Act will also be valid in the two States.

### ***What was the Need for the Amendment?***

- There are **715 Family Courts** which are **established and functioning in 26 States and Union territories**, including **three Family Courts in the State of Himachal Pradesh** and **two-Family Courts in the State of Nagaland**.
  - However, for Himachal and Nagaland, the Central Government notification was **not issued for bringing the said Act into force in these states**.
- The issue of **lack of jurisdiction of Family Courts** in the State of Himachal Pradesh has been challenged before the High Court of Himachal Pradesh.

Note:

- It was stated that as the **Central Government has not issued any notification** to extend the jurisdiction of Family Courts in the State of Himachal Pradesh, such Courts are functioning **without jurisdiction and anything done or any action taken** under the said Act appears to be **void ab initio** (Having no legal effect from inception).
- The family courts in **Nagaland too were operating without any legal authority since 2008.**

## PMLA & Supreme Court

### *Why in News?*

In a recent hearing, the **Supreme Court of India** upheld the constitutional validity of the **Prevention of Money Laundering Act, 2002.**

- The court underlined that **the principle of innocence of the accused/offender is regarded as a human right but that presumption can be interdicted by a law made by the Parliament/Legislature.**

### *What has the Supreme Court said in the Ruling?*

- **Enforcement Case Information Report (ECIR):**
  - **Enforcement Case Information Report (ECIR)** cannot be equated with an **FIR.**
    - Supplying an ECIR in every case to the person concerned is **not mandatory** and **“it is enough if the Enforcement Directorate (ED), at the time of arrest, discloses the grounds of such arrest”.**
      - The ECIR is an **internal document of the ED** and the fact that FIR in respect of scheduled offence has not been recorded, does not come in the way of ED authorities to commence inquiry/investigation
- **Section 3 of PMLA Act:**
  - **Section 3 of the PMLA Act 2002** has a wider reach and captures that offence of **money laundering** is an **independent offence** regarding the process or activity connected with the **proceeds of crime which had been derived or obtained as a result of criminal activity** relating to or in relation to a scheduled offence.
  - **The ruling also made it clear that:**

- Offence under Section 3 **“is dependent on illegal gain of property as a result of criminal activity relating to a scheduled offence”.**
  - The Authorities under the 2002 Act **cannot prosecute any person on notional basis or on the assumption** that a scheduled offence has been committed, unless it is so registered with the jurisdictional police and pending enquiry including by way of criminal complaint before the competent forum.

### ➤ **Enforcement Directorate:**

- The bench upheld the **ED’s power under Section 5 of the Act** (order provisional attachment of any proceeds of crime).
  - The Court stated that **Section 5 provides for a balancing arrangement** to secure the interests of the person and also ensures that the proceeds of crime remain available to be dealt with in the manner provided by the 2002 Act.
- **It rejected the argument that ED authorities are police officers** and, hence, a statement recorded by them under Section 50 of the Act would be hit by **Article 20(3) of the Constitution** which says **no person accused of an offence shall be compelled to be a witness against himself.**

### *What do we know about the Prevention of Money Laundering Act, 2002?*

- It is a **criminal law** enacted to **prevent money laundering** and to **provide for confiscation of property** derived from, or involved in, money-laundering and related matters.
- It forms the **core of the legal framework** put in place by India to combat **Money Laundering.**
- The provisions of this act are applicable to all financial institutions, banks (Including **RBI**), **mutual funds, insurance companies**, and their financial intermediaries.
- **PMLA (Amendment) Act, 2012:**
  - Adds the concept of **‘reporting entity’** which would include a **banking company, financial institution, intermediary etc.**
  - PMLA, 2002 levied a **fine up to Rs 5 lakh**, but the **amendment act has removed this upper limit.**
  - It has provided for **provisional attachment and confiscation of property** of any person involved in such activities.

Note:

## What do we know about the Enforcement Directorate?

### ➤ History:

- The Directorate of Enforcement or the ED is a multi-disciplinary organization mandated with investigation of economic crimes and violations of foreign exchange laws.
- The origin of this Directorate goes back to 1<sup>st</sup> May, 1956, when an 'Enforcement Unit' was formed in the Department of Economic Affairs for handling Foreign Exchange Control Laws violations under Foreign Exchange Regulation Act, 1947 (FERA '47).
- With the onset of the process of economic liberalization, FERA, 1973, which was a regulatory law, was repealed and in its place, Foreign Exchange Management Act, 1999 (FEMA) came into operation.
- Recently, with the increase in the number of cases relating to economic offenders taking shelter in foreign countries, the Government has passed the Fugitive Economic Offenders Act, 2018 (FEOA) and ED is entrusted with its enforcement.

### ➤ Functions:

- The Prevention of Money Laundering Act, 2002 (PMLA):
  - ED has been given the responsibility to enforce the provisions of the PMLA by conducting investigation to trace the assets derived from proceeds of crime, to provisionally attach the property and to ensure prosecution of the offenders and confiscation of the property by the Special court.
- The Foreign Exchange Management Act, 1999 (FEMA):
  - ED has been given the responsibility to conduct investigation into suspected contraventions of foreign exchange laws and regulations, to adjudicate and impose penalties on those adjudged to have contravened the law.
- The Fugitive Economic Offenders Act, 2018 (FEOA):
  - It is a law whereby the Directorate is mandated to attach the properties of the fugitive economic offenders who have escaped from India warranting arrest and provide for the confiscation of their properties to the Central Government.

### ○ Sponsoring agency under COFEPOSA:

- Under the Conservation of Foreign Exchange and Prevention of Smuggling Activities Act, 1974 (COFEPOSA), Directorate is empowered to sponsor cases of preventive detention with regard to contraventions of FEMA.

## National Anti-Doping Bill, 2021

### Why in News?

Recently, the Lok Sabha passed the National Anti-Doping Bill 2021 Bill that seeks to create a statutory framework for the National Anti-Doping Agency (NADA).

- Piloted by the Union Ministry of Youth Affairs and Sports, it was first introduced in Lok Sabha in December 2021.
- The bill will protect the interest of sportspersons as it will provide ample space for them to put forth their versions especially when they face anti-doping charges.

### What are the Key Features of the Bill?

#### ➤ Prohibition of Doping:

- The Bill prohibits athletes, athlete support personnel and other persons from engaging in doping in sport.

#### ➤ Consequences of Violations:

- Anti-doping rule violation may result in disqualification of results including forfeiture of medals, points, and prizes, ineligibility to participate in a competition or event for a prescribed period, financial sanctions etc.

#### ➤ Statutory Backing for National Anti-Doping Agency:

- The Bill provides for constituting this National Anti-Doping Agency as a statutory body.
- It will be headed by a Director General appointed by the central government. Functions of the Agency include,
  - Planning, implementing, and monitoring anti-doping activities,
  - Investigating anti-doping rule violations,
  - Promoting anti-doping research.

Note:



- **National Board for Anti-Doping in Sports:**
  - The Bill establishes a **National Board for Anti-Doping in Sports** to make recommendations to the government on anti-doping regulation and compliance with international commitments on anti-doping.
  - The Board will **oversee the activities of the Agency and issue directions to it.**
- **Dope Testing Laboratories:**
  - The existing National Dope Testing Laboratory **will be deemed to be the principal dope testing laboratory.**
  - The central government may establish more National Dope Testing Laboratories.

### ***What is the Significance of the Bill?***

- The bill **attempts to achieve, time-bound justice to athletes**, apart from enhancing cooperation among agencies in fighting doping.
- It is also an **attempt to reinforce India's commitment to fulfil international obligations for clean sports.**
- The bill would **help in establishing a robust, independent mechanism for anti-doping adjudication.**
- The bill also would lend legal sanctity to the functioning of NADA and National Dope Testing Laboratory (NDTL).

### ***What are the Issues with the Bill?***

- The **qualifications of the Director General are not specified in the Bill** and are left to be notified through Rules.
- The central government **may remove the Director General from the office on grounds of misbehavior or incapacity** or "such other ground".
- Leaving these provisions to the discretion of the central government **may affect the independence of the Director General.**
  - This also goes against the mandate of the World Anti-Doping Agency that such bodies must be independent in their operations.
- Under the Bill, the **Board has powers to remove the members of the Disciplinary Panel and Appeal Panel** on grounds which will be specified by regulations and are not specified in the Bill.
- Further, there is **no requirement to give them an opportunity of being heard.** This may affect the independent functioning of these panels.

### **What is Doping and Related Agencies?**

- **About:**
  - Consumption of **certain prohibited substances** by athletes to enhance performance.
- **NADA:**
  - National Anti-Doping Agency (NADA) was set up as a registered society **under the Societies Registration Act of 1860** on 24<sup>th</sup> November, 2005 with a mandate for Dope free sports in India.
  - The primary objectives are **to implement anti-doping rules as per WADA (World Anti-Doping Agency) code**, regulate dope control programme, to promote education and research and creating awareness about doping and its ill effects.
  - The NADA has the **necessary authority and responsibility for:**
    - Planning, coordinating, implementing, monitoring and advocating improvements in Doping Control;
    - Cooperating with other relevant national organisations, agencies and other Anti-Doping Organisations etc.
- **WADA:**
  - In November, 1999 the **World Anti-Doping Agency (WADA)** was set up under the International Olympic Committee.
  - WADA is recognised by the **UNESCO International Convention against Doping in Sport (2005).**
  - WADA's primary role is to develop, harmonise, and coordinate anti-doping regulations across all sports and countries.

It does so by ensuring proper implementation of the World Anti-Doping Code (WADA Code) and its standards, conducting investigations into doping incidents, conducting research on doping and educating sportspersons and related personnel on anti-doping regulations.

## **Coffee Promotion Bill**

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

Recently, the government is going to introduce a coffee promotion bill to modernize the functioning of the Coffee Board, promote exports, and support the development of the domestic market.

Note:

### What is the New Bill About?

- **About:**
  - It aims to **modernize the functioning of the Coffee Board of India.**
  - It would address several functional areas of the Coffee Board, such as **support for production, research, extension, and quality improvement, promotion of coffee, and skill development of growers.**
  - Many such activities were originally not included in the mandate of the Coffee Board but now need to be incorporated into its functions and powers.
- **Significance:**
  - With the expansion of the coffee industry, there would be the **creation of jobs and chances for business entrepreneurship in all sectors of the coffee value chain, from production to consumption.**
  - Furthermore, consumers will receive high-quality coffee comparable to those of other countries.
  - It will also **protect the interests of the labor in plantations, processing units, and coffee communities.**
  - It will promote **ease of doing business** by simplifying documentation and procedures, including **replacing the existing five-year validity of Registration cum Membership Certificate (RCMC)** with a one-time exporter registration and bringing in a one-time registration of curing units.
    - There will be a time-bound procedure in the Bill for issuing the Registration Certificate.

### What was the need to replace the old law?

- The earlier act was almost 80 years old and was obsolete in today's time.
  - Its provisions were relevant to that time.
- Also, currently, many rules and regulations, especially those pertaining to the marketing of coffee, are redundant.
- Over the past 10 years, there has been a paradigm shift in the way coffee is grown, marketed, and consumed.

### What is Present status of Coffee Production in India?

- India is **among the top 10 coffee-producing countries**, with about 3% of the global output in 2020.

- India produces two types of coffee: **Arabica and Robusta.**
  - **Arabica has higher market value than Robusta coffee** due to its mild aromatic flavor.
- **Climatic conditions:**
  - Coffee plants require hot and humid climate with **temperature varying between 15°C and 28 °C** and **rainfall from 150 to 250 cm.**
    - It does not tolerate frost, snowfall, high temperatures above 30°C and strong sunshine and is generally grown under shady trees.
  - Coffee is largely produced in the **southern part of India.**
    - **Karnataka is the largest producer accounting for about 70% of the total coffee production in India.**
- **Producer States:**
  - Coffee is mainly produced in **Karnataka, Kerala, Tamil Nadu, Andhra Pradesh and Odisha.**
- **Exports:**
  - According to The **Food and Agriculture Organization (FAO)** statistics, India is the **eighth largest exporter of coffee** by volume.

### What is the Coffee Board of India?

- The Coffee Board is a **statutory organization** constituted under Section (4) of the Coffee Act, 1942 and functions under the administrative control of the Ministry of Commerce and Industry, Government of India. **The Board comprises 33 Members including the Chairperson.**
- The Board is mainly focusing its activities in the areas of research, extension, development, market intelligence, external & internal promotion, and welfare measures.
- It is headquartered in Bengaluru.
- The Board has a Central Coffee Research Institute at Balehonnur (Karnataka).

## Agriculture Census

### Why in News?

Recently, the **Ministry of Agriculture & Farmers' Welfare** launched "The Eleventh Agricultural Census (2021-22)."

Note:

- This computation will bring **huge benefits in a vast and agricultural country like India.**

### **What do we need to know about the Agriculture Census?**

- **About:**
  - **Agriculture** Census is conducted **every 5 years**, which is being undertaken now after delay due to the **Covid - 19 Pandemic.**
  - Entire Census operation is conducted in **three phases** and **operational holding** is taken as a statistical unit at micro level for data collection.
    - Based on the agriculture census data collected in three phases, the Department **brings out three detailed reports** analyzing trends on various parameters at **All India and States/UTs level.**
      - District/Tehsil level reports are prepared by the respective States/UTs.
  - Agricultural Census is the **main source of information** on a variety of agricultural parameters at a relatively minute level, such as the **number and area of operational holdings, their size, class-wise distribution, land use, tenancy and cropping pattern, etc.**
- **Eleventh Census:**
  - The field work of the agricultural census **will start in August 2022.**
  - This is the **first time that data collection** for agricultural census will be conducted on **smartphones and tablets**, so that data is available in time.
  - **It includes:**
    - Use of **digital land records** like land title records and survey reports
    - Collection of data through **app/software using smartphone/tablet.**
    - Complete **enumeration of all villages** in states with non-land records during Phase-I as done in states having land records.
    - **Real time monitoring** of progress and processing.
  - Most of the States have **digitized their land records and surveys**, which will further accelerate the collection of agricultural census data.

- The use of **digitized land records** and the **use of mobile apps for data collection** will enable the **creation of a database of operational holdings in the country.**

### **What do we mean by Digital Agriculture?**

- **About:**
  - **Digital Agriculture** is **ICT (Information and Communication Technologies)** and **data ecosystems** to support the development and delivery of timely, targeted information and services to make farming profitable and sustainable while delivering safe, nutritious and affordable food for all.
  - **Examples:**
    - **Agricultural biotechnology** is a range of tools, including traditional breeding techniques, that alter living organisms, or parts of organisms, to make or modify products; improve plants or animals; or develop microorganisms for specific agricultural uses.
    - **Precision agriculture (PA)** is an approach where inputs are utilised in precise amounts to get increased average yields, compared to traditional cultivation techniques such as agroforestry, intercropping, crop rotation, etc. It is based on using ICTs.
    - **Digital and wireless technologies** for data measurement, Weather monitoring, Robotics/ drone technology, etc.
- **Benefits:**
  - **Farm Machinery Automation:**
    - It allows **fine-tuning of inputs** and reduces demand for manual labour.
  - **Remote Satellite Data:**
    - **Remote satellite data and in-situ sensors** improve the accuracy and reduce the cost of monitoring crop growth and quality of land or water.
    - Freely available and high-quality satellite imagery dramatically **reduces the cost of monitoring many agricultural activities.** This could allow governments to move towards **more targeted policies** which pay (or penalise) farmers based on observed environmental outcomes.

Note:

- **Traceability Technologies and Digital Logistics:**
  - These services offer the **potential to streamline agri-food supply chains**, while also providing **trusted information for consumers**.
- **Administrative Purpose:**
  - In addition to monitoring compliance with environmental policies, digital technologies enable **automation of administrative processes for agriculture and the development of expanded government services**, such as in relation to extension or advisory services.
- **Maintenance of Land Records:**
  - Using the technology, the data related to a **large number of landholdings can be appropriately tagged and digitised**.
- It will not only help better targeting but also **reduce the quantum of land disputes in courts**.

### ***What Initiatives has the Government taken for Digital Agriculture?***

- **AgriStack:**
  - The Ministry of Agriculture and Farmers Welfare has planned creating 'AgriStack' - a **collection of technology-based interventions** in agriculture.
  - It will create a **unified platform for farmers** to provide them end to end services across the agriculture food value chain.
- **Digital Agriculture Mission:**
  - This has been initiated for 2021 -2025 by the government for projects based on new technologies like **artificial intelligence, block chain, remote sensing and GIS technology, use of drones and robots** etc.

- **Unified Farmer Service Platform (UFSP):**
  - UFSP is a combination of **Core Infrastructure, Data, Applications and Tools** that enable **seamless interoperability** of various public and private IT systems in the agriculture ecosystem across the country.
  - **UFSP is envisaged to play the following role:**
    - Act as a **central agency** in the agri ecosystem (like UPI in the e Payments)
    - Enables **Registration of the Service Providers** (public and private) and the Farmer Services.
    - Enforces **various rules and validations required** during the service delivery process.
    - Acts as a **Repository of all the applicable standards**, API's (Application Programming Interface) and formats.
    - Act as a **medium of data exchange** amongst various schemes and services to enable comprehensive delivery of services to the farmer.
- **National e-Governance Plan in Agriculture (NeGP-A):**
  - A Centrally Sponsored Scheme, it was initially launched in 2010-11 in 7 pilot States, which **aims to achieve rapid development in India** through use of ICT for timely access to agriculture related information to the farmers.
  - In 2014-15, the scheme was further extended for all the remaining States and 2 UTs.
- **Other Digital Initiatives:**
  - **Kisan Call Centres**
  - **Kisan Suvidha App**
  - **Agri Market App**
  - **Soil Health Card (SHC) Portal**



Note:

# Economic Scenario

## Highlights

- Street Vendors
- GIFT City and Bullion Exchange
- Trade Infrastructure for Export Scheme (TIES Scheme)
- Agreement on Fisheries Subsidies
- Strengthening Pharmaceuticals Industry
- Jawaharlal Nehru Port
- India: Top Remittance Recipient
- Build - Operate - Transfer Model
- RBI Seeks Ban on Cryptocurrency
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- MIST Submarine Cable System
- Digital Banks
- Windfall Tax
- Bioeconomy

## Street Vendors

### Why in News?

Recently, the Minister for Housing and Urban Affairs addressed the 6<sup>th</sup> meeting of **National Association of Street Vendors of India (NASVI)** with the theme as **“From Encroachers to Self-Employed”**.

### Who do we need to know about Street Vendors?

#### ➤ About:

- Street Vendor is a person who **offers goods for sale to the public** at large without having a **permanent built-up structure from which to sell**.
- Street vendors **may be stationary** in the sense that they occupy space on the pavements or other public/private spaces or, they **may be mobile** in the sense that move from place to place by carrying their wares on push carts or in baskets on their heads.

#### ➤ Population:

- There is a substantial increase in the number of street vendors in the major cities around the world, especially in the developing countries of **Asia, Latin America and Africa**.
- Around 49.48 lakh street vendors have been identified in India.

- **Uttar Pradesh has the maximum** at 8.49 lakh, followed by **Madhya Pradesh** at 7.04 lakh.
- Delhi has **only 72,457 street vendors**.
- **No street vendor** has been identified in **Sikkim**.

#### ➤ Constitutional Provisions:

##### ○ Right to Trade:

- **Article 19 (1) (g)** gives the Indian citizen a **fundamental right to practice any profession, or to carry on any occupation, trade or business**.

##### ○ Equality Before Law:

- **Article 14** of the Constitution states that the **state shall not deny to any person equality before the law or equal protection of the laws** within the territory of India.

##### ○ Social Justice:

- **The preamble of the Indian Constitution** states that India is a **sovereign, socialist, secular democratic republic** and shall secure to its citizens **justice, social, economic and political and equality of status and of opportunity**.

##### ○ Directive Principles:

- **Article 38(1)** directs the state to **promote the welfare of the people** by securing a social order in which justice—social, economic and political, shall inform all institutions of national life.

Note:

- **Article 38(2)** directs to ‘**minimize the inequalities in income status, facilities and opportunities.**’
- **Article 39(a)** directs the state to formulate policy to ensure that citizens, men and women equally, have the **right to an adequate means of livelihood.**
- **Article 41** specifically provides for ‘**right to work**’ within the limits of the economic capacity of the state.

### **Why is there a rise in Street Vendors?**

- Firstly, **lack of gainful employment** coupled with **poverty in rural areas** has pushed people out of their villages in search of a better existence in the cities.
  - These migrants **do not possess the skills or the education** to enable them to find better paid, secure employment in the **formal sector** and they have to **settle for work in the informal sector.**
- Secondly, there is another section of the population in these countries **who are forced to join the informal sector.**
  - These are workers **who were employed in the formal sector.**
    - They **lost their jobs** because of **closures, down-sizing or mergers** in the industries they worked in and they or their family members had to seek low paid work in the informal sector in order to survive.

### **What are the Challenges faced by Street Vendors?**

- **Lack of Space:**
  - Master plans prepared for our cities **do not allocate space** to vendors/hawkers, as planners blindly **imitate the western concept of marketing**, ignoring Indian traditions.
- **Tackle Multiple Authorities:**
  - The vendors have to **deal with multiple authorities** – the municipal corporation, police (thana as well as traffic), regional development authorities, district administration, local panchayats and so on.
    - This leads to **exploitation and extortion.**

- In many cases the **positive steps taken by one authority are nullified by the actions of others.**
- Instead of **regulating vendors**, municipal corporations treat them as a **nuisance and an irritant**, their policies and actions are **aimed more at removing and harassing them rather than at regulation.**

#### ➤ **Frequent Eviction:**

- **The regular eviction** carried out by the **district or municipal administration.**
  - They fear the **very sight of the eviction team** which is known locally by different names.

#### ➤ **Extortion Racket:**

- Cases of ‘**rangdari tax**’ and ‘**hafta**’ are common.
  - In many cities vendors have to **part with substantial money in order to ply their trade.**

### **What are Government’s Initiatives for Street Vendors?**

#### ➤ **SVANidhi Scheme:**

- **SVANidhi Scheme** was launched to benefit over **50 lakh street vendors** who had been **vending in urban areas** including those from **surrounding peri-urban/rural areas.**
- It also aims to **promote digital transactions through cash-back incentives** up to an amount of Rs. 1,200 per annum.

#### ➤ **National Association of Street Vendors of India:**

- NASVI is an organization working for the **protection of the livelihood rights of thousands of street vendors across the country.**
- The main objective was to **bring together the street vendor organizations in India** so as to collectively **struggle for macro-level changes.**

#### ➤ **The Street Vendors (Protection of Livelihood and Regulation of Street Vending) Act, 2014:**

- It was enacted to **regulate street vendors in public areas and protect their rights.**
- The Act defines a “**street vendor**” as a person engaged in vending of articles of everyday use or offering services to the general public, in any public place or private area, from a temporary built-up structure or by moving from place to place.

Note:

## GIFT City and Bullion Exchange

### Why in News?

Recently, the Prime Minister has laid the foundation stone of the headquarters building of the **International Financial Services Centers Authority (IFSCA) in GIFT City, Gandhinagar.**

- The building has been conceptualized as an iconic structure, reflective of the growing prominence and stature of GIFT-IFSC as a leading International Financial Centre.
- He also launched the **India International Bullion Exchange (IIBX)**, India's first International Bullion Exchange in GIFT-IFSC the NSE IFSC-SGX Connect.

### What is a Bullion Exchange?

- **Bullion**
  - Bullion refers to **physical gold and silver of high purity that is often kept in the form of bars, ingots, or coins.**
  - Bullion can sometimes be considered **legal tender and is often held as reserves by central banks or held by institutional investors.**
  - The Government had notified in August 2020 about the Bullion Spot Delivery Contract and Bullion Depository Receipt (BDR) with **underlying Bullion as Financial Product and related services as Financial Services.**
- **Bullion Exchange:**
  - A bullion Exchange is a market through which **buyers and sellers trade gold and silver as well as associated derivatives.**
  - There are various bullion markets around the world with the **London Bullion Market known as the primary global market trading platform for gold and silver.**

### What is IIBX?

- **About:**
  - India International Bullion Exchange (IIBX) was first announced in the Union Budget 2020 for easing the Gold Import by Jewellers in India.
  - It is a **platform that not only enrolls jewellers to trade on the exchange, but has also set up necessary infrastructure to store physical gold and silver.**

- IIBX will facilitate efficient price discovery with the assurance of responsible sourcing and quality, apart from giving impetus to the financialisation of gold in India.
  - IFSCA is entrusted with notifying the eligible qualified jewellers in India for directly importing gold through IIBX.

### ➤ Significance

- It will empower **India to gain its rightful place in the global bullion market and serve the global value chain** with integrity and quality.
- IIBX also re-enforces the commitment of the Government of India towards enabling India to be able to influence global bullion prices as a principal consumer.

### What is GIFT City?

- **GIFT (Gujarat International Finance Tec-City) City** is located in Gandhinagar, Gujarat.
- It consists of a **multi-service Special Economic Zone (SEZ)**, which houses India's first International Financial Services Centre (IFSC) and an exclusive **Domestic Tariff Area (DTA).**
- GIFT city (Gujarat International Finance Tec-City) is envisaged as an **integrated hub for financial and technology services not just for India but for the world.**
  - IFSCA is the **unified regulator for the development and regulation of financial products**, financial services and financial institutions in International Financial Services Centers (IFSCs) in India.
- The social infrastructure in the city includes a school, medical facilities, a proposed hospital, GIFT City business club with indoor and outdoor sports facilities. It also includes integrated well-planned residential housing projects making GIFT City a truly "Walk to Work" City.

### What is NSE IFSC-SGX Connect?

- It is a **framework between NSE's subsidiary in the GIFT International Financial Services Centre (IFSC) and Singapore Exchange Limited (SGX).**
- Under Connect, all orders on NIFTY derivatives placed by members of Singapore Exchange will be **routed to and matched on the NSE-IFSC order matching and trading platform.**

Note:

- Broker-Dealers from India and across international jurisdictions are expected to participate in large numbers for trading derivatives through Connect.
- It will **deepen liquidity in derivative markets at GIFT-IFSC**, bringing in more international participants and creating a positive impact on the financial ecosystem in the GIFT-IFSC.

### What is the International Financial Services Centres Authority?

- **Establishment:**
  - It was established in April 2020 under the International Financial Services Centres Authority Act, 2019.
    - It is headquartered at GIFT City, Gandhinagar in Gujarat.
- **Functions:**
  - The Authority shall regulate all such financial services, financial products and Financial Institutions in an IFSC. It may also recommend to the Central Government such other financial products, financial services and financial institutions which may be permitted in the IFSCs.
- **Powers:**
  - All powers exercisable by the respective financial sector regulatory (**viz. Reserve Bank of India, Securities and Exchange Board of India, IRDAI, and Pension Fund and Regulatory Development Authority etc.**) under the respective Acts shall be solely exercised by the Authority in the IFSCs in so far as the regulation of financial products, financial services and FIs that are permitted in the IFSC are concerned.
- **Processes and Procedures:**
  - The processes and procedures to be followed by the Authority shall be governed in accordance with the provisions of the respective Acts of Parliament of India applicable to such financial products, services or institutions, as the case may be.
- **Grants by the Central Govt:**
  - The Central Govt. may, after due appropriation made by Parliament by law on this behalf, make to the Authority grants of such sums of money as the Central Government may think fit for being utilized for the purposes of the Authority.

### ➤ Transactions in Foreign Currency:

- The transactions of financial services in the IFSCs shall be done in the foreign currency as specified by the Authority in consultation with the Central Govt.

## Trade Infrastructure for Export Scheme (TIES Scheme)

### Why in News?

Recently, the central government has released Rs 206 crore to states for the promotion of exports under the **Trade Infrastructure for Export Scheme (TIES) initiative**.

- Under the TIES, financial assistance for 27 export infrastructure projects have been approved during FY 2019-20 to 2022-23.

### What is Trade Infrastructure for Export Scheme (TIES)?

- **About:**
  - **Union Ministry of Commerce and Industry** launched the Trade Infrastructure for Export Scheme (TIES) in 2017.
    - After delinking the **Assistance to States for Development of Export Infrastructure and Allied Activities (ASIDE) Scheme** in 2015, the State Governments had been consistently requesting the support of the Centre in creation of export infrastructure.
- **Objective:**
  - To assist Central and State Government agencies in the creation of appropriate infrastructure for the growth of exports.
- **Scope:**
  - The scheme can be availed by States through their implementing agencies, for infrastructure projects with significant export linkages like **Border Haats, Land customs stations, quality testing and certification labs, cold chains, trade promotion centres, export warehousing and packaging, SEZs and ports/airports cargo terminuses**.
- **Extent of Financial Assistance:**
  - The Central Government assistance for infrastructure creation will be in the form of

Note:

**grant-in-aid**, normally not more than the equity being put in by the implementing agency or **50% of the total equity in the project.**

- In the case of projects located in **North Eastern States, Himalayan States** including **UT of J&K, Ladakh** this grant can be up to **80% of total equity.**

➤ **Negative List of Projects that will not be Considered under this Scheme:**

- Projects which are covered under sector specific schemes like **textiles, electronics, IT.**
- General infrastructure projects like **highways, power etc.**
- Projects where an overwhelming export linkage cannot be established.

**TRADE INFRASTRUCTURE AND LOGISTICS**

**Trade Infrastructure for Export Sector (TIES)**

Department of Commerce was earlier working with states to fill infrastructure gaps through ASIDE.

As per 14th Finance Commission recommendations, tax devolution to states increased from 32% to 42%, thus delinking ASIDE from support of the Centre.

TIES launched to strengthen export infrastructure in March 2017.

Central Government funding normally not more than the equity put in by implementing agency or 50% of total project equity (80% for Northeastern & Himalayan states including J&K).

Scheme to help export-linked infrastructure projects like:

- Border Haats
- Land customs stations
- Quality testing and certification labs
- Cold chains
- Trade Promotion centres
- Dry Ports
- Export warehousing and packaging
- SEZs and ports/airports cargo terminals

## Agreement on Fisheries Subsidies

### Why in News?

Recently, **Agreement on Fisheries Subsidies (AFS)** was concluded at the **World Trade Organization (WTO) Ministerial meeting.**

#### What is the WTO Ministerial Conference?

➤ **WTO:**

- It came into being in **1995.**
  - The WTO is the successor to the **General Agreement on Tariffs and Trade (GATT)** established in the wake of the Second World War.

- Its objective is to **help trade flow smoothly, freely and predictably.**
- It has **164 members**
- **WTO Ministerial Conference:**
  - It is the WTO's **top decision-making body** and usually **meets every two years.**
  - All members of the WTO are involved in the MC and they can take decisions on all matters covered under any multilateral trade agreements.

#### What do we know about the Agreement?

➤ **About:**

- It will **prohibit subsidies** from being provided for **Illegal, Unreported and Unregulated (IUU)** fishing and overfished stocks.
- The agreement also **prohibits** providing subsidies for **fishing** on high seas, which are **outside the jurisdiction of coastal countries and Regional Fisheries Management Organizations/ Arrangements.**

➤ **Transition Period Allowance:**

- Under the **Special and Differential Treatment (S&DT)**, 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.
  - They will have **no obligation** to implement disciplines for the specified period.

➤ **Exempted Areas:**

- **No prohibition** has been imposed on a WTO Member regarding granting or maintaining subsidy to its vessel or operator **as long as it is not carrying out IUU.**
- **No prohibition** on providing subsidies has been imposed for fishing regarding **overfished stocks as long as such subsidies are implemented to rebuild the stock** to a biologically sustainable level.

➤ **Benefits:**

- It will **eliminate the subsidies** granted to fishing vessels or fishing operators engaged in IUU fishing.
- It will check **large-scale IUU fishing** which deprives coastal countries like India of fisheries resources, thereby significantly impacting the livelihoods of our fishing communities.

Note:

### What is India's Stand?

- India is one of the **lowest fisheries subsidisers** despite such a large population and one of the **disciplined nations in sustainably harnessing the fisheries resources**.
- India **does not exploit the resources** indiscriminately like other advanced fishing nations and India's fisheries sector primarily depends on several millions of small-scale and traditional fishers.
  - Therefore, those WTO Members who have **provided huge subsidies in the past**, and engaged in large-scale industrial fishing, which is responsible for the depletion of fish stocks, should take more obligations to prohibit subsidies based on the '**polluter pay principle**' and '**common but differentiated responsibilities**'.

### What do we know about India's Fisheries Sector?

- **About:**
  - Fishing is the **capture of aquatic organisms in marine, coastal and inland areas**.
  - Marine and inland fisheries, together with aquaculture, provide food, nutrition and a source of income to **millions of people around the world, from harvesting, processing, marketing and distribution**.
  - For many it also forms part of their traditional cultural identity.
  - One of the greatest threats to the sustainability of global fishery resources is **illegal, unreported and unregulated fishing**.
- **Indian Scenario:**
  - India is the **second largest fish producing country in the world** accounting for 7.56% of global production and contributing about 1.24% to the country's **Gross Value Added (GVA)** and over 7.28% to the agricultural GVA.
  - Fisheries and aquaculture continue to be an **important source of food, nutrition, income and livelihood to millions of people**
  - India aims to achieve a target of producing 22 million metric tonnes of fish by 2024-25.
  - The fisheries sector has witnessed three major transformations in the last few years:

- The growth of inland aquaculture, specifically freshwater aquaculture.
- The mechanization of capture fisheries.
- The successful commencement of brackish water shrimp aquaculture.

#### ➤ Related Government Initiatives:

- **Fishing Harbours:**
  - The development of five major **Fishing Harbours** (Kochi, Chennai, Visakhapatnam, Paradip, Petuaghat) as hubs of economic activity.
- **Seaweed Park:**
  - **Multipurpose seaweed park in Tamil Nadu** would be the center of production for quality **seaweed**-based products, developed on a hub and spoke model.
- **Pradhan Mantri Matsya Sampada Yojana:**
  - It strives to create direct **employment** to 15 lakh fishers, fish farmers, etc. and about thrice this number as indirect employment opportunities.
  - It also aims to double the incomes of fishers, fish farmers and fish workers by 2024.
- **Palk Bay Scheme:**
  - The Scheme, "**Diversification of Trawl Fishing Boats from Palk Straits into Deep Sea Fishing Boats**" was launched in 2017 as a **Centrally Sponsored Scheme**.
    - It was launched as part of the umbrella **Blue Revolution Scheme**.
- **Marine Fisheries Bill, 2021:**
  - The Bill proposes to only grant licenses to vessels registered under the Merchant Shipping Act, 1958, to fish in the **Exclusive Economic Zone (EEZ)**.

## Strengthening Pharmaceuticals Industry

### Why in News?

The Ministry of Chemicals & Fertilisers has launched Schemes for '**Strengthening Pharmaceuticals Industry**' (SPI) keeping in view the **strategic role of MSMEs (Micro, Small and Medium Enterprises)**.

Note:

### What are the Key Points?

#### ➤ About:

- The Scheme provides for **credit linked capital and interest subsidy for Technology Upgradation of MSME units in pharmaceutical sector**, as well as support of up to Rs 20 crore each for common facilities including Research centre, testing labs and **ETPs (Effluent Treatment Plant)** in Pharma Clusters.
- The MSME unit will have the **option to choose from either Capital subsidy or Interest subvention**.
  - **SIDBI (Small Industries Development Bank of India)** is the **Project management Consultant** for implementing the scheme.

#### ➤ Components:

- **Pharmaceutical Technology Upgradation Assistance Scheme (PTUAS):**
  - It will facilitate **pharmaceutical MSMEs with proven track records** to upgrade their technology.
  - It has provisions for a **capital subsidy of 10 % on loans up to a maximum limit of Rs 10 crore** with a minimum repayment period of three years or interest subvention of up to 5 % (6 % in case of units owned by **SC/ST**) on reducing balance basis.
- **Assistance to Pharma Industries for Common Facilities Scheme (API-CF):**
  - It will strengthen **the existing pharmaceutical clusters' capacity** for sustained growth.
  - It provides for an assistance of up to 70 % of the approved project cost or Rs 20 crore, whichever is less.
    - In case of **Himalayan and north-east region**, the grant-in-aid would be Rs 20 crore per cluster or 90 % of the project cost, whichever is less.
- **Pharmaceutical and Medical Devices Promotion and Development Scheme (PMPDS):**
  - It will involve **preparation of study reports on topics of importance for the Indian pharma and medical device industry**.
  - The scheme is **aimed at creating a database of pharma and medical device sectors**.

#### ➤ Objectives:

- **Aimed at enhancing India's capabilities in the pharmaceuticals sector** with an objective to make it much more competitive in terms of both quality and cost and also aimed at making Indian pharma MSMEs, a part of **Global supply chain**.

### What is the Significance?

- It will strengthen **the existing infrastructure facilities and will make India a global leader** in the Pharma Sector.
- This will not only improve the quality but **also ensure the sustainable growth** of clusters.
- The scheme will **address the rising demand in terms of support required to existing Pharma clusters and MSMEs** across the country to improve their productivity, quality and sustainability.
- Schemes will increase **investment, encourage research and innovation and enable the industry to develop futuristic products** and ideas.

### What are the Schemes Related to the Pharma Sector?

#### ➤ **Promotion of Bulk Drug Parks Scheme:**

- The government **aims to develop 3 mega Bulk Drug parks** in India in partnership with States to reduce manufacturing cost of bulk drugs in the country and dependency on other countries for bulk drugs.
- The scheme will also help in providing continuous supply of drugs and ensure delivery of affordable healthcare to the citizens.

#### ➤ **Production Linked Incentive (PLI) Scheme:**

- The PLI scheme **aims to promote domestic manufacturing** of critical Key Starting Materials (KSMs)/Drug Intermediates and Active Pharmaceutical Ingredients (APIs) in the country.

## Jawaharlal Nehru Port

### Why in News?

Recently, Jawaharlal Nehru Port became the **first major port of the country to become a 100% Landlord port of India** having all berths being operated on PPP model.

Note:

### What is Landlord Port?

- In this model, the publicly governed port authority acts as a **regulatory body and as a landlord**, while **private companies carry out port operations**—mainly cargo-handling activities.
- Here, the **port authority maintains ownership of the port** while the infrastructure is leased to private firms that provide and maintain their own superstructure and install their own equipment to handle cargo.
- In return, the landlord port gets a share of the revenue from the private entity.

### What is Service Port Model?

- In service ports, the **port authority does the administration and operation of port activities**.
- The port operation includes providing navigational services, warehouse facilities, cranes, and skilled employees/laborers. the construction of infrastructure, superstructure, and providing employees, becomes the responsibility of the port authority.
- Even if the port authority act in the public interest **full ownership of the port remains with the state or the government**.
- In most cases, service ports **run on losses due to inefficiency**. Since the port belongs to the state and operations control by the port authority, workers go on strikes to obtain their demands.

### What are the Key highlights of Jawaharlal Nehru Port?

- **About:**
  - It's **located in Navi Mumbai** is the premier container handling port in India, accounting for around 50% of the total containerized cargo volume, across the major ports of India.
  - It was commissioned in 1989 and in three decades of its operations, JNP has transformed from a bulk-cargo terminal to become the premier container port in the country.
- **Overview:**
  - It is one of the leading container ports in the country and is **ranked 26<sup>th</sup> among the top 100 global ports** (as per Lloyds List Top 100 Ports 2021 Report).

- With its **state-of-the-art facilities JNP meets all the international standards, user-friendly atmosphere, and excellent connectivity** by rail and road to the hinterland.
- It is **presently handling 9000 twenty-foot equivalent units (TEUs) capacity vessels and with the upgradation, it can handle 12200 TEUs capacity vessels**.

### What is the PPP model?

- **About:**
  - **Public-private partnerships** involve **collaboration between a government agency and a private-sector company** that can be used to finance, build, and operate projects, such as public transportation networks, parks, and convention centers.
- **Indian Perspective:**
  - PPP is considered an effective tool for attracting investment in the port sector. Until now 86 projects worth Rs. 55,000 Crores have been granted approval under PPP.
  - The **key projects** on PPP being implemented include **berths, mechanization, development of oil jetty, container jetties, O&M of the container terminal, O&M of International cruise terminal**, Commercialization of non-core assets on PPP mode, Tourism projects, viz., marina, development of islands to promote tourism.
  - With the cargo volume expected to increase between 1.7 to 2 times (of 2020) by 2030, the percentage of cargo handled at Major Ports by PPP or other operators is expected to reach 85% by the year 2030.

## India: Top Remittance Recipient

### Why in News?

According to a report released recently by the **World Health Organisation** titled "World report on the health of refugees and migrants", India received **USD 87 billion in remittances in 2021**.

Note:

### What do we know about the Report?

#### ➤ About:

- The report is the first to offer a global review of **health and migration** and calls for urgent and concerted action to **support refugees and migrants** across the world to access **health care services** that are sensitive to their needs.

#### ➤ Findings:

##### ○ Migration:

- It states that **'Globally, about one in eight people** are migrants." (Total 1 billion are Migrants)
- From 1990 to 2020:
  - The total number of **international migrants** increased from **153 million** to **281 million**.
    - ◆ About 48% of international migrants are **women** and some 36 million are **children**.
- As of 2020, Europe and North America hosted the **greatest number** of international migrants, followed by northern Africa and western Asia.
- More than **half of newly recognized refugees** during the first half of 2021 were from five countries:
  - Central African Republic
  - South Sudan
  - Syrian Arab Republic
  - Afghanistan
  - Nigeria

##### ○ Remittance:

- In 2021 the **top five remittance recipients** (among low- and middle-income countries) in **current US dollars** were:
  - **India:** 83 billion
    - ◆ India's remittances **rose by 4.8% in 2021**. (Remittance in 2020 at USD 83 billion)
  - **China:** 53 billion
  - **Mexico:** 53 billion
  - **Philippines:** 36 billion
  - **Egypt:** 33 billion
- As a share of **Gross Domestic Product (GDP)**, the top five remittance recipients in 2021 were smaller economies:
  - **Tonga:** 44%
  - **Lebanon:** 35%

- **Kyrgyzstan:** 30%

- **Tajikistan:** 28%

- **Honduras:** 27%

- In most other areas, remittances have also recovered strongly, registering growth of **5–10% in Europe and Central Asia, the Middle East and northern Africa, Southern Asia and sub-Saharan Africa**.
- But at a slower pace of 1.4% in **Eastern Asia and the Pacific**, excluding China.

### What do we know about the Remittances?

- A remittance is **money sent to another party**, usually one in another country.
- The sender is typically an **immigrant** and the recipient a relative back home.
- Remittances represent **one of the largest sources** of income for people in **low-income and developing nations**.
  - It often exceeds the amount of **direct investment and official development assistance**.
- Remittances help families afford food, healthcare, and basic needs.
- India is the world's biggest recipient of remittances.
  - Remittances bolsters India's **foreign exchange reserves** and helps fund its **current account deficit**.

### What is the Significance of Remittances?

- Remittances **increase or maintain consumer spending** and soften the blow of **economic hardship**, such as during the **Covid-19 pandemic**.
- Remittances account for a large fraction of the **global movement of funds**.
  - Despite predictions that remittances would fall due to the Covid-19 pandemic (in part as a result of travel restrictions and the economic downturn), **remittances proved to be resilient**.
- Remittances are an "important and positive" **economic result of migration** for migrants themselves and for family and friends remaining in their home countries.
- Remittances now stand at more than **threefold above official development assistance** and are **more than 50% higher than foreign direct investment, excluding in China**.

Note:



### What are Negative Effects of Migration?

- **Brain Drain:**
  - The movement of skilled labour may result in a so-called **brain drain**, typically, from lower-income countries, and a **brain gain** in higher-income countries in a process known more generically as **brain circulation**.
    - Brain drain may **worsen** the availability of services, such as **health care**, if highly skilled **doctors and nurses leave lower income countries** seeking better economic opportunity.
- **Left-behind Families:**
  - Migration affects not only people who move but also their **family and community members who remain**:
    - An estimated **193 million family members of migrant workers are left behind**.
  - Migration of individuals to high income countries to undertake care jobs for the host population can create a **care deficit for their own families, especially for children and older people**.
- **Discrimination & Xenophobia:**
  - Refugees and migrants may face **hateful treatment or attitudes**.
    - **Xenophobia** is the treatment of people as outsiders because of their **language**, culture, appearance or place of birth.
    - Xenophobia may expose refugees and migrants in host countries to discrimination, mistreatment or violence, and it has serious public health consequences.
- **People Smuggling & Human Trafficking:**
  - While much migration occurs **without contravening laws or regulations**, a significant yet unmeasurable portion of migrants is **exploited by criminal networks**.
    - Although different in legal terms, **people smuggling and human trafficking** share **many similarities** in how they are carried out, and are sometimes hard to distinguish from each other.

## Build - Operate - Transfer Model

### Why in News?

**National Highway Authority of India (NHAI)** plans to offer at least two highway upgradation projects to private players using the **build-operate-transfer (BOT)** model under **Public-Private Partnership**, during the third quarter of 2022.

### What do we know about the Build-Operate-Transfer (BOT) Model?

- **About:**
  - Under the BOT model, a **private player is granted a concession** to finance, build and operate a project for a **specified period of time** (20 or 30 year concession period), with the **developer recouping the investments by way of user charges or tolls charged** from customers using the facility, and thereby taking on a certain amount of financial risk.
  - It is a conventional **Public-Private Partnership** model in which a private partner is responsible to **design, build, operate** (during the contracted period) and **transfer back** the facility to the public sector.
    - Private sector partner has to **bring the finance for the project and take the responsibility** to construct and maintain it.
  - The government has decided to assess the revenue potential of a project **every five years during the concession period as against every 10 years earlier**.
    - This would mean that the concession period (or period till which road developers can collect toll) is extended early in the tenure of the contract, **ensuring surety of revenue for the private company**.
- **Working Process:**
  - **Build:**
    - A private company (or consortium) **agrees with a government to invest in a public infrastructure project**. The company then secures their own financing to construct the project.

Note:



- **Operate:**
  - The private developer then **operates, maintains, and manages** the facility for an agreed concession period and recoups their investment through charges or tolls.
- **Transfer:**
  - After the concessionary period the **company transfers ownership** and operation of the facility to the government or relevant state authority.

### **What are the Advantages & Challenges in BoT Model?**

- **Advantages:**
  - The Government gets the benefit of the **private sector to mobilize finance** and to use the **best management skills** in the construction, operation and maintenance of the project.
  - The private participation also ensures **efficiency and quality by using the best equipment**.
  - BOT provides a mechanism and incentives for enterprises to **improve efficiency through performance-based contracts and output-oriented targets**.
  - The projects are **conducted in a fully competitive bidding situation and are thus completed at the lowest possible cost**.
  - The risks of the project are **shared by the private sector**.
- **Challenges:**
  - There is a **profit element in the equity portion of the financing**, which is **higher** than the debt cost. This is the **price paid** for passing the risk to the private sector.
  - It may take a **long time and considerable up front expenses to prepare and close a BOT financing deal** as it involves multiple entities and requires a relatively complicated legal and institutional framework. There the BOT may not be suitable for small projects.
  - It may take time to **develop the necessary institutional capacity to ensure that the full benefits of BOT are realized**, such as **development and enforcement of transparent and fair bidding and evaluation** procedures and the resolution of potential disputes during implementation.

### **What do we mean by Public-Private Partnership?**

- **About:**
  - PPP is an **arrangement between government and private sector** for the provision of **public assets and/or public services**.
  - Public-private partnerships allow **large-scale government projects**, such as roads, bridges, or hospitals, to be completed with private funding.
  - In this type of partnership, **investments are undertaken by the private sector entity**, for a specified period of time.
  - These partnerships **work well when private sector technology and innovation combine with public sector incentives** to complete work on time and within budget.
  - As PPP involves **full retention of responsibility by the government for providing the services**, it doesn't amount to privatization.
  - There is a well defined **allocation of risk between the private sector and the public entity**.
- **Challenges:**
  - PPP projects have been **stuck in issues such as disputes in existing contracts, non-availability of capital and regulatory hurdles** related to the acquisition of land.
  - Metro projects become sites of **crony capitalism** and a means for **accumulating land by private companies**.
  - Loans for infrastructure projects are believed to comprise a large share of the **non-performing asset** portfolio of public sector banks in India.
  - PPP firms use **every opportunity for renegotiating contracts** by citing reasons like lower revenue or rise in costs which becomes a norm in India.
  - Frequent renegotiations also resulted in the **drain of a larger share of public resources**.

#### **What are some other Models of PPP?**

##### **Engineering, Procurement, and Construction (EPC)**

- Under this model, the cost is completely borne by the government. Government invites bids for engineering knowledge from the private players. Procurement of raw material and construction costs are met by the government.

Note:

<b>Hybrid Annuity Model (HAM)</b>	<ul style="list-style-type: none"> <li>➤ In India, the new HAM is a mix of BOT-Annuity and EPC models. As per the design, the government will contribute 40% of the project cost in the first five years through annual payments (annuity). The remaining payment will be made on the basis of the assets created and the performance of the developer.</li> </ul>
<b>Build-Own-Operate (BOO)</b>	<ul style="list-style-type: none"> <li>➤ In this model ownership of the newly built facility will rest with the private party.</li> <li>➤ On mutually agreed terms and conditions, public sector partner agrees to 'purchase' the goods and services produced by the project.</li> </ul>
<b>Build-Own-Operate-Transfer (BOOT)</b>	<ul style="list-style-type: none"> <li>➤ In this variant of BOT, after the negotiated period of time, the project is transferred to the government or to the private operator.</li> <li>➤ BOOT model is used for the development of highways and ports.</li> </ul>
<b>Build-Own-Lease-Transfer (BOLT)</b>	<ul style="list-style-type: none"> <li>➤ In this approach, the government gives a concession to a private entity to build a facility (and possibly design it as well), own the facility, lease the facility to the public sector and then at the end of the lease period transfer the ownership of the facility to the government.</li> </ul>
<b>Design-Build-Finance-Operate (DBFO)</b>	<ul style="list-style-type: none"> <li>➤ In this model, the entire responsibility for the design, construction, finance, and operation of the project for the period of concession lies with the private party.</li> </ul>

### Lease-Develop-Operate (LDO)

- In this type of investment model either the government or the public sector entity retains ownership of the newly created infrastructure facility and receives payments in terms of a lease agreement with the private promoter. It is mostly followed in the development of airport facilities.

## RBI Seeks Ban on Cryptocurrency

### Why in News?

The **Reserve Bank of India (RBI)** has recommended a ban on **cryptocurrencies** citing 'destabilising effects' for the country's monetary and fiscal health.

- China has declared **all cryptocurrency transactions illegal**, effectively imposing a complete ban, whereas **El Salvador has permitted Bitcoin as legal tender**.

### What is the Current Status of Crypto?

- At the moment, there is **no legislature that covers cryptocurrencies in India**. In India, owning cryptocurrencies is still not illegal. In 2020, the **Supreme Court had struck down a ban** on trading of crypto currency in India, which was imposed by the Reserve Bank of India (RBI).
- Central bank has been cautioning people against the use of virtual currencies since as far back as 2013.
- In April 2018, the **RBI had prohibited regulated entities from dealing in virtual currencies** or providing services for facilitating any person or entity in dealing with or settling them. The directive was set aside by the Supreme Court in March 2020.
- Subsequently, in May 2021, the **central bank advised its regulated entities to continue to carry out customer due diligence processes** for transactions in such currencies, in line with regulations governing standards for **Know Your Customer (KYC)**, **Anti-Money Laundering, Combating of Financing of Terrorism**, obligations under Prevention of Money Laundering Act, 2002, etc. and **Foreign Exchange Management Act (FEMA)** Norms for overseas remittances.

Note:

- The **Union Budget 2022-2023** also proposed to introduce a **digital currency** in the coming financial year.

### What are the RBI's Concerns?

- **Not a Fiat Money:**
  - Cryptocurrencies are not a currency because **every modern currency needs to be issued by the central bank** or Government.
- **Speculative and Destabilising:**
  - The value of **fiat currencies** is anchored by **monetary policy and their status as legal tender**, however the value of cryptocurrencies rests solely on the speculation and expectations of high returns that are not well anchored, so it will have a destabilising effect on the **monetary** and **fiscal** stability of a country.

### What is Cryptocurrency?

- **About:**
  - **Cryptocurrency**, sometimes called crypto-currency or crypto, is any form of currency that exists digitally or virtually and uses cryptography to secure transactions.
  - Cryptocurrencies **don't have a central issuing or regulating authority**, instead use a decentralized system to record transactions and issue new units.
    - It is supported by a **decentralized peer-to-peer network called the blockchain**.
- **Benefits:**
  - **Fast and Cheap Transactions:** Cryptocurrencies are **way cheaper to use to execute international transactions** because the transactions don't have to be handled by a series of intermediaries before they reach their destinations.
  - **Investment Destination:** There is a limited supply of cryptocurrency – partially like gold. Moreover, the last few years have seen the price of cryptocurrencies rising faster than other financial instruments.
    - Due to this, **cryptocurrencies can become a preferred investment destination**.
  - **Anti-Inflationary Currency:** Due to the high demand for cryptocurrency its prices have largely remained on a growing trajectory. In this scenario, **people tend to hold more cryptocurrency than spending it**.

- This will cause a deflationary effect on the currency.

### What are the Concerns Associated with Cryptocurrency?

- **Bombardment of Advertisement:** The crypto market is seen as a way to earn quick profits. Due to this, there is bombardment of advertising, both online and offline, **to lure people into speculating in this market**.
  - However, there are concerns that these are attempts to **mislead the youth through "over-promising" and "non-transparent advertising"**.
- **Counterproductive Utility:** Unregulated crypto markets can become **avenues for money laundering and terror financing**.
- **Cryptocurrencies are Extremely Volatile:** Bitcoin skyrocketed from USD 40,000 to reach an all-time high of USD 65,000 (between January to April 2021).
  - Then in May 2021, it plunged and throughout June it remained below USD 30,000.
- **Risk to Macroeconomic and Financial Stability:** The extent of investment exposure of Indian retail investors in this unregulated asset class, **poses a risk to Macroeconomic and Financial Stability**.
  - According to a Group of Crypto exchanges, crores of Indians have invested over Rs 6,00,000 crore in crypto assets.
- **Stock Market Issues: Securities and Exchange Board of India (SEBI)** has flagged the issue that it has no control over the **"clearing and settlement"** of crypto currencies, and it cannot offer counterparty guarantee as is being done for stocks.
  - Further, whether cryptocurrency is a currency, commodity, or security has not been defined.

## A Glossary for the Troubled Global Economy

### Why in News?

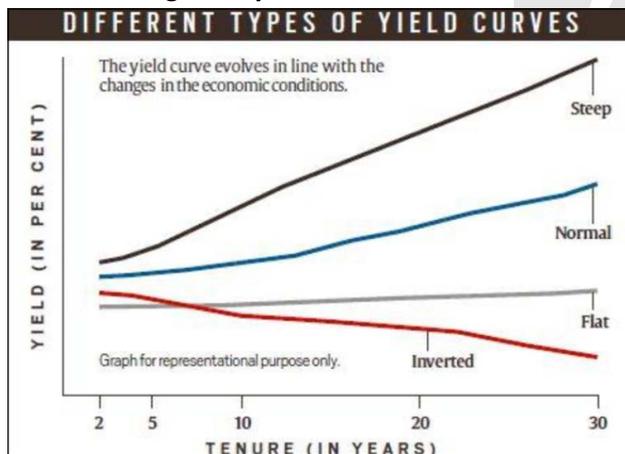
- Recently, US' **Inflation** hit a record high of 9.1% in June 2022, the highest in 40 years.
- US observers have argued that the **US central bank will not be able to achieve a soft landing** for the economy if the yield curve inverts.

Note:

- **Start of reverse currency wars** has also been predicted.

### What is Bond Yield Inversion?

- **Bonds:**
  - **Bonds** are essentially an **instrument through which governments** (and also corporations) **raise money from people**.
  - A bond's yield is the **return to an investor from the bond's coupon** (interest) **payments**.
  - Typically, **government bond yields** are a good way to understand the **risk-free interest rate** in that economy.
- **Yield Curve:**
  - The yield curve is the **graphical representation of yields from bonds** (with an equal credit rating) over different time horizons.
  - In other words, if one was to take the US government bonds of different tenures and plot them according to the yields they provide, **one would get the yield curve**.



- **Bond Yield Inversion:**
  - **Under Normal Circumstances:**
    - **Any economy would have an upward sloping yield curve.**
      - As one lends for a **longer duration** — or as one buys bonds of longer tenure — **one gets higher yields**.
      - If one is **parting with money for a longer duration**, the return should be **higher**.
    - When investors feel **confident** about the economy they **pull the money out from long-term bonds** and put it in short-term **riskier assets** such as stock markets.

- In the bond market, the **prices of long-term bonds fall**, and their **yield** (effective interest rate) **rises**.
  - This happens because **bond prices and bond yields are inversely related**.
- **Suspicious Circumstances:**
  - However, when investors suspect that the economy is heading for trouble, they **pull out money from short-term risky assets** (such as stock markets) and put them in **long-term bonds**.
  - This causes the **prices of the long-term bonds to rise and their yields to fall**.

### What is Soft-landing?

- The process of **monetary tightening** that the **US Federal Reserve** is currently unveiling involves **not just reducing the money supply but also increasing the cost of money** (that is, the interest rate).
  - The US' Federal Reserve is **doing this to contain soaring inflation**.
- When a central bank is **successful in slowing down the economy** without bringing about a recession, it is called a **soft-landing** — that is, no one gets hurt.
  - But, when the actions of the central bank bring about a **recession**, it is called a **hard-landing**.

### What is Reverse Currency Wars?

- A flip side of the US Federal Reserve action of aggressively **raising interest rates is that more and more investors are rushing to invest money in the US**.
  - This, in turn, has made the **dollar become stronger than all the other currencies** as the dollar is more in demand than yen, euro, yuan etc.
- A relative weakness of the local currency of other countries against the dollar makes their **exports more competitive**.
  - For instance, a Chinese or an Indian exporter gets a massive boost.
  - In the past, the US has accused other countries of **manipulating their currency** (and keeping its weaker against the dollar) just to **enjoy a trade surplus against the US**.
  - **This used to be called the currency war**.

Note:

## Euro - Dollar Parity

### *Why in News?*

Recently, the **Euro and the U.S. dollar reached parity**, meaning **one dollar could buy one euro in the foreign exchange market**.

- Since the beginning of the year, the euro has lost about 12% against the U.S. dollar and it is expected to lose more value going forward.

### *What determines a Currency Exchange Rate?*

- The price of any currency in a market economy is determined by **supply and demand**.
  - The **supply of a country's currency** in the **foreign exchange market** is determined by various factors such as **central bank policy and the local demand for imports and foreign assets**.
  - The **demand for a country's currency**, on the other hand, is determined by factors such as **central bank policy and the foreign demand for exports and domestic assets**.

### *What are the factors behind Fall of the Euro?*

- **Divergence in the monetary policies of the U.S. Federal Reserve and the European Central Bank** is the primary reason behind the euro's significant depreciation against the U.S. dollar.
- **Inflation** in the U.S. hit a four-decade high of 9.1% in June 2022 while inflation in the Eurozone reached its highest-ever level of 8.6% during the same month.
  - The U.S. Federal Reserve responded to the rising prices by **raising the interest rates** this year in order to **slow down U.S. money supply growth**.
  - The ECB, however, has been far less aggressive in tightening policy even though the inflation rate is as high as 22% in some European countries.
    - This has caused the **value of the euro to slide against the dollar** as currency traders witness, or at least expect, **the supply of euros in the market rising relative to the supply of dollars**.
- The value of the euro has been affected by the uncertainty in energy supplies in the wake of **Russia's invasion of Ukraine** and the ensuing actions against Russia.

- Europe now has to **shell out more euros to import limited energy supplies**, which in turn has adversely affected the value of the euro against the U.S. dollar.

### *How will Euro Dollar Parity Impact the Economy?*

- **Business:**
  - Companies that **export outside the euro area benefit** from the euro's fall because their **prices become more competitive when converted into dollars**.
    - Vice Versa, companies that **import from outside in Euro will bear a loss** as they have to pay more Euros for the imports.
  - In the case of local craftsmen, who are dependent on raw materials and energy, but export little, the **weaker euro can lead to a veritable explosion in costs**.
- **Growth and Debt:**
  - The fall in the value of the euro **makes prices outside the single currency area more competitive**, theoretically providing a boost to the export of European goods and services abroad.
    - But the positive effect can be mitigated by the **rising prices of commodities in the wake of the war in Ukraine**, particularly in export-oriented economies such as Germany.
  - For countries that issue **dollar-denominated debt**, the decline in the value of the euro against the dollar pushes up the cost of debt repayment.
- **Central Bank:**
  - By fuelling inflation, the euro's fall **could push the European Central Bank to raise interest rates more rapidly**.
    - It is preparing to tighten borrowing costs for the first time in 11 years in July 2022.

## India Innovation Index 2021: NITI Aayog

### *Why in News?*

Recently, **India Innovation Index Report 2021** was released by **NITI (National Institution for Transforming India) Aayog** in which Karnataka retained its top position in the major States category.

Note:

- This is the third edition of the Report, which **highlights the scope of innovation analysis in the country by drawing on the framework of the Global Innovation Index.**
- The number of indicators has **increased from 36 (in the India Innovation Index 2020) to 66 (in the India Innovation Index 2021).**

### What is the India Innovation Index?

- **About:**
  - It is a comprehensive tool for the evaluation and development of the country's innovation ecosystem.
  - It ranks the states and the union territories on their innovation performance to build healthy competition amongst them.
- **Institutions Involved:**
  - **NITI Aayog** with the Institute for Competitiveness.
- **Indicators Used:**
  - There are **7 pillars** in the index - five 'Enabler' pillars measure the inputs and two 'Performance' pillars measure the output.
  - The indicators that the survey **uses includes the level and quality of education and parameters such as:**
    - Number of PhD students and knowledge-intensive employment.
    - Enrolment in engineering and technology and number of highly skilled professionals.
    - Investment in R&D and number of patents and trademark applications filed.
    - Internet subscribers.
    - FDI inflows, business environment and safety and legal environment.



### What are the Highlights of the Report?

- **Categories:**
  - The Innovation Index is divided into three categories—major states, Union Territories, and hill and North East states.
- **Major States:**
  - **Top States:** Karnataka topped with a score of 18.05 followed by **Telangana and Haryana.**
    - Karnataka's success is attributed to its **peak performance in attracting FDI (Foreign Direct Investment)** and a large number of **venture capital deals.**
  - **Bottom States:** Bihar, Odisha and Chhattisgarh scored the lowest on the index, which **put them at the bottom in the "major States" category.**
    - **Chhattisgarh** ranked last with **10.97 points.**
- **Hill and North-East States:**
  - Manipur is leading the category followed by Uttarakhand and Meghalaya.
    - Nagaland ranked **last (10<sup>th</sup>).**
- **Union territories/Small States:**
  - Chandigarh is the top performer with a Score 27.88 followed by **Delhi and Andaman and Nicobar.**
    - Ladakh Ranked **last (9<sup>th</sup>).**
- **Challenges:**
  - On an average, the country has **not performed well in the knowledge worker pillar**, as much as it has in the human capital pillar.
  - The expenditure on **human capital has been unable to create that knowledge base** in the country.
  - Innovation is **skewed against the manufacturing sector** due to the problems pertaining to and the missing middle.
    - Missing middle, i.e., there are too many tiny, informal enterprises, and too few large, formal ones to employ thousands of people.

### What are the Recommendations?

- **GDERD (Gross Domestic Expenditure on R&D)** needs **considerable improvement and should touch at least 2%**, which would play an instrumental role in India **achieving the goal of a 5 trillion economy** and further influence its innovative footprint across the globe.
  - Increasing GDERD promotes private sector participation in R&D and **closing the gap between**

Note:

**industry demand** and what the country produces through its education systems.

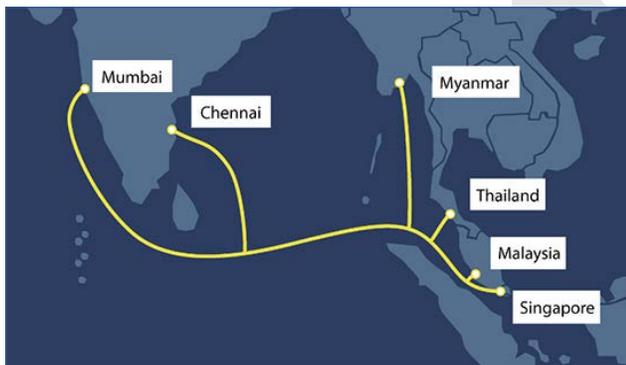
- Countries that spend less on GDERD **fail to retain their human capital in the long run** and the ability to innovate is dependent on the quality of human capital; **India's GDERD as a percentage of GDP (Gross Domestic Product) stood at about 0.7%.**
- The private sector **needs to pick up pace in R&D**, public expenditure is productive up to some extent; once the growth follows a trajectory, **it is desirable to shift to R&D mostly driven by the private sector.**

## MIST Submarine Cable System

### Why in News?

Recently, the Ministry of Environment, Forest and Climate Change recommended **MIST (Myanmar/Malaysia-India-Singapore Transit) Submarine Cable System** for **Coastal Regulation Zone (CRZ)** clearance.

- This will be the **17<sup>th</sup> such Optical Fibre Cable System** to land in Mumbai and is expected to be ready for service in 2023.



### What is the MIST?

- MIST is an **international submarine cable communication network**, traversing the undersea to connect India with other Asian countries such as **Myanmar, Thailand, Malaysia and Singapore.**
- It is an **8,100km-long undersea transnational fibre optic cable system** connecting Mumbai to Singapore, via Chennai.
  - The cable system **will terminate in Mumbai at Versova beach.**
- Of the total length of the international undersea cable system, **523.50 km will be laid along the**

**Tamil Nadu coastal waters** about 12 nautical miles offshore. and about 202.06 km in the CRZ boundary of Maharashtra.

### What is the Significance of the Project?

- MIST cable system will provide **secure, reliable, robust and affordable telecom facilities in Asia.**
- It will **boost telecom connectivity between India and other Asian countries**, namely Myanmar, Thailand, Malaysia and Singapore.
- This is a project of immense importance to global communications and will have a **minimal footprint on Mumbai's coastal environment.**
- It would also **help avoid conflict with various stakeholders** considering the increasing number of international cable landing on the Chennai coast.

### What are the Similar Upcoming Projects?

- **Reliance Jio Infocomm's India Asia Xpress (IAX)**, connecting India to the Maldives, Singapore, Sri Lanka and Thailand.
- **India Europe Xpress (IEX)**, connecting India to Italy via Saudi Arabia and Greece.
- **SeaMeWe-6 project**, owned by a consortium of telecom providers, will connect Singapore to France via India, Bangladesh, Maldives.
- **Africa2 cable**, which will connect India with the United Kingdom via several African countries.

### What is a Submarine Communications Cable?

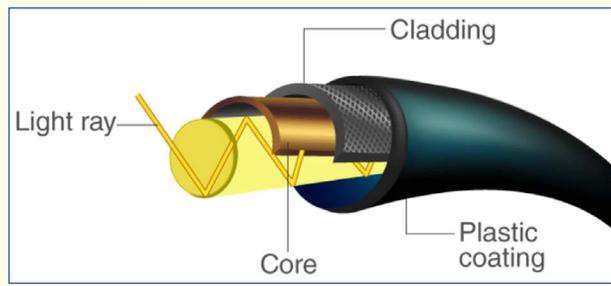
- It is a cable laid on the **seabed between land-based stations to transmit telecommunication signals** across stretches of ocean and sea.
- Modern submarine cables **use fiber-optic technology.**
- The optical fibre elements are typically coated with plastic layers and contained in a protective tube suitable for the environment where the cable will be deployed.
- Compared to satellites, using internet connection through submarine cables is **more reliable, cost efficient and of larger capacity.**

### What is an Optical Fibre?

- Optical fibre is **the backbone of the digital infrastructure** — the data is transmitted by light pulses travelling through long strands of thin fibre.

Note:

- Metal wires are preferred for transmission in optical fibre communication as signals travel with fewer damages.
  - The optical fibre works on the principle of **total internal reflection (TIR)**.
- Light rays can be used to transmit a huge amount of data (In case of long straight wire without any bend).
  - In case of a bend, **the optical cables are designed such that they bend all the light rays inwards (using TIR)**.



## Digital Banks

### Why in News?

Recently, **NITI Aayog** has released a Report titled- '**Digital Banks: A Proposal for Licensing & Regulatory Regime for India**'.

- It suggested setting up Digital Banks and a **licensing and regulatory framework for such Banks**.

### What are the Findings of the Report?

- In recent years, India has made rapid strides in furthering **Financial Inclusion (FI)**, catalysed by the **Pradhan Mantri Jan Dhan Yojana (PMJDY)** and **India Stack**.
- However, **credit penetration remains a policy challenge**, especially for the nation's 63-million-odd MSME (Micro, Small and Medium Enterprises).
- The FI has been furthered by the **Unified Payments Interface (UPI)**, which has witnessed extraordinary adoption.
  - UPI recorded over 4.2 billion transactions worth Rs 7.7 trillion in October 2021.
- The FI also **resulted in Direct Benefit Transfer (DBT)** through apps such as **PM-KISAN** and extending microcredit facilities to street vendors through **PM-SVANIDHI**.

- India is at the **cusp of operationalizing its own open banking framework**.
- Creating a blueprint for digital banking regulatory framework and policy **offers India the opportunity to cement her position as the global leader** in Fintech at the same time as solving the several public policy challenges she faces.

### What are the Recommendations?

- Issue of a **restricted digital bank licence**, the license would be restricted in terms of volume/value of customers serviced and the like.
- Enlistment of the licensee in a **regulatory sandbox framework enacted by the Reserve Bank of India**.
- Issue of a '**full-scale**' digital bank licence, contingent on satisfactory performance of the licensee in the regulatory sandbox, including salient, prudential and technological risk management.

### What is Digital Bank and What is its Need?

#### Digital Bank:

- It will be defined in the **Banking Regulation Act, 1949**, and shall have its own balance sheet and legal existence.
- It will be **different from the 75 Digital Banking Units (DBUs)** -- announced by Finance Minister in **Union Budget 2022-23** -- which are being set up to push digital payments, banking and fintech innovations in underserved areas.

- A DBU is a **specialised fixed point business unit** or hub housing certain minimum digital infrastructure for delivering digital banking products and services as well as servicing existing financial products and services digitally in self-service mode at any time.

- Digital banks will be **subject to prudential and liquidity norms on a par with existing commercial banks**.

#### Need:

##### Credit Gap:

- The success India has witnessed on the payments front is yet to be replicated in meeting the credit needs of its micro, small and medium businesses.
- The credit gap reveals a need for **leveraging technology effectively to cater to these needs**

Note:

and bring the underserved further within the formal financial fold.

- **Reliance on Digital channels:**
  - Banks and fintech businesses that offer digital banking services rely primarily on **digital channels that organically have high-efficiency metrics relative to incumbent commercial banks.**
  - This structural feature makes them a potentially effective channel through which policymakers can achieve social goals like empowering the under-banked small businesses, and enhancing trust among retail consumers.
- **Neo-Bank Models Face Challenges:**
  - Existing partnership-based **neo-bank** models face several challenges, such as **revenue generation and viability.**
    - Neobanks don't have a bank license of their own but count on bank partners to provide bank licensed services.
  - They have **limited revenue potential**, high cost of capital, and offer products of only partner banks.

## Windfall Tax

### Why in News?

With **crude oil** prices easing amid fears of a **global recession**, the Indian government has cut the recently imposed **cesses and levies** on **diesel and aviation turbine fuel (ATF)** and **removed the cess on exports of petrol.**

### What do we know about the Reduction in Taxes?

- **Windfall Tax:**
  - A windfall tax is a **higher tax rate on sudden big profits** levied on a particular company or industry.
- **Reduction in Taxes:**
  - **Additional excise duties** equal to Rs 6 per litre on exports of petrol have been removed.
  - Duties on **diesel exports** have been cut to Rs 11 per litre from Rs 13 per litre earlier.
  - **The cess by way of special additional excise duty (or windfall tax)** on domestic crude being sold to domestic refineries at international parity prices has been cut to Rs 17,000 per tonne from Rs 23,250 per tonne,

- The **export duty on Aviation Turbine Fuel** has been lowered by Rs 2 to Rs 4 per litre.

### Why did the Government Increase the Duties Earlier?

- The government on **1<sup>st</sup> July 2022** imposed **special additional excise duty on export of petrol and diesel** to address the issue of **fuel shortage in the country.**
- Starting June 2022, fuel pumps across the country have been **reporting fuel shortage, leading to their closure.**
  - The situation of fuel shortage **resulted in the government increasing the duties.**
    - The move assured of **enough fuel available in the country** and asked oil marketing companies to **ensure their fuel pumps remain open.**

### How has Global Crude Prices been?

- Global crude prices had **risen and domestic crude producers were making windfall gains.**
  - Private oil marketing companies **were exporting petrol and diesel to foreign countries** like Australia for better realisation.
- The **shortage of fuel at retail outlets** was because **oil marketing companies were not willing to sell the commodity at a loss since prices had not increased despite rising crude and depreciating rupee.**
  - These two factors had led to oil marketing companies losing Rs 20-25 per litre on diesel and Rs 10-15 per litre on petrol.
- Over the last fortnight, the benchmark contract of **Brent on the Intercontinental Exchange has fallen by over 12%** on fears of a **recession** in the US and overall global recession, prompting the government to undertake the review of the duties imposed.

## Bioeconomy

### Why in News?

Recently, Biotechnology Industry Research Assistance Council (BIRAC) released **India's Bioeconomy Report 2022.**

- During the release, the government launched a **special Biotech Ignition Grant call for North East Region (BIG-NER)** and announced **financial support**

Note:

of up to Rs 50 Lakhs each to 25 startups and entrepreneurs from North East Region to develop biotech solutions.

- BIRAC is a not-for-profit Section 8, Schedule B, Public Sector Enterprise, set up by Department of Biotechnology (DBT).

### What are the Key Highlights of the Report?

- India's bioeconomy is likely to touch USD 150 billion by 2025 and over USD 300 billion by 2030.
- The country's bioeconomy has reached over USD 80 billion in 2021, registering a 14.1 percent growth over USD 70.2 billion in 2020.
- On average, at least three biotech startups were incorporated every day in 2021 (a total of 1,128 biotech startups set up in 2021) and the industry crossed USD 1 billion in research and development spending.
- India has the second highest number of USFDA-approved manufacturing plants outside the US.
  - USFDA: US Food and Drug Administration
- **Vaccination:**
  - India administered nearly 4 million doses of Covid-19 vaccines per day (a total of 1.45 billion doses given in 2021).
- **Covid-19:**
  - The country conducted 1.3 million Covid-19 tests each day in 2021 (a total of 506.7 million tests).

### What is Bioeconomics?

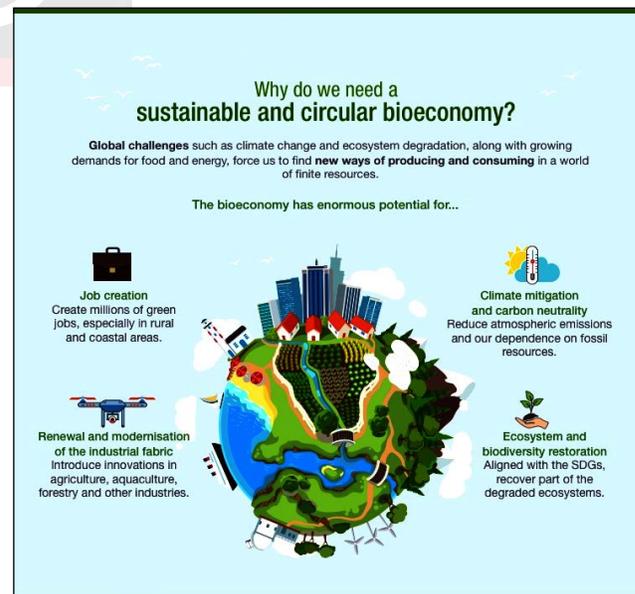
- **About:**
  - As per, the **United Nations Food and Agriculture Organization (FAO)**, Bio-economics could be defined as the **production, use, and conservation of biological resources, including related knowledge, science, technology, and innovation to provide information, products, processes, and services to all economic sectors with the aim of moving towards a sustainable economy.**
- **Historical Background:**
  - The term bioeconomy became popular in the **first decade of the 21<sup>st</sup> century** following its adoption by the European Union (EU) and the Organisation for Economic Co-operation and Development (OECD) as a framework for promoting the use of biotechnology to develop new products and markets.

### Examples:

- **Food systems** occupy the largest niche in the bioeconomy. To these systems, which include
  - Sustainable agriculture,
  - Sustainable Fishing,
  - Forestry and aquaculture,
  - Food and feed manufacturing,
- **Bio-Based Products:**
  - Bioplastics,
  - Biodegradable clothing.

### What is Circular Bioeconomy?

- Bioeconomy aims to drive **both sustainable development and circularity**. In particular, the principles of the **circular economy — reuse, repair and recycle —** are a fundamental part of the bioeconomy.
- The total amount of waste and its impact is reduced through reuse, repair, and recycling. It also saves energy and minimizes air and water pollution, thus helping to prevent damage to the environment, climate and biodiversity.



### How is India moving Forward in Bioeconomy?

- There are various sectors which are contributing to the growth of India's Bioeconomy sector like,
  - **Bio-Industry**, as this sector has got fillip from the Prime Ministers vision of Atmanirbhar Bharat and India becoming "energy independent" by 2047.

Note:

- Further, the Indian Government has approved the amendments to the **National Policy on Biofuels** and took decisions to increase biofuel production and advance the introduction of ethanol blended petrol with up to 20% blend from April 2023.
- Another sector like **Bio-Agri**, which comprises of Bt Cotton, pesticides, marine biotech, and animal biotech has the potential to nearly double its Bioeconomy contribution from USD10.5 billion to USD 20 billion in 2025.
- Before the pandemic, India was the second largest vaccine exporter by volume according to various research studies.

### ***What are the Indian Initiatives related to Bioeconomy?***

- **For Biopharma:**
  - **National Biopharma Mission, 'Innovate India' 2017**, a Department of Biotechnology (DBT) programme worth US\$ 250 million, aims to

bring together industry and academia in order to promote entrepreneurship and indigenous manufacturing in biopharma.

- **For Promoting Startups:**

- **35 Bio incubators** have been set up across India with world-class facilities.
- The **first International Incubator- Clean Energy International Incubator** has been set up under Mission Innovation by DBT & BIRAC.
- Startups from 23 participating EU countries can potentially come & incubate in India and likewise, startups from this incubator can go to the partnering countries facilitating access to global opportunities. The department is supporting 4 Bio-clusters (NCR, Kalyani, Bangalore, and Pune).

- **National Mission on Bioeconomy:** Amid attempts to boost rural economy by using bio-resources, a 'National Mission on Bioeconomy' was launched by the Institute of Bio-resources and Sustainable Development under the Science and Technology Ministry, in 2016.

Note:

# International Relations

## Highlights

- India - Japan Maritime Exercise
- Chabahar Port
- India-Maldives' Judicial Cooperation
- CAATSA
- India And Belarus
- China Pakistan Economic Corridor (CPEC)

## India - Japan Maritime Exercise

### Why in News?

Recently, a **Maritime Partnership Exercise (MPX)** was conducted between **Japan Maritime Self Defense Force and Indian Navy in the Andaman Sea.**

- **Other Maritime Exercises between India & Japan:**
  - **Japan-India Maritime Exercise (JIMEX)**
  - **Malabar Exercise** (India – US – Japan - Australia)

### What do we need to know about the Exercise?

- **About:**
  - The exercises were aimed at enhancing **interoperability and streamlining seamanship and communication procedures.**
  - This exercise is part of the ongoing efforts between the two navies towards ensuring **safe and secure international shipping and trade in the Indian Ocean Region (IOR).**
  - The two countries have been carrying out regular exercises in IOR towards reinforcing maritime association.
- **Participants:**
  - **INS Sukanya**, an offshore patrol vessel of the Indian Navy.
    - The **Sukanya class patrol vessels are large, offshore patrol craft.**
    - Three lead ships were built by **Korea Tacoma, now part of Hanjin Group.**
    - Vessels of the Sukanya class are **named after notable women from Indian epics.**
    - The Sukanya class have **large hulls**, although they are **lightly armed** since they are utilized

primarily for offshore patrol of India's **exclusive economic zone.**

- **JS Samidare**, a Murasame class destroyer of Japan Maritime Self-Defence Force.
  - JS Samidare (DD-106) is the **sixth ship of the Murasame-class destroyer** of the **Japan Maritime Self-Defense Force (JMSDF).**

### Activities:

- Seamanship activities, aircraft operations and tactical manoeuvres as part of the operational interaction.

### What are India's other Maritime Exercises?

- **Thailand:**
  - **India-Thailand Coordinated Patrol** (Indo-Thai CORPAT)
- **United Kingdom:**
  - **Konkan - Shakti**
- **Indonesia:**
  - **Samudra Shakti**
- **Singapore:**
  - **Singapore-India Maritime Bilateral Exercise (SIMBEX)**
- **Qatar:**
  - **Zair-Al-Bahr**

## Chabahar Port

### Why in News?

Recently, during the foreign ministerial meeting of the **Shanghai Cooperation Organisation (SCO)** meeting, India pushes for a greater role for **Chabahar Port** in increasing the connectivity in the region.

- India will be taking over the SCO presidency next year.

Note:



### What other points Highlighted by India?

- On Afghanistan, highlighted that India extended humanitarian assistance to Afghanistan to help it fight **hunger and food insecurity**.
- Raised the problems of the **energy crisis** and **food crisis** arising from the **Ukraine conflict**.
- Highlighted the need to adopt zero tolerance policy towards **terrorism**.
- He also appreciated the entry of **Iran into the organization**.
  - Iran's inclusion will strengthen the SCO forum as now all the member nations will have the opportunity to use the facilities of the Chabahar Port in Iran.

### What is Chabahar Port?

- **About:**
  - The port of Chabahar is **located in southeastern Iran in the Gulf of Oman**.
  - It is the only Iranian port with direct access to the ocean.
  - It's located in the Sistan-Balochistan province on the energy-rich Iran's southern coast.
  - The Chabahar port is considered a gateway to golden opportunities for trade by India, Iran and Afghanistan with central Asian countries.



- **Significance:**
  - No other international port has seen the level of involvement and enthusiasm from Chabahar as India.
  - It will make way for **India to bypass Pakistan in transporting goods to Afghanistan using a sea-land route**.

- At present, Pakistan does not allow India to transport its territory to Afghanistan.
- It would give momentum to the **International North-South Transport Corridor (INSTC)** of which both are initial signatories along with Russia.
  - Iran is the key gateway to this project.
  - It would counter the Chinese presence in the Arabian.



### What is INSTC?

- **About:**
  - The **International North-South Transport Corridor (INSTC)** project was originally decided between India, Iran, and Russia in 2000 in St Petersburg, and subsequently included 10 other central Asian and west Asian countries:
    - Azerbaijan, Armenia, Kazakhstan, Kyrgyz Republic, Tajikistan, Turkey, Ukraine, Belarus, Oman, Syria, and Bulgaria are observers.
    - Pakistan, Turkmenistan and Afghanistan are not party to the INSTC agreement but are interested in using the transport corridor.
  - It envisions a **7,200-km-long multi-mode network of ship, rail, and road routes for transporting freight**, aimed at reducing the carriage cost between India and Russia by about 30% and bringing down the transit time from 40 days by more than half.
  - The route primarily involves moving freight from India, Iran, Azerbaijan, and Russia.
- **Objective:**
  - The objective of the corridor is to **increase trade connectivity between major cities such as Mumbai, Moscow, Tehran, Baku, Astrakhan, etc.**

Note:

- **Significance:**
  - It would be provided as a viable and fairer alternative to China's **Belt and Road Initiative (BRI)**.
  - Further, it will enhance regional connectivity.

## India-Maldives' Judicial Cooperation

### **Why in News?**

Recently, the Government has approved the Memorandum of Understanding (MoU) in the field of judicial cooperation between **India and the Judicial Service Commission of Maldives**.

- It is the **eighth MoU signed between India and other countries in the field of Judicial Cooperation**.
- Earlier, the **National College for Policing and Law Enforcement (NCPLE)** was inaugurated by India's External Affairs Minister during his two-day visit to Maldives.
  - NCPLE is one of India's largest funded projects in the island nation - in the Maldives' Addu City.



### **What is the Significance of MoU?**

- It will provide a **platform to tap the benefits of Information Technology for court digitization**, and can be a potential growth area for the **IT (Information Technology) companies and start-ups** in both the countries.
- The good relations between the two countries will receive further impetus.

- It will not only enable exchange of knowledge and technology in judicial and other legal areas between the two countries but **will also further the objectives of 'Neighbourhood First' policy**".

### **What is the Significance of India-Maldives Relations?**

- Maldives is a **Toll Gate in the Indian Ocean**.
- It is located at the **southern and northern parts of this island chain lies the two important Sea Lanes of Communication (SLOCs)**.
  - These SLOCs are **critical for maritime trade flow between the Gulf of Aden and Gulf of Hormuz in West Asia and the Strait of Malacca** in Southeast Asia.
    - Nearly 50% of India's external trade and 80% of its energy imports transit these SLOCs in the Arabian Sea.
- Maldives is a member of the **South Asian Association for Regional Cooperation (SAARC) and the South Asia Subregional Economic Cooperation (SASEC)**.

### **What are the Highlights of India-Maldives Relations?**

- **Security Cooperation:** Through the decades, India has rushed emergency assistance to the Maldives, whenever sought.
  - In 1988, when armed mercenaries attempted a coup against President Maumoon Abdul Gayoom, India sent paratroopers and Navy vessels and restored the legitimate leadership under **Operation Cactus**.
  - India and Maldives conduct the joint military exercise **'Ekuverin'**.
  - **Under the Colombo Security Conclave**, which is a maritime security grouping of India, Sri Lanka, Maldives and Mauritius which is to forge closer cooperation on maritime and security matters among these **Indian Ocean countries**.
    - Mauritius was included as a new member of the conclave during the fifth meeting of national security advisers of the Colombo Security Conclave.
- **Disaster Management:** The 2004 tsunami and the drinking water crisis in Male a decade later were **other occasions when India rushed assistance**.

Note:

- The Maldives has been one of the biggest beneficiaries of the Covid-19 assistance and **vaccines delivered by India** among India's all neighbouring countries.
  - The Maldives was the first beneficiary of **India's Vaccine Maitri initiative**.
- When the world supply chains were blocked because of the pandemic, India continued to provide crucial commodities to the Maldives under **Mission SAGAR**.
- **People To People Contact:** Maldivian students attend educational institutions in India and patients fly here for super speciality healthcare, aided by a liberal visa-free regime extended by India.
- **Economic Cooperation:** Tourism is the mainstay of Maldivian economy. The country is now a major tourist destination for some Indians and a job destination for others.
  - In August 2021, Afcons, an Indian company, signed a contract for the largest-ever infrastructure project in Maldives which is the **Greater Male Connectivity Project (GMCP)**.

### **What are the Challenges in India-Maldives Relation?**

- **Political Instability:** India's major concern has been the **impact of political instability in the neighbourhood** on its security and development.
  - The February 2015 arrest of Maldives' opposition leader Mohamed Nasheed on terrorism charges and the consequent political crisis have posed a real diplomatic test for India's neighbourhood policy.
- **Radicalisation:** In the past decade or so, the **number of Maldivians drawn towards terrorist groups like the Islamic State (IS)** and Pakistan-based madrassas and jihadist groups has been increasing.
  - This gives rise to the possibility of Pakistan based terror groups using remote Maldivian islands as a launch pad for terror attacks against India and Indian interests.
- **China Angle:** China's strategic footprint in India's neighbourhood has increased. The Maldives has emerged as an important 'pearl' in **China's "String of Pearls"** construct in South Asia.

- Given the uncertain dynamics of Sino-Indian relations, China's strategic presence in the Maldives remains a concern.
- Also, the Maldives have started using the China card to bargain with India.

## **CAATSA**

### **Why in News?**

Recently, the United States (US) House of Representatives has approved an amendment to the **National Defence Authorization Act (NDAA)**, proposing India-specific waiver under the **Countering America's Adversaries Through Sanctions Act (CAATSA)**.

- It will **allow India to freely purchase Russia's S-400 missile system** without the fear of American sanctions.
- The National Defense Authorization Act (NDAA) is legislation that Congress passes each year to make changes to the policies and organization of United States defense agencies and provide guidance on how military funding can be spent.

### **What is the Proposed Amendment?**

- The amendment urges the US administration to use its authority to provide India with a Countering America's Adversaries Through Sanctions Act (CAATSA) waiver to help deter aggressors like China.
- The legislation says that the **United States-India Initiative on Critical and Emerging Technologies (ICET)** is a welcome and essential step to developing closer partnerships between governments, academia, and industry in the two countries to address the latest advances in artificial intelligence, quantum computing, biotechnology, aerospace, and semiconductor manufacturing.

### **What is CAATSA?**

- **About:**
  - **US Law:**
    - CAATSA is a law that **came into effect in the US in 2017**, and was **meant to punish countries having deep engagements with Russia, North Korea, and Iran** using economic sanctions.

Note:

- **Title II of the Act primarily deals with sanctions on Russian interests** such as its oil and gas industry, defence and security sector, and financial institutions, in the backdrop of its **military intervention in Ukraine** and its alleged meddling in the 2016 US Presidential elections.
- Section 231 of the Act **empowers the US President to impose at least five of the 12 listed sanctions** — enumerated in Section 235 of the Act — on persons engaged in a “significant transaction” with Russian defence and intelligence sectors.
  - As part of Section 231 of the Act, the US State Department has notified 39 Russian entities, dealings with which could make third parties liable to sanctions.
- **Sanctions that can Impact India:** There are only **two sanctions** that may impact either India-Russia relations or India-US relations.
  - **Prohibition of Banking transactions:** The first of these, which is likely to have an impact on India-Russia relations, is the “**Prohibition of Banking transactions**”.
    - This would mean difficulties for India in making payments in US Dollars to Russia for the purchase of the S-400 systems. It will also affect India’s purchase of spare parts, components, raw materials and other assistance.
      - ◆ In 2020, **Turkey was sanctioned** for its purchase of the S-400 system.
  - **Export Sanction:** The sanction will have greater consequences for India-US relations.
    - This is the “export sanction” which has the potential to completely derail the **India-US Strategic and Defence partnership**, as it will deny the license for, and export of, any items controlled by the US.
- **Waiver Criteria:**
  - The US President was **given the authority in 2018 to waive CAATSA sanctions on a case-by-case basis.**

#### What is Russia’s S-400 Missile System?

##### ➤ About:

- It is a mobile, **Surface-to-Air Missile system (SAM)** designed by Russia.

- It is the **most dangerous operationally deployed Modern Long-Range SAM (MLR SAM)** in the world, considered much ahead of the **US-developed Terminal High Altitude Area Defence system (THAAD)**.
- It integrates a multifunction radar, autonomous detection and targeting systems, anti-aircraft missile systems, launchers, and command and control centre.
  - It is **capable of firing three types of missiles** to create a layered defence.
- The system can engage all types of aerial targets including aircraft, **unmanned aerial vehicles (UAV)** and **ballistic and cruise missiles** within the range of 400km, at an altitude of up to 30km.
- The system can track 100 airborne targets and engage six of them simultaneously.
- **Significance for India:**
  - From India’s point of view, China is also buying the system. In 2015, China signed an agreement with Russia to purchase six battalions of the system. Its delivery began in January 2018. China’s acquisition of the **S-400 system has been viewed as a “game changer”** in the region. However, its effectiveness against India is limited.
  - India’s acquisition is crucial to counter attacks in a **two-front war**, including even high-end F-35 US fighter aircraft.

#### What are the implications of CAATSA Waiver on India-US Relations?

- The NDAA amendment also urged the US to take more steps **to assist India’s pivot away from its reliance on Russia-made arms.**
- The amendment is **in sync with the tenor of the recent bilateral strategic relations.**
  - The watershed year was 2008 and since then cumulative US defence contracts with India add up to at least USD 20 billion. It was just USD 500 million in the period prior to 2008.
  - Furthermore, in 2016, the **US recognised India as a major defence partner.** Strategic ties have also been strengthened through groupings such as **Quad** and now **I2U2**.

Note:

- For India, a **transition away from Russian platforms is in its strategic interests.**
  - Russia's dependence on China has increased significantly following its invasion of Ukraine, a situation that's unlikely to change in future.
  - Already, China is next only to India as the second largest recipient of Russia's arms exports.
  - Given the unravelling of India's longstanding border management protocols with China, dependence on Russian arms platforms is unwise.

## India And Belarus

### Why in News?

India congratulated Belarus for celebrating its 78 years of Independence on 3<sup>rd</sup> July 2022.



### How Has Been India-Belarus Relations?

- **Diplomatic Relations:**
  - India's relations with Belarus have been traditionally warm and cordial.
  - India was **one of the first countries to recognize Belarus as an independent country in 1991** after the break-up of the Soviet Union.
- **Supports at Multilateral Fora:**
  - The cooperation between the two countries is visible at many multilateral fora such as **UN Security Council (UNSC) and Nuclear Suppliers Group (NSG).**
- Belarus was one of the countries whose support helped in consolidating India's candidature for the non-permanent seat at the UNSC in July 2020.
- India has also reciprocated Belarus's support at various international fora, such as Belarus's membership in the **Non Aligned Movement (NAM)** and other international and multilateral groups like **IPU (Inter-Parliamentary Union).**
- **Comprehensive Partnership:**
  - The two countries enjoy a comprehensive partnership and have established mechanisms for exchanging views on bilateral, regional and multilateral issues through **Foreign Office Consultations (FOC), Intergovernmental Commission (IGC), and Joint Commission on Military Technical Cooperation.**
  - The two countries have signed a number of Agreements/MoUs on various subjects, including trade and economic cooperation, culture, education, media and sports, tourism, science & technology, agriculture, textiles, Avoidance of **Double Taxation**, Promotion and Protection of Investments, and defence and technical cooperation.
- **Trade and Commerce:**
  - In the economic sector, the annual bilateral trade turnover in 2019 stands at USD 569.6 million.
  - India's special gesture in 2015 that granted Belarus the **Market Economy Status and a USD 100 million Line of Credit** has also helped in the growth in the economic sector.
    - **Market Economy status is a status conferred on the country exporting the goods accepted as the benchmark.** Prior to this status, country is considered as a **Non-Market Economy (NME).**
  - India's encouragement to the **Belarusian businessmen to invest in 'Make in India' projects are bearing fruits.**
- **Indian Diaspora:**
  - The Indian Community in Belarus consists of around 112 Indian nationals and 906 Indian students pursuing studies in medicine in State medical universities in Belarus.
  - Indian art and culture, dance, **yoga**, ayurveda, films, etc. remain popular among Belarusian nationals.

Note:

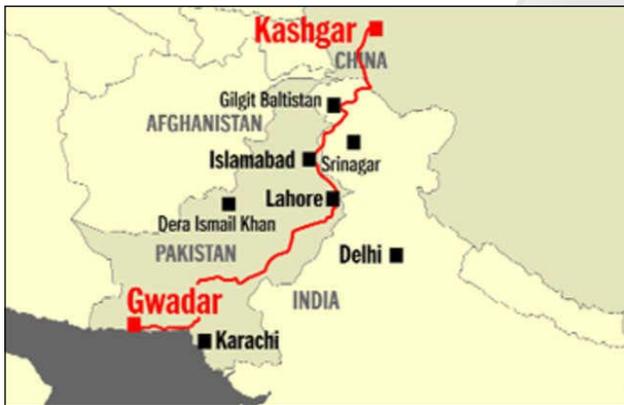
- Many young Belarusians also take keen interest in learning Hindi and dance forms of India.

## China Pakistan Economic Corridor (CPEC)

### Why in News?

Recently, Pakistan and China decided to welcome any third country joining the multi-billion dollar **China-Pakistan Economic Corridor (CPEC)**.

- In context to Afghanistan, it had broken new ground in strengthening international and regional connectivity.
- Earlier, Pakistan signed a new agreement with China to begin the **second phase of the USD 60 billion China-Pakistan Economic Corridor (CPEC)**.



### What is CPEC?

- CPEC is a **3,000-km long route of infrastructure projects connecting China's northwest Xinjiang Uygur Autonomous Region and the Gwadar Port** in the western province of Balochistan in Pakistan.
- It is a **bilateral project between Pakistan and China**, intended to promote connectivity across Pakistan with a network of highways, railways, and pipelines accompanied by energy, industrial, and other infrastructure development projects.
- It **will pave the way for China to access the Middle East and Africa from Gwadar Port, enabling China to access the Indian Ocean** and in return China will support development projects in Pakistan to overcome the latter's energy crises and stabilising its faltering economy.

- CPEC is a part of the **Belt and Road Initiative**.
  - The BRI, **launched in 2013**, aims to link Southeast Asia, Central Asia, the Gulf region, Africa and Europe with a network of land and sea routes.

### What are CPEC's Implications for India?

- **India's Sovereignty:** India has continuously opposed the project since it passes through the **Pakistan-occupied Kashmir territory of Gilgit-Baltistan** – a claim opposed by Pakistan.
  - The corridor is also perceived to be an **alternative economic road link for the Kashmir Valley lying on the Indian side of the border**.
  - Most key players in the Indian state of Jammu and Kashmir, have expressed optimism about the project.
  - There have been calls by local business and political leaders to declare Kashmir on both sides of the **Line of Control (LoC)** a **'Special Economic Zone'**.
  - However, a well-connected Gilgit-Baltistan that attracts industrial development and foreign investment, **if CPEC proves a success, will further consolidate the region's perception as internationally recognised Pakistani territory**, diminishing India's claim over the 73,000 sq km piece of land which is home to more than 1.8 million people.
- **Chinese Control Over Trade Via Sea:** Major US ports on the East Coast depend on the **Panama Canal** to trade with China.
  - Once CPEC becomes fully functional, **China will be in a position to offer a 'shorter and more economical' trade route** (avoiding travel through the entire Western Hemisphere) to most North and Latin American enterprises.
  - This **will give China the power to dictate the terms by which the international movement of goods will take place** between the Atlantic and the Pacific oceans.
- **Chinese String of Pearls:** China has been **increasing its presence in the Indian Ocean with the 'String of Pearls' ambition**: A term coined by the Americans and often used by Indian defence analysts to refer to a Chinese game-plan of encircling India through a network of airfields and ports.

Note:

- With an **existing presence in Chittagong port** (Bangladesh), **Hambantota port** (Sri Lanka), **Port Sudan** (Sudan), Maldives, Somalia and Seychelles, a control of Gwadar port establishes complete dominance of the Indian ocean by the Communist nation.
- **Emergence of Pakistan as an Outsourcing Destination:** It is poised to speed up Pakistan's economic progress.
  - **Pakistani exports**, mainly in the textile and construction material industry, **compete directly with those of India in the US and UAE** – two of the top three trading partners of both countries.
  - With the supply of raw material from China becoming easier, **Pakistan will be suitably placed to become a regional market leader in these sectors**—mainly at the cost of Indian export volumes.
- **Stronger BRI and Chinese Dominance in Trade Leadership:** China's BRI project that focuses on the trade connectivity between China and the rest of Eurasia through a network of ports, roads and railways has been often seen as China's plan to dominate the region politically. **CPEC is one giant step in the same direction.**
  - A China that is more accepted and integrated with the rest of the global economy will have a better say in the **United Nations** and with individual nations, which may prove to be bad news for an India aspiring to acquire a permanent seat at the UN Security Council.

### What is One Belt One Road (OBOR)?

- **About:**
  - It is a **multi-billion-dollar initiative** launched in 2013.
  - It aims to link Southeast Asia, Central Asia, the Gulf region, Africa and Europe with a network of land and sea routes.
  - It has been **launched to undertake big infrastructure projects** in the world which in turn would also enhance the global influence of China.

### ➤ Structure:

- They contain the following six economic corridors:
  - **The New Eurasian Land Bridge**, which connects Western China to Western Russia
  - **The China-Mongolia-Russia Corridor**, which connects North China to Eastern Russia via Mongolia
  - **The China-Central Asia-West Asia Corridor**, which connects Western China to Turkey via Central and West Asia
  - **The China-Indochina Peninsula Corridor**, which connects Southern China to Singapore via Indo-China
  - **The China-Pakistan Corridor**, which connects South Western China through Pakistan to Arabia Sea routes
  - **The Bangladesh-China-India-Myanmar Corridor**, which connects Southern China to India via Bangladesh and Myanmar
- Additionally, the maritime Silk Road connects coastal China to the Mediterranean via Singapore-Malaysia, the Indian Ocean, the Arabian Sea, and the Strait of Hormuz.



### One Belt, One Road

— Silk Road Economic Belt  
- - - Maritime Silk Road Initiative

Note:

# Social Issues

## Highlights

- Jagriti Mascot
- Replacement Level Fertility
- World Hepatitis Day
- Solid Waste Management
- Social Security for Unorganised Workers
- Hatti Community

## Jagriti Mascot

### Why in News?

Recently, a mascot named Jagriti has been launched by the **Department of Consumer Affairs (DoCA)** to empower consumers and further generating awareness of their rights.



### How will Jagriti work?

- It would be **projected as an empowered consumer** who is spreading awareness about consumer rights & addressing solutions to the problems faced by the consumers.
- It would help to generate consumer awareness about the various government initiatives like:
  - Provisions of **Consumer Protection Act 2019**
  - **Hallmarking**
  - National Consumer Helpline toll free number 1915
  - Provisions of weights & measures Act
  - Decisions of the Central Consumer Protection Authority
  - Testimonials by consumers on grievance redressal

### What is the Significance of Jagriti Mascot?

- In addition to increasing the campaign's presence in digital and multimedia channels, it would **heighten consumer rights awareness**.
- It would be shown with the tagline "**Jago Grahak Jago**" in various media campaign.

## Replacement Level Fertility

### Why in News?

Recently, the **Government of India** reported that India has achieved **replacement level fertility**, with as many as **31 States/Union Territories** reaching a **Total Fertility Rate of 2.1** or less.

- Between 2012 and 2020, India added more than 1.5 crore additional users for **modern contraceptives** thereby increasing their use substantially.

Note:

- Government also unveiled the India Family Planning 2030 vision document.

### **What do we know about Replacement Level Fertility?**

- Total Fertility Rate of about 2.1 children per woman is called **Replacement-level fertility**.
  - **TFR lower than 2.1 children per woman** — indicates that a **generation is not producing enough** children to replace itself, eventually leading to an outright reduction in population.
  - Total fertility rate (TFR) in simple terms refers to the total number of children born or likely to be born to a woman in her lifetime if she were subject to the prevailing rate of age-specific fertility in the population.
- **India's total fertility rate (TFR) has declined from 2.2 in 2015-16 to 2.0 in 2019-21**, indicating the **significant progress of population control measures**, revealed the report of the fifth round of the **National Family Health Survey (NFHS-5)**.

### **What is India Family Planning 2030 Vision?**

- **Focus Areas:**
  - Strategies to overcome **teenage childbearing, lack of male participation in awareness programmes, migration and lack of access to contraceptives** have been identified as priorities.
- **Contraceptives:**
  - **Modern contraceptive prevalence Rate:**
    - **Women with Migrant Husband:**
      - 35% in Bihar and 24% in UP
      - It is mostly driven by **lack of contraceptive preparedness** before husband's arrival, **inability to procure contraceptives** due to **inaccessibility to health facilities and stigma** around procuring contraceptives when the husband was away.
    - **Women with Resident Husband:**
      - 47% in Bihar and 36% in UP
  - Although **modern contraceptive use** among married adolescents and young women have increased, it remains low.
    - Married adolescent girls and young women reported high unmet need for contraception.

- In several districts, **more than 20% of women marry before they become adults**.
  - The districts are located in Bihar (17), West Bengal (8), Jharkhand (7), Assam (4) and two each in UP, Rajasthan and Maharashtra.
  - The same districts have seen low use of modern contraceptives.
- The vision also included a **plan to use the private sector for providing modern contraceptives**.
  - Private sector contributes 45% share of pills and 40% share of condoms. For other reversible contraceptives like injectables, the share is 30% and 24% for Intrauterine contraceptive device (IUCD).

### **How did India achieve the Replacement Level Fertility?**

- **Women Empowerment:**
  - The latest data also show significant progress on several indicators related to **fertility, family planning, age at marriage and women's empowerment** — all of which have contributed to the decrease in TFR.
- **Contraceptives:**
  - Between 2012 and 2020, India **added more than 1.5 crore additional users for modern contraceptives** thereby increasing their use substantially.
- **Reversible Spacing:**
  - Introduction of **new reversible spacing (gaps between children) methods, wage compensation systems to undergo sterilisation**, and the promotion of small family norms also worked well over the years.
- **Government's Initiatives:**
  - **Mission Parivar Vikas:**
    - The Government has launched **Mission Parivar Vikas** in 2017 for substantially increasing **access to contraceptives and family planning** services in 146 high fertility districts with TFR of 3 and above in seven high focus states.
  - **National Family Planning Indemnity Scheme (NFPIS):**
    - This scheme was launched in the year 2005, under this scheme clients are **insured in the eventualities of death, complication and failure following sterilization**.

Note:

- **Compensation scheme for Sterilization Acceptors:**
  - Under the scheme, the Ministry of Health and Family Welfare provides **compensation for loss of wages to the beneficiary and also to the service provider (& team) for conducting sterilizations from the year 2014.**

#### What is the National Family Health Survey?

##### ➤ About:

- **The National Family Health Survey** is a large-scale, multi-round survey conducted in a representative **sample of households throughout India.**

##### ➤ Conducted by:

- **The Ministry of Health and Family Welfare (MoHFW)** has designated the **International Institute for Population Sciences (IIPS)** Mumbai, as the nodal agency for providing **coordination and technical guidance for the survey.**
- IIPS collaborates with a number of Field Organizations (FO) for survey implementation.

##### ➤ Objectives:

- Each successive round of the NFHS has had **two specific goals:**
  - To provide **essential data on health and family welfare** needed by the Ministry of Health and Family Welfare and other agencies for policy and programme purposes.
  - To provide **information on important emerging health and family welfare issues.**
- The survey provides **state and national information for India on:**
  - Fertility
  - Infant and child mortality
  - The practice of family planning
  - Maternal and child health
  - Reproductive health
  - Nutrition
  - Anaemia
  - Utilization and quality of health and family planning services.

##### ➤ NFHS - 5 Report:

- **The Total Fertility Rate (TFR)** has further declined from **2.2 to 2.0 at the national level between NFHS 4 (2015-16) and NFHS 5 (2019-20).**

- There are **only five states in India which are above replacement level of fertility of 2.1.** These states are Bihar, Meghalaya, Uttar Pradesh, Jharkhand and Manipur.

## World Hepatitis Day

### Why in News?

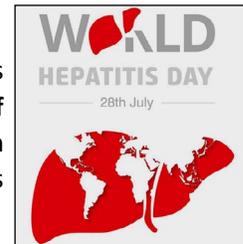
**World Hepatitis Day** is observed each year on 28<sup>th</sup> July to **enhance awareness of viral hepatitis.**

- The theme for the year 2022 is **“Bringing hepatitis care closer to you”.**
  - It aims to highlight the **need to bring hepatitis care closer to primary health care facilities,** and so communities, to ensure better access to treatment and care.

### What do we need to know about Hepatitis?

#### ➤ Hepatitis:

- The word hepatitis refers to any **inflammation of the liver — the irritation or swelling** of the liver cells from any cause.
- It can be **acute** (inflammation of the liver that presents with sickness — jaundice, fever, vomiting) or **chronic** (inflammation of the liver that lasts more than six months, but essentially showing no symptoms).



#### ➤ Causes:

- Usually caused by a **group of viruses known as the “hepatotropic”** (liver directed) viruses, including A, B, C, D and E.
- Other viruses may also cause it, such as the **varicella virus** that causes **chicken pox.**
  - **SARS-CoV-2,** the virus causing Covid-19 **may injure the liver too.**
- Other causes include **drugs and alcohol abuse, fat buildup in the liver** (fatty liver hepatitis) or an **autoimmune process** in which a person’s body makes **antibodies that attack the liver** (autoimmune hepatitis).
- Hepatitis is the **only communicable disease where mortality is showing an increasing trend.**

Note:

➤ **Treatment:**

- Hepatitis A and E are **self-limiting diseases** (i.e. go away on their own) and require **no specific antiviral medications**.
- For **Hepatitis B** and C, **effective medications are available**.

➤ **Global Scenario:**

- Approximately **354 million people** are suffering from **hepatitis B and C**.
- Southeast Asia has **20% of the global morbidity burden** of hepatitis.
- **About 95% of all hepatitis-related deaths** are due to **cirrhosis and liver cancers** caused by the hepatitis B and C virus.

➤ **Indian Scenario:**

- **Viral hepatitis, caused by hepatitis viruses A through E**, still remains a major public health problem in India
- India has **“intermediate to high endemicity” for Hepatitis B** surface antigen and an estimated **40 million chronic HBV infected people**, constituting approximately **11% of the estimated global burden**.
- **Population prevalence of chronic HBV** infection in India is around 3-4 %.

➤ **Challenges:**

- Access to healthcare services is often **out of reach for communities** as they are usually available at **centralised/specialised hospitals at a cost which cannot be afforded** by all.
- People continue to die because of **late diagnosis or lack of appropriate treatment**. Early diagnosis is the gateway for both prevention and successful treatment.
  - In the **Southeast Asia region**, only about 10% of people with hepatitis know their status; and of them, only 5% are on treatment.
  - Of the estimated 10.5 million people with hepatitis C, just 7% know their status, of which around one in five are on treatment.

### **What is the Global Target for Hepatitis?**

➤ **About:**

- The Global Target is to **eliminate viral hepatitis as a public health threat by 2030**.

➤ **How to achieve the Target:**

- By 2025, we must **reduce new infections** of hepatitis B and C by 50%, **reduce deaths from liver cancer** by 40%, ensure that 60% of people living with hepatitis B and C are **diagnosed and that half of those eligible receive appropriate treatment**.
- There is a need to **enhance political commitment across all countries** of the region and:
  - Ensure **sustained domestic funding** for hepatitis.
  - **Improve access** to drugs and diagnostics by further reducing prices.
  - Develop **communication strategies** to increase awareness.
  - **Innovate service delivery** to maximise the use of differentiated and **people-centred service delivery options** across HIV and deliver services **according to people’s needs** and preferences in line with the primary healthcare approach.
  - **Decentralising** hepatitis care to peripheral health facilities, community-based venues and locations beyond hospital sites brings care nearer to patients’ homes.
- An **integrated Regional Action Plan for viral hepatitis, HIV and Sexually Transmitted Infection STIs 2022–2026** is being developed by **WHO**.
  - This will ensure **effective and efficient utilisation of limited resources** available for the region and will guide countries to adopt a **person-centred approach rather than a disease-specific one**.

**Note**

- **Hepatitis B** is included under **India’s Universal Immunization Programme (UIP)** which provides **free of cost vaccination** against eleven (excluding Hepatitis B) vaccine-preventable diseases i.e. **Tuberculosis, Diphtheria, Pertussis, Tetanus, Polio, Pneumonia and Meningitis due to Haemophilus Influenzae type b (Hib), Measles, Rubella, Japanese Encephalitis (JE) and Rotavirus diarrhoea**.
- Bangladesh, Bhutan, Nepal and Thailand became the **first four countries in the World Health Organization’s Southeast Asia region to have successfully controlled Hepatitis B**.

Note:

- Recently, an automated coronavirus testing device named '**COBAS 6800**' was launched which can also **detect viral Hepatitis B & C, among others.**
- It can be noted that only for four diseases viz. **HIV-AIDS (1<sup>st</sup> December), TB (24<sup>th</sup> March), Malaria (25<sup>th</sup> April), and Hepatitis**, the **World Health Organization (WHO)** officially endorses **disease-specific global awareness days.**

## Solid Waste Management

### *Why in News?*

With **burgeoning population and even faster urbanisation**, there has been an explosion in the generation of **Municipal Solid Waste (MSW)** in Indian cities.

- It is important to note that the engagement of **formal waste management system remains low in the cities**, primarily due to insufficient funds, low sectoral development and lack of know-how about sustainable waste management businesses.
- Hence, in many developing countries, including **India**, **waste collection and material recycling activities are majorly performed by the informal waste sector.**

### *What is the Role of the Informal Sector in Solid Waste Management?*

- **About:**
  - **Informal waste collectors** include individuals, associations or waste-traders who are involved in sorting, sale and purchase of **recyclable materials.**
    - Waste picker is a person **informally engaged** in the collection and recovery of reusable and recyclable solid waste from the source of waste generation to sale of waste to recyclers directly or through intermediaries.
  - It is estimated that the **informal waste economy** employs about 0.5% - 2% of the urban population worldwide.
- **Challenges:**
  - **Least Rewarding Job:**
    - **The informal sector** is often not officially approved, recognised and acknowledged, besides the fact that they potentially contribute to **waste recycling practices** of cities by collecting,

sorting, processing, storing and trading waste materials in the recycling value chain.

- **Health Issue:**
  - The informal sector lives in **close proximity to dumpsites** and works under **unhygienic and unhealthy conditions.**
  - The workers have **no access to drinking water or public toilets.**
  - They do not have appropriate personal **protective equipment (PPE)** such as **gloves, gumboots and aprons.**
  - Due to the poor living and working conditions, **malnutrition**, anaemia and **tuberculosis** are common among them.
- **Social Treatment:**
  - They are treated as **dirty and unwanted elements of society**, and they have to deal with exploitative social behaviour.
  - **Wages and living conditions** of different strata of informal waste-workers differ greatly.
- **Others:**
  - **Child labour** is quite prevalent and life expectancy being low.
  - Waste-pickers are **not covered under any labour legislation.**
    - As a result, they **do not benefit from social security** and **medical insurance** schemes.

### *What is Understood by Solid Waste?*

- **About:**
  - **Solid Waste includes** Solid or semi-solid domestic waste, sanitary waste, commercial waste, institutional waste, catering and market waste and other non-residential wastes, street sweepings, silt removed or collected from the surface drains, **horticulture** waste, **agriculture** and dairy waste, treated **biomedical waste** excluding industrial waste, bio-medical waste and **e-waste**, battery waste, radio-active waste etc.
- **India's Status:**
  - Urban India alone generates nearly **0.15 million tonnes per day** of Municipal Solid Waste.
  - It is estimated that about **62 million tonnes of waste** are generated annually in the country, out of which 5.6 million is **plastic waste**, 0.17 million is biomedical waste.

Note:

- In addition, hazardous waste generation is 7.90 million tonnes per annum and 15 lakh tonnes is e-waste.
- The volume of waste is projected to reach 165 million tonnes by 2031 and 436 million tonnes by 2050.
- **Challenges in Waste Management:**
  - **Increasing urbanisation in India** has resulted in **hyper-consumerism**, resulting in more waste generation.
  - **Organic farming** and composting are not economically attractive to the Indian farmer, as **chemical pesticides** are heavily subsidised, and the compost is not efficiently marketed.
  - **Lack of financial resources** with Municipal Corporations/Urban Local Bodies, result in **poor collection, transportation and management of solid waste**.

### **What are the Key Features of Solid Waste Management Rules, 2016?**

- **Responsibilities of Generators** have been introduced to segregate waste into three streams:
  - **Wet** (Biodegradable)
  - **Dry** (Plastic, Paper, metal, wood, etc.)
  - **Domestic hazardous wastes** (diapers, napkins, empty containers of cleaning agents, mosquito repellents, etc.) and **handover segregated wastes to authorized rag-pickers or waste collectors** or local bodies.
- Waste Generators will have to pay:
  - **'User Fee'** to waste collectors.
  - **'Spot Fine'** for Littering and Non-segregation.
- **Used sanitary waste** like diapers, sanitary pads should be **wrapped securely in pouches provided by manufacturers or brand owners** of these products or in a suitable wrapping material and shall place the same in the bin meant for dry waste / non-biodegradable waste.
- The concept of partnership in **Swachh Bharat** has been introduced.
  - Bulk and institutional generators, market associations, event organizers and hotels and restaurants have been made **directly responsible for segregation and sorting** the waste and managing in partnership with local bodies.

- All manufacturers of **disposable products** such as tin, glass, plastics packaging etc. or brand owners who introduce such products in the market shall **provide necessary financial assistance to local authorities** for the establishment of a **waste management system**.
- The bio-degradable waste should be **processed, treated and disposed** of through **composting or bio-methanation within the premises as far as possible**.
  - The residual waste shall be given to the waste collectors or agency as directed by the local authority.

### **What are Government's Initiatives for Solid Waste Management?**

- **Waste to Wealth Portal:**
  - The Waste to Wealth Mission is one of the nine scientific missions of the **Prime Minister's Science, Technology, and Innovation Advisory Council (PMSTIAC)**.
  - It aims to identify, develop, and deploy technologies to treat waste to generate energy, recycle materials, and extract resources of value.
- **National Water Mission:**
  - It was launched with the objective of **conservation of water, minimising wastage and ensuring more equitable distribution** both across and within states through integrated water resources development and management.
- **Waste to Energy:**
  - A **waste-to-energy** or **energy-from-waste plant** converts municipal and industrial solid waste into electricity and/or heat for industrial processing.
- **Plastic Waste Management (PWM) Rules, 2016:**
  - It mandates the **generators of plastic waste to take steps to minimize generation of plastic waste**, prevent **littering of plastic waste**, and ensure **segregated storage of waste** at source among other measures.

## **Social Security for Unorganised Workers**

### **Why in News?**

The Ministry of Labour & Employment has informed **Rajya Sabha** that **more than 28 crore**

Note:

**unorganised workers** have been registered on **e-Shram Portal** and the government is formulating Social Security Schemes for unorganised Workers.

- It is also reported that, **India is negotiating Social Security Agreements (SSAs)** with the United States and United Kingdom to avoid duplication of Social Security Schemes.

#### What is SSA?

- SSA is a **bilateral agreement between India and a foreign country** designed to protect the interests of cross border workers.
- The agreement **provides for avoidance of 'double coverage'** and ensures equality of treatment to workers of both countries from a social security perspective.
- Under **detachment or elimination of dual contribution**, employees moving on employment to any SSA country are **exempt from making social security contributions in the host country** for a specified period (specific to each SSA), provided they continue to make social security contributions in their home countries.
- **India has SSAs with** Belgium, Germany, Switzerland, Grand Duchy of Luxembourg, France, Denmark, Korea, the Netherlands, Hungary, Finland, Sweden, Czech Republic, Norway, Austria, Canada, Australia, Japan and Portugal.

#### What is a Social Security?

- **About:**
  - According to the **International Labour Organisation (ILO)**, Social Security is a comprehensive approach designed to prevent deprivation, give assurance to the individual of a basic minimum income and to protect the individual from any uncertainties.
- **Elements:**
  - Right to a **Standard of Living adequate for the health and well-being**, including food, clothing, housing and medical care and necessary social services.
  - Right to Income Security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond any person's control.

#### What is the Need for Social Security Measures?

- Informal workers in rural and urban areas **have been hit the most due to the Covid-19 Pandemic**, because of the **seasonality of their employment and lack of formal employee-employer relationship**.
  - As per the **Periodic Labour Force Survey (PLFS)**, 90% of workers are in the informal sector, which is **419 million of the 465 million workers**.
- Moreover, the Covid-19 crisis in India has come in the backdrop of pre-existing high and rising unemployment.
- The consequential effects on loss of jobs, rising unemployment, indebtedness, nutrition, health and education of unorganised workers and their family members have the potential to cast a long shadow and irreparable damage.
- India has been witnessing a **steady informalisation of the formal workforce in manufacturing and services**, underlined by the growth of the gig economy. While this informalisation has offered additional income-generating opportunities, the **informality in the arrangement has led to employment increasingly characterised by uncertainty**.
- Less than **half of the informal sector workers have access to any form of risk protection** such as life insurance, health insurance and pensions.

#### What is Current State of Informal workers in India?

- **Over 94% of 27.69 crore informal sector workers registered on the e-Shram portal** have a monthly income of Rs 10,000 or below and over 74% of the enrolled workforce belongs to **Scheduled Castes (SC)**, Scheduled Tribes (ST) and **Other Backward Classes (OBC)**.
  - The proportion of the General Category workers is 25.56%.
- The data showed that **94.11% of the registered informal workers have a monthly income of Rs 10,000 or below**, while 4.36% have a monthly income between Rs 10,001 and Rs 15,000.

#### What are the Related Initiatives for Unorganised Workers?

- **Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY):**
  - It is a one-year life insurance scheme renewable from year to year offering coverage for death due to any reason.

Note:

- **Pradhan Mantri Suraksha Bima Yojana (PMSBY):**
  - It is a one-year **accidental insurance scheme** renewable from year to year offering coverage for death or disability due to accident.
- **Ayushman Bharat-Pradhan Mantri Jan Arogya Yojana (AB-PMJAY):**
  - It is the **world's largest health insurance/assurance** scheme fully financed by the government.
- **Pradhan Mantri Shram Yogi Maan-dhan (PM-SYM):**
  - It is a **Central Sector Scheme** administered by the Ministry of Labour and Employment and implemented through Life Insurance Corporation of India and Community Service Centers (CSCs).
- **Atal Pension Yojana:**
  - The scheme was launched in May, 2015, with the objective of creating a universal social security system for all Indians, especially the poor, the under-privileged and the workers in the unorganised sector.
- **National Social Assistance Programme (NSAP):**
  - The Ministry of Rural Development has proposed that the monthly pensions of the elderly poor, disabled and widows should be increased from the current Rs 200 to Rs800 under NSAP.
- **Garib Kalyan Rojgar Abhiyaan:**
  - The scheme empowers and provide **livelihood opportunities to the returnee migrant workers** and rural citizens who have returned to their home states due to the **Covid-19 induced lockdown**.
- Hatti men traditionally don a distinctive white headgear on ceremonial occasions.
- The Hatti homeland **straddles the Himachal-Uttarakhand border** in the basin of the **Giri and Tons rivers**, both tributaries of the Yamuna.
  - The Tons marks the border between the two states.
  - The Hattis who lives in the trans-Giri area in Himachal Pradesh and Jaunsar Bawar in Uttarakhand were once part of the royal estate of Sirmaur until Jaunsar Bawar's separation in 1814.
- There are **two Hatti clans**, in Trans-Giri and Jaunsar Bawar, have similar traditions, and inter-marriages are common.
- However, a fairly rigid caste system operates in the community — the **Bhat and Khash are upper castes**, and the **Badhois are below them**, and inter-caste marriages have traditionally been discouraged.
- The Hattis are **governed by a traditional council called 'khumbli'** which, like the 'khaps' of Haryana, decides community matters.
  - The Khumbli's power has remained unchallenged despite the establishment of the Panchayati raj system.
- They have **sizeable presence in about nine Assembly seats in the Sirmaur and Shimla regions**.
  - According to the 2011 Census of India, the total tribal population of Himachal Pradesh is 3,92,126, which is **5.7% of the total population of the state**.

## Hatti Community

### **Why in News?**

Recently, the Central Government is considering granting Tribal status to the Haithi Community of the Tans-Giri region of Himachal Pradesh's Sirmaur district.

### **Who are the Hattis?**

- The Hattis are a **close-knit community** that got their name from their **tradition of selling homegrown vegetables, crops, meat, and wool, etc. at small markets called 'haat' in towns**.

### **What are their Demands?**

- **Tribal Status:**
  - They are **demanding Schedule Tribe status since 1967** when tribal status was accorded to people living in Jaunsar Bawar in Uttarakhand, which shares a border with the Sirmaur district.
- **Issue:**
  - Due to **topographical disadvantages**, the Hattis living in the Kamrau, Sangrah, and Shillia areas of Himachal Pradesh have **lagged behind in both education and employment**.

Note:

### What is the Status of Scheduled Tribes in India?

#### ➤ About:

- As per Census-1931, Schedule tribes are termed as “backward tribes” living in the “Excluded” and “Partially Excluded” areas. The **Government of India Act of 1935** called for the first time for representatives of “**backward tribes**” in provincial assemblies.
- The Constitution **does not define the criteria for recognition of Scheduled Tribes** and hence the definition contained in 1931 Census was used in the initial years after independence.
- However, **Article 366(25) of the Constitution only provides process to define Scheduled Tribes:** “Scheduled Tribes means such tribes or tribal communities or parts of or groups within such tribes or tribal communities as are deemed under Article 342 to be Scheduled Tribes for the purposes of this Constitution.”
  - **342(1): The President may with respect to any State or Union Territory**, and where it is a State, after consultation with the Governor, by a public notification, specify the tribes or tribal communities or part of or groups within tribes or tribal communities as Scheduled Tribe in relation to that State or Union Territory.
- There are over **705 tribes which have been notified. The largest number of tribal communities are found in Odisha.**

- The **Fifth Schedule** of the Constitution lays out provision for Administration and Control of Scheduled Areas and Scheduled Tribes in states other than Assam, Meghalaya, Tripura and Mizoram.
- The **Sixth Schedule** deals with the administration of the tribal areas in Assam, Meghalaya, Tripura and Mizoram.

#### ➤ Legal Provisions:

- Protection of Civil Rights Act, 1955 against Untouchability.
- **Scheduled Castes and the Scheduled Tribes (Prevention of Atrocities) Act, 1989**
- **Provisions of the Panchayats (Extension to the Scheduled Areas) Act, 1996**
- **Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006**

#### ➤ Related Initiatives:

- **TRIFED**
- **Digital Transformation of Tribal Schools**
- **Development of PVTGs**
- **Pradhan Mantri Van Dhan Yojana**

#### ➤ Related Committees:

- **Xaxa Committee (2013)**
- Bhuria Commission (2002-2004)
- Lokur Committee (1965)



Note:

# Science & Technology

## Highlights

- Sodium-Ion Battery
- Cholera
- Monkeypox
- 5G & Fiberisation
- Increasing Efficacy of Antibiotics
- Synthetic Biology
- Abort Mission for Gaganyaan
- James Webb Space Telescope's First Images

## Sodium-Ion Battery

### Why in News?

Recently, University of Houston (US) scientists developed an electrolyte that contributes significantly to making sodium ion batteries more commercially viable.

- Sodium-based battery technology might soon be a viable alternative to lithium-based ones.

### What are the Key highlights of the Study?

- The study concluded that with the help of the novel electrolyte, ambient temperature solid-state sodium-sulfur battery technology can be **employed for grid-level energy storage systems**.
- The novel structural and compositional design methodologies establish a new paradigm for the creation of safe, low-cost, energy-dense, long-life solid-state sodium batteries.

### What is Sodium Ion Battery?

They are rechargeable batteries which require **sodium ion movement between electrodes** during the charging and discharging of the battery, **the cathode for these batteries is manufactured from sodium**.

### What are the issues with Lithium-Ion?

- **Lithium-Ion** extraction led to environment harming mining practices.
- **It releases harmful chemicals** which further spill into the rivers and its ecosystem.
- **Non reusable** as its recycling process is very expensive.

### What are the Benefits of Sodium-Ion?

- It's **cheaper to produce** than their lithium counterparts because of the **abundance of the raw materials** required to make them.
- They are energy dense, non-flammable, and operate well in colder temperatures.
- Further they can store more energy per unit weight, this could make them well-suited for larger applications such as electric vehicles.
- They are less likely to experience thermal runaway, a condition that can cause fires in lithium-ion batteries.

## Cholera

### Why in News?

Researchers identified the decline of **antimicrobial resistance in Cholera-Causing Bacteria**.

### What are the Findings?

- More than two hundred serogroups of **Cholera bacterium** are known, of which **only O1 and O139 Genomes are known to cause such infection that leads to epidemics and pandemics**.
  - Researchers studied the **genome of O139 and traced the reason for its dying down** after taking over from O1.
- Two key genomic evolutionary changes took place in **O139**, the **first related to the type of cholera toxin** it produced and the second **related to a loss of Antimicrobial Resistance (AMR)**.
- Two main modifications were in the **cholera toxin genes and in the Antimicrobial Resistance (AMR) portfolio**.

Note:



drishti

- With the reduction in AMR capacity of O139, it **potentially lost its competitive advantage against the O1.**

### What is Cholera?

- **About:**
  - It is a **life-threatening infectious disease** and a public health hazard.
  - Cholera is an **acute, diarrheal illness caused by infection of the intestine with the bacterium *Vibrio cholerae*.**
  - The infection is often mild or without symptoms, but sometimes can be severe.
- **Symptoms:**
  - Profuse watery diarrhoea
  - Vomiting
  - Leg cramps
- **Transmission:**
  - A person may get **cholera by drinking water or eating food contaminated with the cholera bacterium.**
  - The disease can spread **rapidly in areas with inadequate treatment of sewage and drinking water.**
- **Vaccine:**
  - Currently there are **three WHO pre-qualified oral cholera vaccines (OCV), Dukoral, Shanchol, and Euvichol-Plus.**
  - All three vaccines require two doses for full protection.

### What are the Recommendations?

- Continuous surveillance is necessary **to monitor if any of the serotypes and serogroups are gaining antibiotic resistance over time** and may become major outbreak lineages at any time.
- To stay ahead of the curve and ensure best public health outcome, it is important **that vaccines and treatments are regularly re-evaluated** for efficiency to any newly evolving variants.

## Monkeypox

### Why in News?

Recently, the **WHO (World Health Organisation)** has Declared Global Health Emergency and sounded the highest alarm on the **Monkeypox Virus.**

- More than 16,000 cases of the virus - that was once largely confined to Africa - have been reported so far this year 2022.

### What does Declaring an Emergency for Global Health Mean?

- **About:**
  - Declaring a global emergency means the **monkeypox outbreak is an “extraordinary event”** that could spill over into more countries and requires a coordinated global response.
- **Elements helped consider Health Emergency:**
  - The virus has spread to **“non-endemic countries”.** This virus has spread rapidly to many countries that have not seen it before.
  - Three criteria for **declaring a public health emergency of international concern have been met** as per WHO.
    - The three criteria for such a declaration are that it is an **“Extraordinary Event,”** that it **“Constitutes a Public Health Risk”** to other States through the international spread of disease and that it **“potentially requires a coordinated international response.”**
  - The number - within a month - has **grown five-fold.**
  - Scientific principles, evidence and other relevant information, are currently insufficient, leaving many unknowns.
  - The risk to **human health, international spread, and the potential for interference with international traffic.**
- **Previously Declared Emergency:**
  - WHO previously declared emergencies for public health crises such as the **Covid-19 pandemic, the 2014 West African Ebola outbreak, the Zika virus in Latin America in 2016** and the ongoing effort to eradicate **Polio.**
  - The emergency declaration mostly **serves as a plea to draw more global resources and attention to an outbreak.**

### What is Monkeypox?

- **About:**
  - Monkeypox is a **viral zoonotic disease with symptoms** similar to smallpox, although with less clinical severity.

Note:

- The infection was **first discovered in 1958 following two outbreaks of a pox-like disease in colonies of monkeys** kept for research — which led to the name ‘monkeypox’.

#### ➤ Symptoms:

- Infected people break out in a rash that looks a lot like chicken pox. But the fever, malaise, and headache from Monkeypox are usually more severe than in chicken pox infection.
- In the early stage of the disease, **Monkeypox can be distinguished from smallpox because the lymph gland gets enlarged.**

#### ➤ Transmission:

- Primary infection is through direct contact with the blood, bodily fluids, or cutaneous or mucosal lesions of an infected animal. Eating inadequately cooked meat of infected animals is also a risk factor.

### Monkeypox: What you need to know



The monkeypox virus is endemic in parts of Central and West Africa. It is similar to smallpox, but less severe

#### SYMPTOMS

Fever, headache, muscle aches, back pain, low energy, and swollen lymph nodes. It typically appear in six to 13 days, but can take three weeks to show, and can last for

two to four weeks.

#### HOW INFECTIOUS IS IT

- The virus spreads mainly through body fluids, skin contact and respiratory droplets.

- Some experts suggest it could occasionally be airborne

- Newborn infants, children and people with underlying immune deficiencies may be at risk of more serious symptoms

#### HOW DOES IT SPREAD

The likelihood of the virus being spread during sexual contact is high

#### IS IT FATAL

Yes, but in a small percentage of cases.

#### CASES SO FAR

INDIA	Globally	DEATHS
3 cases, all in Kerala	Over 16,000 cases in 75 countries	Five, all in Africa

- Human-to-human transmission can result from close contact with infected respiratory tract

secretions, skin lesions of an infected person or objects recently contaminated by patient fluids or lesion materials.

- Transmission can also occur by inoculation or via the placenta (congenital monkeypox).

#### ➤ Vulnerability:

- It spreads rapidly and can cause one out of ten deaths if infected.

#### ➤ Treatment and Vaccine:

- There is no specific treatment or vaccine available for Monkeypox infection,
- But the **European Union** has recommended a **Small Pox Vaccine, Imvanex to treat** monkeypox after the WHO declared monkeypox a global health emergency.

## 5G & Fiberisation

### Why in News?

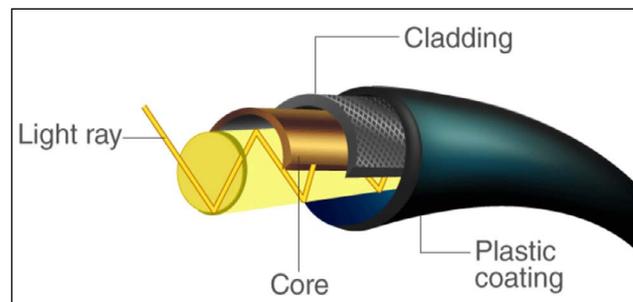
India is preparing to auction off airwaves to rollout **5G** services in the country.

- The infrastructure needed for such a rollout requires existing radio towers to be connected via **optical-fibre cables**.

### What do we know about Optical Fibre?

#### ➤ About:

- Optical fibre is the **backbone of the digital infrastructure** — the data is transmitted by **light pulses travelling through long strands of thin fibre**.



- **Metal wires** are preferred for transmission in optical fibre communication as **signals travel with fewer damages**.

- The optical fibre works on the principle of **total internal reflection (TIR)**.

Note:

- **Light rays** can be used to transmit a huge amount of data (In case of long straight wire **without any bend**).
  - In case of a bend, the optical cables are designed such that **they bend all the light rays inwards (using TIR)**.
- **Benefits:**
  - **High Speed:**
    - Fiber provides **more bandwidth** and has standardized performance up to 10 Gbps and beyond, something that it is **impossible to achieve when using copper**.
    - More bandwidth means that fiber can **carry more information with far greater efficiency** than copper wire.
  - **Range of Transmission:**
    - Since data travels in the form of light in fiber-optic cables, **very little signal loss occurs during transmission** and data can move at higher speeds and greater distances.
  - **Not susceptible to interference:**
    - Fiber-optic cable is also much **less susceptible to noise and electromagnetic interference than copper wire**.
    - It is so efficient, in fact, that **roughly 99.7% of the signal reaches the router in most cases**.
  - **Durability:**
    - Fiber-optic cable is **completely immune to many environmental factors** that affect copper cable.
    - The core is made of **glass, which is an insulator, so no electric current can flow through**.

### ***What do we mean by Fiberisation?***

- **About:**
  - The process of **connecting radio towers with each other via optical fibre cables** is called fiberisation.
  - The backhaul is a component of the **larger transport that is responsible for carrying data across the network**.
    - It represents the part of the network that **connects the core of the network to the edge**.
  - It is necessary to **increase the density of mobile towers** to provide better coverage to consumers and businesses.

### ➤ **Challenges in Fiberisation:**

- **Resources:**
  - To reach the targeted level of fiberisation, **India requires about Rs 2.2 lakh crore of investment to help fiberise 70% towers**.
    - About Rs 2.5 lakh crore will be needed to set up **15 lakh towers in the next four years**.
- **Demand:**
  - Government programmes like **BharatNet** and **Smart Cities** adds to the demand of **fibre deployment**, necessitating a **complete tower fiberisation**.
  - India laid out the vision in 2020 to **connect every village in the country with optical fiber cable (OFC) in 1,000 days**.
    - To achieve that vision, cables must be laid at a **speed of 1,251 km a day**, around **3.6 times the current average speed of 350 km a day**.
- **Right to Way (RoW) Rules:**
  - **The Indian Telegraph RoW Rules 2016** were gazette notified by the **Department of Telecommunications (DoT)**, Govt. of India in 2016.
    - The rules aim to incorporate nominal **one-time compensation and uniform procedure** for establishment of **Overground Telegraph Line (OTL)** anywhere in the country.
      - ◆ While all States/UTs are required to implement these rules, **they are not in complete alignment** and still require certain amendments to align.
      - ◆ Several districts and local bodies **have not agreed to the RoW policies** as notified in those respective States and are following **their own bylaws** overriding the State RoW policies aligned with the RoW rules, 2016.

### ***What is India's Status in Fiberisation?***

- To transition into 5G, India needs at least **16 times more fibre, according to estimates by STL**, a technology company specialised in optical fibers and cables.
- India at present connects **only 30% of India's telecom towers**.

Note:

- India exported optical fibre worth USD138 million to over 132 countries between April 2020 and November 2021.
- Indian optical fibre cable consumption is predicted to increase to 33 million fibre km by 2026 from 17 million fibre km in 2021.
- A little more than 30% of mobile towers have fibre connectivity; this needs to be scaled up to at least 80%.
- The fibre kilometer (fkm) per capita in India is lower than other key markets.
  - Ideally, a country needs 1.3 km of fibre per capita to ensure good fiberisation.
    - India's fkm is just 0.09 compared to 1.35 in Japan, 1.34 in the U.S. and 1.3 in China.
- These tower sites which are connected via fibre are called fibre point of presence (POP).
  - Currently these fibre POPs at a tower site can handle data at one to five Gbps speed.

### How can Satellite Communication assist in 5G Deployment?

- As Processing power needs to be distributed from centralised data centres to edge servers closer to users, Satellite communication can provide high-capacity backhaul connectivity to large numbers of edge servers over wide areas.
- It can facilitate 5G broadband connectivity to underserved areas where it is not feasible to deploy terrestrial infrastructure like remote villages, islands or mountainous regions.
- Satellite-based networks are the only means for delivering 5G broadband to users on board moving vessels, including cars, ships, airplanes and high-speed trains.
  - Space-based broadcast capabilities support over-the-air software updates for connected cars anywhere in the world.

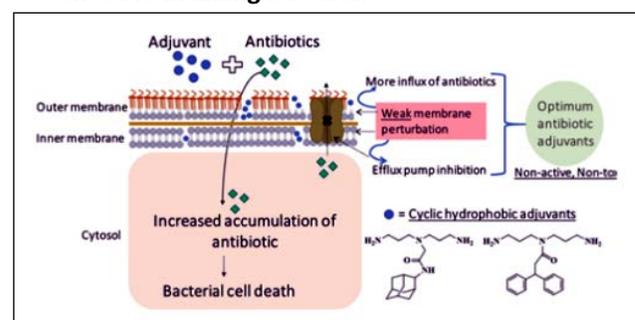
## Increasing Efficacy of Antibiotics

### Why in News?

Recently, Scientists have developed a new approach to revitalise the efficacy of existing antibiotics.

### What are the Findings?

- Scientists used antibiotics in combination with antibiotic adjuvants -- ingredients that can help counter resistance to existing antibiotics.
  - Antibiotic adjuvants are nonantibiotic compounds that enhance antibiotic activity either by blocking resistance or by boosting the host response to infection.
- The Scientists incorporated cyclic hydrophobic moieties (portion of a molecule) in a triamine-containing compound, the adjuvants thus developed, weakly perturbed the membrane of bacteria.
  - Resistance to antibiotics occurs through a variety of molecular mechanisms, including decreased drug permeability, active efflux, alteration or bypass of the drug target, production of antibiotic-modifying enzymes, and physiological states such as biofilms that are less susceptible to antibiotic activity.
    - Triamine: A compound containing three amino groups.
    - Hydrophobic Moieties: These are water fearful and they will not dissolve in water.
    - Cyclic: A molecule is cyclic if its atoms form a ring structure.
- It resulted in countering of membrane-associated resistance elements like permeability barrier and expulsion of antibiotics by efflux pumps.
  - The efflux pumps lower the intracellular antibiotic concentration, allowing bacteria to survive at higher antibiotic concentrations.
- When these adjuvants are used in combination with antibiotics that had been rendered ineffective due to such membrane-associated resistance elements, the antibiotics are potentiated, and the combination is effective in killing bacteria.



Note:

### What is the significance of the Study?

- This strategy can **combat the most critical group of bacteria enabling the existing antibiotic arsenal** to be used again for complicated infections. It can help counter the rising menace of **Antimicrobial Resistance (AMR)**.
- It can **help strengthen the activity of obsolete antibiotics** and bring them back into use for treating complicated infections.

### What are Antibiotics and Drug Resistance?

#### ➤ Antibiotics:

- Antibiotics are **remarkable drugs capable of killing biological organisms** in one's body without harming the body.
- These are used for everything from **preventing infections during surgeries to protecting cancer patients undergoing chemotherapy**.
  - India is **the world's largest consumer of antibiotics**. India's excessive antibiotic usage is leading to a powerful never before seen mutation within bacteria.

#### ➤ Drug Resistance:

- Drug resistance happens when **one overuses antibiotics in the treatment of humans**, animals as well as plants.
  - When a new antibiotic is introduced, it can have great, even lifesaving results but only for some time. After that, the bacteria adapts and gradually the antibiotics become less effective.
- Antibiotic resistance **has the potential to affect people at any stage** of life. When a person is infected with antibiotic resistant bacteria, not only the treatment of that patient becomes difficult, but antibiotic resistant bacteria may spread to other people as well.
- When antibiotics do not work, **the situation may lead to more complicated diseases**, the use of stronger and expensive drugs and gradually more deaths caused by bacterial infections.
- The spread of antibiotic resistance worldwide is **undermining decades of progress in fighting bacterial infections**.

### What are the Initiatives Related to Drug Resistance?

#### ➤ India:

- **National Programme on AMR containment:** Launched in 2012. Under this programme, AMR Surveillance Network has been strengthened by establishing labs in State Medical College.
- **National Action Plan on AMR:** It focuses on **One Health approach** and was launched in April 2017 with the aim of involving various stakeholder ministries/departments.
- **AMR Surveillance and Research Network (AMRSN):** It was launched in 2013, to generate evidence and capture trends and patterns of drug resistant infections in the country.
- **AMR Research & International Collaboration:** **Indian Council of Medical Research (ICMR)** has taken initiatives to develop new drugs /medicines through international collaborations in order to strengthen medical research in AMR.
- **Antibiotic Stewardship Program:** ICMR has initiated antibiotic stewardship program (AMSP) on a pilot project across India to control misuse and overuse of antibiotics in hospital wards and ICUs.

#### ➤ Global:

- **World Antimicrobial Awareness Week (WAAW):**
  - Held annually since 2015, WAAW is a **global campaign that aims to raise awareness of antimicrobial resistance worldwide** and encourage best practices among the general public, health workers and policy makers to slow the development and spread of drug-resistant infections.
- **The Global Antimicrobial Resistance and Use Surveillance System (GLASS):**
  - WHO launched the GLASS in 2015 to continue filling knowledge gaps and to inform strategies at all levels.
  - GLASS has been conceived to progressively incorporate data from surveillance of AMR in humans, surveillance of the use of antimicrobial medicines, AMR in the food chain and in the environment.

Note:

## Synthetic Biology

### Why in News?

As per study by USA, due to **climate change one-third of all animal and plant species on the planet could face extinction by 2070.**

- Environmentalists consider **synthetic biology or 'synbio'** as a potential tool to preserve biodiversity and restore the natural ecosystem.

### What is Synthetic Biology?

- The term 'synthetic biology' was **first used by Barbara Hobomin in 1980**, to describe bacteria that had been genetically engineered using recombinant DNA technology.
- Synthetic biology **refers to the science of using genetic sequencing, editing, and modification to create unnatural organisms or organic molecules that can function in living systems.**
- Synthetic biology enables scientists to design and synthesise new sequences of DNA from scratch.
- The term was used to describe the synthesis of unnatural organic molecules that function in living systems.
- More broadly in this sense, the term has been used with reference to efforts to 'redesign life'.



### What is the use of Synthetic Biology in Preserving Biodiversity and Ecosystem?

- This technology could be helpful in **use for sustainable production of bioenergy, drugs, and food.**
- Interesting application of synbio are its usage for the **capture of carbon dioxide from industrial emissions.**
  - Further, the captured gas is then **recycled to fuels using microorganisms.** Potentially, such transformations comprise benefits ranging from protecting threatened species to providing synthetic alternatives to wildlife products.
- This technology would help us resolve some of society's most imperative problems from infectious disease to drug development to sustainability.
- Its helping scientists find the right answers, faster and in a more efficient way and driving them towards the path of innovation.

### What are the Concerns related to Synthetic Biology?

- **Economic concerns:**
  - It can create a surge in the economy causing a shift towards biotechnology-based economies.
  - This will affect the rural economy and low-income tropical countries.
  - Natural products are usually grown and harvested in low-income countries; this could be displaced by advancements in synthetic biology
- **Environmental concerns:**
  - When a new species is created or when a species is intensely modified, the activity of species and their coexistence with other organisms is unpredictable.

## Abort Mission for Gaganyaan

### Why in News?

**Indian Space Research Organisation (ISRO)** will conduct **two unmanned 'Abort Mission'** in 2022 to **ensure crew safety during the Gaganyaan mission.**

- This is a part of **ISRO's roadmap for the country's first manned flight to space.**
- The first test vehicle for this purpose will be **launched in September 2021.**

Note:

### Why Abort Mission Before Gaganyaan?

- The abort missions are **meant to test the systems that can help the crew escape from the spacecraft mid-flight in case of a failure.**
  - ISRO already conducted a pad abort test — where the crew can escape from the spacecraft in case of an emergency at the launch pad — in 2018.
- For the abort missions, ISRO has **developed test vehicles that can send the systems up to a certain height, simulate failure, and then check the escape system.**
  - Escape system is designed with **five “quick-acting” solid fuel motors with a high burn rate propulsion system**, and fins to maintain stability.
- The crew escape system **will separate from the crew module by firing explosive nuts.**
- ISRO’s focus is **on perfecting the system that will launch and land Indians on missions to space and to protect the astronauts** if the mission fails.

### What is Gaganyaan Mission?

- **About:**
  - Gaganyaan is a mission by the **Indian Space Research Organisation (ISRO).**
  - Under the Gaganyaan schedule (to be launched in 2023):
    - Three flights will be sent into orbit.
    - There will be two unmanned flights and one human spaceflight.
  - The Gaganyaan system module, **called the Orbital Module** will have three Indian astronauts, including a woman.
  - It will circle Earth at a **low-earth-orbit** at an altitude of 300-400 km from earth for 5-7 days.
- **Payloads:**
  - The payload will consist of:
    - **Crew module:** Spacecraft carrying human beings.
    - **Service module:** Powered by two liquid propellant engines.
    - It will be equipped with emergency escape and emergency mission abort.
- **Launch:**
  - **GSLV Mk III, also called the LVM-3** (Launch Vehicle Mark-3,) the three-stage heavy lift launch vehicle,

will be used to launch Gaganyaan as it has the necessary payload capability.

### ➤ Training in Russia:

- In June 2019, the Human Space Flight Centre of the ISRO and the Russian government-owned Glavkosmos signed a contract for the training, which includes Russian support in the selection of candidates, their medical examination, and space training.
  - The candidates will study in detail the systems of the Soyuz manned spaceship, as well as be trained in short-term weightlessness mode aboard the Il-76MDK aircraft.
  - The Soyuz is a Russian spacecraft. The Soyuz carries people and supplies to and from the space station.
  - The Il-76MDK is a military transport plane specially designed for parabolic flights of trainee astronauts and space tourists.

### What is the Significance of Gaganyaan Mission?

#### ➤ Enhancement of Science and Technology:

- It will help in enhancement of science and technology levels in the country and help inspire youth.
- Gaganyaan will involve numerous agencies, laboratories, disciplines, industries and departments.
- It will help in the development of technology for social benefits.

#### ➤ Improvement of Industrial Growth:

- It will help in the improvement of industrial growth.
- Recently, the Government has announced a new organisation, IN-SPACe, part of reforms to increase **private participation in the space sector.**

#### ➤ International Collaboration:

- It will help in improving international collaboration.
- One **International Space Station (ISS)** put up by multiple countries may not be enough. Regional ecosystems will be needed and Gaganyaan will focus on regional needs: food, water and energy security.

Note:



**What are the other Upcoming Projects?**

- **Chandrayaan-3 Mission:** India has planned a new moon mission named **Chandrayaan-3**. It is likely to be launched in 2022.
- **Shukrayaan Mission:** The ISRO is also planning a mission to Venus, tentatively called Shukrayaan.
- **XpoSat:** Space observatory, XpoSat, designed to study cosmic x-rays.
- **Aditya L1 mission:** It will see an Indian spacecraft going 1.5 million kms away to the L1 or Lagrangian point between the Sun and Earth.
  - There are five Lagrangian points between any two celestial bodies where the gravitational pull of both the bodies on the satellite is equal to the force required to keep the satellite in orbit without expending fuel, meaning a parking spot in space.

## James Webb Space Telescope's First Images

**Why in News?**

Recently, **National Aeronautics and Space Administration's (NASA)** released a set of images and science products of five different regions of the sky, taken with the James Webb Space Telescope.

- It includes a **galaxy cluster which appeared 4.6 billion years ago.**
- It is the deepest and finest infrared image of some of the **most distant and oldest galaxies ever discovered.**
- These **characteristics will aid scientists in learning more about each of these ancient galaxies' mass, age, history, and composition.**

**What is James Webb Space Telescope?****About:**

- The telescope is the **result of an international collaboration** between **NASA, the European Space Agency (ESA) and the Canadian Space Agency which was launched in December 2021.**
- It is currently at a point in space known as the Sun-Earth **L2 Lagrange point**, approximately 1.5 million km beyond Earth's orbit around the Sun.
  - The Lagrange Point 2 is **one of the five points in the orbital plane of the Earth-Sun system.**
  - Named after Italian-French mathematician Joseph-Louis Lagrange, the **points are in any revolving two-body system like Earth and Sun**, marking where the gravitational forces of the two large bodies cancel each other out.
  - Objects placed at these positions are **relatively stable and require minimal external energy or fuel to keep themselves there**, and so many instruments are positioned here.
- It's the largest, most powerful infrared space telescope ever built.
- It's the successor to Hubble Telescope.
- It can **see backwards in time** to just after the Big Bang by looking for galaxies that are so far away that the light has taken many billions of years to get from those galaxies to our telescopes

**Objectives:**

- It will examine every phase of cosmic history: from the Big Bang to the formation of galaxies, stars, and planets to the evolution of our own Solar System.
- The goals for the **Webb** can be grouped into **four themes.**
  - The first is to **look back around 13.5 billion years** to see the first stars and galaxies forming out of the darkness of the early universe.
  - Second, to **compare the faintest, earliest galaxies to today's grand spirals** and understand how galaxies assemble over billions of years.
  - Third, to see where stars and planetary systems are being born.
  - Fourth, to **observe the atmospheres of extrasolar planets (beyond our solar system)**, and perhaps find the building blocks of life elsewhere in the universe.

Note:

### **What is the Difference between Hubble & James Webb Telescope?**

- **Wavelength:**
  - The **James Webb Space Telescope** would be observing infrared radiations most primarily covering between 0.6 to 28 microns.
  - **Hubble's** work involved watching the ultraviolet and the visible spectrum of light. It observes the range of 0.8 to 2.5 microns.
- **Orbits:**
  - Webb Telescope would not be orbiting the Earth. It would be orbiting the sun from 1.5 million kilometres away from the Earth.
  - Hubble orbits the Earth at an altitude of 575 kilometres from it.
- **Vision:**
  - As per NASA, Hubble can see the smallest and the newest of all galaxies.
  - Webb would be able to see the Newborn galaxies as well.
  - Webb's near and mid-infrared instruments would be helpful in studying the first formed galaxies and exoplanets.

### **What are the Other Space Exploration Missions?**

- **Pioneer**
  - It was the **first spacecraft to visit the solar system's most photogenic gas giants, Jupiter and Saturn.**
  - Pioneer 10 was the first probe to travel through the solar system's asteroid belt, a field of orbiting rocks between Mars and Jupiter.

### ➤ **Voyager**

- Shortly after the Pioneers made their flybys, the Voyager 1 and Voyager 2 probes followed. They made **many important discoveries about Jupiter and Saturn**, including rings around Jupiter and the presence of volcanism on Jupiter's moon.
- Voyager 1 is **currently the farthest man-made object from Earth**, at more than a hundred times the distance from the Earth to the sun, and more than twice as far as Pluto.

### ➤ **Chandra**

- Since 1999, the Chandra X-ray Observatory has been **scanning the skies in X-ray light, looking at some of the most distant and bizarre astronomical events.**
- Because Earth's pesky atmosphere blocks out most X-rays, astronomers couldn't view the universe in this high-energy, short-wavelength light until they sent Chandra up to space.

### ➤ **SPHEREx's**

- The **Spectro-Photometer for the History of the Universe and Ices Explorer (SPHEREx)** is a planned two-year mission **that will survey the sky in optical as well as near-infrared light which, though not visible to the human eye, serves as a powerful tool for answering cosmic questions.**
- It would be launched in 2024.
- Astronomers will use the mission to gather data on more than 300 million galaxies, as well as, more than 100 million stars in our own Milky Way.



Note:

# Environment & Ecology

## Highlights

- Global Platform for Disaster Risk Reduction 2022
- Ramsar Sites
- Monarch Butterflies
- Environment Impact Assessment
- Great Indian Bustard
- Tropical Ozone Hole
- Green Pit Vipers
- Kerala's Protest against ESZ Notification
- Green Protection to Aravalli
- Karakoram Anomaly
- Snow Leopard
- Climate Finance
- Light-Mantled Albatross

## Global Platform for Disaster Risk Reduction 2022

### Why in News?

Recently, the **Global Platform for Disaster Risk Reduction, 2022 (GP DRR 2022)** took place in Indonesia.

- The outcome was summarised in the Bali Agenda for Resilience.

### What do we need to know about Global Platform 2022?

- **Theme:**
  - **From Risk to Resilience:** Towards Sustainable Development For All in a Covid-19 Transformed World.
- **About Global Platform:**
  - It was the **first global gathering for disaster risk reduction (DRR)** actors since the Covid pandemic, and fell exactly midway **between the UNFCCC COP26 and UNFCCC COP27 negotiations.**
  - It is a biennial multi-stakeholder forum, a critical component of the monitoring and implementation process of the **Sendai Framework for Disaster Risk Reduction (2015-2030).**
    - **The UN General Assembly** recognizes the same.

### What are the Important Outcomes of the Global Platform for DRR 2022?

- There is a **need for a whole-of-society approach** to Disaster Risk Reduction (DRR), ensuring no one is left behind.
- DRR must be at the **core** of development and finance policies, legislation and plans to achieve the **2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDG).**
- Current **greenhouse gas emission levels far exceed their mitigation**, resulting in an increase in frequency and intensity of catastrophic events.
- DRR and **climate change** adaptation **have the common objective of reducing vulnerability and enhancing capacity as well as resilience.**

### What is GP 2022 Suggestions for Resilience Building?

- **Greater resources for grounded local action, government support and strict enforcement of law and international conventions:**
  - This calls for **greater budgetary allocation** at central and state levels, revision of national / state disaster response funds norms which were there from 2015-2020, more resources at gram panchayat level and so on.
- **Greater focus on building resilience and sustainable livelihoods focusing on community level:**
  - Need to build **rural infrastructure in the disaster-prone areas in the country but not at the cost of**

Note:

**livelihood recovery** (climate-resilient, sustainable livelihoods) and meeting of the immediate needs.

➤ **Greater accountability and transparency in relief and rehabilitation efforts:**

- Need to **standardise transparency mechanisms** to include transparency boards, clearly mentioning the cost, quality and quantity of relief items, social audits and citizens' reports.
  - This needs to be the standard practice in all relief operations, both by government and civil society actors.

➤ **Other Suggestions:**

- Third World countries are fighting to revive their economy after **Covid-19**.
  - There is a need to **focus on the most vulnerable and their awareness, mobilisation as well as leadership in rebuilding**.
- There should be **sufficient groundswell at the community level** to influence the policy makers to include DRR in all its investments.
- Women, persons with disability, uncared aged, people affected by war and conflicts and **informal labour** are some of the vulnerable groups which need to be mobilised, led and heard with sensitivity.

**What are the Initiatives for Disaster Risk Reduction?**

➤ **Global:**

- **Sendai Framework:**
  - It was adopted at the **Third United Nations World Conference on Disaster Risk Reduction, held in 2015 in Sendai, Miyagi, Japan**.
  - The Sendai Framework is the successor instrument to the **Hyogo Framework for Action (HFA)**
  - **The present Framework applies to** the risk of small-scale and large-scale, frequent and infrequent, sudden and slow-onset disasters caused by natural or man-made hazards, as well as related environmental, technological and biological hazards and risks.
  - It aims to **guide the multi hazard management of disaster risk** in development at all levels as well as within and across all sectors.

○ **Climate Risk and Early Warning Systems (CREWS):**

- **The specialized Climate Risk and Early Warning Systems (CREWS)** an initiative under World Meteorological Organization, saves lives, assets and livelihoods through **increased access to early weather warnings and risk information** for people in Least Developed Countries (LDCs) and Small Island Developing States (SIDS).

○ **Green Climate Fund's Sectoral Guide on Climate Information & Early Warning Systems:**

- It provides an **overview of country needs and evidence-based programming experiences** in the relevant sector.
- It also aims to identify opportunities for high impact, change investments in each sector, to guide proposal development for the GCF, in line with its investment criteria during its first replenishment period 2020-2023.

➤ **India's Initiatives:**

○ **Coalition for Disaster Resilient Infrastructure Society (CDRIS):**

- **CDRI** is a global partnership of national governments, **United Nations** agencies and programmes, multilateral development banks and financing mechanisms, the private sector, and academic and research institutions.
- It aims to **increase the resilience of infrastructure systems** to climate and disaster risks, thereby ensuring sustainable development.

○ **National Disaster Management Plan (NDMP):**

- Its primary purpose is to **coordinate response to natural or man-made disasters** and for capacity-building in disaster resiliency and crisis response.
- It lays down policies, plans and guidelines for Disaster Management to ensure timely and effective response to disasters.

## Ramsar Sites

### **Why in News?**

India has added five more **Ramsar sites**, or wetlands of international importance, bringing the number of such sites to 54.

Note:

### What are these New Ramsar Sites?

#### ➤ Karikili Bird Sanctuary (Tamil Nadu):

- The sanctuary is spread over a five-kilometre-wide belt and is home to cormorants, egrets, grey heron, open-billed stork, darter, spoonbill, white Ibis, night herons, grebes, grey pelican among others.

#### ➤ Pallikaranai Marsh Reserve Forest (Tamil Nadu):

- One of the **last remaining natural wetlands**, the marsh drains in an area of 250 square kilometres encompassing 65 wetlands.
- The Pallikaranai Marsh is **one of the few natural coastal aquatic habitats that qualify as a wetland in India**.

#### ➤ Pichavaram Mangrove (Tamil Nadu):

- One of the last **mangrove forests** in the country.
- It has an island of a vast expanse of water covered with mangrove forests.

#### ➤ Sakhya Sagar (Madhya Pradesh):

- Created from the Manier river in 1918, Sakhya Sagar is located near **Madhav National Park**.

#### ➤ Pala Wetland in Mizoram (Mizoram):

- It is home to a wide **range of animals, birds, and reptiles**.
- Its geographical location **falls under the Indo-Burma biodiversity hotspot** and is therefore rich in animal and plant species.
- The lake is a **major component of the Palak Wildlife Sanctuary** and it supports the major biodiversity of the sanctuary.

### What is Ramsar Recognition?

#### ➤ About:

- A Ramsar site is a **wetland of international importance under the Ramsar Convention**, which is also known as the **'Convention on Wetlands'** — an intergovernmental environmental treaty established by **UNESCO in 1971**, and named after the **city of Ramsar in Iran**, where the convention was signed that year.
- Ramsar recognition is **the identification of wetlands around the world**, which are of international importance, especially if **they provide habitat to waterfowl (about 180 species of birds)**.

- There is international interest and cooperation in the conservation of such wetlands and a judicious use of their resources.

- **Sundarbans in West Bengal** is the **largest Ramsar site in India**.

- India's Ramsar wetlands are spread over 11,000 sq km — around 10% of the total wetland area in the country — across 18 States.

- No other South Asian country has as many sites though this has much to do with India's geographical breadth and tropical diversity.

- There are nine

#### ➤ Criteria: One of the nine criteria must be fulfilled to be the Ramsar Site.

- **Criterion 1:** If it contains a **representative, rare, or unique example of a natural or near-natural wetland type** found within the appropriate biogeographic region.

- **Criterion 2:** If it supports **vulnerable, endangered, or critically endangered species** or threatened ecological communities.

- **Criterion 3:** If it supports **populations of plant and/or animal species** important for maintaining the biological diversity of a particular biogeographic region.

- **Criterion 4:** If it supports **plant and/or animal species at a critical stage** in their life cycles, or provides refuge during adverse conditions.

- **Criterion 5:** If it regularly **supports 20,000 or more waterbirds**.

- **Criterion 6:** If it regularly supports 1% of the individuals in a population of one species or subspecies of waterbird.

- **Criterion 7:** If it supports a **significant proportion of indigenous fish subspecies**, species or families, life-history stages, species interactions and/or populations that are representative of wetland benefits and/or values and thereby contributes to global biological diversity.

- **Criterion 8:** If it is an **important source of food for fishes, spawning ground, nursery and/or migration path** on which fish stocks, either within the wetland or elsewhere, depend.

- **Criterion 9:** If it regularly **supports 1% of the individuals in a population of one species** or subspecies of wetland-dependent non avian animal species.

Note:

➤ **Significance:**

- Ramsar Tag helps **develop and maintain an international network of wetlands which are important for the conservation** of global biological diversity and for sustaining human life through the maintenance of their ecosystem components, processes and benefits.
- Sites are protected **under strict guidelines of the convention**.

**What are the Wetlands?**

➤ **About:**

- Wetlands are ecosystems saturated with water, either seasonally or permanently.
- They include **mangroves, marshes, rivers, lakes, deltas, floodplains** and flooded forests, rice-fields, **coral reefs**, marine areas no deeper than 6 metres at low tide, as well as human-made wetlands such as waste-water treatment ponds and reservoirs.
- Though they cover only around **6% of the Earth's land surface, 40% of all plant and animal species live or breed in wetlands**.

➤ **Significance:**

- **Assist in Fighting Against Climate Change:**
  - Wetlands assist in **stabilising CO<sub>2</sub> (Carbon dioxide), CH<sub>4</sub> (Methane), N<sub>2</sub>O (Nitrous oxide) and Greenhouse Gas (GHG)** concentrations by minimising climate and land-use-mediated GHG releases and by boosting the potential to actively collect CO<sub>2</sub> from the atmosphere and sequester carbon.
  - Wetlands also **help reduce the risk of disasters such as floods**, by protecting coastlines.
- **Sequester Carbon:**
  - Wetlands' microbes, plants and wildlife are part of **global cycles for water, nitrogen and sulphur**.
  - Wetlands store carbon within their plant communities and soil instead of releasing it to the atmosphere as carbon dioxide.
- **Significance of Peatlands:**
  - The term 'peatland' refers to the peat soil and the wetland habitats growing on the surface.
  - They **account for just 3% of the world's land surface but store twice as much carbon as**

**forests**, thus playing a crucial role in delivering global commitments on the climate crisis, sustainable development, and biodiversity.

- Peatlands - one of the world's largest carbon reserves, are sparse in India and require immediate attention.
- **Paradise for Migratory Birds:**
  - Millions of **migratory birds** flock to India, and wetlands are critical to this annual phenomenon.
  - Ecologically dependent on wetlands, **migratory waterbirds connect continents, hemispheres, cultures, and societies** through their seasonal movements.
  - A diversity of wetland communities offers essential stopovers for birds.
- **Cultural and Tourism Importance:**
  - Wetlands also have a deep connection with Indian culture and traditions.
  - **Loktak Lake in Manipur** is revered as "Ima" (Mother) by locals, whereas Sikkim's Khecheopalri Lake is popular as the "wish fulfilling lake".
  - The north Indian festival of Chhath is one of the most unique expressions of the association of people, culture, water and wetlands.
  - The Dal Lake in Kashmir, Khajjiar Lake in Himachal Pradesh, Nainital Lake in Uttarakhand and Kodaikanal in Tamil Nadu are popular tourism destinations.

➤ **Threat:**

- **Human Activities:**
  - As per the **IPBES (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services)**'s global assessment, wetlands are the most threatened ecosystem due to human activities and global warming.
- **Urbanisation:**
  - Wetlands near urban centres are under increasing developmental pressure for residential, industrial and commercial facilities.
  - Areas surrounded by urbanised wetlands are expected to lead to a coastal squeeze in the face of sea-level rise ultimately leading to wetland loss.

Note:

- **Climate Changes:**
  - **Climate change** and linked drivers and pressures are highly likely to increase vulnerability of wetlands.
  - Increased air temperature; shifts in precipitation; increased frequency of **storms, droughts, and floods**; increased atmospheric CO<sub>2</sub> concentration; and **sea level rise** could also affect wetlands.
- **Maladaptation:**
  - Wetlands are also **exposed to the risk of maladaptation** — the likelihood of adverse impacts on these ecosystems in response to adaptation actions in other sectors.
  - For example, the construction of hydraulic structures to increase freshwater storage in upstream stretches, may further accentuate the risks of salinisation in downstream coastal wetlands.

## Monarch Butterflies

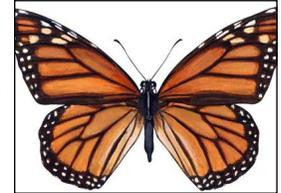
### Why in News?

Recently, migratory **monarch butterflies** have been declared endangered in the **International Union for Conservation of Nature (IUCN)** Red List of threatened species.

### What do we know about Monarch Butterfly?

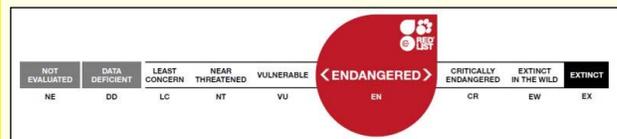
- **About:**
  - It's a sub-species of the *Danaus plexippus* butterfly that **travels around 4,000 kilometres across America**.
  - It's the most **recognizable butterfly species** that are **essential pollinators and further provides various ecosystem services** such as maintaining the global food web.
  - A smaller population of the species is also found in countries like Australia, Hawaii, and India.
- **Issues:**
  - Their population in the continent has **declined 23-72% over the last decade**.
  - The population of the eastern monarchs that migrate from the eastern United States and Canada — the bigger group — also shrunk by 84% from 1996-2014.

- They follow a unique lifestyle as they **breed in only one particular plant The Milkweeds**, but the **removal of this plant by farmers led to their decrease in population**.
  - Further, farmers also widely use a **weedicide** for the removal of milkweeds.
    - Weedicide are known as the **weed killers or pesticides** that are used to kill unwanted plants
- Legal and illegal logging and **deforestation** make space for **agriculture and urban development**, which causes habitat destruction.
- **Frequent storms and droughts** are more intense and disrupt flowering cycles, which led to the killing millions of butterflies.



### What is IUCN?

- The **International Union for Conservation of Nature (IUCN)** is a **global environmental organization that works for the conservation of biodiversity**
- It also **supports and participates in environmental scientific research; promotes and helps implement national conservation legislation, policies, and practices**; and operates or manages thousands of field projects worldwide.
- Its membership includes more than 1,000 governmental and non-governmental organizations from more than 140 countries.
- It maintains the **IUCN Red List of Threatened Species**, a **comprehensive assessment of the current risk of extinction of thousands of plant and animal species**.
- The IUCN has been granted observer status at the **United Nations General Assembly**.
- The IUCN Red List Categories define the extinction risk of species assessed. **Nine categories** extend from
  - **NE (Not Evaluated)** to **EX (Extinct)**.
  - **Critically Endangered (CR), Endangered (EN) and Vulnerable (VU) species are considered to be threatened with extinction.**



Note:

# Environment Impact Assessment

## Why in News?

The Ministry of Environment, Forests and Climate Change (MoEF&CC) has notified **amendments to the Environmental Impact Assessment (EIA) Rules**, making several exemptions to **gaining environmental clearance**.

- A new EIA Notification was promulgated by the MoEF&CC in 2006 to scrutinize all relevant information about a project or activity in order to assess (and accordingly mitigate) its potential adverse impacts on the ecology of a region. Amendments were made in 2016, 2020 and 2021.

### What is EIA Notification 2006?

- **Decentralisation of Project Clearances:** It classified the developmental projects in two categories:
  - **Category A** (national level appraisal): projects are appraised by Impact Assessment Agency (IAA) and the Expert Appraisal Committee (EAC).
  - **Category B** (state level appraisal): State Level Environment Impact Assessment Authority (SEIAA) and State Level Expert Appraisal Committee (SEAC) provide clearance to the Category B projects.
- **Introduction of Different Stages:** The Amendment introduced four stages into EIA Cycle; Screening, Scoping, Public hearing and Appraisal.
  - **Category A** projects require mandatory environmental clearance and thus they do not have to undergo the screening process.
  - **Category B** projects undergo a screening process and are further classified into B1 (Mandatorily requiring EIA) and B2 (Not requiring EIA).
- **Projects with Mandatory Clearance:** Projects such as mining, thermal power plants, river valley, infrastructure (road, highway, ports, harbours and airports) and industries including very small electroplating or foundry units are mandated to get environment clearance.

## What are the Exemptions?

- **Strategic and Defence Projects:**
  - Exempts highway projects of strategic and defence importance, which are 100 km from the

**Line of Control**, among other locations, from an environmental clearance before construction.

- Highway projects related to defence and strategic importance in border states are sensitive in nature and in many cases need to be executed on priority keeping in view strategic, defence and security considerations.
- The exemption to be accorded to highways of strategic importance **does away with the need for green clearance for construction of the controversial Char Dham project**, which includes widening of 899 km roads in ecologically sensitive areas of Uttarakhand to improve connectivity to Kedarnath, Badrinath, Yamunotri, and Gangotri shrines.
  - The case is presently being heard in Supreme Court, which has set up a high-powered committee to look into the matter.

### ➤ Biomass Based Power Plants:

- Thermal power plants up to 15 MW **based on biomass or non-hazardous municipal solid waste** using auxiliary fuel such as **coal, lignite or petroleum products up to 15%** have also been exempted — as long as the fuel mix is eco-friendly.

### ➤ Ports and Harbour dealing in Fish:

- Fish handling ports and harbours with less pollution potential compared to others, and caters to small fishermen, **are exempted from environmental clearance**.

### ➤ Toll Plazas:

- Toll plazas that need more width for installation of toll collection booths to cater to a large number of vehicles, and expansion activities in existing airports related to terminal building expansion without increase in the airport's existing area, rather than expansion of runways, etc., are two other projects exempted.

## What is the Environmental Impact Assessment?

### ➤ About:

- As per **UNEP (United Nations Environment Programme)** EIA is a tool used to identify the **environmental, social and economic impacts** of a project prior to decision-making.

Note:



- **Aim:**
  - To **predict environmental impacts at an early stage** in project planning and design, find ways and means to reduce adverse impacts, shape projects to suit the local environment and present the predictions and options to decision-makers.
- **Process:**
  - **Screening:** First stage of EIA, which determines whether the proposed project, requires an EIA and if it does, then the level of assessment required.
  - **Scoping:** This stage identifies the key issues and impacts that should be further investigated. This stage also defines the boundary and time limit of the study.
  - **Impact analysis:** This stage of EIA identifies and predicts the likely environmental and social impact of the proposed project and evaluates the significance.
  - **Mitigation:** This step in EIA recommends the actions to reduce and avoid the potential adverse environmental consequences of development activities.
  - **Reporting:** This stage presents the result of EIA in a form of a report to the decision-making body and other interested parties.
  - **Public hearing:** On completion of the EIA report, public and environmental groups living close to project site may be informed and consulted.
  - **Review of EIA:** It examines the adequacy and effectiveness of the EIA report and provides the information necessary for decision-making.
  - **Decision-making:** It decides whether the project is rejected, approved or needs further change.
  - **Post monitoring:** This stage comes into play once the project is commissioned. It checks to ensure that the impacts of the project do not exceed the legal standards and implementation of the mitigation measures are in the manner as described in the EIA report.

## Great Indian Bustard

### Why in News?

Only four Female **Great Indian Bustards (GIB)** are left in Gujarat.

- According to a 2018 count, India has fewer than **150 GIBs, of which 122 are in Rajasthan.**



### What is the Great Indian Bustard?

- **About:**
  - It is the State bird of Rajasthan and is considered **India's most critically endangered bird.**
  - It is considered the **flagship grassland species**, representing the health of the grassland ecology.
  - Its population is confined **mostly to Rajasthan and Gujarat.** Small populations occur in Maharashtra, Karnataka and Andhra Pradesh.
- **Threats:**
  - The bird is under constant threats **due to collision/electrocution with power transmission lines**, hunting (still prevalent in Pakistan), habitat loss and alteration as a result of widespread agricultural expansion, etc.
- **Protection Status:**
  - **International Union for Conservation of Nature Red List:** Critically Endangered
  - **Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES):** Appendix I
  - **Convention on Migratory Species (CMS):** Appendix I
  - **Wildlife (Protection) Act, 1972:** Schedule 1
- **Measures taken to protect GIB:**
  - **Species Recovery Programme:**
    - It is kept under the species recovery programme under the **Integrated Development of Wildlife Habitats** of the Ministry of Environment, Forests and Climate Change (MoEFCC).
  - **National Bustard Recovery Plans:**
    - It is currently being implemented by conservation agencies.

Note:

- **Conservation Breeding Facility:**
  - MoEF&CC, Rajasthan government and Wildlife Institute of India (WII) have also established a conservation breeding facility in Desert National Park at Jaisalmer in June 2019.
  - The objective of the programme is to build up a captive population of Great Indian Bustards and to release the chicks in the wild for increasing the population.
- **Project Great Indian Bustard:**
  - It has been launched by the Rajasthan government with an aim of constructing breeding enclosures for the species and developing infrastructure to reduce human pressure on its habitats.
- **Eco-Friendly Measures:**
  - Task Force for suggesting eco-friendly measures to mitigate impacts of power transmission lines and other power transmission infrastructures on wildlife including the Great Indian Bustard.

## Tropical Ozone Hole

### **Why in News?**

According to a recent study, a new **ozone** hole has been detected over the tropics, at latitudes of 30 degrees South to 30 degrees North.

### **What has the Study Revealed?**

- The tropical ozone hole is about **seven times larger than Antarctica**.
  - **It also appears across all seasons**, unlike that of Antarctica, which is visible only in the spring.
- The tropical ozone hole, **which makes up 50% of Earth's surface**, could cause a **global concern** due to the risks associated with it.
  - It is likely to cause **skin cancer, cataracts and other negative effects** on the health and ecosystems in tropical regions.

### **What do we know about Ozone Layer?**

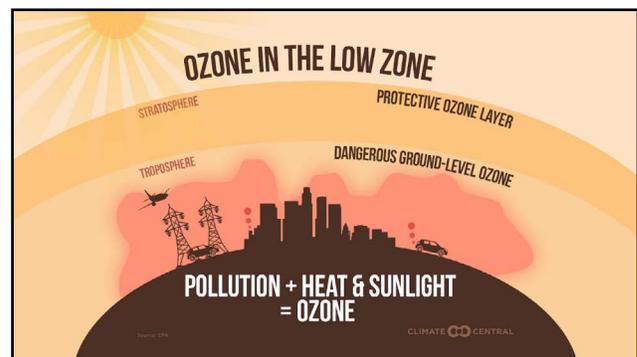
- **About:**
  - It is a special form of oxygen with the chemical formula  $O_3$ .

- The oxygen we breathe and that is so vital to life on earth is  $O_2$ .

- **Most ozone resides high up in the atmosphere**, between 10 and 40 km above Earth's surface. This region is called the **stratosphere** and it contains about 90% of all the ozone in the atmosphere.

### ➤ **Classification:**

- **Good Ozone:**
  - **Ozone occurs naturally** in the Earth's upper atmosphere (Stratosphere) where it forms a **protective layer** that shields us from the sun's harmful ultraviolet rays.
  - This "good" ozone is gradually being destroyed by man-made chemicals referred to as **Ozone-Depleting Substances (ODS)**, including **chlorofluorocarbons (CFCs)**, **hydrochlorofluorocarbons (HCFCs)**, **halons**, **methyl bromide**, **carbon tetrachloride**, and **methyl chloroform**.
- **Bad Ozone:**
  - In the Earth's lower atmosphere (troposphere) near ground level, ozone is formed when **pollutants emitted by cars, power plants, industrial boilers, refineries, chemical plants, and other sources react chemically in the presence of sunlight**.
  - Surface level ozone is a harmful air pollutant.



### **Why do we know about Ozone Layer Depletion?**

- **About:**
  - **Ozone Layer Depletion** refers to chemical destruction of the stratospheric ozone layer beyond natural reactions.

Note:



- Stratospheric Ozone is constantly being created and destroyed through natural cycles.
  - Various **Ozone Depleting Substances (ODS)**, however, **accelerate** the destruction process, resulting in lower than normal ozone levels.
  - ODSs include **chlorofluorocarbons (CFCs), bromine-containing halons and methyl bromide, HCFCs, carbon tetrachloride (CCl<sub>4</sub>), and methyl chloroform.**
  - These substances were formerly used and sometimes still are used in **coolants, foaming agents, fire extinguishers, solvents, pesticides, and aerosol propellants.**
    - Once released into the air these ozone-depleting substances **degrade very slowly.**
    - In fact, they can **remain intact for years** as they move through the troposphere until they reach the stratosphere.
    - There they are **broken down by the intensity of the sun's UV rays** and release **chlorine and bromine molecules**, which destroy the stratospheric ozone.
- **Effects of Depletion:**
  - **On Human Health:**
    - It increases the amount of **UV that reaches the Earth's surface.**
      - **UV** causes non-melanoma skin cancer and plays a major role in malignant melanoma development.
      - In addition, UV has been linked to the development of **cataracts**, a clouding of the eye's lens.
  - **On Plants:**
    - UV radiation affects the **physiological and developmental processes of plants.** Despite mechanisms to reduce or repair these effects, plant growth can be directly affected by UV radiation.
    - Indirect changes caused by UV (**such as changes in plant form, how nutrients are distributed within the plant, timing of developmental phases and secondary metabolism**) may be equally or sometimes more important than damaging effects of UV.

- **On Marine Ecosystem:**
  - **Phytoplankton** form the foundation of **aquatic food webs.** Phytoplankton productivity is limited to the **euphotic zone**, the upper layer of the water column in which there is sufficient sunlight to support net productivity.
    - Exposure to solar UV radiation has been shown to affect both **orientation and motility in phytoplankton**, resulting in reduced survival rates for these organisms.
- **On Biogeochemical Cycles:**
  - Increases in UV radiation could affect **terrestrial and aquatic biogeochemical cycles**, thus altering both sources and sinks of **greenhouse and chemically important trace gases** (e.g., carbon dioxide, carbon monoxide, carbonyl sulfide, ozone, and possibly other gases).
- **On Materials:**
  - **Synthetic polymers**, naturally occurring biopolymers, as well as some other materials of commercial interest are adversely affected by UV radiation.
    - Increases in UV levels will accelerate their breakdown, limiting the length of time for which they are useful outdoors.

### ***What are the Initiatives for Tackling Ozone Layer Depletion?***

- **Vienna Convention:**
  - **The 1985 Vienna Convention for the Protection of the Ozone Layer** was an international agreement in which **United Nations members recognized the fundamental importance of preventing damage to the stratospheric ozone layer.**
  - India became a Party to the Vienna Convention for the Protection of the Ozone Layer on 18<sup>th</sup> March 1991.
- **Montreal Protocol:**
  - **The 1987 Montreal Protocol** on Substances that deplete the Ozone Layer and its succeeding amendments were subsequently negotiated to control the consumption and production of **anthropogenic (ODSs) and some hydrofluorocarbons (HFCs).**

Note:

- India became Party to the Montreal Protocol on substances that deplete the Ozone layer on 19<sup>th</sup> June 1992.
- **Kigali Amendment:**
  - The adoption of the **2016 Kigali Amendment to the Montreal Protocol** will **phase down the production and consumption of some HFCs** and avoid much of the projected global increase and associated climate change.
- **EU Regulation:**
  - EU legislation on ozone-depleting substances is **among the strictest and most advanced in the world**. Through a series of regulations, the EU has not only implemented the Montreal Protocol but has often phased out dangerous substances faster than required.
  - **The EU Ozone Regulation** sets licensing requirements for all exports and imports of ozone-depleting substances and regulates and monitors not only substances covered by the Montreal Protocol (over 90 chemicals), but also some that are not covered (five additional chemicals called 'new substances').
- **India's regulations for safe use of hydrocarbons as non-ODS alternatives:**
  - Hydrocarbons including **isobutane and cyclopentane are available as non-ODS alternatives for use in aerosols, foam-blowing and refrigeration sectors.**
  - Safe use of hydrocarbons is regulated by petroleum laws in India.
    - **The Petroleum Act, 1934** and **Petroleum Rules, 1976** relate to handling of a variety of petroleum products.
      - The latter also specifies licensing requirements for handling hydrocarbons.
    - **The Gas Cylinder Rules, 1981**, addresses filling, possession, import and transport of cylinders.

## Green Pit Vipers

### **Why in News?**

Recently, on World Snake Day (16<sup>th</sup> July, 2022), there was consensus for developing effective antivenom against the venom of the Green Pit Viper.



### **What are the concerns related to Green Pit Viper?**

- Green pit viper is not more lethal than Russell's viper, but the **hemotoxic venom** it injects prevents the blood in the body from clotting resulting in internal bleeding.
- Moreover, the antivenom available in India cannot counter the venom of the green pit viper.
  - There are among 15 venomous snakes like the monocled cobra, the banded krait, the lesser black krait, the great black krait, the mountain pit viper and the redneck keelback out of 64 recorded so far across Northeast India.
- Most of the snakebite cases in the region involve different species of the **green pit viper, making up the other venomous snakes.**
- There is lack of standardised reporting or under-reporting of snake bites.
  - The current available data say **there are more than 1.4 million cases resulting in 1,25,000 fatalities annually.**

### **What do we Know about Pit Viper?**

- Pit viper, **any species of viper (subfamily Crotalinae)** that has, in addition to two movable fangs, a heat-sensitive pit organ between each eye and nostril which together help it accurately aim its strike at its warm-blooded prey.
- Pit vipers are **found from deserts to rainforests.**
- They may be **terrestrial, arboreal, or aquatic.** Some species lay eggs; others produce live young.

Note:

- The **venomous pit vipers species** includes hump-nosed pit viper, Mangrove pit viper and Malabar Pit Viper.
- Russell's Viper and Saw-scaled Viper are two most venomous vipers species found in India and member of big four poisonous and deadliest snakes in India.
  - These snake species are responsible for the majority of snake bites in India.

## Kerala's Protest against ESZ Notification

### **Why in News?**

Farmers in Kerala are protesting against **Supreme Court's** order to establish **Eco-Sensitive Zones (ESZs)**.

- The SC has directed to have a **mandatory ESZ of minimum one kilometre measured from the demarcated boundary of every protected forest**, including the **national parks and wildlife sanctuaries**.
- The Kerala State Assembly demands the Centre to notify the zones by considering the State government's proposals that marked the **ESZ as zero around 10 protected areas of the State**.

### **What are Eco-Sensitive Zones?**

#### ➤ **About:**

- The **National Wildlife Action Plan (2002-2016)** of the **Ministry of Environment, Forest and Climate Change (MoEFCC)** stipulated that state governments should declare land falling within 10 km of the boundaries of national parks and wildlife sanctuaries as eco fragile zones or Eco Sensitive Zones (ESZs) under the **Environmental (Protection) Act, 1986**.
- While the 10-km rule is implemented as a general principle, the extent of its application can vary.
- Areas **beyond 10-km can also be notified by the Union government as ESZs**, if they hold larger ecologically important **"sensitive corridors."**

#### ➤ **Significance:**

- ESZs are created as **"shock absorbers" for the protected areas**, to minimize the negative impact on the "fragile ecosystems" by certain human activities taking place nearby.

- They are meant to act as a **transition zone from areas requiring higher protection to those requiring lesser protection**.
- The ESZs are not meant to hamper the daily activities of people living in the vicinity, but are meant to guard the protected areas and **"refine the environment around them"**.

### **What is the Background?**

- The order comes a decade after the **Western Ghats Ecology Expert Panel (WGEEP) report (Gadgil report)** that had **radically influenced the socio-political, economic and ecological narratives in the State**.
  - Though not to the level of the high-pitched public unrest and protests that the State witnessed during the days preceding the WGEEP report, the **ESZ notification too has triggered state-wide protests**.
- Earlier, the State Government had **taken care to exclude the areas with high population density, government and quasi-government institutions, and public institutions from the ambit of its Draft ESZ notification**.
- The marking of the ESZ for the protected areas that shared the forest boundary with the **neighbouring States was a peaceful affair as there were no human habitations in between**.
- However, the **apex court's recent order has changed the picture and forced the State government to re-look the ESZs of at least 10 protected areas** which were earlier marked as zero.

### **Why Protests Over ESZ notification?**

- The notification has stirred an unpleasant situation in Kerala where **any regulatory mechanism on land and land use patterns would have political ramifications**.
- Kerala is concerned about the **possible impact on its unique landscape**.
  - **Nearly 30% of Kerala is forested land and the Western Ghats occupies 48% of the State**.
- Due to the high density of human population near the notified protected areas, farmer's groups and political parties **have been demanding that all human settlements be exempt from the ESZ ruling**.
- The State Government **apprehends that the SC's notification may worsen the ground situation as it would adversely impact the interests of the State**

Note:

besides upsetting the lives of millions living near the protected areas.

## Green Protection to Aravalli

### Why in News?

Recently, the **Supreme Court of India** extended **Green Protection** to forest land in **Aravalli ranges**.

- The court's ruling will mean around **30,000 hectares across the Aravallis and Shivaliks** in Haryana will be considered forest land.

### What is the Supreme Court Ruling?

- The Supreme Court held that all land covered by the special orders issued under **Section 4 of the Punjab Land Preservation Act (PLPA)** in Haryana will be treated as forests and be entitled to protection under the **1980 Forest Conservation Act**.
  - Such land covered under Section 4 **can see no commercial activity or non-forest use** without the consent of the central government.
- It also stated that **land covered by the special orders issued under Section 4 of PLPA** have all the trappings of forest lands within the meaning of **Section 2 of the Forest Act**.
- The court directed the **state government to clear any non-forest activity from such land in three months** and report compliance.
- The bench considered a September 2018 judgment which held all land under PLPA could be treated as forest.
  - The recent verdict clarified that the **previous judgment failed to closely examine the scheme of Section 4 of PLPA and its legal effect** in relation to Section 2 of the Forest Act.

## Protecting Haryana's ecology

### IN CONTENTION

At the heart of the issue is the classification of land under Section 4 of the colonial era Punjab Land Preservation Act (PLPA), which remains in force since Haryana was part of undivided Punjab. The Section was used to demarcate certain areas that need to be protected from any sort of erosion

### PAST ORDERS

- The issue dates back to past Supreme Court orders, in particular one in 2018 which held that areas notified under Section 4 of the PLPA should be deemed as forest land under the Forest Conservation Act
- The 2018 ruling deemed any construction on those classified lands as illegal, and should therefore be demolished

### HARYANA'S RESPONSE

- The state said the 2018 order would mean 100% area of 11 of the state's 22 districts, including Gurugram and Faridabad, would need to be razed
- The state in February 2019 passed an amendment to the PLPA and excluded certain land meant for construction from the PLPA classification. This amendment was stayed by a Supreme Court bench a month later

### THE LATEST RULING

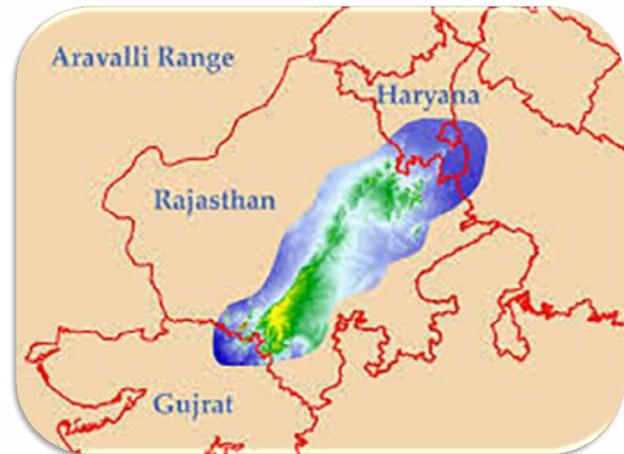
- The SC upheld that Section 4 demarcations were valid and had "trappings of forest lands"
- The court also made a distinction – even if all demarcations were considered to be falling within parameters of protection of the PLPA, this did not make them fall within the Forest Act provisions
- It also rejected the state's contention that all 11 districts will need to be considered as forests, saying that in case of Gurugram, PLPA's Section 4 will apply only 3.4% of the land



## What are Section 4 of PLPA & Section 2 of Forest Act?

- **Section 4 of the Punjab Land Preservation Act (PLPA):**
  - Special orders under Section 4 of PLPA are the **restrictive provisions issued by the state government** to prevent deforestation of a specified area that could lead to soil erosion.
  - When the state government is satisfied that deforestation of a forest area forming part of a larger area is **likely to lead to erosion of soil**, the power under Section 4 can be exercised.
    - Therefore, the specific land which a special order under Section 4 of PLPA has been issued will have all the trappings of a forest governed by the Forest Act.
  - While the land notified under the special orders of Section 4 of PLPA shall be forest lands, **not all land under PLPA will ipso facto become forest lands** within the meaning of the Forest Act.
- **Section 2 of the Forest Act:**
  - Section 2 of the Forest Act imposes **prohibitions on the de-reservation of forests or use of forest land for non-forest purposes without prior approval of the central government**.
    - Once a land is covered under Section 2 of the Forest Act, whether the special orders under Section 4 continue to be in force or not, **it shall continue to remain forest land**.

## What do we need to know about Aravalli Range?



Note:

### ➤ About the Aravalli Range:

#### ○ Location:

- They stretch for a distance of about 720 km from Himmatnagar in Gujarat to Delhi, spanning Haryana and Rajasthan.

#### ○ Formation:

- The Aravallis date back to millions of years when a **pre-Indian subcontinent collided with the mainland Eurasian Plate**.

#### ○ Age:

- **Carbon dating** has shown that copper and other metals mined in the ranges date back to at least the 5th century BC.

#### ○ Characteristics:

- The Aravallis of Northwestern India, one of the oldest fold mountains of the world, **now form residual mountains with an elevation of 300m to 900m**.
- **Guru Shikhar Peak on Mount Abu** is the highest peak in the Aravalli Range (1,722 m).
- It has been **formed primarily of folded crust**, when two convergent plates move towards each other by the process called orogenic movement.

#### ○ Extension:

- The mountains are divided into two main ranges – the **Sambhar Sirohi Range** and the **Sambhar Khetri Range** in Rajasthan, where their extension is about 560 km.
- The hidden limb of the Aravallis that extends from **Delhi to Haridwar** creates a **divide between the drainage of rivers of the Ganga and the Indus**.

### ➤ Their Significance:

#### ○ Checks Desertification:

- The Aravallis act as a **barrier between the fertile plains in the east and the sandy desert in the west**.
- Historically, it is said that the Aravalli range **checked the spread of the Thar desert** towards the Indo-Gangetic plains, serving as a catchment of rivers and plains.

#### ○ Rich in Biodiversity:

- Provides habitat to **300 native plant species, 120 bird species and many exclusive animals** like the jackal and mongoose.

### ○ Impacts Climate:

- Aravallis have an impact upon the **climate of northwest India and beyond**.
- During **monsoons**, it provides a **barrier** and monsoon clouds move eastwards towards Shimla and Nainital, thus **helping nurture the sub-Himalayan rivers and feeding the north Indian plains**.
- In the winter months, it protects the fertile alluvial river valleys from the **cold westerly winds from Central Asia**.

## Karakoram Anomaly

### *Why in News?*

Recently, a study investigated why glaciers in the **Karakoram Range of Central-South Asia** have not been as affected by **Climate Change** as others.

- They have attributed this phenomenon called **Karakoram Anomaly** to the recent revival of **Western Disturbances (WDs)**.

### *What is Karokoram Anomaly?*

- The '**Karakoram Anomaly**' is termed as the **stability or anomalous growth of glaciers in the central Karakoram**, in contrast to the retreat of glaciers in other nearby mountainous ranges of Himalayas and other mountainous ranges of the world.

### *What are the Key Findings of the study?*

- It is for the **first time that a study brought forth the importance that enhanced western Disturbance (WD)-precipitation input during the accumulation period plays in modulating regional climatic anomalies**.
  - Previous studies have **highlighted the role of temperature in establishing** and sustaining the anomaly over the years
- **Western Disturbances (WDs)** are the primary feeder of snowfall for the region during winters.
- The study suggests they **constitute about around 65% of the total seasonal snowfall volume and about 53% of the total seasonal precipitation**, easily making them the most important source of moisture.

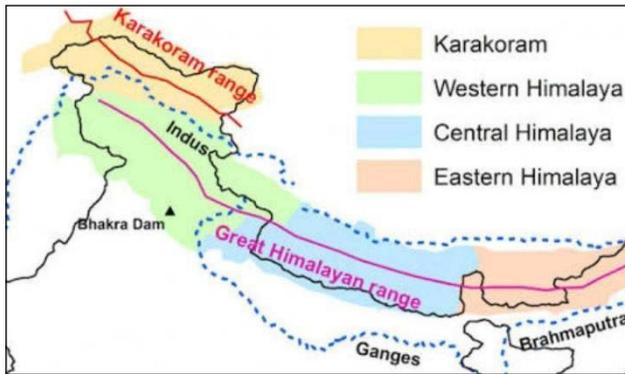
Note:



- Further, the **precipitation intensity of WDs** impacting Karakoram has **increased by around 10% in the last two decades**, which only enhances their role in sustaining the regional anomaly.

### What is Karakoram Range?

- The Karakoram are part of a complex of mountain ranges at the centre of Asia, including the HinduKush to the west, the Pamirs to the northwest, the Kunlun Mountains to the northeast, and the Himalayas to the southeast.
- The Karakoram cover parts of Afghanistan, China, India, Pakistan, and Tajikistan.



### What is the Importance of Himalayan Glaciers?

- **Himalayan glaciers** are of paramount importance in the Indian context, especially for the millions of dwellers living downstream who **rely on these perennial rivers for their day-to-day water needs**.
- They are fast receding under the impacts of **global warming**, and stifling stress on the water resources is inevitable in the coming decades.

## Snow Leopard

### Why in News?

Recently, a study conducted by **Zoological Survey of India (ZSI)** under **National Mission on Himalayan Studies** highlighted relation between habitat uses by **Snow Leopard**, Siberian ibex and blue sheep.

- It aimed at **examining how the predator used habitat in presence or absence of its prey species and vice-versa**.

### What is National Mission on Himalayan Studies?

- It's a **Central Sector Grant-in-aid Scheme**, therefore, targets to provide much-needed focus, through a **holistic understanding of the system's components and their linkages**, in addressing the key issues relating to **conservation and sustainable management of natural resources in India Himalayan Region (IHR)**.
- The ultimate goal is to **improve the quality of life and maintain ecosystem health** of the region to ensure long-term ecological security to the country.
- As the Mission specifically targets the Indian Himalayan Region (IHR), the jurisdiction of **NMHS includes 10 Himalayan states** fully (i.e., Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura and Uttarakhand) and two states partially (i.e., hill districts of Assam and West Bengal).
- **Goals include:**
  - Foster conservation and sustainable management of natural resources;
  - Enhance supplementary and/or alternative livelihoods and overall economic well-being of the region;
  - Control and prevent pollution in the region;
  - Foster increased/augmented human and institutional capacities and the knowledge and policy environment in the region; and
  - Strengthen, greening, and fostering development of climate-resilient core infrastructure and basic services assets.

### What were Key Highlights of the Study?

- It was found that, the **likelihood of detecting a snow leopard** was increased if the place was **utilised by its prey species, ibex and blue sheep**.
- In the case of prey species, the probability of detection was low when the predator (snow leopard) was present and observed.
- Further both species were less likely to detect together than expected.
- According to the study, **habitat variables such barren area, grassland, aspect, slope, and distance to water** were **major drivers of habitat use** for both the snow leopard and its prey species.

Note:



- Predators such as snow leopards regulated the populations of herbivores such as blue sheep and Siberian ibex in the mountains, protecting the health of grasslands.
  - A long-term absence of snow leopards could cause trophic cascades as unregulated populations would likely increase, depleting vegetation cover.
- Knowledge of the species' interactions will be beneficial in building better conservation and management plans for the long-term sustainability of the snow leopard and its prey species in the Spiti Valley ecosystem.



### What is Snow Leopard?

- **About:**
  - **Scientific Name:** *Panthera uncia*
  - **Top Predator:** Snow leopards act as an indicator of the health of the mountain ecosystem in which they live, due to their position as the top predator in the food web.
- **Protection Status:**
  - **IUCN List of Threatened Species:** Vulnerable.
  - **CITES:** Appendix I.
  - **Indian Wildlife (Protection) Act, 1972:** Schedule-I.
- **Habitat:**
  - They have a vast but fragmented distribution across the mountainous landscape of central Asia, which covers different parts of the Himalayas such as Ladakh, Himachal Pradesh, Uttarakhand, and Sikkim.
- **Threat:**
  - Largely threatened because of the loss of natural prey species, retaliatory killing due to conflict with humans and illegal trade of its fur and bones.

### What are the Indian Initiatives?

- The Government of India has identified the snow leopard as a **flagship species** for the high-altitude Himalayas.
- India is also party to the **Global Snow Leopard and Ecosystem Protection (GSLEP) Programme since 2013.**
- **HimalSanrakshak:** It is a community volunteer programme, to protect snow leopards, launched in October 2020.
- In 2019, **First National Protocol** was also launched on Snow Leopard Population Assessment which has been very useful for monitoring populations.
- **SECURE Himalaya: Global Environment Facility (GEF)-United Nations Development Programme (UNDP)** funded the project on conservation of high altitude biodiversity and reducing the dependency of local communities on the natural ecosystem.
- **Project Snow Leopard (PSL):** It was launched in 2009 to promote an inclusive and participatory approach to conserve snow leopards and their habitat.
- Snow Leopard is on the list of **21 critically endangered species for the recovery programme** of the Ministry of Environment Forest & Climate Change.
- Snow Leopard conservation breeding programme is undertaken at **Padmaja Naidu Himalayan Zoological Park, Darjeeling, West Bengal.**

## Climate Finance

### Why in News?

- Recently, the **UNFCCC COP26** President, Alok Sharma, visited India to discuss India's implementation of its COP 26 commitments.
- He also stated that a mechanism is being put in place to achieve the **target of climate financing USD 100 billion by 2023.**

### What is Climate Finance?

- **About:**
  - It refers to **local, national, or transnational financing—drawn from public, private and alternative sources** of financing—that seeks to **support mitigation and adaptation actions that will address climate change.**

Note:

- The UNFCCC, **Kyoto Protocol**, and the **Paris Agreement** call for financial assistance from Parties with **more financial resources (Developed Countries)** to those that are less endowed and **more vulnerable (Developing Countries)**.
  - This is in accordance with the principle of **“Common but Differentiated Responsibility and Respective Capabilities” (CBDR)**.
- In COP26, new financial pledges to support developing countries in achieving the global goal for adapting to the effects of climate change were made.
  - **New rules for the international carbon trading mechanisms agreed at COP26 will support adaptation funding.**
- **Significance:**
  - Climate finance is needed for **mitigation** because large-scale investments are required to significantly reduce emissions.
  - Climate finance is equally **important for adaptation**, as significant financial resources are needed to adapt to the adverse effects and reduce the impacts of a changing climate.
  - Climate Financing recognizes that the contribution of countries to climate change and their capacity to prevent it and **cope with its consequences vary enormously**.
    - Hence, developed countries should also continue to take the lead in **mobilizing climate finance** through a variety of actions, including supporting country-driven strategies and taking into account the needs and priorities of developing country Parties.
  - Climate finance is critical to tackle the issues posed by climate change and **achieve the goal of limiting the rise in the earth’s average temperature** to below 2 degrees Celsius over pre-industrial levels, something the **2018 IPCC report** has predicted.

### **What is the USD 100 Billion Target and why does it matter?**

- In 2009, at the UNFCCC **COP15** (held in Copenhagen);
  - The developed country parties, to achieve **meaningful mitigation actions** and transparency on implementation, jointly set a target of **USD 100 billion a year by 2020** to address the needs of developing countries.

- The climate finance goal was then **formally recognized by the UNFCCC Conference of the Parties at COP16 in Cancun**.
  - At COP21 in Paris, Parties extended the \$100 billion goals through 2025.
- After COP26 there was a consensus that **developed nations will double their collective provision of adaptation finance from 2019 levels by 2025**, in order to achieve this balance between adaptation and mitigation.

### **What is Green Financing?**

- To assist the provision of climate financing, UNFCCC established a **financial framework** to give financial resources to developing nation Parties.
  - The **finance structure** also supports the **Kyoto Protocol and the Paris Agreement**.
- It specifies that the financial mechanism’s operation can be **entrusted to one or more existing international entities**, since the Convention’s entrance into force in 1994, the **Global Environment Facility (GEF)** has acted as the financial mechanism’s operating institution.
  - Parties established the **Green Climate Fund (GCF) at COP 16 in 2010** and designated it as an operating entity of the financial mechanism in 2011.
  - The financial mechanism **reports to the COP, which determines its policies, programme priorities, and financing eligibility criteria**.
- **Other Funds:**
  - In addition to providing guidance to the GEF and the GCF, Parties have established **two special funds**—
    - **Special Climate Change Fund (SCCF)**
    - **Least Developed Countries Fund (LDCF)**,
    - Both are **managed by the GEF**—and the Adaptation Fund (AF) established under the Kyoto Protocol in 2001.
  - At the Paris Climate Change Conference in 2015, the Parties agreed that the operating entities of the financial mechanisms – GCF, GEF, SCCF and the LDCF, **shall serve the Paris Agreement**.

Note:

### What are India's Initiatives regarding Climate Finance?

- **National Adaptation Fund for Climate Change (NAFCC):**
  - It was established in 2015 to **meet the cost of adaptation to climate change for the State and Union Territories** of India that are particularly vulnerable to the adverse effects of climate change.
- **National Clean Energy Fund:**
  - The Fund was created to **promote clean energy**, and funded through an initial **carbon tax** on the use of coal by industries.
  - It is governed by an Inter-Ministerial Group with the Finance Secretary as the Chairman.
  - Its mandate is to fund research and development of innovative **clean energy technology** in the fossil and non-fossil fuel-based sectors.
- **National Adaptation Fund:**
  - The fund was established in 2014 with a corpus of Rs. 100 crores with the aim of bridging the gap between the need and the available funds.
  - The fund is operated under the **Ministry of Environment, Forests, and Climate Change (MoEF&CC)**.

## Light-Mantled Albatross

### Why in News?

Recently Light-mantled Albatross, a species native to the **Antarctic seas**, was recorded in Tamil Nadu.

### What are the Findings?

- The location where the Albatross was spotted is **part of the Palk Bay and near the Gulf of Mannar**, an 'Important Bird Area' on India's southeast coast.

- This record from the **Palk Bay** side of Rameswaram island is significant, and it throws up **new challenges to researchers once these Antarctic birds migrate to Asia**.
- This finding also **directs researchers to look for bird migration away from the well-known and established routes and sites**.
- As the nearest recorded site of the bird is around 5,000 km away from Rameswaram, **a change in atmospheric pressure may be among the reasons for the Albatross to land on an Indian shore**.

### What is a Light-mantled Albatross?

- **Scientific Name:** *Phoebastria palpebrata*

- **About:**

- Also, known as the **grey-mantled albatross** or the light-mantled sooty albatross.



- Light-mantled albatrosses spend most of their lives in flight. A juvenile may **spend many years at sea before returning to breed**.

- The Light-mantled Albatross, with broad pelagic habits, maintains a **circumpolar distribution in the Southern Ocean**.

- **Appearance:**

- Ash coloured with darker areas around the head and lighter areas across the back and wingtips.
- Distinctive white stripe immediately above the eye.

- **Population:**

- A worldwide population of 21,600 breeding pairs, according to an estimate in 1998.

- **Protection:**

- **IUCN Red List:** Near Threatened



Note:

# History

## Highlights

- *Pythagorean Geometry in Vedic-Era*
- *Kargil Vijay Diwas*

## Pythagorean Geometry in Vedic-Era

### Why in News?

Recently, a position paper by the Karnataka government on the **National Education Policy (NEP) 2020** has described **Pythagoras's theorem** as "fake news".

- It has referred to a text called the **Baudhayana Sulbasutra**, in which a specific shloka refers to the theorem.

### What do we need to know about Pythagoras?

- **About Pythagoras:**
  - Evidence suggests that the **Greek philosopher (around 570–490 BC) did exist.**
  - There is an element of mystery around him, largely because of the **secretive nature of the school/society he founded in Italy.**
  - Relatively little is known about his mathematical achievements, because there is **nothing today of his own writings.**
- **About Pythagoras Theorem:**
  - The Pythagoras theorem describes the **relationship connecting the three sides of a right triangle** (one in which one of the angles is  $90^\circ$ ).
    - $a^2 + b^2 = c^2$ 
      - If any two sides of a right triangle are known, **the theorem allows you to calculate the third side.**

### How do we know that Vedic Indian Mathematicians knew this?

- There are references of Pythagoras in the **Sulbasutras**, which are texts pertaining to **fire rituals (yajanas) performed by Vedic Indians.**
  - The oldest of these is the **Baudhayana Sulbasutra.**

- The period of Baudhayana Sulbasutra is uncertain. It is estimated based on **linguistic and other secondary historical considerations.**
  - In recent literature, **Baudhayana Sulbasutra is taken to be from around 800 BCE.**
- Baudhayana Sulbasutra contains a **statement of what is called Pythagoras theorem** (it was known rather as a geometric fact, and not as a 'theorem').
- The yajna rituals involved construction of **altars (vedi) and fireplaces (agni)** in a variety of shapes such as **isosceles triangles, symmetric trapezia, and rectangles.**
  - The sulbasutras describe **steps towards construction** of these figures with prescribed sizes.

### How did the Knowledge of Equation Evolve?

- The earliest evidence is from the **Old Babylonian civilisation (1900-1600 BCE).**
  - They referred to it as the **Diagonal Rule.**
- The earliest evidence of a proof comes from a **period after the sulbasutras.**
- The oldest surviving axiomatic proof of the theorem is in the **Elements of Euclid** from around 300 BCE.

### What are Vedas?

- The word **Veda** signifies **knowledge** and the texts are actually about providing **mankind knowledge to conduct their entire life on earth and beyond.**
- There are four major vedas:
  - **Rig Veda:**
    - **Oldest** existing veda among the four.
    - Focus is on **worldly prosperity and natural beauty.**
    - Text is organised in 10 books known as **Mandalas.**
    - Prominent gods mentioned in Rig Veda:
      - **Lord Indra, Agni, Varuna, Rudra, Aditya** etc.

Note:

- **Yajur Veda:**
  - The name Yaju signifies **Sacrifice**.
  - It concentrates on **rites and mantras** of the different types of sacrifices.
  - Two major recensions (samhita) are:
    - **Shukla**, also called **Vajasneyi Samhita**.
    - **Krishna**, also called **Taittiriya Samhita**.
- **Sama Veda:**
  - It has been named after **Saman** (melody).
  - It concentrates on **Melody or Songs**.
  - It is also called the **Book of Chants**.
- **Atharva Veda:**
  - It is also known as **Brahma Veda** and has been attributed to two rishis called **Atharban** and **Angiras**.
  - It concentrates on **Peace and Prosperity** of human society.
  - Two major recensions (sakhas) are:
    - Paippalada
    - Saunakiya

## Kargil Vijay Diwas

### Why in News?

The 23<sup>rd</sup> anniversary of Kargil Vijay Diwas is being observed on the 26<sup>th</sup> of July 2022.

- The day is dedicated to the martyred soldiers of the Kargil war.



### What do we know about the Kargil War?

- **About:**
  - After the **Indo-Pak war of 1971**, there had been many military conflicts.
    - Both the countries **conducted nuclear tests in 1998** which further escalated tensions and finally the **Kargil War in 1999**.
  - Kargil War, also known as the Kargil conflict, was fought between **May-July of 1999 in the Kargil** (now a district in the UT of Ladakh) district of

**Jammu and Kashmir** along the **Line of Control (LoC)** in which India got the victory.

### ➤ Operation Vijay:

- In the year 1999, **India and Pakistan signed the Lahore Agreement** to mutually **resolve the Kashmir issue in a peaceful manner**.
- However, the Pakistani troops began infiltrating toward the Indian side of the **Line of Control (LoC)** under **Operation Badr**, hoping to cut off Indian Troops in Siachen.
  - **The Indian Army** responded by launching **Operation Vijay**.
- On 3<sup>rd</sup> May 1999, Pakistan started this war when it had infiltrated into the high altitudes in the rocky mountainous region of Kargil with around 5,000 soldiers and captured it.
- When the Indian Government got the information about it, **'Operation Vijay' was launched** by the Indian army to throw back the intruders who had treacherously occupied Indian Territory.

### What is the National War Memorial?

- Inaugurated in 2019, it is around 400 meters from India Gate.
- The layout of the structure comprises four concentric circles, named:
  - the **"Amar Chakra"** or **Circle of Immortality**.
  - the **"Veerta Chakra"** or **Circle of Bravery**.
  - the **"Tyag Chakra"** or **Circle of Sacrifice**.
  - the **"Rakshak Chakra"** or **Circle of Protection**.
- The proposal for a **National War Memorial was first made in the 1960s**.
- The memorial is dedicated to soldiers who laid down their lives defending the nation during:
  - **Sino-Indian** war in 1962
  - **Indo-Pak** wars in 1947, 1965 and 1971
  - **Indian Peace Keeping Force Operations in Sri Lanka** 1987-90
  - **Kargil Conflict** in 1999.
- The National War Memorial also commemorates the soldiers who participated and made supreme sacrifices in **United Nations peace-keeping missions, Humanitarian Assistance Disaster Relief (HADR) operations, counterinsurgency operations and Low-Intensity Conflict Operations (LICO)**.



Note:



drishti

# Geography

## Highlights

- Sakurajima Volcano: Japan

## Sakurajima Volcano: Japan

### Why in News?

Recently, the Sakurajima Volcano erupted on Japan's major western island of Kyushu.

- In 2021, the **Fukutoku-Okanoba Submarine Volcano** exploded in the **Pacific Ocean**, off Japan.

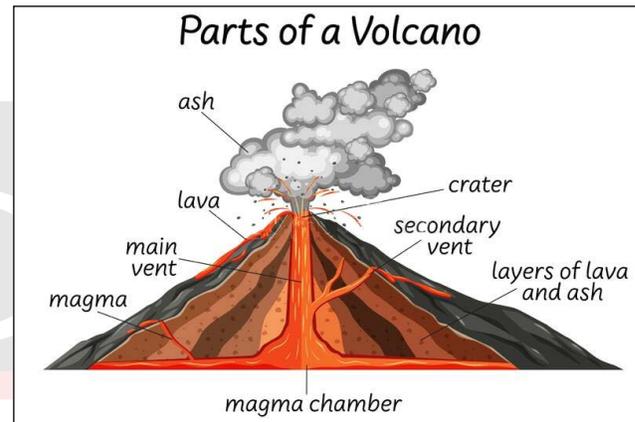


### What is Sakurajima Volcano?

- Sakurajima is **one of Japan's most active volcanoes** and eruptions of varying levels take place on a regular basis.
- It is an **active stratovolcano**.
- The largest historical eruptions of Sakurajima took place during 1471-76 and in 1914.
- Its eruption has been recorded since the 8<sup>th</sup> Century.
- Due to its frequent deposition of ash on Kagoshima, and due to its explosive potential, it is considered as **one of the very dangerous volcanoes**.

### What is a Volcano?

- **About:**
  - A volcano is **an opening on the surface of a planet or moon that allows material warmer than its surroundings to escape from its interior.**



- When this material escapes, it causes an eruption. An eruption can be explosive, sending material high into the sky. Or it can be calmer, with gentle flows of material.
- On Earth, the erupted material can be liquid rock ("lava" when it's on the surface, "magma" when it's underground), ash, cinders, and/or gas.
- **Reasons for Magma Rise:**
  - Magma can rise when pieces of **Earth's crust called tectonic plates slowly move away from each other**. The magma rises to fill in the space. When this happens, underwater volcanoes can form.
  - Magma also rises when these **tectonic plates** move toward each other. When this happens, part of Earth's crust can be forced deep into its interior. The high heat and pressure cause the crust to melt and rise as magma.
  - The final way that magma rises is over **hot spots**. Hot spots are the hot areas inside of Earth. These areas heat up magma. The magma becomes less

Note:

dense. When it is less dense it rises. Each of the reasons for rising magma are a bit different, but each can form volcanoes.

### ➤ Types:

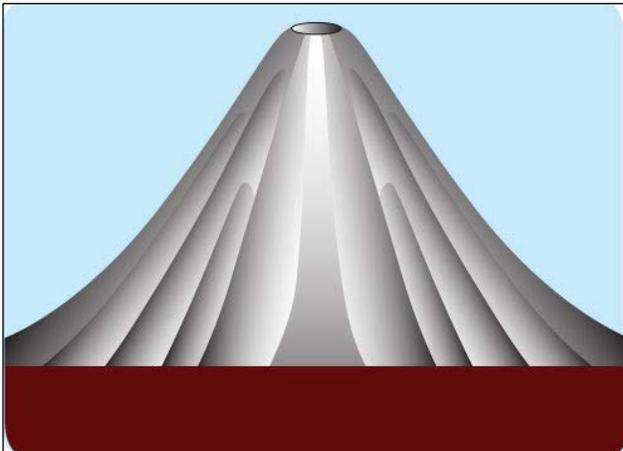
#### ○ Shield volcanoes:

- A volcano **produces low viscosity, runny lava, it spreads far from the source and forms a volcano with gentle slopes.**
- Most shield volcanoes are formed **from fluid, basaltic lava flows.**
  - **Mauna Kea and Mauna Loa are shield volcanoes.** They are the world's largest active volcanoes around the island of Hawai'i.



#### ○ Stratovolcano:

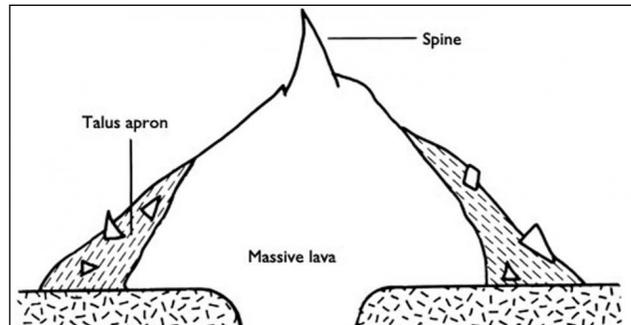
- Stratovolcanoes have **relatively steep sides and are more cone-shaped than shield volcanoes.**
- They are formed from viscous, sticky lava that does not flow easily.



#### ○ Lava dome:

- The Soufrière Hills volcano, on the Caribbean island of Montserrat, is well known for its lava

dome complex at the summit of the volcano, which has gone through phases of growth and collapse. As viscous lava is not very fluid, it cannot flow away from the vent easily when it is extruded. Instead it piles up on top of the vent forming a large, dome-shaped mass of material.



#### ○ Caldera:

- Magma is **stored beneath a volcano in a magma chamber.** When a very large, explosive eruption occurs that empties the magma chamber, the roof of the magma chamber can collapse to form a depression or bowl with very steep walls on the surface.
- These are calderas and can be tens of miles across.



### **What about the Volcanoes in India?**

- Barren Island, Andaman Islands (India's only active volcano)
- Narcondam, Andaman Islands
- Baratang, Andaman Islands
- Deccan Traps, Maharashtra
- Dhinodhar Hills, Gujarat
- Dhosi Hill, Haryana



Note:

# Security

## Highlights

- INS Sindhudhvaj
- NIIO Seminar 'Swavlamban'
- Y-3023 Dunagiri
- Left Wing Extremism (LWE)

## INS Sindhudhvaj

### Why in News?

Recently, the Indian Navy decommissioned its Kilo class Submarine, INS Sindhudhvaj from its service at Vishakapatnam after 35 years of service.

- With its decommissioned Navy has left with only 15 conventional submarines in service.



### What are the Key Highlights about INS Sindhudhvaj?

- **About:**
  - It was commissioned into the **Indian Navy** in June 1987.
  - It was one of the 10 **Kilo-class submarines**, India acquired from Russia between 1986 and 2000.
  - It had many firsts to her credit including operationalization of the **indigenized sonar USHUS, Indigenised Satellite Communication systems Rukmani and MSS, Inertial Navigation System, and Indigenised Torpedo Fire Control System.**
  - It also successfully undertook mating and personnel transfer with **Deep Submergence Rescue Vessel.**
  - It was the **only submarine awarded the CNS Rolling trophy for Innovation** by the Prime Minister.

### What is the Present scenario?

- With its decommissioning Navy's sub-surface fleet now includes seven Russian Kilo-class submarines, four German HDW submarines, four French Scorpene submarines, and the indigenous nuclear ballistic missile submarine **INS Arihant.**
- Further, the last two of the Scorpene class submarines are in various stages of trials and outfitting.
- There are efforts being implemented like the construction of six advanced submarines under **Project-75I** but it has been delayed.
  - Project-75I envisages the **indigenous construction of submarines equipped with the state-of-the-art Air Independent Propulsion system** at an estimated cost of Rs. 43,000 crores.

## NIIO Seminar 'Swavlamban'

### Why in News?

Recently, Prime Minister unveiled 'SPRINT Challenges' during Naval Innovation and Indigenisation Organisation (NIIO) seminar 'Swavlamban'.

- '**SPRINT (Supporting Pole-Vaulting in R&D through iDEX, NIIO and TDAC) Challenges**' is aimed at giving a boost to the usage of indigenous technology in **Indian Navy.**

### What is the Importance of Self Reliance in Defense?

- The defence sector was identified as an important area with many opportunities for self-reliance because it is **one of the critical sectors of the Indian economy** and also from the strategic point of view.

Note:



- It has the **potential for tremendous growth** because of the large, talented pool of skill sets in human resources and large-scale modernisation requirements of the Indian Armed Forces.
- The defence sector will strengthen the economy by **generating employment opportunities and saving the exchequer** by reducing the import burden.
  - The size of the Defence Industry, including the Aerospace and Naval Shipbuilding Industry was estimated at **Rs 85,000 Cr (2020-21)**.
- The ongoing **Russia-Ukraine Conflict** has too emerged the importance of self-reliance. A strong and well-equipped military **renders a country immunity to any external and internal risk**.
  - With active participation of the private sector, **MSMEs** and **start-ups**, innovation in the defense sector is being promoted through several projects under the **iDEX initiative** and '**Technology Development Fund**'.
    - Technology Development Fund (TDF) has been established to promote self-reliance in defence technology as a part of the '**Make in India**' initiative.
  - Indian Navy has **developed necessary capabilities** to not only safeguard India's maritime interests, but also of its friendly countries in line with the vision of '**Security and Growth for all in the Region**' (**SAGAR**).

### **What is Naval Innovation and Indigenisation Organisation?**

- **Launch:**
  - **Launched in 2020** by the Ministry of Defence to fulfil its requirements relating to technology.
- **Objective:**
  - To foster innovation and indigenisation for self-reliance in defence in keeping with the vision of **Atmanirbhar Bharat**.
  - It will put in place **dedicated structures for the end-users to interact with academia and industry**.
- **Structure:** The NIIO is a **three-tiered organisation**.
  - **Naval Technology Acceleration Council (N-TAC)** will bring together the twin aspects of innovation and indigenisation and provide apex level directives.

- Working group under the **N-TAC** will implement the projects.
- **Technology Development Acceleration Cell (TDAC)** has been created for induction of emerging disruptive technology in an accelerated time frame.

### **What are the Other Related Initiatives?**

- **First Negative Indigenisation**
- **Positive Indigenisation List**
- **New FDI Policy in Defence Sector**
- **Defence Acquisition Procedure 2020**
- **Defence Industrial Corridors**
- **Defence Innovation Organisation**
- **Defence India Start-Up Challenge**

## **Y - 3023 Dunagiri**

### **Why in News?**

Recently, the Defence Minister of India launched **Y- 3023 Dunagiri**, a **Project 17A** frigate built by **Garden Reach Shipbuilders Limited (GRSE)** in Kolkata.

### **What do we know about Y - 3023?**

- '**Dunagiri**' is the **fourth ship of Project 17A Frigates**.
- It is named after a **mountain range in the state of Uttarakhand**.
- '**Dunagiri**' is the reincarnation of the erstwhile 'Dunagiri', the **Leander Class ASW Frigate**, which in her 33 years of service had witnessed various challenging operations and multinational exercises.



### **What do we know about Project 17A Frigates?**

- **About:**
  - Project 17A frigates are **follow-on of the P17 Frigates (Shivalik Class)** with improved stealth features, advanced weapons and sensors and platform management systems.
  - There will be **seven frigates built under P-17 A for the Indian Navy** which will be equipped with advanced stealth capability, four at Mazagon Dock Shipbuilders (MDL), Mumbai and three at Garden Reach Ship Builders Limited (GRSE), Kolkata.

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- **Features:**
  - The main **advanced stealth features** of P-17A pertain to the **smaller Radar cross-section** of the ship achieved through the use of a special super structure shape which reduces radar wave reflections.
  - The P17A frigates incorporate new design concepts for **improved survivability, sea keeping, stealth and ship manoeuvrability.**
  - Another important feature is regarding the ship's **low acoustic noise emanating from propellers, operating machinery like Diesel Generators etc.,** which helps sonars on other ships to detect its presence.
    - Such stealth features play an important role in improving the ship's survivability in any hostile environment during operations.
- **Weapon Systems onboard:**
  - The main weapon and sensor suite of P-17A ships indicated are **BrahMos SSM, LRSAM (Forward & Aft configuration)** with MF STAR radar, indigenous Sonar, and Triple tube Heavy Torpedo launcher.
  - **The first three ships under Project 17A were:**
    - **INS Nilgiri**
    - INS Himgiri
    - **INS Udaygiri**

## Left Wing Extremism (LWE)

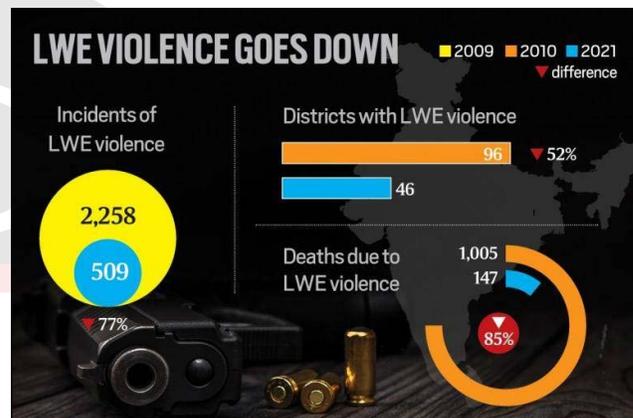
### **Why in News?**

Recently, during question hour in **Lok Sabha**, the **Ministry of Home Affairs** provided data related to left extremism in India.

### **What are the Key Data Facts?**

- The incidents of Naxal violence in the country have **dropped by 77 % between 2009 and 2021**, and **deaths of security force personnel** due to Maoist violence have more than doubled in Chhattisgarh in the past three years.
- Similarly, the resultant deaths (civilians + security forces) have reduced by 85 % from an all-time high of 1,005 in 2010 to 147 in 2021.

- In states, **Chhattisgarh tops the countrywide figure for deaths of security personnel**, as it accounted for 90% of all security personnel deaths in the country, followed by Jharkhand which recorded 5 personnel deaths.
- There has been a decrease in the geographical spread of violence as only 46 districts reported LWE-related violence in 2021, compared to 96 districts in 2010.
  - Due to this, there has been a reduction in the number of districts covered under the **Security Related Expenditure (SRE) Scheme** from 126 to 90 in 2018 and further to 70 in 2021.
  - Similarly, the number of districts generating almost 90% of LWE violence, classified as the most LWE-affected districts, decreased from 35 in 2018 to 30 in 2021.



### **What is Left-wing Extremism?**

- **About:**
  - **LWE** organizations are the groups that try to **bring change through violent revolution.** They are against democratic institutions and use violence to subvert the democratic processes at the ground level.
  - These groups prevent the developmental processes in the least developed regions of the country & try to misguide the people by keeping them ignorant of current happenings.
- **Reasons:**
  - **Tribal discontent:**
    - The **Forest (Conservation) Act, 1980** deprives tribals, who depend on forest produce for their living, from even cutting a bark.

Note:

- **Massive displacement** of tribal population in the naxalism-affected states due to development projects, mining operations and other reasons.
- **Easy Target for Maoists:** Such people who do not have any source of living are taken into naxalism by Maoists.
  - Maoists provide arms and ammunitions and money to such people.
- **Gaps in the socio-economic system of the country.**
  - Government measuring its success on the basis of number of violent attacks rather than the development done in the naxal-affected areas.
  - **Absence of strong technical intelligence** to fight with Naxalites.
  - Infrastructural problems, for instance, some villages are not yet connected properly with any communication network.
- **No Follow-Up from administration:** It is seen that even after police takes hold of a region, administration fails to provide essential services to the people of that region.
- **Confusion over tackling naxalism** as a social issue or as a security threat.
- **State governments** considering naxalism as the central government's issue and thus are not taking any initiatives to fight it.

### **What are the Government Initiatives to control LWE?**

- **SAMADHAN doctrine** is the one-stop solution for the LWE problem. It encompasses the entire strategy of government from short-term policy to long-term policy formulated at different levels. SAMADHAN stands for-
  - **S-** Smart Leadership
  - **A-** Aggressive Strategy
  - **M-** Motivation and Training
  - **A-** Actionable Intelligence

- **D-** Dashboard Based KPIs (Key Performance Indicators) and KRAs (Key Result Areas)
- **H-** Harnessing Technology
- **A-** Action plan for each Theatre
- **N-** No access to Financing
- **The national strategy to counter LWE** was formed in **2015** as a multipronged approach to combat LWE. Its main aim was to ensure participatory governance and protection of the rights of local tribals, inter alia.
- Intelligence sharing and raising of a separate 66 Indian Reserved Battalion (IRBs) was done by the government to curb the menace of LWE organizations.
- **National Policy and Action Plan in 2015:** It consists of a **multi-pronged approach** comprising security measures, development initiatives and ensuring rights & entitlements of local communities.
  - **The Ministry of Home Affairs (MHA) is supporting the State Governments** extensively by way of deployment of **Central Armed Police Force (CAPF)** Battalions, provision of helicopters and UAVs and sanction of India Reserve Battalions (IRBs)/ Special India Reserve Battalions (SIRBs) etc.
  - Funds are provided under **Modernization of Police Force (MPF), Security Related Expenditure (SRE) Scheme and Special Infrastructure Scheme (SIS)** for modernization and training of State Police.
  - **Several development initiatives have been implemented** for construction of roads, installation of mobile towers, skill development, improving network of banks and post offices, health and education facilities.
  - Funds for development are also provided to most **LWE affected districts** under the **Special Central Assistance (SCA) scheme.**
- **Greyhounds:** It was raised in 1989 as an elite anti-naxal force.
- **Operation Green Hunt:** It was started in 2009-10 and massive deployment of security forces was done in the naxal-affected areas.



Note:



