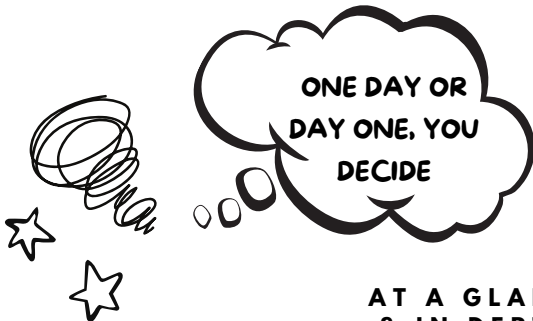


# OFFICERS' PULSE

Issue no. 44 | 27th March to 2nd April, 2022



**AT A GLANCE  
& IN DEPTH.**

## **COVERAGE.**

The Hindu

The Indian Express

PIB

Rajya Sabha TV

All India Radio

Polity and Social Issues

Economy

International Relations

Environment

Science and Tech

Culture

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# News @ a glance

## POLITY

### 1) Common University Entrance Test

#### What's in the news?

- The University Grants Commission (UGC) has made it **mandatory for all 45 Central universities** to admit students to undergraduate programmes from 2022-23 based on scores obtained in the Common University Entrance Test (CUET) **conducted by the National Testing Agency (NTA)**.

#### What is the CUET and who will use it?

- The CUET is a computer-based test that will be conducted by the NTA in the first week of July based on the National Council of Educational Research and Training (NCERT) syllabus for Class 12.
- All admissions into undergraduate courses at Central universities funded by UGC will mandatorily be based on CUET scores from 2022-23, replacing institution-specific entrance examinations or the ranking policy using Class 12 scores for admission.
- **Other universities** — whether State-owned, private or deemed — are also **free to use CUET scores** for their own admissions as well. Technical courses already using the Joint Entrance Examination (JEE) are exempt, but skill-based professional courses like Music, Art, Theatre and Fine Arts can use a combination of the CUET score along with an interview or practical test.
- CUET scores will be needed for **admission to general category as well as reserved seats**, but each university's reservation policy or seat quota for local students will not be changed. Class 12 board examination

scores can still be used as a minimum qualifying mark, depending on the policies of individual universities.

#### What is the need for a common entrance test?

- The **National Education Policy, 2020** proposed a common university entrance test as a way of ensuring uniform quality while reducing the cost and efforts of all stakeholders.
- CUET would provide an **equal opportunity to students** from across the country that seek admission from different boards, especially those from remote and rural areas. Since students will not have to sit for multiple entrance examinations, it will also **cut their financial costs**.

#### Why are some people opposed to CUET?

- One of the major complaints about mass entrance examinations such as JEE or NEET is that they **spur a large-scale coaching industry**. They argue that admission through CUET will make the terrain even more unequal. Such a filter will result in an **additional expenditure of parents and students** towards coaching and therefore, **marginalise those coming from disadvantageous backgrounds**.
- They pointed to the **Madras High Court's recent observations that NEET** has only benefited students who spend lakhs of rupees on coaching classes, putting rural students at a disadvantage. They also warned that CUET would **curb the autonomy and unique characteristics of universities**.
- The other worry is **CUET's impact on school education**. Critics argue that, already, entrance tests like JEE and NEET encourage students to enrol in

coaching centres and totally disregard their Class 11 and 12 classes. CUET's impact will be similar, on a much vaster scale.

## 2) Pradhan Mantri Garib Kalyan Anna Yojana

### What's in the news?

- The Union Cabinet, chaired by Prime Minister Narendra Modi has extended the Pradhan Mantri Garib Kalyan Anna Yojana (PM-GKAY) for another six months till September 2022, providing **free 5 kg food grains per person per month to over 80 crore beneficiaries** covered under the National Food Security Act (NFSA) to reduce the hardships of people during the COVID pandemic. It will cost the central exchequer an additional Rs 80,000 crore.
- The scheme was launched by the Centre in March 2020 after the Covid pandemic breakout.
- The additional free grains are over and above the normal quota provided under the NFSA at a highly subsidised rate of Rs 2-3 per kg.
- This will be the sixth phase of PM-GKAY. The Phase-V of the scheme was to end in March 2022.

## 3) FASTER system

### What's in the news?

- Chief Justice of India N V Ramana has launched a digital platform, '**Fast and Secured Transmission of Electronic Records**' (FASTER), to transmit court orders through a swift and secure electronic mode.
- During the launch event, the Chief Justice said that FASTER came into existence, after a news report, published in July last year, regarding a delay in the release of prisoners. The top court had granted bail to prisoners. However, there was a delay of three days in reaching physical copies of the orders to the prison officials.
- The FASTER is aimed to eliminate the situation where the release of prisoners gets delayed even after the top court grants them bail. He pointed out that the delay was solely due to jail authorities not getting the certified hard copies of the bail orders.
- The purpose of FASTER is, **orders passed by the Supreme Court or any courts have to be transmitted safely without any interference**
- FASTER will send bail orders having digital signatures of the top court officers for authentication, and this information can only be accessed by officials operating the emails, ensuring privacy and security.

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# ENVIRONMENT

## 1) Chilika Lake's Dolphin Population Falls

### What's the news?

- Months after undertaking a census in different water bodies and off the coast of Odisha, the dolphin population along Odisha's coast and in its water bodies has increased but the **number of Irrawaddy dolphins in Chilika lake has fallen**.
- Chilika lake saw the numbers of its flagship aquatic animal **drop sharply from 162 in 2021 to 151 this year**. There has also been a fall in the number of bottlenose dolphins at Chilika, from 26 in 2021 to 16 in 2022.
- Odisha now has a total of **208 Irrawaddy dolphins**.

### News in detail

- The number of dolphins have overall gone up from **544 in 2021 to 726 in 2022**.
- A total of six species of dolphins namely **Irrawaddy, bottlenose, humpback, striped, finless and spinner dolphins have been recorded**.
- The increase in the State's dolphin population is largely due to high sightings in the Mangrove Wildlife Division of the Rajnagar jurisdiction, where 540 dolphins were enumerated in 2022 compared with 342 in 2021.
- The **census exercise** for dolphins and other cetacean species included almost the entire coast of Odisha, where estimation was carried out within a width of one kilometer from the sea beach using the line transect census method at a distance of 500 meters from the beach.

### Chilika Lake

#### About the Lake



- Chilika is the **largest brackish water lake in Asia**.
- It is a **shallow lagoon** with estuarine character spread across the districts of **Puri, Khurda and Ganjam in the state of Odisha** in eastern India.
- Freshwater comes from 52 small and large rivers that drain into the lake, largely from Daya and Bhargavi rivers.
- It is the **largest wintering ground for migratory waterfowl** found anywhere on the Indian sub-continent. Flocks of migratory waterfowl arrive from as far as the Caspian Sea, Lake Baikal, Aral Sea, remote parts of Russia, Kirghiz steppes of Mongolia, Central and South East Asia, Ladakh and the Himalayas, to feed and breed in its fertile waters.
- Chilika lake has been designated as a **"Ramsar Site"**, i.e. a wetland of International Importance.
- The lake was also included in the **Montreux Record** (Threatened list) in 1993 by Ramsar Secretariat due to the change in the ecological character of the lake ecosystem. Subsequently, however, due to successful restoration of the lake ecosystem by Chilika Development Authority it was **removed from the Montreux Record in 2002**.
- The lake's salinity varies—from 0 in the northern sector, where there is complete freshwater, to 33 in the mouth, which is complete saltwater.

- This **delicate salinity gradient** between different parts of the lake supports a wide variety of ecosystems.
- Any disturbance to this salinity gradient either by incursion of more freshwater, polluted water or seawater can be **detrimental** to the health and survival of myriad species of plants and animals that Chilika supports.
- A number of islands are present in the lagoon, prominent among which are **Krushnaprasad, Nalaban, Kalijai, Somolo and Birds Islands.**

#### About Irrawaddy Dolphin

- Irrawaddy dolphins are patchily distributed throughout freshwater and coastal areas in Southeast Asia.
- There are five isolated freshwater Irrawaddy dolphin populations: in **Myanmar** they live in the Ayeyarwady River (also known as the Irrawaddy River); in **Borneo**, they live in the Mahakam River; in **Cambodia and Lao PDR** they live in the Mekong River; in **India** they live in **Chilka Lake**; and in **Thailand** they live in Songkhla Lake.
- Marine Irrawaddy dolphin populations are found in patches as they prefer to live in sheltered coastal waters where freshwater is flowing in, such as river deltas, mangrove channels, and estuaries.
- These dolphins have a bulging forehead, short beak, and 12-19 teeth on each side of both jaws.
- **Protection Status:** IUCN Red List: **Endangered**; CITES: **Appendix I**; Wildlife Protection Act (1972): **Schedule I.**

## 2) Cutting Carbon Emissions not enough: UN Report

### What's the news?

- IPCC has recently released a report highlighting that to save the world from the worst ravages of climate change, **slashing carbon pollution is no longer enough – CO2 will also need to be sucked out of the atmosphere and buried.**

### News in detail

- The IPCC Report states that even under the most aggressive carbon-cutting

scenarios, several **billion tonnes of CO2 will need to be extracted each year from the atmosphere by 2050**, and an accumulated total of hundreds of billions of tonnes by 2100.

- Emissions climbed another 20% to more than **40 billion tonnes of CO2 in 2021**. This means an abrupt **drop in carbon emissions of six or seven percent a year** is needed to avoid breaching the Paris climate treaty's goal of capping global warming at "well below" two degrees Celsius compared to pre-industrial levels.
- As of today, however, CO2 removal is nowhere near these levels.
- Hence, the **need for carbon dioxide removal (CDR), or "negative emissions"**, is likely to figure out the problem.

### What are different Carbon dioxide removal (CDR) Techniques?

- **There are at least a dozen CDR techniques on the table, with different potentials and costs which are as follows:**

#### 1. Using Bioenergy

- Most of the hundreds of models laying out a game plan for a liveable future reserve an important role for a negative emissions solution called **BECCS, or bioenergy with carbon capture and storage.**
- Eg: Grow trees, burn them for energy, and bury the CO2 underground, in an abandoned mineshaft.

#### 2. Planting Trees

- **Restoring forests and planting trees that absorb and stock CO2** as they grow also figure prominently in development scenarios achieving net-zero emissions, whether in 2050 or later.
- The **amount of land** needed to put a serious dent in CO2 levels through tree planting is up to **twice the size of India** and could clash with other priorities, such as growing food and biofuel crops.
- Biodiversity could suffer as well, especially in savannahs converted to monoculture tree farms and newly planted forests could also fall victim to wildfires made more frequent and

intense by rising temperatures, resulting in the release of all their stored CO<sub>2</sub>.

### 3. Direct Air Carbon Capture and Sequestration(DACCS)

- One of the **youngest CDR technologies** is also one of the hottest: direct air carbon capture and storage.
- DACCS is a **chemical process that extracts carbon dioxide directly from the atmosphere, converting it into a solid form or locking it away underground.**
- Because CO<sub>2</sub> in the air is so sparse, a few hundred parts per million it is a very **energy-intensive and expensive process.**

### 4. Enhanced Weathering

- Enhanced weathering involves **mining and crushing rocks rich in minerals that naturally absorb CO<sub>2</sub>, and then spreading them over land or sea.**
- It aims to vastly accelerate a process that normally unfolds on geological timescales of tens of thousands of years.
- **Silicate rocks** with minerals rich in calcium and magnesium but lacking

metal ions such as nickel and chromium are the best raw material for the job.

### 5. Ocean-based Methods

- Oceans already take up more than **30% of humanity's carbon emissions** and scientists are experimenting with ways to boost that capacity.
- One approach is to **enhance marine alkalinity**, either by directly adding natural or synthetic alkaline minerals or the electrochemical processing of seawater.
- Another approach, known as **ocean fertilization**, increases the density of tiny phytoplankton that produce and sequester organic carbon through photosynthesis, like plants on land. Adding nitrogen or iron stimulates phytoplankton growth.
- The main concern for this method includes unintended **consequences on ecosystems.**

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# ECONOMY

## 1) Real Estate (Regulation & Development) Act, 2016

### About the Act

- The real estate (regulation and development) Act 2016 was enacted with the main purpose to establish the state level regulatory authorities called **Real Estate Regulatory Authority** for regulation and promotion of the real estate sector.
- Residential real estate projects, with some exceptions, need to be **registered with RERAs**. Promoters cannot book or offer these projects for sale without registering them. Real estate agents dealing in these projects also need to register with RERAs.
- On registration, the promoter must upload details of the project on the website of the RERA. These include the site and layout plan, and schedule for completion of the real estate project.
- **70% of the amount** collected from buyers for a project must be maintained in a separate bank account (*escrow account*) and must only be used for construction of that project.
- The Act establishes state level tribunals called **Real Estate Appellate Tribunals**. Decisions of RERAs can be appealed in these tribunals.

### Why in News?

- 28 States/ Union Territories (UTs) have set up a Real Estate Appellate Tribunal and 30 States/UTs have set up the Real Estate Regulatory Authority under Real Estate (Regulation & Development) Act, 2016 (RERA).

## 2) Beyond record exports

### Context

- Recently, the value of **India's outbound shipments in the financial year 2021-22 hit \$400 billion, the**

**highest ever**. By the time the year closes on March 31, another \$10 billion worth of goods is expected to be shipped out.

- This would translate into a growth of about 41% from the pandemic-hit year of 2020-21, making it India's fastest exports growth rate since 2009-10.

### How significant is the attainment of India's \$400 billion exports target?

- First, 2021-22 reflects the first time in several years that the country has met its exports target, but for greater context, India's trend line in exports before the COVID-19 disruptions was nowhere close to this year's performance.
- India's outbound merchandise trade had clocked \$303.5 billion in 2017-18, \$330.1 billion in 2018-19 before slipping to \$313.4 billion in 2019-20, when numbers were slightly dented due to the harsh national lockdowns imposed in the last week of that financial year.
- While **higher prices of commodities and oil** helped drive up the value of exports some of India's industrial sectors shone through as well. **Engineering exports**, for instance, have jumped 46.5% to cross \$100 billion for the first time, even as **chemicals, cotton yarn, handloom products, and the apparel industry** have done well.
- India has managed to achieve its export target despite supply disruptions due to the pandemic, the challenging shortages of shipping containers and surging freight rates. Part of this could also be explained by the world shifting its **global procurement preferences to diversify their dependence on China** following the outbreak of the COVID-19 virus.
- India would hope to consolidate these gains and establish its credentials as a credible alternative to China, even as it could face stiff competition in some

sectors from Asian peers such as Vietnam and Bangladesh.

#### What about imports and the trade deficit?

- Even as exports may rise nearly \$120 billion this year, India's imports have shot up to record levels and could end up **nearly \$200 billion over 2020-21's import figure of \$393.6 billion**. The **trade deficit for the year could be around \$190 billion**, sharply higher than the \$102 billion recorded in the pandemic year.

#### What are the risk factors for Indian exports in the coming year?

- Although **India's direct trade with Russia is not significant at about 1% of its trade basket**, the **Ukraine-Russia conflict may create some more opportunities** for Indian farm produce exports, especially for crops like wheat and maize.
- But this would be **offset by a sharp rise in India's energy import bill** as well as an **uptick in costs of importing edible oils** like sunflower oil, whose production is dominated by the two nations at war.
- **India imports 80% of its oil** and demand is likely to grow as the economic recovery picks up pace, provided the pandemic doesn't resurface. This could translate into a **'term-of-trade' shock**, with elevated trade and current account deficits and sustained pressure on the rupee even as monetary tightening in the

developed world may suck out dollars from emerging markets.

- While high shipping rates, container shortages and re-alignment of trade routes around the Black Sea will pose a challenge, timely actions on the policy front could help create more export opportunities.
- First, a **swift conclusion of Free Trade Agreement pacts** being negotiated with countries like the U.K., Australia and Canada, could create easier market access in these large markets.
- Second, exporters await a **long-overdue revision of the Foreign Trade Policy for 2015-20**, that has now been extended into the first few months of 2022-23 as well.
- Third, a parliamentary committee has urged the government to **include Special Economic Zones and sectors such as pharma, steel, and chemicals under the Remission of Duties and Taxes on Export Products (RoDTEP) Scheme**, which finally kicked off last year after a significant delay.
- These could help balance out some of the bigger tectonic shifts in trading patterns from the European crisis, including a firming up of the COVID-induced inward-looking shift in nations' stance on globalisation.

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# INTERNATIONAL RELATIONS

## 1) Comprehensive Economic Partnership Agreement

### What's in the news?

- Union Minister of Commerce and Industry Piyush Goyal has unveiled the **Comprehensive Economic Partnership Agreement (CEPA) between India and the United Arab Emirates (UAE)**.
- India-UAE CEPA was signed on 18 February 2022 in New Delhi during the India-UAE Virtual Summit.

### Background:

- India and the UAE enjoy excellent bilateral relations, which are deep rooted and historical, sustained and nurtured by close cultural and civilizational affinities, frequent high-level political interactions, and vibrant people to people linkages.
- India and the UAE have been each other's leading trading partners. From US\$ 180 million per annum in the 1970s, India-UAE bilateral trade has steadily increased to US\$ 60 billion (₹4.55 lakh crore) in FY 2019-20 making the **UAE, India's third largest trading partner**.
- With exports to the UAE valued at US\$ 29 billion for the year 2019-20, the **UAE is also the second largest export destination of India**, while Indian imports from the UAE were valued around US\$ 30 billion, including 21.83 MMT (US\$ 10.9 billion) of crude oil.
- The UAE is an **important source of India's energy supply** and a key partner of India in the development of strategic petroleum reserves, upstream, and downstream petroleum sectors.
- The **UAE is also the eight largest investor in India** with an estimated investment of US\$ 18 billion.

### The salient features of India-UAE CEPA are as follows:

- The India-UAE CEPA is the **first deep and full free trade Agreement to be**

**signed by India with any country in the past decade.**

- The Agreement is a **comprehensive agreement**, which will cover Trade in Goods, Rules of Origin, Trade in Services, Technical Barriers to Trade (TBT), Sanitary and Phytosanitary (SPS) measures, Dispute Settlement, Movement of Natural Persons, Telecom, Customs Procedures, Pharmaceutical products, Government Procurement, IPR, Investment, Digital Trade and Cooperation in other Areas.

### Impact or benefits:

- CEPA provides for an **institutional mechanism** to encourage and improve trade between the two countries. The CEPA between India and the UAE covers almost all the tariff lines dealt in by India (11,908 tariff lines) and the UAE (7581 tariff lines) respectively.
- **India will benefit from preferential market access provided by the UAE on over 97 % of its tariff lines** which account for 99% of Indian exports to the UAE in value terms, especially for all labour-intensive sectors such as Gems and Jewellery, Textiles, leather, footwear, sports goods, plastics, furniture, agricultural and wood products, engineering products, medical devices, and Automobiles.
- India will also be offering **preferential access to the UAE on over 90% of its tariff lines**, including lines of export interest to the UAE.
- As regards trade in services, India has offered **market access to the UAE in around 100 sub-sectors**, while **Indian service providers will have access to around 111 sub-sectors** from the 11 broad service sectors such as 'business services', 'communication services', 'construction and related engineering services', 'distribution services', 'educational services', 'environmental services', 'financial services', 'health related and social services', 'tourism and travel related

services', 'recreational cultural and sporting services' and 'transport services'.

- Both sides have also agreed to a **separate Annex on Pharmaceuticals** to facilitate access of Indian pharmaceuticals products, especially automatic registration and marketing authorisation in 90 days for products meeting specified criteria.

#### Timelines:

- The Agreement is expected to enter into force on **01 May 2022**.
- The India-UAE CEPA will further cement the already deep, close and strategic relations between the two countries and will create new employment opportunities, raise living standards, and improve the general welfare of the peoples of the two countries.

## 2) How has BIMSTEC fine tuned its regional agenda?

#### Context

- Amid the financial crisis of 1997, leading Southeast Asian and South Asian nations came together to form the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC).
- The underlying factor behind the grouping was that if connected together, the economic powerhouses of South Asia and Southeast Asia could deal with the challenges of pursuing free market economies in the limits imposed by local political and economic factors.
- In its 25th year, and at its fifth summit held in hybrid format in Colombo, the organisation **adopted a charter which aims at providing greater coordination among the seven members — Bangladesh, Bhutan, India, Nepal, Sri Lanka, and Myanmar and Thailand.**

#### Why is there a need to revitalise the multilateral grouping?

- The new charter comes at a time when the need for an alternative **regional-global organisation** is increasingly being felt because of the **moribund**

**nature of SAARC which has not met since November 2014.**

- For long, BIMSTEC existed as a **platform for policy dialogue** but the global churning over sanctions on Russia after the war in Ukraine appears to have contributed towards fine tuning the focus of the grouping.
- It wants to be an organisation which can find autonomous space away from bigger trade and defence groupings and work for the development of the region around the Bay of Bengal.

#### What does BIMSTEC's connectivity vision aim to achieve?

- The **BIMSTEC Master Plan for Transport Connectivity** seeks to connect several major transport projects in India, Bangladesh, Myanmar and Thailand and establish a shipping network across the Bay of Bengal that will benefit the littoral states as well as the Bay of Bengal dependent states like Nepal and Bhutan.
- The **BBIN connectivity project of Bangladesh, Bhutan, India and Nepal** is expected to be merged with the port and infrastructure projects like the Sittwe port of Myanmar and Payra port of Bangladesh and Colombo of Sri Lanka.

#### Is the Free Trade Agreement plan feasible?

- A framework agreement for a Free Trade Agreement among the members of BIMSTEC was signed in 2004, and has been revived again.
- The idea is to create stronger trade relations among players in the Bay of Bengal region but negotiations on finalising legal instruments for coastal shipping, tying up road transport and other issues will take time to be sorted out.

#### What is the security pillar aiming to achieve?

- The Bay of Bengal has enormous significance from the security point of view. It borders the **Strait of Malacca** which is the main energy lane for the eastern and Southeast Asian nations.
- That apart, Indonesia, Thailand, Sri Lanka and Bangladesh have often suffered from **terrorism**. The security

relevance of BIMSTEC, therefore, has been growing especially after the **Easter Sunday bombings** in Sri Lanka in 2019.

- India will steer the security pillar of BIMSTEC and is expected to coordinate regionwide security cooperation on jointly agreed issues.

#### **Will it mediate bilateral issues?**

- BIMSTEC members like Myanmar and Bangladesh have challenges like the **Rohingya crisis** that both sides have been dealing with since 2017. The tense relations between the two countries had hampered smooth working of the BIMSTEC for some time.

- But as of now the grouping, by including Myanmar in the summit in Colombo, has indicated that it **will not interfere in domestic political problems** and nor will it allow any member to be sidelined within the organisation.
- SAARC has been weighed down by bilateral problems between India and Pakistan and a lesson probably has been learnt to keep bilateral troubles away from a regional grouping for better coordination among the members.

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# SCIENCE AND TECHNOLOGY

## 1) Mitochondria

### What's in News:

- Biologists from Centre for Cellular and Molecular Biology, Hyderabad (CCMB), have conducted a study to understand how mitochondria became an inseparable part of animal and plant cells.

### Background of the study

- Today, **mitochondria** are well known to be **integral parts of the eukaryotic cell**.
- They are dubbed the **power houses of the cell**, because they help in generating energy in the form of ATP within the cell, powering it.
- But they were not always part of the animal and plant cells.

### How it came into the part of animal/plant cells?

- Mitochondria were not always part of the animal and plant cells. Once, about two billion years ago, a **prokaryotic organism** (without a nucleus) called **archaea captured a bacterial cell**. The **bacterial cell learnt to live within the archaea** as an **endosymbiont**.
  - **Endosymbionts** are **organisms** that form a **symbiotic relationship with another cell or organism**.
- In the late 19th century, **microscopists** observed that **organelles like chloroplast** [and later mitochondria] **undergo division inside eukaryotic cells** that **resembles bacterial division**, which led them to suspect that these organelles might have arisen from bacterial endosymbionts.
- By studying an **organism** known as **jakobid**, which has been around since before animals and fungi branched off from plants and algae in the process of evolution, the researchers have identified two **adjustments** that had

to take place to **facilitate the integration of the two organisms**.

- These adjustments were made in the process of optimisation when the two organisms merged together, evidently for compatibility. The **researchers** show that **these changes**, in a **protein (DTD)** and a **tRNA** (carrying an amino acid glycine for protein synthesis) are **crucial** for the **successful emergence of mitochondria**.

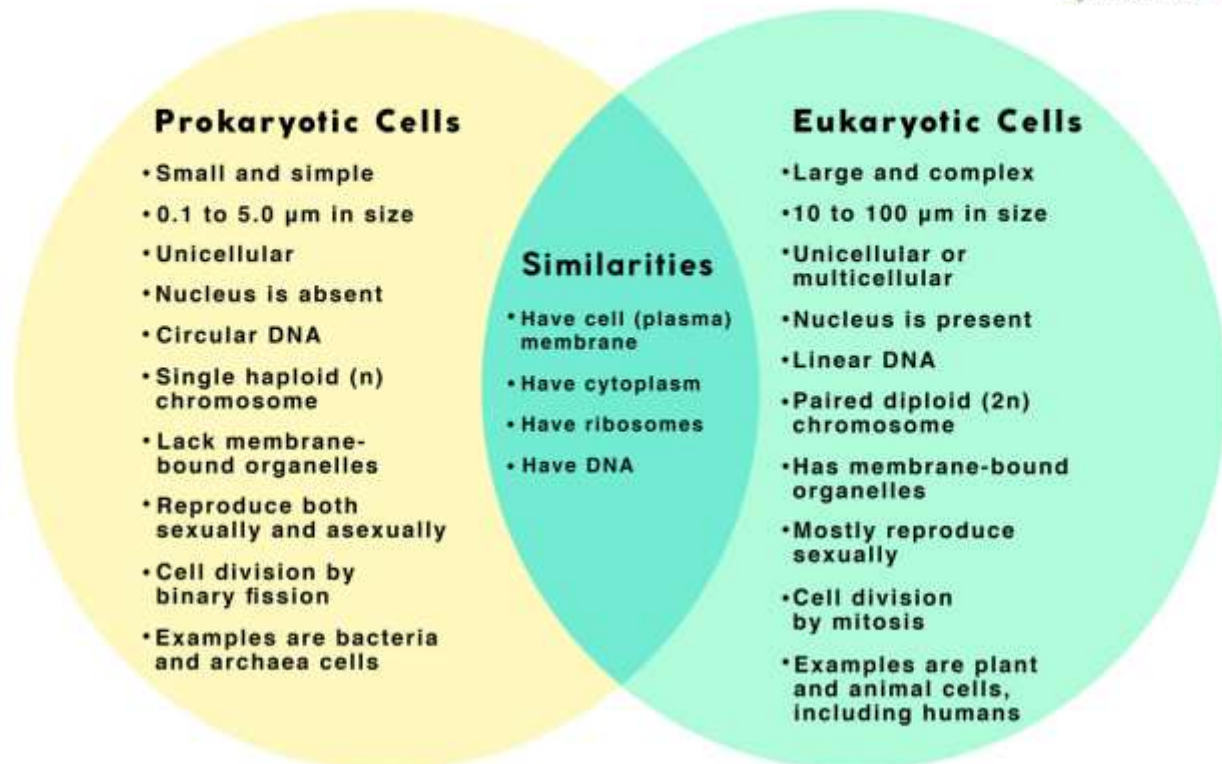
### Related Information

#### Mitochondria

- **Mitochondria** are **membrane-bound cell organelles** that **generate most** of the **chemical energy** needed to **power the cell's biochemical reactions**.
- Mitochondria are **known as the powerhouse of the cell**.
- **Both plant cells and animal cells possess mitochondria**.
- **Chemical energy produced** by the mitochondria is **stored in a small molecule** called **adenosine triphosphate (ATP)**.
- **ATP** is known as the **energy currency of the cell**.
- Mitochondria contain two membranes, rather than simply one.
- The exterior membrane is very porous, but the inner membrane is tightly folded. These folds provide a wide surface area for chemical processes that generate ATP.
- **Mitochondria have their own DNA and ribosomes**. As a result, mitochondria **can produce some of their own proteins**. Both mitochondria and chloroplasts contain their own DNA and ribosomes.
- Mitochondria contain their own small chromosomes. **Generally**, mitochondria, and therefore **mitochondrial DNA**, are **inherited only from the mother**.

#### Prokaryotes and Eukaryotes

# Prokaryotic and Eukaryotic Cells Venn Diagram



- All life on Earth consists of either eukaryotic cells or prokaryotic cells. Prokaryotes were the first form of life.
- Eukaryotes are organisms whose cells contain a nucleus and other membrane-bound organelles. Example- Protozoa, fungi, plants, and animals
- Prokaryotes are organisms whose cells lack a nucleus and other organelles.
- Prokaryotes do not have mitochondria. Mitochondria are only found in eukaryotic cells.
- Eukaryotes may be either single-celled or multicellular.

## 2) Variable Refresh Rate (VRR)

### Why in News:

- Google is said to be testing support for variable refresh rates (VRR) in the Chrome OS

- The feature could improve gaming experience

### What is VRR?

- Refresh rate is the number of times a display is capable of refreshing in a second. It is measured in hertz (Hz).
- So, a 30 Hz or a 60 Hz display can refresh 30 or 60 times per second, respectively. The higher the refresh rate, the better the quality of viewing experience.
- Displays with over 120 Hz can deliver a smoother and more comfortable viewing experience. This is necessary while playing video games or watching videos.
- VRR supports a wide range of refresh rates, allowing its refresh rate to change in real-time based on the frames-per-second (FPS) rate coming from a source device such as a gaming console.
- VRR, which is also termed as dynamic refresh rate or adaptive refresh rate by different device makers, is designed to

eliminate syncing issues that arise when the refresh rate of a display does not match with the FPS of the content from a source device.

- Issues such as screen-tearing, judder (wobbling effect) and lag are common when refresh rate and FPS are not synchronised.
- This screen technology enables a monitor or a TV to communicate with a gaming console or a media streaming device much more effectively.

### 3) Project NETRA

#### Why in News:

- With **space junk** posing an increasing threat to Indian assets in space, the **Indian Space Research Organisation (ISRO)** is building up its orbital debris tracking capability by deploying new radars and optical telescopes under the **Network for Space Objects Tracking and Analysis (NETRA) project**.

#### What NETRA hopes to achieve?

- The primary goal of Netra is to **monitor, track, and defend national space assets** while also serving as a **centre for all space situational awareness (SSA) activities**.
- The initiative would provide India with its **own space situational awareness (SSA) capabilities**, similar to that of other space powers, which is used to 'predict' dangers to Indian satellites from debris.
- The ultimate purpose of NETRA is to **capture the GEO (geostationary orbit) landscape** at 36,000 kilometres, where communication satellites operate.
- The initial SSA will be for remote-sensing spacecraft in low-earth orbits, or LEO.
- A **space debris tracking radar** with a range of 1,500 km and an optical telescope will be inducted as part of establishing an effective surveillance and tracking network under NETRA.
- The radar, which will be **capable of detecting and tracking objects 10 cm and above** in size. It will be **indigenously designed and built**.

- A high-precision, **long-range telescope** in Leh and a radar in the North East are both in the works.
- To acquire a comprehensive SSA picture, ISRO will also employ the **Multi-Object Tracking Radar (MOTR)** that has been set up at the Satish Dhawan Space Centre in Sriharikota, as well as the telescopes at Ponmudi and Mount Abu.

#### What is space debris?

- Space junk or debris **consist of spent rocket stages, dead satellites, fragments of space objects and debris resulting from ASAT**. Hurling at an average speed of 27,000 kmph in LEO, these objects pose a very real threat as collisions involving even centimetre-sized fragments can be lethal to satellites.
- **Much of the debris is in low Earth orbit**, within 2,000 km of Earth's surface, though some debris can be found in geostationary orbit 35,786 km above the Equator.
- As of 2021, more than 15,000 pieces of space debris larger than 10 cm (4 inches) is being tracked. It is estimated that there are about 200,000 pieces between 1 and 10 cm (0.4 and 4 inches) across and that there could be millions of pieces smaller than 1 cm.

#### Why has ISRO started Project NETRA?

- Radars and optical telescopes are vital ground-based facilities for **keeping an eye on space objects, including orbital junk**.
- To **protect our space assets**, we need to augment our capabilities.
- For protecting its space assets, the **ISRO** was forced to **perform 19 collision avoidance manoeuvres (CAM)** in 2021, of which 14 were in Low Earth Orbit (LEO) and five in the geostationary orbit.
- The number of CAMs jumped from just three in 2015 to 12 in 2020 and 19 in 2021.

#### Other measures taken by ISRO

- The **Cryogenic Upper Stage** of ISRO's GSLV is **passivated**(The passivation process is a **method of improving the corrosion resistance**)



- ISRO's communication satellites are **built with enough propellant margins to re-orbit to a higher graveyard orbit** after the end of their useful lives.

#### Why has Space Debris to be removed?

- Even the smallest particles of debris **can deactivate an operable satellite at orbital speeds.**
- The space stations might be in **danger of colliding.**
- It might make it more **difficult to use weather satellites** and, as a result, monitor weather changes.
- Approximately 20,000 items, including satellites and space trash, are now crammed into low-Earth orbit.
- **Active satellites and spacecraft may be at risk.**
- If the chance of collision becomes too great, **Earth orbit may become impenetrable.**
- Could **endanger the astronauts** who do space walk

#### What could be done?

- After a spacecraft's mission is over, it **can be moved to a more secure orbit.** That is, a **high-altitude "graveyard orbit"** over low-Earth space.
- Carrying out **'collision avoidance manoeuvres.'**
- As a disposal technique, **bringing it down via a laser into Earth's atmosphere,** where it will burn up on re-entry.
- **Reusable spacecraft** can be developed.
- Debris reduction strategies by **international collaboration.**
- **De-orbit old satellites or capture debris.**
- Creating spaceships that can endure the harsh conditions of space without dissolving;

#### Similar International Measures

- The North American Aerospace Defense Command, or **NORAD**, is a joint US-Canadian programme that provides selected debris data with a number of nations.

#### Kessler syndrome

- This is a concept suggested by NASA scientist Donald **Kessler** in 1978,

which states that if there is too much space junk in orbit, it might cause a **chain reaction** in which more and more objects crash, **creating additional space junk** in the process, until Earth's orbit becomes useless — a **Domino Effect.**

- For the previous two decades, 12 fragmentation incidents have occurred per year.

## 4) Microplastics

### Why in News:

- Microplastic pollution has been detected in human blood for the first time. The study, published in the journal Environment International, tested 22 anonymous blood samples.

### What are microplastics?

- **Microplastics are tiny bits of various types of plastic found in the environment.** The name is used to differentiate them from **"macroplastics"** such as **bottles and bags** made of plastic. There is **no universal agreement on the size l** — the U.S. NOAA (National Oceanic and Atmospheric Administration) and the European Chemical Agency define microplastic as less than 5mm in length.
- The researchers have an upper limit on the size of the particles as 0.0007 millimetre.
- **Microplastics are divided into two types: primary and secondary.**
  - Primary microplastics are tiny particles designed for commercial use, such as cosmetics, as well as microfibers shed from clothing and other textiles, such as fishing nets. **Microbeads**(used in personal care products), **plastic pellets, and plastic fibres** are some of the **examples.**
  - **Secondary microplastics are created when bigger plastics, such as water bottles, degrade.** Exposure to external stimuli, namely the sun's rays

and ocean waves, causes this disintegration.

#### What the researchers found?

- The study looked at the **most commonly used plastic polymers**. These were **polyethylene tetrphthalate (PET), polyethylene (used in making plastic carry bags), polymers of styrene (used in food packaging), poly (methyl methacrylate) and poly propylene**. They found a presence of the first four types.
- The discovery shows the **particles can travel around the body and may lodge in organs**.
- The study found that **77% of tested people** (17 of the 22 persons) carried various amounts of microplastics above the limit of quantification.
- **Half the samples contained PET plastic**, commonly used in drinks bottles. While **a third contained polystyrene**, used for packaging food and other products. Some of the blood samples contained two or three types of plastic.
- **Microplastics were also observed to cause damage to human cells in the laboratory**.

#### What is the significance of the study?

- Making a **human health risk assessment in relation to plastic particles** is not easy, due to the lack of data on exposure of people to plastics. Hence, this study the first step.
- **Validated methods to detect the tiny amounts** of extremely small-sized (less than 10 micrometre) plastic particles are lacking. Hence **this study**, which **builds up a method** to check the same, is important.

#### Negative impact of Microplastics

- It is **not yet clear** if these **microplastics** can cross over from the **bloodstream to deposit in organs and cause diseases**.
- **Air pollution particles** are already known to **enter the body** and cause millions of early **deaths** a year and plastic particles that are of similar size may also cause the same problem.
- The researchers point out that the **human placenta has shown to be**

**permeable to tiny particles of polystyrene**.

- Oral administration of microplastics in rats led to accumulation of these in the liver, kidney and gut.
- Microplastics **cause damage to human cells** in the laboratory.
- A recent study found that **microplastics can latch** on to the **outer membranes of red blood cells** and **may limit their ability to transport oxygen**.
- Microplastics have been **detected in marine organisms from plankton to whales**, in commercial seafood, and even in drinking water.
- **Standard water treatment facilities cannot remove all traces of microplastics**.
- **Microplastics in the ocean can bind with other harmful chemicals** before being ingested by marine organisms.
- The particles have also been **found in the placentas of pregnant women**, and in pregnant rats they pass rapidly through the lungs into the hearts, brains and other organs of the foetuses.
- **Deep sea hotspots** of biodiversity are also likely to be **microscopic plastic hotspots**. **Thermohaline driven currents** can cause microplastics in the same regions where underwater flock in the benthic zone (Because currents also supply oxygen and nutrients to the deep sea benthos)
  - Deep-ocean currents are driven by differences in the water's density, which is controlled by temperature (thermo) and salinity (haline). This process is known as **thermohaline circulation**.
  - **Organisms that live on the seafloor** are called **benthos**. Most of these animals lack a backbone and are called invertebrates. Typical benthic invertebrates include sea anemones, sponges, corals, sea stars, sea urchins, worms, bivalves, crabs, and many more.

## Initiatives related to reducing plastic pollution

- The **Extended Producer Responsibility** concept was introduced by the **Plastic Waste Management (Amendment) Rules 2018**.
- According to the **Plastic Waste Management Rules of 2016**, every **local body** must put up **infrastructure** for the segregation, collection, processing, and disposal of plastic waste
- **Elimination of Single-Use Plastic:** India committed in 2019 to abolish all single-use plastic in the country by 2022.
- **Un-Plastic Collective (UPC)** is a voluntary project sponsored by **UNEP-India, the Confederation of Indian Industry, and the World Wildlife Fund-India**.
- The **1972 London Convention on the Prevention of Marine Pollution by Dumping Wastes and Other Matter** was signed to regulate the dumping of waste materials into the sea in order to manage all causes of marine contamination and prevent pollution of the sea. The Collective aims to reduce the negative effects of plastics on our planet's ecological and social health.
- **Plastics Pacts** are business-led efforts aimed at transforming the plastics packaging value chain across all forms and products.
- The **Global Partnership on Marine Litter (GPML)** was established in response to a request made in the Manila Declaration at the 2012 Earth Summit.

## 5) Platform Cooperatives

### What is it?

- A platform cooperative is a **digital platform** — a website or mobile app that is designed **to provide a service or sell a product** — that is **collectively owned and governed by the people** who depend on and participate in it.

- That includes those who deliver the underlying service by contributing labor, time, skills, and/or assets.
- Where corporate **“sharing” platforms extract value and distribute** it to shareholding owners who seek a return on their investment, platform co-ops distribute ownership and management of the enterprise to its participants — those working for the platform or those using the service.
- Platform co-ops bring the longstanding tradition of **cooperative enterprise to the online economy**. The two key traits that these digital co-ops must realize are **democratic control and collective ownership**. Platform co-ops are organizing in diverse sectors such as childcare, data entry, urban recycling, and home services.

### Objectives

- Platform cooperatives are rooted in the seven doctrines of cooperatives laid by the International Co-operative Alliance, 1995), —
  - (1)voluntary and open membership, (2) democratic member control, (3) member economic participation, (4) autonomy and independence, (5) education, training, and information, (6) cooperation among cooperatives, and (7) concern for the community.

### How it works?

- The tenets of platform cooperatives strike a **balance between access economy, community based economy, and platform economy**.
- These cooperatives catalyse a set of initiatives to intermediate decentralised transactions or exchanges.
- Blockchain-affiliated smart contract, for example, enables this kind of transaction and restore immutability, fault-tolerance, and data provenance through distributed ledger technology.

### Typology of platform cooperatives

- The emergence of platform cooperatives traces its roots to **asset sharing**. It aspires to extend its reach through a local node
- **Local** and remote **“gig work”**

- **Online market.**
- **Suite of financial services** — savings or remittances, credit, and payment. This NBFC closely works with agri-tech platform start-ups to cater to smallholders a suite of financial products and services.
- **Farm Management Information System** integrated platform cooperative.
- **Software development** offering cloud storage and scalable services through a web-based office suite, chatbot, project management software.

### Advantages

- Platform co-operative can be a game-changer to enable **community, cultural, ecological, and economic resilience** during or after the pandemic period.
- Drawing from the seven principles, platform cooperatives seek to alter the technological heart of the sharing economy and put it to work under a **communal ownership model, foster solidarity, and reframe efficiency and innovation** for the economic or financial benefit of the many rather than a few capitalists
- Platform co-ops introduce **economic fairness, training, and democratic participation** in the running of online businesses.
- Platform co-ops give **stakeholders a say** in what happens on the platforms.
- **Higher quality jobs**
- **Productivity** benefits
- More **resilient** than other business forms
- **Lower worker turnover**
- More **control over privacy and transparency**
- **Fair pay**
- Opportunities to benefit from the ecosystem of cooperatives
- Control over the direction of the business remains with worker-owners

### Challenges

- **Complex governance**
- Lack of **funding**
- **Dominance of Big data companies**

### Way forward

- Aligning the value proposition with member participation is a key to

fostering and sustaining platform co-operatives. The value creation and delivery should be distinct from a platform capitalist that intends to optimise the option value of “data.”

- Platform co-operatives should **collaborate with cloud services and data analytics firms** and redefine the value creation, value capture, and value proposition for local economies.
- These co-operatives **should appreciate the digital privacy and data access rights** and reuse the data or combine them with other assets for related diversification.
- They need to enjoy the economies of scale and scope leveraging their co-opted technology backbone for better database marketing and other business decisions in a community-based economy.
- The government should create an enabling environment in promoting a thriving network of platform co-operatives for the producers and consumers. However, membership and services added on the platform would decide the context-specific scaling and viability of such businesses.

## 6) Smoking

### Why in News:

- WHO (and the FDA of the US) has released the latest estimates about the menace of smoking

### What are the findings?

- As per the estimates of **WHO** (and the FDA of the US) 1.3 billion people (among the 7.9 billion across the world) smoke, and **80% of them live in low and middle-income countries.**
- Over **seven million of these people die due to direct tobacco** use, and **1.2 million non-smokers who are exposed to second-hand smoke.**
- As per the American Journal of Preventive Medicine, traditional cigarette smokers are **30% to 40% more likely than non-smokers to develop Type 2 diabetes.**
  - **India** is estimated to have **120 million smokers** (out of a

- population of 138 crores), or about **9% of Indian people**.
- Tobacco use is **linked to a number of non-communicable illnesses**, including cancer, cardiovascular disease, diabetes, and chronic lung disease.
- Tobacco use is **responsible for over 27% of all cancer in India**.
- **Tobacco consumption costs India more than Rs. 1,77,340 crores every year**.
- There are approximately 600 ingredients in cigarettes. When burned, cigarettes create more than 7,000 chemicals. At least 69 of these chemicals are known to cause cancer, and many are toxic.

Some of the **chemicals found in tobacco smoke** include:

- **Nicotine** (the addictive drug that produces the effects in the brain that people are looking for)
- **Hydrogen cyanide**.
- Formaldehyde.
- Lead.
- **Arsenic**.
- Ammonia.
- **Radioactive elements**, such as polonium-210
- Benzene.

#### **Initiatives taken by India**

- In accordance with **WHO Framework Convention** on Tobacco Control and Sustainable Development Goals, the Health Ministry has completely **banned smoking in many public places** and workplaces such as in

healthcare, educational and government facilities, and in public transport.

- **Tobacco Quitline Services (NTQLS)** has the potential to reach a significant number of tobacco users with the sole goal of providing **telephone-based tobacco cessation** information, counselling, support, and referrals.
- The **mCessation Program** is a tobacco-cessation campaign that **uses technology**. As part of the government's Digital India strategy, India implemented mCessation utilising text messaging in 2016.
- India **ratified the WHO Framework Convention on Tobacco Control's (WHO FCTC) tobacco control measures**.
- The **Cigarettes and Other Tobacco Products Act (COTPA) of 2003 repealed the Cigarettes Act of 1975**, which was mostly restricted to statutory warnings such as "Cigarette Smoking is Harmful to Health" on cigarette packs and ads. (Non-cigarettes were not included). **Cigars, bidis, cheroots, pipe tobacco, hookah, chewing tobacco, pan masala, and gutka were also covered in the 2003 Act**.
- The **Prohibition of Electronic Cigarettes Ordinance, 2019** was promulgated, prohibiting the production, manufacture, import, export, transportation, sale, distribution, storage, and advertisement of electronic cigarettes.

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## DEFENCE

### 1) Corner-shot weapon system

#### Why in News:

- A corner-shot weapon system (CSWS) designed and developed by the Defence Research and Development Organisation (DRDO) is at an advanced stage of being inducted by the Central Reserve Police Force

(CRPF) and the Jammu and Kashmir police.

- The CSWS is a special purpose weapon designed by the Armament Research and Development Establishment (ARDE), Pune.

#### About the weapon system



- Corner Shot Weapon System (CSWS) allows its operator to see and attack an armed target, without exposing himself/herself for any counterattack.
- It can engage targets located around the corners as the system bends and captures video feed thus saving soldiers from any surprise counter attack and is best suited for urban, close quarter situations.
- The CSWS is equipped with a weapon, camera, laser, infrared illuminator and torch in front portion, while display, electronics, battery and swivelling mechanism are located at rear portion. The body is made from high-grade aluminium alloy to make it lighter and durable.

- Features like day night firing capability, colour display, digital zoom, zeroing facility, hot keys, high power battery along with status display and compliance with JSS 5855(a standardisation document) makes it a very potent system for security forces engaged in Counter Insurgency and Counter Terror (CI/CT) operations

#### The need for such weapons

- In the aftermath of the 26/11 Mumbai terror attacks of 2008, both the National Security Guard (NSG) and the Army had projected requirement for corner shot weapons to equip their troops for urban warfare where security personnel get exposed while trying to locate or flush out terrorists.

## 2) Medium Range Surface-to Air-Missiles (MRSAMs)

### Why in News:

- India successfully test-fired two Army-version Medium Range Surface-to Air-Missiles (MRSAMs) from the Integrated Test Range at Chandipur in Odisha.

### Army variant of MRSAM

- This **MRSAM** version is **developed jointly by the DRDO and the Israel Aerospace Industries (IAI)** for the Army.
- The system comprises multi-function radar, mobile launcher system and other vehicles.

### MRSAM

- The **MRSAM** is a **surface-to-air missile** jointly developed by **DRDO and Israel Aerospace Industries (IAI)** for use by the Indian Army.
- The MRSAM weapon system comprises **multi-function radar, mobile launcher system and other vehicles**. It has Army, Navy and Air Force variants.

- It's a **vertically fired supersonic missile** with a high response time that's meant to take out enemy aerial threats including missiles, planes, guided bombs, and helicopters.
- **Supersonic missiles** go at the **speed of 2-3 Mach**.
- The **mobile launcher** can transport, place and launch eight **canisterised missiles**. These can be fired either in single mode or in ripple firing mode in a vertical firing position.
- The missile's management system uses the **radar to track** and correctly identify the target, calculates the distance from it and gives all the information to the Commander for a decision to be made on interception.
- The missile is powered by a **solid propulsion system** coupled with a thrust vector control system. The **missile** can move at a maximum **speed of Mach 2** (twice the speed of sound).

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## ART AND CULTURE

### 1) Amarnath Yathra

#### Why in News:

- The annual pilgrimage to the Amarnath cave shrine, which remained suspended for the past three years, is expected to resume soon.

#### About

- **Amarnath Yatra** is a **pilgrimage** visit to **Amarnath cave** which is a **Hindu shrine** located in **Kashmir**.
- According to legend, when Lord Shiva decided to tell Parvati the secret of his immortality (Amar Katha), he chose the Amarnath cave deep in the Himalayas
- The **Amarnath cave**, abode of the Mahamaya Shakti Peetha, is **one of the 51 Shakti Peethas**
- A **stalagmite forms** within the **Amarnath cave** when **water droplets from the cave's roof freeze** on the cave floor and **grow vertically up**

**from the cave floor.** Hindus believe that it is a **Shiva Linga**.

#### Related Information

##### Stalagmite vs Stalactite

- A **stalagmite** is an **upward-growing** mound of **mineral deposits** that have precipitated from water dripping onto the floor of a cave. Most stalagmites have **rounded or flattened tips**.
- A **stalactite** is an **icicle-shaped formation** that **hangs from the ceiling of a cave** and is produced by **precipitation of minerals** from water dripping through the cave ceiling. Most stalactites have **pointed tips**.

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# PIB ANALYSIS

## 1) PAHAL Scheme

### About the Scheme

- The PAHAL (DBTL) scheme aims to **reduce diversion and eliminate duplicate or bogus LPG connections.**
- The scheme was earlier launched in 2013 and was modified in 2015.
- Under the scheme, LPG cylinders are sold at market rates and entitled consumers get the **subsidy directly into their bank accounts.**
- It requires the **consumer to mandatorily have an Aadhaar number for availing LPG Subsidy.**

### Why in News?

- The Ministry of Petroleum and Natural Gas has released the State/UT wise details of beneficiaries under the PAHAL Scheme.

## 2) Forest Rights Act

### About the Act

- The **Scheduled Tribes and Other Forest Dwellers (Recognition of Forest Rights) Act, 2006** is a people-centric law for forests, which **recognises the rights of forest-dwelling communities to use and manage forest resources.**
- With more than 150 million forest dwellers, the scope of FRA is immense to protect their livelihoods, and engage them in sustainable forest management.

### Rights under FRA

- **Title rights** – Ownership to land that is being farmed by tribals or forest dwellers subject to a maximum of **4 hectares**; ownership is only for land that is actually being cultivated by the concerned family, meaning that no new lands are granted.
- **Use rights** – to minor forest produce (also including ownership), to grazing areas, to pastoralist routes, etc.
- **Relief and development rights** – to rehabilitation in case of illegal eviction or forced displacement; and basic

amenities, subject to restrictions for forest protection.

- **Forest management rights** – to protect forests and wildlife.

### Eligibility

- To qualify as **Other Traditional Forest Dweller (OTFD)** and be eligible for recognition of rights under FRA, two conditions need to be fulfilled:
  - Primarily resided in forest or forests land for three generations (75 years) prior to 13-12-2005, and
  - Depend on the forest or forest land for bonafide livelihood needs.
- To qualify as a **Forest Dwelling Scheduled Tribe (FDST)** and be eligible for recognition of rights under FRA, three conditions must be satisfied by the applicant/s, who could be **“members or community”**:
  - Must be a Scheduled Tribe in the area where the right is claimed; and
  - Primarily resided in forest or forests land prior to 13-12-2005; and
  - Depend on the forest or forest land for bonafide livelihood needs.
- The FRA provides that a forest right conferred under the Act shall be **heritable but not alienable or transferable**, and shall be registered jointly in the name of both the spouses in case of married persons and in the name of the single head in the case of a household headed by a single person.

### Process of recognition of rights

- The Act provides that the **gram sabha**, or village assembly, will initially pass a resolution recommending whose rights to which resources should be recognised.
- This resolution is then screened and approved at the **level of the sub-division** (or taluka) and subsequently at the **district level.**

- The **screening committees** consist of three government officials (Forest, Revenue and Tribal Welfare departments) and three elected members of the local body at that level. These committees also hear appeals.
- The Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Rules, 2008, notified by the Ministry of Tribal Affairs for implementing the provisions of the Act, provide for **constitution of Forest Rights Committee** by the Gram Sabha for assisting it in its functions to –
  - prepare a list of claimants on forest rights;
  - verify claims as provided in the Rules;
  - present their findings on the nature and extent of the claim before the Gram Sabha for its consideration;
  - prepare the claims on behalf of Gram Sabha for community forest rights in the prescribed Form.

#### Objective

- To **undo the historical injustice** occurred to the forest dwelling communities;
- To **ensure land tenure, livelihood and food security** of the forest dwelling Scheduled Tribes and other traditional forest dwellers;
- To **strengthen the conservation regime of the forests** by including the responsibilities and authority of Forest Rights holders for sustainable use, conservation of biodiversity and maintenance of ecological balance.

#### Why in News?

- To create awareness among the tribal people about their rights under effective implementation of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, several measures have been taken.
- Ministry of Tribal Affairs has prepared **various training modules** viz. Forest Rights Act Training Manual for Government functionaries and

members of Gram Sabha, Training Manual on Delineation and Mapping of Community Rights and Community Forest Resources and Interactive Self Learning Training Module for capacity building of the Gram Sabhas.

- The course material is available to these trainers and trainees on **Adiprashikshan Portal** ([adiprashikshan.tribal.gov.in](http://adiprashikshan.tribal.gov.in)).

### 3) PM SVANidhi

#### About the scheme

- The Prime Minister Street Vendor's Atma Nirbhar Nidhi (PM SVANidhi) Scheme was launched by the **Ministry of Housing and Urban Affairs** for **providing affordable Working Capital loans to street vendors** to resume their livelihoods that have been adversely affected due to Covid-19 lockdown. It was launched in 2020.
- Under the Scheme, vendors can avail a working capital loan of up to **Rs. 10,000**, which is repayable in monthly instalments in the tenure of **one year**. The loans would be **without collateral**.
- If the vendor repays the instalments in time or earlier, they will develop his credible credit score that makes him eligible for a higher amount of term loan to 20 thousand rupees and so on.
- On timely/ early repayment of the loan, an **interest subsidy @ 7% per annum** will be credited to the bank accounts of beneficiaries through Direct Benefit Transfer on quarterly basis.
- There will be no penalty on early repayment of loan. The scheme promotes digital transactions through cash back incentives up to an amount of Rs. 100 per month.
- The scheme targets to benefit over **50 lakh street vendors**. The duration of the scheme is till March 2022.
- **SIDBI** is implementing the scheme.
- The lending institutions under the Scheme include Scheduled Commercial Banks, Regional Rural Banks, Small Finance Banks, Cooperative Banks,

NBFCs, Microfinance institutions and Self Help Group banks.

#### Why in News?

- As on March 24, 2022, the number of beneficiaries under the PM SVANidhi Scheme are 29.1 lakh and a credit of ₹3,170 crore has been disbursed.

#### 4) Exercise Varuna

##### What's in the news?

- The 20th edition of the **Bilateral Naval Exercise between Indian and French Navies - 'VARUNA'** was recently conducted in the Arabian Sea.

- The Bilateral Naval Exercises between the two Navies were initiated in 1993. The exercise was christened as 'VARUNA' in 2001 and has become a vital part of India - France strategic bilateral relationship.
- Various units including ships, submarines, maritime patrol aircraft, fighter aircraft and helicopters of the two navies participated in the exercise.

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# News in Depth

## AIR NEWS

### 1) National Commission for Women

#### About NCW

- The National Commission for Women (NCW) is a **statutory body** formed in **1992** under the **National Commission Act 1990**. It is the apex national level organisation of India with the mandate of protecting and promoting the interests of women.
- It provides the government with advice to make policies and laws that are more prone to protect and safeguard the rights of women. The commission also has the powers that are vested upon with a **civil court**.

#### Objectives

- The objectives of NCW are as follows:
  1. To suggest the government regarding policies regarding women,
  2. A platform to redress the grievances,
  3. To make recommendations relating to legislation measures,
  4. To review legal and constitutional safeguards for women.

#### Powers

- Powers of NCW:
  1. Provide consultation on all major policy matters that affect women,
  2. Issuing summons for the examination of documents and the witnesses,
  3. It has the power to make any public record,
  4. Receiving evidence on affidavits,
  5. Discovery and production of documents,

6. Summoning and enforcement.

#### Composition

- The commission consists of a **chairperson, a member secretary and five other members**.
- The chairperson of the NCW is **nominated by the Central Government**. The Central Government also nominates the member secretary. The member secretary should be an **expert in the field of management**.
- The five members nominated by the Central Government should be individuals with ability, standing and integrity. They should have experience in law, legislation, management, women voluntary organisation, economic social development and so on.

#### Why in News?

- The National Commission for Women has launched an **Anti-Human Trafficking Cell** to improve effectiveness in tackling cases of human trafficking, raising awareness among women and girls, capacity building and training of Anti Trafficking Units and to increase responsiveness of law enforcement agencies.
- The Cell has been set up with an aim of **increasing awareness among law enforcement officials and to facilitate their capacity building**.
- The Cell will conduct **Gender Sensitization Trainings and Workshops** in combating human trafficking for police officers and for prosecutors at regional, state and district level.
- The complaints related to human trafficking received by the Commission will be addressed by this cell.

- The Cell will also help survivors of trafficking in rebuilding their lives by providing them with need-based training and by organizing capacity building programs for them to prevent re-traumatization of victims.

## 2) DigiLocker

### About DigiLocker

- DigiLocker is a flagship initiative of the **Ministry of Electronics & IT (MeitY)**. Linked to both Aadhaar card and cellphone numbers, DigiLocker eliminates the use of physical documents as part of the government's Digital India drive, since all data is stored in the cloud.
- One can upload scanned copies of their documents (PDF, JPEG or PNG format) and access it anywhere they want. One can also **e-sign** these uploaded documents, which works like self-attestation of physical documents.
- On the other hand, organisations like the CBSE, the Registrar Office or the Income Tax Department can also push electronic copies of documents and certificates directly into Citizens' e-lockers.
- The issued documents in DigiLocker system are **deemed to be at par with original physical documents** as per the Information Technology (Preservation and Retention of Information by Intermediaries providing Digital Locker facilities) Rules, 2016.
- DigiLocker is available both on **websites and mobile apps**.

### Benefits of DigiLocker

- Benefits to Citizens
  - Important Documents Anytime, Anywhere.
  - Authentic Documents, Legally at Par with Originals.
  - Digital Document Exchange with the consent of the citizen.

- Faster service Delivery of Government Benefits, Employment, Financial Inclusion, Education, Health.
- Benefits to Agencies
  - **Reduced Administrative Overhead:** Aimed at the concept of paperless governance. It reduces the administrative overhead by minimizing the use of paper and curtailing the verification process.
  - **Digital Transformation:** Provides trusted issued documents. Issued Documents available via DigiLocker are fetched in real-time directly from the issuing agency.
  - **Secure Document Gateway:** Acts as a secure document exchange platform like payment gateway between trusted issuer and trusted Requester/Verifier with the consent of the citizen.
  - **Real Time Verification:** Provides a verification module enabling government agencies to verify data directly from issuers after obtaining user consent.

### Why in News?

- The Ministry of Electronics and Information Technology has said that around 494 crore digital documents have been made available in DigiLocker to date from various Government, Semi-Government, Private, and autonomous departments and institutions.
- Important documents for Government benefits, employment, financial inclusion, and education can be obtained through DigiLocker directly from the issuing agencies in real-time.

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# THE HINDU EDITORIALS

## 1) Criminal Procedure (Identification) Bill, 2022

### Background:

- Recently, Minister of State for Home Ajay Kumar Mishra introduced The **Criminal Procedure (Identification) Bill, 2022** in Lok Sabha.
- If passed, it will allow police and prison authorities to collect, store and analyse physical and biological samples including retina and iris scans of convicted, arrested and detained persons.
- The Bill seeks to repeal **The Identification of Prisoners Act, 1920**.
- The over 100-year-old Act's scope was limited to capturing of finger impression, foot-print impressions and photographs of convicted prisoners and certain category of arrested and non-convicted persons on the order of a Magistrate.

### Need for the bill:

- The new "measurement" techniques being used in advanced countries are giving credible and reliable results and are recognised the world over.
- The 1920 Act does not provide for taking these body measurements as many of the techniques and technologies had not been developed then.

### Proposed Major changes:

It proposes **four** major changes.

1. It would define "**measurements**" to include "signature, handwriting, iris and retina scan, physical, biological samples and their analysis, etc."
  - A. It does not specify what analysis means, implying that it may also include storing DNA samples.
  - B. The "etc." mentioned in the text of the Bill could give **unfettered powers** to law enforcement agencies to interpret the law as per their convenience, sometimes to the disadvantage of the accused.
2. It empowers the **National Crime Records Bureau of India (NCRB)**, under the Union Home Ministry, to

collect, store and preserve the record of measurements for **at least 75 years**.

- A. The NCRB will be able to **share the data** with other law enforcement agencies as well.
  - B. Police is a **State subject** and NCRB works under the Union government, and experts contend this provision may impinge on federalism.
3. It empowers a **Magistrate** to direct any person to give vital details, which till now was reserved for convicts and those involved in heinous crimes.
  4. It empowers **police or prison officers** up to the rank of a Head Constable to take details of any person who resists or refuses to do so.

### Other Changes:

- The Bill also seeks to apply to persons detained under any **preventive detention** law.
- It also authorises taking vital details of "other persons" for identification and investigation in criminal matters.
- It doesn't define the "other persons", implying its ambit extends beyond convicts, arrested persons, or detainees.
- The Bill's stated objective is it provides legal sanction for taking such details and will make the investigation of crime more efficient and expeditious, and help in **increasing the conviction rate**.

### Precedent

1. The Karnataka Assembly passed **The Identification of Prisoners (Karnataka Amendment) Bill** in 2021, to amend the 1920 Act for application in the State.
  - A. The Bill is examined by the Ministry of Home Affairs (MHA) and is sent for inter-ministerial consultation.
  - B. The Bill is yet to be cleared by the MHA.
2. Tamil Nadu introduced and notified **The Identification of Prisoners**



**(Tamil Nadu Amendments) Act in 2010.**

- A. The Act allows the police to draw “blood samples” other than the specified measurements from the limited categories of suspects and convicts defined in the 1920 Act.
- B. The Tamil Nadu Act has been in practice for more than a decade after it received the assent of the Governor.

## 2) A subregional grouping that must get back on course

### Background:

- BIMSTEC was founded in 1997.
- It consists of seven-members which includes the littoral states of India, Bangladesh, Sri Lanka, Myanmar, Thailand and the land-locked states of Nepal and Bhutan.
- It has identified 14 pillars for special focus.
- The upcoming summit is an opportunity for BIMSTEC leaders to go beyond generalised statements and take concrete steps to address critical challenges confronting the region.

### Bay of Bengal Maritime Dialogue (BOBMD):

- It was organised recently by the **Centre for Humanitarian Dialogue and the Pathfinder Foundation.**
- It brought together government officials, maritime experts, and representatives of prominent think tanks from Sri Lanka, India, Bangladesh, Myanmar, Thailand and Indonesia.
- Participants called for stepped up efforts in areas such as environmental protection, scientific research, curtailing illegal, unreported, and unregulated (IUU) fishing.

### Rich marine ecosystem:

- The Bay of Bengal is home to a large network of beautiful yet fragile estuaries, mangrove forests of around 15,792 square kilometres, coral reefs of around 8,471 sq.km, sea grass meadows and mass nesting sites of sea turtles.

- The annual loss of mangrove areas is estimated at 0.4% to 1.7% and coral reefs at 0.7%.
- It is predicted that the **sea level will increase 0.5 metres in the next 50 years.**
- The fishermen population alone is estimated to be around 3.7 million, with an annual fish catch of around six million tonnes, constituting 7% of the world’s catch and valued at around U.S.\$4 billion.
- According to the Food and Agriculture Organization of the United Nations (FAO), the **Bay of Bengal is one of IUU fishing hotspots in the Asia-Pacific.**

### Challenges in Bay of Bengal:

- It includes the emergence of a **dead zone with zero oxygen** where no fish survive.
- **Leaching of plastic from rivers** as well as the Indian Ocean.
- **Destruction of natural protection against floods** such as mangroves, sea erosion.
- **Growing population pressure and industrial growth** in the coastal areas and consequently, huge quantities of untreated waste flow.
- **Security threats** such as terrorism, piracy and tensions between countries caused by the arrests of fishermen who cross maritime boundaries are additional problems.

### Need for regional interaction:

- The **blue economy** potential of the Bay of Bengal is huge.
- There are many opportunities to develop maritime trade, shipping, aquaculture and tourism.
- Tapping these opportunities requires coordinated and concerted action by governments, scientists and other experts.
- The BIMSTEC Summit must create a new regional mechanism for coordinated activities on maritime issues of a transboundary nature.
- At present, there is limited cooperation between countries of the region in marine research.
- Most BIMSTEC countries have premier institutions and excellent scientists but

their interaction with the West is far more than within the region.

- The use of modern technology and improved fishing practices can go a long way in restoring the health of the Bay of Bengal.

**Need of the hour:**

- There is a need to create **regional frameworks for data collection.**
- **Participatory approaches** must be evolved for near-real-time stock assessment and the creation of an regional open fisheries data alliance.
- The Bay of Bengal Programme (BOBP), an inter-governmental organisation based in Chennai, is doing good work to promote sustainable fishing.

- Laws and policies in littoral states must be harmonised and the humanitarian treatment of fishermen ensured during any encounter with maritime law enforcement agencies.

**Conclusion:**

- BIMSTEC must arise, awake and act before it is too late.
- The summit must set in process regular meetings of officials, supported by scientists and experts, to tackle illegal and unsustainable fishing as well as prevent the further environmental degradation of the Bay of Bengal.

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# INDIAN EXPRESS EXPLAINED

## 1) Why decision to withdraw AFSPA from parts of Northeast is significant

### What's in the news?

- The Government of India has **significantly reduced the footprint of the Armed Forces Special Powers Act (AFSPA), 1958 in the Northeast**, withdrawing it entirely from 23 districts in **Assam**; and partially from seven districts in **Nagaland**, six districts in **Manipur**, and one district in **Assam**.
- Once the decision is notified in the gazette, **AFSPA remains in force in parts of these three states as well as in parts of Arunachal Pradesh and Jammu & Kashmir**.

### Why is the decision significant?

- AFSPA, which has been called draconian, gives **sweeping powers to the armed forces**. For example, it allows them to open fire, even causing death, against any person in contravention to the law or carrying arms and ammunition, and gives them powers to arrest individuals without warrants, on the basis of “reasonable suspicion”, and also search premises without warrants.
- **It can be imposed by the Centre or the Governor of a state, on the state or parts of it, after these areas are declared “disturbed” under Section 3.**
- The Northeast has lived under the shadow of AFSPA for nearly 60 years, creating a feeling of alienation from the rest of the country.
- The move is expected to help demilitarise the region; it will lift restrictions of movements through checkpoints and frisking of residents.

### Why is the latest move significant?

- The decision to withdraw AFSPA has come as the result of a combination of circumstances.
- Over the last two decades, various parts of the Northeast have seen a

**reduction in insurgencies**. A number of major groups were already in **talks with the Indian government**.

- For example, in Nagaland, all major groups — the NSCN (I-M) and Naga National Political Groups (NNPGs) — are at advanced stages of concluding agreements with the government.

### Why was AFSPA imposed on the Northeast in the first place?

- When the **Naga nationalist movement** kicked off in the 1950s with the setting up of the **Naga National Council (NNC)** — the predecessor of the NSCN — Assam police forces allegedly used force to quell the movement.
- As an armed movement took root in Nagaland, AFSPA was passed in Parliament, and subsequently imposed on the entire state.
- As secessionist and nationalist movements started sprouting in other Northeastern states, AFSPA started being extended and imposed.

### What has made AFSPA unpopular among the people?

- In Nagaland, 60 years of living under the AFSPA regime has had **psychological consequences, trauma and alienation of the people**. Critics said that the use of force and AFSPA furthered the feeling of alienation of the Naga people, **solidifying Naga nationalism**.
- Various incidents of violence have been recorded in the Northeastern states, as AFSPA gives sweeping powers to security forces.

### Are there any checks and balances?

- While the Act gives powers to security forces to open fire, this cannot be done without **prior warning** given to the suspect. It says that after apprehension of suspects, the security forces have to **hand them over to the local police station within 24 hours**. It says the armed forces **must act in cooperation with the district administration** and not as an independent body.

### What attempts have been made to repeal AFSPA or reduce its area of operation in the past?

- In 2000, the activist **Irom Sharmila** began a hunger strike that would continue for 16 years against AFSPA in Manipur. In 2004, the then central government set up a five-member committee under **former Supreme Court Justice Jeevan Reddy**, which submitted its report in 2005 recommending the repeal of AFSPA, calling it “highly undesirable”, and saying it had become a symbol of oppression.
- Subsequently, the **Second Administrative Reforms Commission**, headed by **Veerappa Moily**, endorsed these recommendations.

## 2) Who is a ‘minority’ in India?

### Why in the news?

- The Supreme Court has announced that it will take up a **petition seeking identification of minorities** at the state level and **granting minority status to Hindus** in states and union territories where their numbers have gone below other communities.

### What is the definition of minority under Indian laws?

- The expression “minorities” appears in some Articles of the Constitution, but is **not defined anywhere**.

### What does the Constitution say about minorities?

- **Article 29**, which deals with the “Protection of interests of minorities”, says that “any section of the citizens residing in the territory of India or any part thereof having a distinct language,

script or culture of its own shall have the right to conserve the same”,

- No citizen shall be denied admission into any educational institution maintained by the State or receiving aid out of State funds on grounds only of religion, race, caste, language or any of them.
- **Article 30** deals with the “right of minorities to establish and administer educational institutions”.
- It says that all minorities, whether based on religion or language, shall have the right to establish and administer educational institutions of their choice.
- **Article 350 (A)** says there shall be a Special Officer for linguistic minorities to be appointed by the **President**. It shall be the **duty of the Special Officer to investigate all matters** relating to the safeguards provided for linguistic minorities under this Constitution and report to the President upon those matters at such intervals as the President may direct.

### So, who is a minority in India?

- Currently, only those communities notified under section 2(c) of the National Minorities Commission Act, 1992, by the central government are regarded as minority.
- In the exercise of its powers under the Section 2(c) of the NCM Act, the Centre in 1993, notified five groups — **Muslims, Christians, Sikhs, Buddhists and Parsis** — as ‘minority’ communities. **Jains** were added to the list in 2014.

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# SANSAD TV

## 1) Project Tiger

### Background:

- The National Tiger Conservation Authority (NTCA) has been constituted under Wildlife (Protection) Act, 1972.
- NTCA has been at the forefront of tiger conservation work in India.
- Its work domain extends from on the ground protection initiatives to science based monitoring of tigers and their habitat using latest technological tools, independent assessment of tiger reserves with financial and technical support to tiger reserves, creating inviolate space for wildlife while ensuring community development to international co-operation are the few thrust areas of NTCA.

### Project Tiger:

- The Government of India has taken a pioneering initiative for conserving its national animal, the tiger, by launching the "Project Tiger" in 1973.
- From 9 tiger reserves since its formative years, the Project Tiger coverage has increased to more than 50 at present, spread out in 18 of our tiger range states.
- This amounts to around **2.23% of the geographical area of our country**.
- The tiger reserves are constituted on a **core/buffer strategy**.
- The core areas have the legal status of a national park or a sanctuary, whereas the buffer or peripheral areas are a mix of forest and non-forest land, managed as a multiple use area.
- The Project Tiger aims to foster an exclusive tiger agenda in the core areas of tiger reserves, with an inclusive people oriented agenda in the buffer.
- Project Tiger is an ongoing Centrally Sponsored Scheme of the Ministry of Environment, Forests and Climate Change providing central assistance to the tiger States for tiger conservation in designated tiger reserves.

### Why Project Tiger?

- Tiger is chosen for conservation as it is the **Keystone species** which are vital to the health of their ecosystems.
- They provide ecosystem services like protecting farms from herbivores and small predators.
- When we protect tiger habitat, we preserve it for all resident species.
- Wildlife habitat can exist without Tigers but Tigers cannot exist without wildlife habitat.
- Therefore when a Tiger is preserved, wildlife habitat is preserved automatically.

### Advantages:

- Tiger reserves provide intangible benefits such as carbon sequestration, water provisioning, water purification, climate regulation, gene pool protection, cultural heritage, spiritual tourism etc.,
- It also helps in the generation of employment, fodder, timber, fuelwood, non-timber forest produce and bamboo which are considered as tangible benefits.

### Challenges:

- Climate change has been one of the most serious challenges and poses a significant threat.
- Poaching is another challenge for forest officials.
- Man-Animal conflict poses a challenge in the conserving of Tigers.
- Natural disasters such as forest fires, flood, earthquakes are another challenge.
- Deforestation is also one of the challenges faced by Tigers as it destroys the habitation.

### Way Forward

- Participative approach technique is to be followed for the successful management of tigers.
- Increased funding and allocation for Project Tiger.
- Strict enforcement should be undertaken against Poaching.

- Climate change which is an area of concern is to be addressed.
- Innovative methods should be encouraged and employed.

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## ***INFOGRAPHIC OF THE WEEK***

### **1) NATIONAL LAND MONETIZATION CORPORATION**



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# WHAT'S IN THE NEWS?



The Union Cabinet, chaired by Prime Minister Shri Narendra Modi has approved the setting up National Land Monetization Corporation (NLMC) is a wholly-owned Government of India company with an initial authorized share capital of Rs 5000 crore and paid-up share capital of Rs 150 crore.



5000  
Crore

150  
Crore



NLMC will undertake monetization of surplus land and building assets of Central Public Sector Enterprises (CPSEs) and other Government agencies. The proposal is in pursuance of the Budget Announcement for 2021-22.



2021

2022



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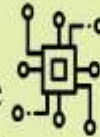
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With the monetization of non-core assets, Government would be able to generate substantial revenues by monetizing unused and under-used assets.



At present, CPSEs hold a considerable surplus, unused and underused non-core assets like land and buildings.



For CPSEs undergoing strategic disinvestment or closure, monetization of these surplus land and non-core assets is important to unlock their value. NLMC will support and undertake the monetization of these assets.



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Private sector



Economic Infrastructure

EDITABLE STROKE

This will also enable productive utilization of these under-utilized assets to trigger private sector investments, new economic activities, boost local economy and generate financial resources for economic and social infrastructure.

NLMC is also expected to own, hold, manage and monetize surplus land and building assets of CPSEs under closure and the surplus non-core land assets of Government-owned CPSEs under strategic disinvestment.



GOVERNMENT



This will speed up the closure process of CPSEs and smoothen the strategic disinvestment process of Government owned CPSEs. These assets may be transferred to NLMC to hold, manage and monetize these assets.

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NLMC will also advise and support other Government entities (including CPSEs) in identifying their surplus non-core assets and monetizing them in a professional and efficient manner to generate maximum value realization.



In these cases (e.g., on-going CPSEs and listed CPSEs under strategic disinvestment), NLMC will undertake surplus land asset monetization as an agency function.

It is expected that NLMC will act as a repository of best practices in land monetization, assist and provide technical advice to Government in implementation of asset monetization programme.





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