



## Loss of Mangrove Cover on Katchal Island

**For Prelims:** National Aeronautics and Space Administration (NASA), Nicobar archipelago, Mangrove cover

**For Mains:** Significance of Mangroves ecosystem

### Why in News?

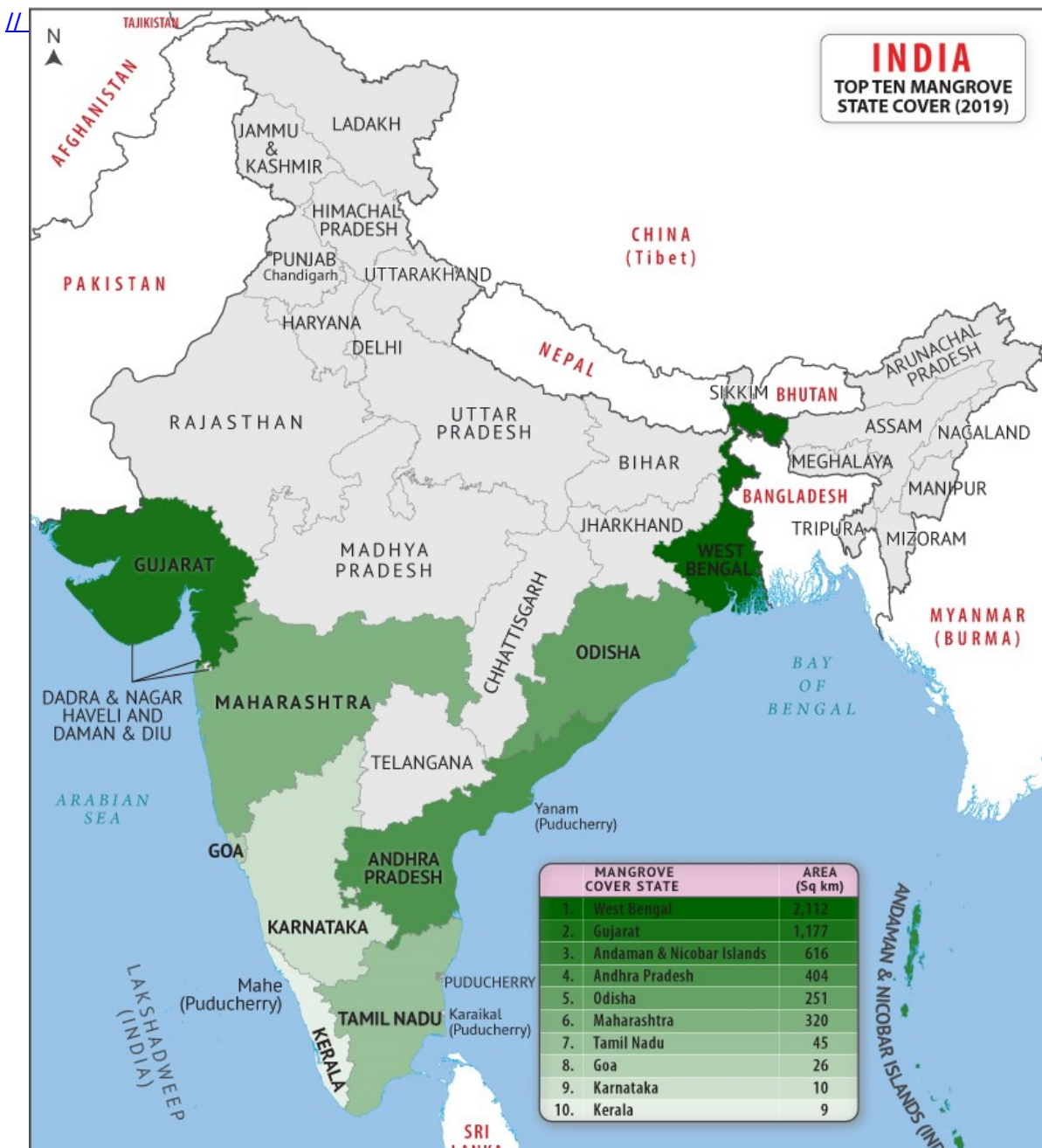
Recently, a study by the [National Aeronautics and Space Administration \(NASA\)](#), highlighted the loss of [mangrove cover](#) on Katchal island, part of India's [Nicobar archipelago](#).

- It showed the extent to which mangroves had been lost globally over the past two decades.

### What are Mangroves?

- **About:**
  - Mangroves are tropical plants that are adapted to loose, wet soils, salt water, and being periodically submerged by tides.
- **Features:**
  - **Saline environment:** They can survive under extreme hostile environments such as high salt and low oxygen conditions.
  - **Low oxygen:** Underground tissue of any plant needs oxygen for respiration. But in a mangrove environment, the oxygen in soil is limited or nil.
    - For the purpose of breathing, they develop special roots called **pneumatophores**.
  - **Survival in Extreme Conditions:** With their roots submerged in water, mangrove trees **thrive in hot, muddy, salty conditions** that would quickly kill most plants.
  - **Viviparous:** Their seeds germinate while still attached to the parent tree. Once germinated, the seedling grows into a propagule.
    - **A propagule is a vegetative structure that can become detached from a plant and give rise to a new plant.** Examples include a bud, sucker, or spore.
- **Significance:**
  - Mangroves **trap and cycle various organic materials, chemical elements, and important nutrients in the coastal ecosystem.**
  - They provide one of the basic food chain resources for marine organisms.
  - They provide **physical habitat and nursery grounds for a wide variety of marine organisms**, many of which have important recreational or commercial value.
  - Mangroves also, **serve as storm buffers by reducing wind and wave action in shallow shoreline areas.**
- **Area Covered**
  - **Global Mangrove Cover:**
    - The total mangrove cover in the world is one 1,50,000 sq kms.
    - **Asia has the largest number of mangroves worldwide.**
      - South Asia comprises 6.8% of the world's mangrove cover.
  - **Indian Mangrove Cover:**
    - **India's contribution is 45.8%** total mangrove cover in South Asia.

- According to the [Indian State Forest Report 2021](#), Mangrove cover in India is 4992 sq. Km which is **0.15% of country's total geographical area**.
- **Largest Mangrove Forest: Sundarbans** in West Bengal are the largest mangrove forest regions in the world. It is listed as a [UNESCO World Heritage Site](#).
  - The forest is home to the [Royal Bengal tiger](#), [Gangetic dolphins](#) and [Estuarine crocodiles](#).
- **Bhitarkanika Mangroves:** The second largest mangrove forest in India is [Bhitarkanika](#) in Odisha created by the two river deltas of River **Brahmani** and **Baitarani**.
  - It is one of the most significant [Ramsar wetlands](#) in India.
- **Godavari-Krishna Mangroves, Andhra Pradesh:** The [Godavari-Krishna mangroves](#) extend from Odisha to Tamil Nadu.



## What are the Key Highlights of the Study?

- The study shows the real extent of tidal wetlands lost between 1992 and 2019 on Katchal Island in

the Nicobar Islands in the eastern Indian Ocean.

- The mangroves had the **highest ratio of loss** to gain among the three types of tidal wetlands it studied.
  - The other two were tidal flats and marshes.
- Mangroves showed an estimated net decrease of 3,700 square kilometers between 1999 and 2019.
  - Despite the losses, there have been **gains of 2,100 square kilometers** indicating the considerable dynamism of these systems.
- **Reasons for loss:**
  - **Natural cause:**
    - There was an earthquake with a magnitude of 9.2 during the [Tsunami](#) of 2004, during which the islands experienced up to 3 meters (10 feet) of land subsidence.
      - This **submerged many mangrove ecosystems**, resulting in a loss of more than 90% of mangrove extent in some areas.
  - **Other Factors:**
    - [Sea level rise](#), shoreline erosion, storms, altered sediment flow, and subsidence.
- **Human Induce:**
  - Some 27% of the losses and gains were directly caused by human activity.
    - They alter wetlands through development, water diversion projects, or by converting the land to [agriculture](#) or aquaculture.
- **Present Status:**
  - It's very difficult that the earlier mangrove cover will ever come back but there has been a rise in their numbers in other places since they propagate themselves through **propagules**.

## Way Forward

- Conservation needs to be linked with a broader perspective with active community involvement, environmental security, and reducing any risks from natural calamities.
  - Such measures need to be adopted more holistically in view of anticipatory adaptation measures which hold the clue for successful and effective management.

## UPSC Civil Services Examination Previous Year Question (PYQ)

### Prelims

**Q. Which one of the following regions of India has a combination of mangrove forest, evergreen forest and deciduous forest? (2015)**

- (a) North Coastal Andhra Pradesh
- (b) South-West Bengal
- (c) Southern Saurashtra
- (d) Andaman and Nicobar Islands

**Ans: (d)**

**Exp:**

- North coastal Andhra Pradesh has mangroves and dry evergreen forests.
  - South West Bengal has mangroves and evergreen forests.
  - Southern Saurashtra has mangroves, dry deciduous, tropical thorn forests etc.
  - The tropical islands of Andaman and Nicobar have a combination of mangrove forests, evergreen forests and deciduous forests.
- Therefore, option (d) is the correct answer.

### Mains

**Q. Discuss the causes of depletion of mangroves and explain their importance in maintaining coastal**

Source: DTE

## Criminal Procedure (Identification) Act, 2022

**For Prelims:** Lok Sabha, Indian Penal Code, preventive detention, National Crime Records Bureau, fundamental rights of citizens, right to privacy, The Criminal Procedure (Identification) Bill, 2022

**For Mains:** The Criminal Procedure (Identification) Bill, 2022 and issues, Judgements & Cases, Fundamental Rights

### Why in News?

Recently, the **Criminal Procedure (Identification) Act, 2022** has come into force after being passed by the Parliament in April 2022.

- It replaces the [Identification of Prisoners Act, 1920](#), a colonial era law, and authorises **police officers to take measurements of people convicted, arrested or facing trial in criminal cases.**



### A comparison between the two Identification Acts

The previous Identification of Prisoners Act, 1920 and the freshly notified Criminal Procedure (Identification) Act, 2022 have similarities as well as major differences. A quick look at how "measurements" of convicts and arrested persons will be collected from now on

Relevant provisions	Identification of Prisoners Act	Criminal Procedure Identification Act
Persons whose measurements can be taken	should be convicted of an offence punishable with rigorous imprisonment of one year or upwards	if convicted of an offence punishable under any law
	should be arrested for an offence punishable with rigorous imprisonment of one year or upwards	if arrested for an offence punishable under any law or if detained under preventive detention laws
	if directed by the Magistrate for measurements to be taken for the purposes of investigation of proceedings under the CrPC, provided the person has been arrested in connection with such investigation previously	if directed by the Magistrate for measurements to be taken for the purposes of investigation of proceedings under the CrPC or any other law in force; there is no requirement for the person to have been arrested in connection with such proceedings previously
	ordered to give security for his good behaviour under CrPC	ordered to give security for his good behaviour under CrPC
Measurements that can be taken	finger impressions, foot impressions, measurements and photographs	finger-impressions, palm-print impressions, foot-print impressions, photographs; iris and retina scan; physical, biological samples and their analysis; behavioural attributes including signatures, handwriting or any other examination referred to in section 53 or section 53A of the CrPC, 1973
Destruction of measurements	in case of acquittal, discharge or release, if not previously convicted of any offence punishable with rigorous imprisonment of one year or upwards	in case of acquittal, discharge or release, if not previously convicted of any offence punishable with rigorous imprisonment for any term. For convicts, records are to be destroyed from 75 years of collection



## What is the Criminal Procedure (Identification) Act, 2022?

- It provides **Legal sanction to the police to take physical and biological samples of convicts** as well as those accused of crimes.
- The police as per section 53 or section 53A of the [Code of Criminal Procedure \(CrPC\), 1973](#), can **collect Data**.
  - **Data that can be collected:** Finger-impressions, Palm-Print impressions, Footprint impressions, Photographs, Iris and Retina scan, Physical, Biological samples and their analysis, Behavioural Attributes including signatures, Handwriting or any other examination
  - CrPC is the **primary legislation regarding the procedural aspects of criminal law**.
- Any person convicted, arrested or detained under any preventive detention law will be required to provide "measurements" to a police officer or a prison official.
- [National Crime Records Bureau \(NCRB\)](#) will store, preserve, share with any law enforcement agency and destroy the record of measurements at national level. The records can **be stored up to a period of 75 years**.
- It aims to **ensure the unique identification of those involved with crime and to help investigating agencies** solve cases.

## What is the Need to Replace the Previous Act?

- In 1980, the 87<sup>th</sup> Report of the [Law Commission of India](#) undertook a review of this legislation and **recommended several amendments**.
  - This was done in the backdrop of the State of *UP vs Ram Babu Misra case*, where the [Supreme Court](#) had highlighted the **need for amending this law**.
- The first set of recommendations laid out the need to amend the Act to **expand the scope of measurements to include "palm impressions", "specimen of signature or writing" and "specimen of voice"**.
- The second set of recommendations raised the need to allow measurements to be taken for proceedings other than those under the Code of Criminal Procedure (CrPC).
- The Law Commission Report also notes that the **need for an amendment is reflected by the numerous amendments made to the Act by several States**.
- It was felt that with advancements in forensics, there is a need to **recognise more kinds of "measurements"** that can be used by law enforcement agencies for investigation.

## What is the Significance of the Act?

- **Modern Techniques:**
  - The Act makes **provisions for the use of modern techniques to capture and record** appropriate body measurements.
    - The existing law allowed **taking only fingerprint and footprint impressions** of a limited category of convicted persons.
- **Help Investing Agencies:**
  - It **seeks to expand the 'ambit of persons'** whose measurements can be taken as this will **help the investigating agencies to gather sufficient legally admissible evidence** and establish the crime of the accused person.
- **Making Investigation More Efficient:**
  - It provides legal sanction for taking appropriate body measurements of persons who are required to give such measurements and will **make the investigation of crime more efficient and expeditious** and will also help in increasing the conviction rate.

## What are the Issues with Law?

- **Violation of Privacy:**
  - Seemingly technical, the legislative proposal **undermines the [right to privacy](#)** of not only persons convicted of crime but **also every ordinary Indian citizen**.
  - It has provisions to collect samples **even from protestors engaged in political protests**.
- **Ambiguous Provisions:**

- Replacing the 1920 Identification of Prisoners Act, the proposed law considerably expands its scope and reach.
- The phrase '**biological samples**' is not described further, hence, it could involve **bodily invasions such as drawing of blood and hair**, collection of DNA samples.
- These are acts that **currently require the written sanction of a magistrate**.
- **Violation of Article 20:**
  - Enables coercive **drawing of samples and possibly involves a violation of Article 20(3)**, which protects the right against self-incrimination.
  - The Bill implied use of force in collection of biological information, could also lead to [narco analysis and brain mapping](#).
- **Handling Data:**
  - The records will be preserved for 75 years, the other concerns **include the means by which the data collected will be preserved, shared, disseminated**, and destroyed.
  - Collection can also **result in mass surveillance**, with the database under this law **being combined with other databases** such as those of the **Crime and Criminal Tracking Network and Systems (CCTNS)**.
    - Crime and Criminal Tracking Network & Systems (CCTNS) is a plan scheme conceived in the light of experience of a non-plan scheme namely - Common Integrated Police Application (CIPA).
- **Unawareness among Detainees:**
  - Although it provides that **an arrested person (not accused of an offence against a woman or a child) may refuse the taking of samples**, not all detainees may know that they can indeed decline to let biological samples be taken.
  - And it may be easy for the police to ignore such refusal and later claim that they did get the detainee's consent.

## Way Forward

- The concern over privacy and the safety of the data is undoubtedly significant. Such practices that involve the collection, storage and destruction of vital details of a personal nature ought to be introduced only after a strong [data protection law](#), with stringent **punishment for breaches, is in place**.
- Depriving law enforcement agencies of the use of the latest technologies would be a grave disservice to victims of crimes, and the nation at large. Besides **better scrutiny and data protection law, measures need to be taken for better implementation** of the law as well.
- The need is to have **more experts to collect measurements from the scene of crime, more forensic labs, and equipment** to analyse them to identify possible accused involved in a criminal case.

[Source: TH](#)

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## Booster Dose: Corbevax

**For Prelims:** Vaccines and types, Corbevax, Spike Protein

**For Mains:** Mechanism of Vaccine in treating viral infection, Types of Vaccines

## Why in News?

Recently, the government of India announced that those who have received [Covishield](#) or Covaxin as

their first or second dose for [Covid-19](#) can take **Corbevax as the third booster shot.**

- Corbevax is still awaiting [World Health Organisation's Emergency Use Listing \(EUL\)](#).
- Until now, the third dose **had to be the same vaccine** that was used for the first and second doses.
- The decision comes after [India's drug regulator](#) approved Corbevax as a **heterologous Covid booster dose** for individuals aged 18 years.

## What is WHO's Emergency Use Listing (EUL)?

- EUL is a **risk-based procedure** for **assessing and listing** unlicensed vaccines, therapeutics and in-vitro diagnostics with the ultimate aim of **expediting the availability of products to people** affected by a [public health emergency](#).
- **International travel in many countries** requires people to get a vaccine that's on the **WHO's approved list**.

## What do we know about the Corbevax Vaccine?

- **About:**
  - Corbevax is India's first **indigenously developed Receptor Binding Domain (RBD) protein sub-unit vaccine** against Covid, **with two doses scheduled 28 days apart**.
  - It can be **stored at 2-8 degrees Celsius**, which is best suited for India's requirements.
- **Working Process:**
  - Corbevax is a **"recombinant protein sub-unit"** vaccine, which means it is made up of a **specific part of SARS-CoV-2: the spike protein on the virus's surface**.
    - The **spike protein allows the virus to enter the cells** in the body so that it can **replicate and cause disease**.
    - However, when this **protein alone is given to the body**, it is not expected to be harmful as **the rest of the virus is absent**.
      - The body is **expected to develop an immune response against the injected spike protein**.
        - Once the [human immune system](#) recognises the protein, it produces [antibodies](#) as [white blood cells](#) to fight the infection.
      - Therefore, when the **real virus attempts to infect the body**, it will **already have an immune response ready** that will make it **unlikely for the person to fall severely ill**.

## What are other types of Vaccines?

- **Inactivated vaccines:**
  - [Inactivated vaccines](#) use the **killed version of the germ that causes a disease**.
  - Vaccines of this type are created by **inactivating a pathogen, typically using heat or chemicals such as formaldehyde or formalin**.
    - This destroys the **pathogen's ability to replicate**, but keeps it **"intact"** so that the **immune system can still recognize it**. ("Inactivated" is generally used rather than "killed" to refer to viral vaccines of this type, as viruses are generally not considered to be alive.)
- **Live-attenuated Vaccines:**
  - Live vaccines use a **weakened (or attenuated) form of the germ that causes a disease**.
  - Because these vaccines are so similar to the natural infection that they help prevent, **they create a strong and long-lasting immune response**.
- **Messenger (m) RNA Vaccines:**
  - mRNA vaccines make proteins in order to **trigger an immune response**. mRNA vaccines have **several benefits compared to other types of vaccines**, including **shorter manufacturing times**, because they do not contain a live virus, **no risk of causing**

**disease in the person getting vaccinated.**

- The vaccines are used to protect against: Covid-19.

▪ **Toxoid Vaccines:**

- They use a **toxin (harmful product) made by the germ that causes a disease.**
  - They **create immunity to the parts of the germ that cause a disease** instead of the germ itself. That means the **immune response is targeted to the toxin instead of the whole germ.**

▪ **Viral Vector Vaccines:**

- Viral vector vaccines use a **modified version of a different virus** as a vector to deliver protection.
- Several different viruses have been used as vectors, including **influenza, vesicular stomatitis virus (VSV), measles virus, and adenovirus**, which causes the common cold.

## **UPSC Civil Services Examination, Previous Year Questions (PYQs)**

### **Prelims**

**Q. With reference to recent developments regarding 'Recombinant Vector Vaccines', consider the following statements: (2021)**

1. Genetic engineering is applied in the development of these vaccines.
2. Bacteria and viruses are used as vectors.

**Which of the statements given above is/are correct?**

- (a) 1 only  
(b) 2 only  
(c) Both 1 and 2  
(d) Neither 1 nor 2

**Ans: (c)**

**Explanation:**

- Recombinant vector vaccines are made through genetic engineering. The gene that creates the protein for a bacteria or virus is isolated and placed inside another cell's genes. When that cell reproduces, it produces vaccine proteins that mean the immune system will recognize the protein and protect the body against it. Hence, statement 1 is correct.
- Live recombinant bacteria or viral vectors effectively stimulate the immune system as in natural infections and have intrinsic adjuvant properties. They are used as the channel for the entry into the host organism.
  - Several bacteria have been used as vectors, such as Mycobacterium bovis BCG, Listeria monocytogenes, Salmonella spp. and Shigella spp.
  - Numerous viral vectors are available for vaccine development, such as vaccinia, modified vaccinia virus Ankara, adenovirus, adeno-associated virus, retrovirus/lentivirus, alphavirus, herpes virus, etc. Hence, statement 2 is correct.
- **Therefore, option (c) is the correct answer.**

### **Mains**

**Q. COVID-19 pandemic has caused unprecedented devastation worldwide. However, technological advancements are being availed readily to win over the crisis. Give an account of how technology was sought to aid management of the pandemic. (2020)**



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# World Lion Day 2022

## Why in News?

[World Lion Day](#) is observed on 10<sup>th</sup> August annually to spread awareness and educate people about lions and their conservation.

## What is World Lion Day and its Significance?

- **About:**
  - World Lion Day aims at **spreading awareness of lions and the urgent need to strive toward their conservation** and to make everyone aware of the significance of lions in their natural habitat.
  - The initiative to protect the big cats **started in 2013 and the first World Lion Day was celebrated that year.**
- **Significance:**
  - An opportunity to understand **the place of lions in the ecological cycle and why their extinction can be an alarming sign** for humans.
  - Lions supposedly wandered through Asia, Africa, Europe, and the Middle East some three million years ago, however, their numbers have significantly decreased by about 95% over the course of five decades.

## What are the Key Points Related to Lion?

- **Scientific Name:** *Panthera leo*
  - The lion is divided into **two subspecies**: the African lion (*Panthera leo leo*) and the [Asiatic lion \(\*Panthera leo persica\*\)](#).
    - Asiatic lions are slightly smaller than African lions.
    - The most striking morphological character, which is always seen in Asiatic lions, and rarely in African lions, is a longitudinal fold of skin running along its belly.
- **Role in the Animal Kingdom:**
  - Lions hold an **indispensable place in the ecosystem**, they are an apex predator of their habitat, responsible for checking the population of grazers, thus helping in maintaining the ecological balance.
  - Lions also **contribute to keeping the population of their prey healthy and resilient as they target the weakest members** of the herd. Thus, indirectly helping in disease control in the prey population.
- **Threats:**
  - Poaching, genetic inbreeding arising from a single population inhabiting one place, diseases such as plague, canine distemper or a natural disaster.
- **Protection Status:**
  - [IUCN Red List](#): Vulnerable
    - Asiatic Lion - **Endangered**.
  - [CITES](#): Appendix I for populations of India, all other populations are included in Appendix II.
  - [Wildlife \(Protection\) Act 1972](#): Schedule I
- **Status in India:**
  - India is home to the majestic Asiatic Lion, who inhabit the protected territory of [Sasan-Gir National Park \(Gujarat\)](#).
  - According to the data from 2020, there are 674 lions in India, which were 523 in 2015.

## What are Conservation Efforts?

- [Project Lion](#)

## UPSC Civil Services Examination Previous Year Question (PYQ)

**Q. Consider the following statements: (2019)**

1. Asiatic lion is naturally found in India only.
2. Double-humped camel is naturally found in India only.
3. One-horned rhinoceros is naturally found in India only.

**Which of the statements given above is/are correct?**

- (a) 1 only  
(b) 2 only  
(c) 1 and 3 only  
(d) 1, 2 and 3

**Ans: (a)**

**Exp:**

- Asiatic lions were once found in regions ranging from Persia (Iran) to Eastern India. By late 1890s range of Asiatic lions got restricted to the Gir forest range of Gujarat, India. With the continuous efforts of the State and Union Government, the population of Asiatic lions increased from 523 in 2015 to 674 in 2020. Hence, statement 1 is correct.
- The double-humped camel is a native of the Gobi Desert and is found on a vast expanse of cold-desert areas across Mongolia, China, Kazakhstan, Turkmenistan, Uzbekistan and parts of Afghanistan. **Hence, statement 2 is not correct.**
- The one horned rhinoceros are found in North- Eastern India and the Terai grasslands of Nepal. **Hence, statement 3 is not correct.**
- **Therefore, option (a) is the correct answer.**

**Source: ET**

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## UN Military Observer Group in India and Pakistan

**For Prelims:** UNMOGIP, UNSC, UNCIP, Karachi Agreement, Shimla Agreement.

**For Mains:** Point of contention over UNMOGIP.

### Why in News?

Recently, [U.N. Secretary General](#) has appointed **Rear Admiral Guillermo Pablo Rios** of Argentina as the **Head of Mission and Chief Military** Observer for the **United Nations Military Observer Group**

in India and Pakistan (UNMOGIP).

## What is UNMOGIP?

- It was established in January 1949.
- After the first war in Kashmir (1947-1948), India approached the [United Nations Security Council \(UNSC\)](#) to bring the conflict in Kashmir to the notice of Security Council members.
- In January 1948, the **UNSC adopted Resolution 39**, establishing the three-member **United Nations Commission for India and Pakistan (UNCIP)** to investigate and mediate the dispute.
- In April 1948, by its Resolution 47, the UNCIP was reconstituted as UNMOGIP.

## What is the Function of UNMOGIP?

- The [Karachi Agreement](#) of July 1949 firmed up the role of UN-level military observers and **permitted supervision of the Ceasefire Line** established in Jammu and Kashmir.
  - After the **1<sup>st</sup> Indo-Pak armed conflict in 1948** under the supervision of the UNCIP, military representatives of both Pakistan and India met in Karachi and signed the Karachi Agreement on 27<sup>th</sup> July 1949.
  - It established a **Cease-Fire Line (CFL) in Kashmir**.
- UNMOGIP has **six field stations in Pakistan-administered Kashmir (PAK)** and four field stations in **Indian-administered Kashmir (IAK)** to monitor ceasefire.
- Following renewed hostilities of 1971, UNMOGIP has **remained in the area to observe developments pertaining to the strict observance** of the ceasefire of 17 December 1971 and report thereon to the UN Secretary-General.

## Why does the UNMOGIP seem Contentious for India?

- India officially maintains that the **UNMOGIP's role was "overtaken" by the [Simla Agreement of 1972](#)** that established the **Line of Control (LoC)**.
  - In the **Shimla Agreement**, India and Pakistan agreed to move the ceasefire line to the Line of Control and **to resolve their disputes bilaterally, without the intervention of a third party**.
  - Kashmir and the Pakistan-sponsored terrorism **within now is largely an internal matter of India**.
- Since 1972 India has not gone to UNMOGIP with complaints against Pakistan.
- In 2014, **India requested that UNMOGIP cease operations in Kashmir**, and the Ministry of External Affairs (MEA) reiterated in 2017 that **UNMOGIP has no mandate to monitor the situation in Kashmir**.
- Pakistan, on the other hand, does not accept the **Indian argument and continues to seek cooperation from the UNMOGIP**.
- As a result of these divergent policies, Pakistan continues to lodge complaints with the UNMOGIP against **alleged Indian ceasefire violations**.

## What is United Nations Security Council Resolution 47?

- **About:**
  - It is concerned with the **resolution of the Kashmir conflict**.
  - According to it, Pakistan was to **withdraw its nationals who had entered the State for the purpose of fighting** and to prevent future intrusions.
  - The **five member UNMOGIP reconstituted** through this resolution urged India and Pakistan to hold a plebiscite after the restoration of law and order.
  - The UN Military Observer Group in India and Pakistan (UNMOGIP) was meant to supervise the Cease Fire Line (CFL) established in Jammu and Kashmir in July 1949 under the Karachi Agreement.
  - UNMOGIP is funded **through the UN's regular budget**.
- **India's stand on Resolution 47:**
  - India rejected the **UNSC Resolution 47 and maintained that the resolution ignored the military invasion by Pakistan** and placed both nations on an equal diplomatic

ground as a dismissal of Pakistan's aggression.

- The Instrument of Accession (IoA) signed by the Maharaja of Kashmir was ignored in the resolution.

▪ **Pakistan's stand on Resolution 47:**

- It objected to even the minimum presence of Indian forces in Kashmir, as mandated by the resolution.
- It wanted equal representation in the state government for the dominant party in Pakistani-held Kashmir i.e the Muslim Conference.

[Source: TH](#)

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## Digital Currency

**For Prelims:** United Nations Trade and Development Body (UNCTAD), Digital Currency, Bitcoin, Ethereum, Blockchain, Central Bank Digital Currencies, Virtual Currencies.

**For Mains:** Significance & Challenges of Digital Currencies.

### Why in News?

According to a recent study by the [United Nations Trade and Development Body \(UNCTAD\)](#), over 7% of India's population owned [Digital Currency](#) in 2021.

- Also, **India was ranked seventh in the list of top 20 global economies** for digital currency ownership as share of population.

### What are the Other Highlights of the Study?

- Developing countries **accounted for 15 of the top 20 economies** when it comes to the share of the population that owns cryptocurrencies.
- Ukraine topped the list which is followed by Russia, Venezuela, Singapore, Kenya, and the US.
- **Global use of cryptocurrencies has increased exponentially** during the [Covid-19](#) pandemic, including in developing countries.

### What are the Issues Highlighted by the Study?

- **Unstable Financial Asset:**
  - Private digital currencies have rewarded some and facilitated remittances, but they are an **unstable financial asset** that can also **bring social risks and costs**.
- **Unregulated:**
  - As these Digital currencies are not regulated, there has been a rapid rise in their demand in developing countries as it also helps in facilitating remittances and act as a hedge against inflation.
- **Volatile System:**
  - The recent digital **currency shocks in the market suggest that there are private risks to holding crypto**, but if the central bank steps in to protect financial stability, then the problem becomes a public one.

- **Jeopardies the Monetary Sovereignty:**
  - If cryptocurrencies become a widespread means of payment and even replace domestic currencies unofficially (a process called cryptoisation), this could **jeopardies the monetary sovereignty of countries.**
- **Undermine Domestic Policies:**
  - Cryptocurrencies can undermine domestic resource mobilisation in developing countries.

## What are the Suggestions Highlighted by the Study?

- The Government can facilitate remittances, they may also enable tax evasion and avoidance through illicit flows.
- The study urged authorities to take **steps to curb the expansion of cryptocurrencies in developing countries**, including ensuring comprehensive financial regulation of cryptocurrencies by **regulating crypto exchanges, digital wallets and decentralized finance**, and **by prohibiting regulated financial institutions from holding cryptocurrencies** (including stablecoins) or offering related products to **customers.**
- It also called for **restrictions on advertising related to digital currencies**, as with other high-risk financial assets.
- Further, providing a secure, **reliable and cost-effective public payment system** that is fit for the digital age; Implement global tax harmonization on digital currency tax practices, regulations and information sharing, and redesign capital controls to accommodate the decentralized, borderless and pseudonymous characteristics of digital currencies.

## What is Digital Currency?

- **About:**
  - Digital currency is a form of currency that is available **only in digital or electronic form.**
  - It is also called digital money, electronic money, electronic currency, or cybercash.
  - It **does not have physical attributes** and is available only in digital form.
  - The transactions involving digital currencies are made **using computers or electronic wallets connected to the internet or designated networks.**
    - Whereas, physical currencies, such as banknotes and minted coins, are tangible, meaning they have definite physical attributes and characteristics.
- **Features:**
  - Digital currencies can be **centralized or decentralized.**
    - **Fiat currency**, which exists in physical form, is a centralized system of production and distribution by a **central bank and government agencies.**
    - **Prominent cryptocurrencies**, such as [Bitcoin](#) and [Ethereum](#), are examples of **decentralized digital currency systems.**
- **Types:** Different types of currencies exist in the electronic realm. Broadly, there are **three different types** of currencies:
  - **Cryptocurrencies:**
    - [Cryptocurrencies](#) are digital currencies that use cryptography to secure and verify transactions in a network.
      - Cryptography is also used to manage and control the creation of such currencies.
        - Bitcoin and Ethereum are examples of cryptocurrencies.
  - **Virtual Currencies:**
    - Virtual currencies are **unregulated digital currencies** controlled by developers or a founding organization consisting of various stakeholders involved in the process.
    - Virtual currencies can also be algorithmically controlled by a defined network protocol.
      - An example of a virtual currency is a **gaming network token whose economics is defined and controlled by developers.**
  - **Central Bank Digital Currencies:**
    - [Central bank digital currencies \(CBDCs\)](#) are **regulated digital currencies issued by the central bank of a country.**
      - A CBDC can be a **supplement or a replacement to traditional fiat currency.**



- Unlike fiat currency, which exists in both physical and digital form, a CBDC **exists purely in digital form.**
  - England, Sweden, and Uruguay are a few of the nations that are considering plans to launch a digital version of their native fiat currencies.

Digital Currencies	Virtual Currencies	Cryptocurrencies
Regulated or unregulated currency that is available only in digital or electronic form.	An unregulated digital currency that is controlled by its developer(s), its founding organization, or its defined network protocol.	A virtual currency that uses cryptography to secure and verify transactions as well as to manage and control the creation of new currency units.

▪ **Advantages:**

◦ **Fast Transaction time:**

- Because digital currencies **generally exist within the same network and accomplish transfers without intermediaries**, the amount of time required for transfers involving digital currencies is extremely fast.

◦ **Do not require Physical Manufacturing & Saves Cost:**

- Many requirements for **physical currencies**, such as the **establishment of physical manufacturing facilities**, are **absent for digital currencies**. Such currencies are also **immune to physical defects or soiling that are present in physical currency**.

◦ **Ease Implementation of Monetary and Fiscal Policy:**

- Under the current currency regime, the Central bank works through a series of intermediaries—banks and financial institutions—to circulate money into an economy. **CBDCs can help circumvent this mechanism and enable a government agency to disburse payments directly to citizens.**

◦ **Make Transaction Costs Cheaper:**

- Digital currencies **enable direct interactions within a network**. For example, a customer can pay a shopkeeper directly as long as they are situated in the same network.

▪ **Disadvantages:**

◦ **Susceptible to Hacking:**

- Their **digital provenance makes digital currencies susceptible to hacking**. Hackers can steal digital currencies from online wallets or change the protocol for digital currencies, making them unusable.

◦ **Volatile Value:**

- Digital currencies used for **trading can have wild price swings**.
- For example, the decentralized nature of cryptocurrencies has resulted in a profusion of thinly capitalized digital currencies whose prices are prone to sudden changes based on investor whims.

## UPSC Civil Services Examination Previous Year Question (PYQ)

### Prelims

**Q. With reference to “Blockchain Technology”, consider the following statements: (2020)**

1. It is a public ledger that everyone can inspect, but which no single user controls.
2. The structure and design of blockchain is such that all the data in it are about cryptocurrency only.
3. Applications that depend on basic features of blockchain can be developed without anybody's permission.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 1 and 2 only
- (c) 2 only
- (d) 1 and 3 only

**Ans: (d)**

**Exp:**

- **A blockchain is a form of public ledger, which is a series (or chain) of blocks** on which transaction details are recorded and stored on a public database after suitable authentication and verification by the designated network participants. A public ledger can be viewed but cannot be controlled by any single user. **Hence, statement 1 is correct.**
- **The blockchain is not only about the cryptocurrency but it turns out that blockchain is actually a pretty reliable way of storing data about other types of transactions**, as well.
- In fact, blockchain technology can be used in property exchanges, bank transactions, healthcare, smart contracts, supply chain, and even in voting for a candidate. **Hence, statement 2 is not correct.**
- Although cryptocurrency is regulated and needs approval of the central authorities, blockchain technology is not only about cryptocurrency. It can have various uses, and applications based on basic features of the technology can be developed without anybody's approval. **Hence, statement 3 is correct. Therefore, option (d) is the correct answer.**

**Source: BS**

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## SMILE-75 Initiative

**For Prelims:** SMILE Scheme, Central Sector Schemes, National Institute of Social Defence, National Backward Classes Finance & Development Corporation

**For Mains:** SMILE Scheme for beggars and its significance in enhancing their livelihood, Decriminalization of begging, status of beggars in India

## Why in News?

The Government of India has formulated a comprehensive scheme of **SMILE (Support for Marginalised Individuals for Livelihood and Enterprise)** to address the persisting problem of destitution and beggary.

- Under the “SMILE-75” Initiative, 75 [Municipal Corporations](#) will undertake **comprehensive rehabilitation** of persons engaged in the act of begging in the spirit of [Azadi ka Amrit Mahotsav](#).

## What do we need to know about the SMILE 75-Initiative?

- **Aim:**
  - Municipal Corporations, in collaboration with [NGOs](#) and other stakeholders will cover several comprehensive welfare measures for **persons who are engaged in the act of begging**, with focus extensively on **rehabilitation**, provision of **medical facilities, counselling, awareness, education, skill development, economic linkages** and **convergence with other Government welfare programmes etc.**
    - The Ministry of Social Justice & Empowerment has also **allocated a total budget of Rs.100 crore** for the SMILE project for **coming years till 2025-26.**
  - It seeks to develop a **support mechanism** for holistic rehabilitation of those engaged in the act of begging.
- **Implementing Ministry:**
  - **The Ministry of Social Justice and Empowerment.**
- **Components:**
  - **It includes the sub-scheme of:**
    - Comprehensive Rehabilitation of **persons engaged in the act of Begging**
- **Objectives:**
  - To make cities/town and municipal areas **begging-free.**
  - To make a **strategy for comprehensive rehabilitation** of the persons engaged in the act of begging through the coordinated action of various stakeholders.

## What is the status of Beggars in India?

- According to the [Census 2011](#), the total number of beggars in India is **4,13,670** (including **2,21,673 males** and **1,91,997 females**) and the **number has increased from the last census.**
- **West Bengal** tops the chart followed by **Uttar Pradesh and Bihar** at number two and three respectively. Lakshadweep merely has **two vagrants according to the 2011 census.**
- Among the union territories, **New Delhi had the largest number of beggars** 2,187 followed by 121 in **Chandigarh.**
- Among the northeastern states, **Assam topped the chart** with 22,116 beggars, while **Mizoram ranked low** with 53 beggars.

[Source: PIB](#)

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