

## Coal Mine Pit Lakes

### ❖ Context

- The coal ministry has approached the environment ministry for inclusion of **five coal mine pit lakes** in Ramsar List.

### ❖ Key Highlights

- As per the guidance of MoEFCC, CIL has identified five pit lakes in the **States of West Bengal, Odisha, Jharkhand and Madhya Pradesh** for consideration of inclusion in Ramsar list.
- CIL is in process of preparing the **Ramsar Information Sheet (RIS)**.
- These mine pit water bodies are regularly visited by different species of birds and also have an avifauna population.
- The Ministry of coal is obtaining support and assistance from the **World Bank, GIZ and other global institutions** for repurposing abandoned mine sites to make them safe, environmentally stable and suitable for appropriate commercial usage.

### ❖ Ramsar Convention

- The **Convention on Wetlands of International Importance** is an international agreement promoting the conservation and wise use of wetlands. It is the **only global treaty to focus on a single ecosystem**.
- There are over **2,400 Ramsar sites** around the world with **most sites** being in the **United Kingdom and Mexico**.
- The **largest area** under the Convention protection is in **Bolivia** with 148,000 square km area designated.
- The **world's first site** was the **Cobourg Peninsula** in Australia, designated in 1974. The **largest site** is **Rio Negro in Brazil** (120,000 square kilometres).
- There are **49 sites** in India currently.

### ❖ Nine Criteria for Identifying a Wetland of International Importance

Group A of the Criteria.	Sites containing representative, rare or unique wetland types
Criterion 1:	A wetland should be considered internationally important if it contains a representative, rare, or unique example of a natural or near-natural wetland type found within the appropriate biogeographic region.
Group B of the Criteria.	Sites of international importance for conserving biological diversity
	Criteria based on species and ecological communities
Criterion 2:	A wetland should be considered internationally important if it supports vulnerable, endangered, or critically endangered species or threatened ecological communities.
Criterion 3:	A wetland should be considered internationally important if it supports populations of plant and/or animal species important for maintaining the biological diversity of a particular biogeographic region.
Criterion 4:	A wetland should be considered internationally important if it supports plant and/or animal species at a critical stage in their life cycles, or provides refuge during adverse conditions.
	Specific criteria based on waterbirds
Criterion 5:	A wetland should be considered internationally important if it regularly supports 20,000 or more waterbirds.
Criterion 6:	A wetland should be considered internationally important if it regularly supports 1% of the individuals in a population of one species or subspecies of waterbird.
	Specific criteria based on fish
Criterion 7:	A wetland should be considered internationally important if it supports a significant proportion of indigenous fish subspecies, species or families, life-history stages, species interactions and/or populations that are representative of wetland benefits and/or values and thereby contributes to global biological diversity.
Criterion 8:	A wetland should be considered internationally important if it is an important source of food for fishes, spawning ground, nursery and/or migration path on which fish stocks, either within the wetland or elsewhere, depend.
	Specific criteria based on other taxa
Criterion 9:	A wetland should be considered internationally important if it regularly supports 1% of the individuals in a population of one species or subspecies of wetland-dependent nonavian animal species.

## Single Use Plastic Ban

### ❖ Context

- With the ban on **12 single-use plastic items** coming into force from **July 1 2022**, the government has adopted various measures to ensure its effective enforcement.



### ❖ Key Measures

- A **national dashboard** that will keep track of the implementation has been set up.
- Setting up **control rooms** at national and state levels, which will be supervised by the Central Pollution Control Board.
- **Special enforcement teams** will be formed to check illegal manufacture, import, stocking & distribution, sale & use.
- States & UTs have been asked to set up **border checks** to stop inter-state movement.
- A **grievance redressal app** has been launched for the citizens to act as watchdogs.

### ❖ About the Ban

- The items had been chosen on the basis of three criteria - **low utility, high littering potential & availability of alternative materials**.
- The **use of these items by consumers is also banned**.

### ❖ Extent of Pollution in India

- According to CPCB, plastic waste generation in 2020-21 was **41.27 lakh tonnes**.
- The **per capita waste generation was 3 kg per annum**.
- There are **683 units** manufacturing single-use plastics with a cumulative capacity of **2.44 lakh tonne per annum**.
- **Single use accounts for 10-35% of the total plastic waste**.

### ❖ Biodegradable and Compostable Plastics

- Government is encouraging industry to come up with **alternatives** to single use in the form of biodegradable and compostable plastics.
- However, experts have expressed concern that biodegradable plastic would still be **hazardous** due to following reasons : In order to make plastic biodegradable, **additives** are added.
  - These additives fragments plastic into **micro-plastics** which are very difficult to deal with.

## Face to Face Centres



## mRNA Vaccine

### ❖ Context

- Recently, the country's first home-grown mRNA Covid-19 vaccine **GEMCOVAC-19**, developed at Pune's Gennova Biopharmaceuticals has got a 'restricted emergency use' nod for the 18-and-above age group.

### ❖ Key Highlights

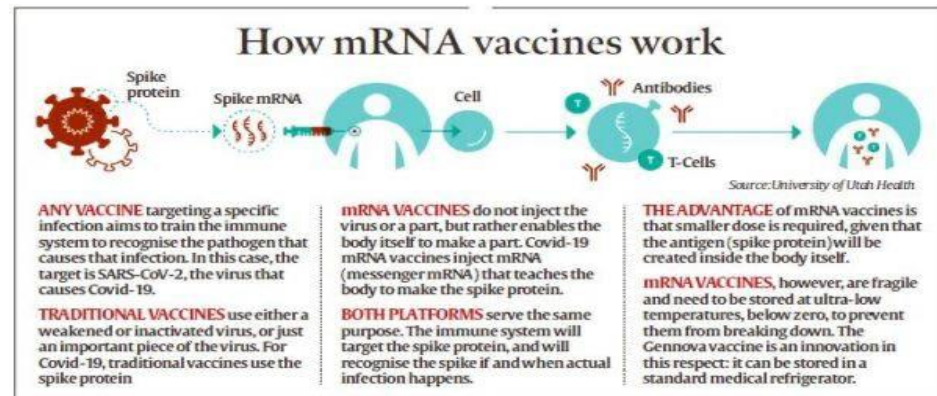
- mRNA vaccines are **required to be kept at sub-zero temperatures**.
- It was a mammoth task for Gennova scientists to develop a **thermostable mRNA Covid-19 vaccine**.
- Scientists had to innovate to suit local needs to make it affordable and deployable.
- The new vaccine **can now be stored** at the temperature of a **standard medical refrigerator**.

### ❖ mRNA Vaccine

- Conventional vaccines put a **weakened or inactivated virus** in the human body to activate an immune response.
- mRNA vaccine (Covid-19 vaccines -Pfizer-BioNTech and Moderna) **used messenger RNA or mRNA** to deliver a message to human immune system.
- Basically, the technology **uses genetically engineered mRNA** to instruct cells to make the **S-protein** found on the surface of the Covid-19 virus.
- After vaccination, the **muscle cells begin making S-protein pieces** and displaying them on cell surfaces.
- This causes the **body to create antibodies**.
- These vaccines **have to be stored at sub-zero temperatures** as mRNA is fragile and breaks down easily.

### ❖ Thermostable Vaccine

- The challenge in India was to be able to store the vaccine between 2-8 degree Celsius.
- This challenge was addressed by **Lyophilisation**.
- **Lyophilisation:**
  - The **conversion from liquid to powder** form of the vaccine takes place via Lyophilisation.
  - This is **freeze-drying**, a process where the water is removed from the product after it is frozen.
  - It is **placed under a vacuum** allowing the ice to change directly from **solid to vapor** without passing through a liquid phase.
  - The **surrounding pressure has to be tweaked** and then kept stable.
    - To ensure the characteristics of the vaccine are the same as before Lyophilisation.



## Uranium Deposits

### ❖ Context

- Recently, **Rajasthan has come on the world map** with huge reserves of uranium.
- These deposits are found at **Rohil (Khandela Tehsil) in Sikar district**, which is over 120 km from state capital Jaipur.



### ❖ Key Highlights

- According to initial estimates, there may be around **12 million tonnes of uranium deposits**.
- The Rajasthan government has forayed into the field of uranium mining by issuing a letter of intent (LoI) to Uranium Corporation of India.
- The LoI is for excavation of ore of this rare mineral in the state.

### ❖ Uranium

#### About:

- Uranium is a **silvery-white metallic chemical element** in the periodic table, with atomic number 92.
- It is assigned the chemical **symbol U**.
- A uranium atom has **92 protons and 92 electrons**, of which 6 are valence electrons.
- Uranium has the **highest atomic weight of all naturally occurring elements**.

#### Distribution:

- After Jharkhand and Andhra Pradesh, **Rajasthan is the third state where uranium has been found**.
- Currently, excavation of uranium is going on at Jadugoda in Jharkhand as well as Andhra Pradesh.
- The **largest producers of uranium in the world** are **Kazakhstan, Canada and Australia**.
- This mineral has also been found in **Niger, Russia, Namibia, Uzbekistan, the US and Ukraine**.
- **India also imports its rare mineral needs** from the world's largest uranium-producing nations like **Kazakhstan, Russia, Uzbekistan, and Canada**.

#### Application:

- Uranium is mainly used for **generating electricity** and also for nuclear energy, medicines, defense equipment and photography, among others.

## Face to Face Centres



## News in Between the Lines

### Establishment Clause



#### ❖ Context

- The **US Supreme Court's** decisions in recent three cases have set in debate over the **U.S. Constitution's First Amendment's Establishment Clause**.

#### ❖ About the Clause

- The First Amendment's Establishment Clause prohibits the government from making any law "respecting an establishment of religion." It basically **separates religion from state**.
- This clause also **prohibits** government actions that unduly **favor one religion over another**. It also **prohibits** the government from unduly preferring **religion over non-religion, or non-religion over religion**.
- The government policies and actions in those cases were taken to avoid violating the clause.
- However, according to some legal experts, the SC decision does not undermine the clause as **it protects diverse religious expression also**.

### Primary Agricultural Credit societies (PACS)



#### ❖ Context

- The Cabinet Committee on Economic Affairs has approved **computerization** of Primary Agricultural Credit Societies (PACS).

#### ❖ Key Highlights

- Computerization will be done in **5 years with total outlay of Rs. 2516 crores of which central share would be Rs. 1528 crores**.
- They will be brought on a common platform at national level and have a **Common Accounting System (CAS)** for their day to day business.
- The software will be in **vernacular language** having flexibility of customisation as per the needs of the states.
- Various **government schemes** in which credit and subsidy are involved can then also be implemented through PACS.

#### ❖ About PACS

- PACS constitute the **lowest tier of the three-tier short-term cooperative credit (STCC) in the country**.
- It comprises **approx. 13 Cr. farmers** as its members.
- They account for **41 % (3.01 Cr. farmers)** of the KCC loans given by all entities in the country.
- **95 % of these KCC loans (2.95 Cr. farmers)** through PACS are given to the **Small and Marginal farmers**.
- The **other two tiers viz. State Cooperative Banks (StCBs) and District Central Cooperative Banks (DCCBs)** have already been automated by the **NABARD** and brought on **Common Banking Software (CBS)**.

### Horn of Africa



#### ❖ Context

- Recently, China held the first China-Horn of Africa Peace, Governance and Development Conference.

#### ❖ Key Highlight

- China has been investing across the African continent throughout the last decade.
- The conference held in Ethiopia witnessed the participation of foreign ministries from the following countries of the Horn :
  - Kenya, Djibouti, Ethiopia, Sudan, Somalia, South Sudan, and Uganda.

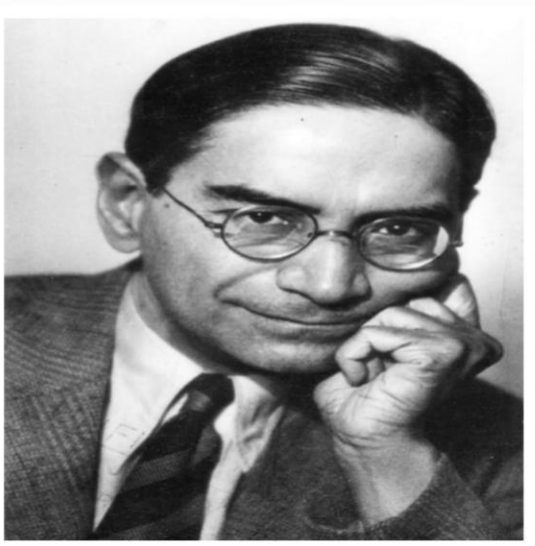
#### ❖ About Horn of Africa

- The Horn of Africa includes the countries of **Djibouti, Ethiopia, Kenya, Sudan, South Sudan and Eritrea, Somalia**.
- It is a **peninsula** situated in the northeast of the African continent
- **Extends out into the Arabian Sea** for hundreds of kilometres and is located along the **south of the Gulf of Aden**.
- This region is the easternmost projection of Africa.

## Face to Face Centres



## Prasanta Chandra Mahalanobis



### ❖ Context

- National Statistics Day is celebrated every year on June 29 to mark the birth anniversary of Indian scientist and statistician Prasanta Chandra Mahalanobis.
- Incidentally, June 28 also marked 50 years since his passing.

### ❖ Key Highlights

- He was born on June 29, 1893, in Calcutta.
- He is best remembered for the Mahalanobis distance, a statistical measure.
  - The formula is used widely in the field of cluster analysis and classification.
- In 1950, he formed the Indian Statistical Institute (ISI) with a Statistical Laboratory set up. He contributed to the design of large-scale sample surveys. He was instrumental in designing the way we conduct surveys today. He also introduced a method for estimating crop yields using statistical sampling. He is also known for being one of the members of the first Planning Commission of free India.
- He was instrumental in formulating India's second five-year-plan (1956-1961), which laid the blueprint for industrialisation and development in India.
- In 1933 he started 'Sankhya: The Indian Journal of Statistics'.

### ❖ About National Statistics Day

- The first National Statistics Day was observed in 2007.
- The day is marked for spreading awareness among the country's youth about the importance of Statistics in policy formulation and socio-economic planning.

## Deregulation of Sale of Domestically Produced Crude Oil



### ❖ Context

- The Cabinet Committee on Economic Affairs has approved 'Deregulation of Sale of Domestically Produced Crude Oil'.

### ❖ Key Highlights

- This means that the government will cease allocation of crude oil and condensate. It will be effective from 01.10.2022.
- The condition in the Production Sharing Contracts (PSCs) to sell crude oil to government or its nominee or government companies will now be waived off.
- All Exploration and Production (E&P) companies will now be free to sell crude oil from their fields in the domestic market.
- However, exports will still not be permissible.

## PM Gati Shakti Portal



### ❖ Context

- Recently, the Ministry of Steel has joined the PM Gati Shakti Portal and uploaded the geo locations of key projects with an aim of identifying and bridging missing infrastructure connectivity gaps.

### ❖ Key Highlights

- Ministry of Steel, in line with the goal of PM GatiShakti has identified 38 high impact projects to develop multimodal connectivity and bridge the missing infrastructure gaps.
- It has created its first layer of data with uploading Geo locations of all the steel plants of CPSEs under the administrative control of Ministry of Steel.
- Planned expansion of railway lines, creation of new Inland Waterways, roads, ports, gas pipeline connectivity and airports/airstrips will result in creating much needed logistics solution, which will drive the steel sector towards achieving its targeted goals by 2030-31 as delineated in NSP (National Steel Policy) 2017.
- Gati Shakti - National Master Plan for Infrastructure development was launched by Hon'ble Prime Minister in October 2021 with the objective to bring different Ministries together and for integrated planning and coordinated implementation of infrastructure connectivity Projects.
- It will incorporate the infrastructure schemes of various Ministries and State Governments and will also leverage technology extensively including spatial planning tools.

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