CROSS & CLIMB ROHTAK

Current Affairs : 23 February 2023

WHAT IS THE LAW COMMISSION OF INDIA?

The Union Cabinet recently extended the term of the 22nd Law Commission by one-and-a-half years.

About Law Commission:

- The Law Commission of India is a **non-statutory body constituted by the Government of India from time to time.**
- It **functions to the Ministry of Law and Justice as an advisory body.**
- **History**:
- The **first Law Commission** was **established during the British Raj era in 1834** by the **Charter Act of 1833** and was **chaired by Lord Macaulay**.
- **In 1955, the first independent Law Commission** was created.
- **Objective**: To **carry out research in the field of law** and **makes recommendations** to the Government (in the form of Reports) as per its terms of reference.
- The commission's **recommendations are not binding** on the Government.
- The Law Commission has **so far submitted 277 Reports.**
- The commission **consists of legal experts and is headed by a retired judge**.
- The Commission is **constituted for a fixed tenure.**

WHAT IS OPEN PIT MINING?

An open pit mine recently collapsed in China's northern Inner Mongolia region, killing at least two people and leaving more than 50 missing.

About Open pit mining:

- **What is it?** Open-pit mining, also **known as opencast mining**, is a **surface mining technique** that **extracts minerals from an open pit in the ground**.

- It is the most **common method used** worldwide for mineral mining and **does not require extractive methods** or
- It is an **appropriate extraction method** when **mineral or ore deposits** are found relatively **close to the earth's surface**, which is **overlain by** relatively thin vegetation, topsoil, and rock (collectively called **overburden**).
- It **uses a series of level surfaces or benches** to reach the deposit, **forming an open pit** that looks **similar to an inverted pyramid.**
- **Open-pit mines undergo constant expansion** until all mineral resources are exhausted.
- **Most** of the world's annual output of **copper, gold, and iron ore is from open-pit mining**
- **Other commodities** produced from open-pit mining **include diamonds, molybdenum, manganese, lead and zinc, uranium,** and a variety of industrial minerals, such as borates, talc , etc.
- Open-pit mining has **higher productivity, lower operating costs, and is relatively safer** than other mining methods.
- **Environmental effects of open pit mining:**
- It **consumes enormous amounts of water;**
- **heavily pollute water and air;**
- **disfigures landscapes;**
- permanently **destroys habitat;**
- the pit area retains **elevated risks of erosion and flooding** even after pits are exhausted.

SANSAD RATNA AWARDS

Recently, the Prime Minister of India congratulated fellow Members of Parliament who will be conferred the Sansad Ratna Awards 2023.

About Sansad Ratna Awards:

- The Sansad Ratna Awards were instituted in 2010, inspired by **the teachings of former President APJ Abdul Kalam,** who launched the

first edition of the Award function in Chennai.

- The Jury Committee has chosen a total of 13 MPs and two parliamentary committees for the award, with a lifetime award being presented for the first 2023 awards.
- The jury committee comprises "**eminent Parliamentarians and (members of) civil society".**
- The nominations were based on an MP's cumulative performance in Parliament, from the beginning of the 17th Lok Sabha until the end of Winter Session 2022
- Factors that the decision is based on include **questions asked, private members' Bills introduced, debates initiated, attendance, funds utilised**, etc.
- The performance data of the members have been sourced from information provided by PRS Legislative Research.

EL NINO AND LA NINA: WHY IS INDIA WATCHING THE EL NINO FORECAST WITH UNEASE?

Why in News?

- India experienced a colder than normal winter thanks to the north-south winter flow set up by the **weather phenomenon known as La Niña**, which is going on for a record-breaking third consecutive year.
- Now, forecasts for 2023 are predicting that its companion phenomenon - **the El Niño** - will occur with more than a 50% probability.

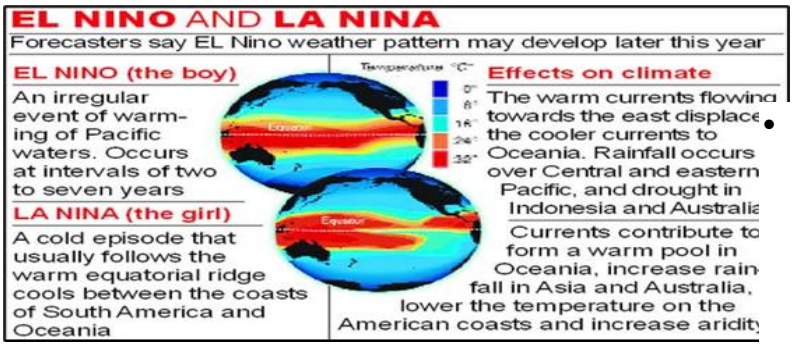
What are the Normal Climatic Conditions?

- **Weather depends a lot on ocean temperatures** and where the ocean is warm, more clouds form and more rainfall in that part of the world.
- **In the Pacific Ocean**, near the equator, the Sun makes the water especially warm on the surface.
- **Normally**, a surface low pressure system forms in northern Australia and Indonesia and a high-pressure system develops off the coast of Peru.
- As a result, the **trade winds blow strongly from east to west** over the Pacific Ocean, transporting warm surface waters westward.

- This leads to convective storms (**thunderstorms**) to Indonesia and coastal Australia.

What is El Nino and La Nina?

- **El Nino and La Nina** are two opposing climate trends that deviate from the normal conditions and normally run nine to twelve months, but can often extend.
- These events occur every two to seven years on average (El Nino is more frequent than La Nina), but not on a regular basis and together are referred to as the **El Nino-Southern Oscillation** (ENSO) cycle by scientists.
- El Nino is typically known as the **warm phase** (a band of warmer water spreading from west to east in the equatorial Pacific Ocean) and La Nina is identified as the **cold phase** (a band of cooler water spreads east-west) of ENSO.
- Both El Nino and La Nina can have global effects on **weather, wildfires, ecosystems and economics.**



News Summary Regarding Forecast about El Niño:

- The first thing to note is that El Niño forecasts before spring tend to be notoriously unreliable due to a so-called '**spring predictability barrier**'.
- This is because the climate system is quite noisy in spring **as the Sun transitions across the equator**, from one hemisphere to the other.
- More importantly, **in a La Niña year**, the tropical Pacific Ocean soaks up heat like a sponge and builds up its volume of warm water.
- During the El Niño, this warm water spills from the western part of the Pacific Ocean to the eastern part.

What can be the Probable Effects of El Nino on India?

- A transition from a La Niña winter to an El Niño summer has historically tended to **produce a deficit in the monsoon**.

- This means that pre-monsoon and monsoon circulations tend to be weaker in an El Niño year.

VOSTRO ACCOUNTS

Why in news?

- Recently, government officials in India informed that 20 Russian banks have opened Special Rupee Vostro Accounts (SRVA) with partner banks in India.
- All major domestic banks have listed their nodal officers to sort out issues faced by exporters under the arrangement.

What is a Vostro account?

- A Vostro account is an account that a **domestic bank** holds for a foreign bank in the **domestic bank's currency** — which, in the case of India, is the rupee.
- A vostro account is established to enable a foreign correspondent bank to act as an agent or provide services as an intermediary for a domestic bank.
- Domestic banks use it to provide international banking services to their clients who have global banking needs.
- These services include executing wire transfers, withdrawals, and deposits for customers in countries where the domestic bank does not have a physical presence.
- Hence, it helps domestic banks gain wider access to foreign financial markets and serve international clients without having to be physically present abroad.

INDIGENOUS TECHNOLOGY CRUISE MISSILE

Recently, India has achieved much-needed success in its indigenous technology cruise missile (ITCM) programme by missile test-firing from launchpad No- 3 of Chandipur in the Balasore district.

About Indigenous Technology cruise Missile:

- It was tested on the **subsonic cruise missile Nirbhay platform** from launching complex III of the integrated test range (ITR).

- It was **equipped with** the indigenously developed **small turbofan engine (STFE) Manik** and an upgraded radio frequency seeker, the missile was test fired for a reduced range.
- The domestic Manik engine with a thrust rating of 450 kgf has been designed and developed by Bengaluru-based Gas Turbine Research Establishment (GTRE) for cruise missiles and unmanned aerial vehicles.
- It is a generic twin-spool engine without an afterburner.

What is a Nirbhay missile?

- Nirbhay is a **Long-Range Sub-Sonic Cruise Missile**, which can be deployed from multiple platforms.
- It is capable of loitering and cruising at Mach 0.7 (sub-sonic) at an altitude as low as 100 meters. It can carry a nuclear warhead.
- **Developed by:** It has been indigenously designed & developed by Defence Research & Development Organisation (DRDO).

KEELADI EXCAVATION

The excavations in the Keeladi region since 2015 prove that an urban civilisation existed in Tamil Nadu in the Sangam age.

About Keeladi Excavation:

- Keeladi excavation site is a **Sangam period settlement** that is being excavated by the Archaeological Survey of India and the Tamil Nadu Archaeology Department.
- The settlement lies on the bank of the **Vaigai River.** This is a large-scale excavation carried out in Tamil Nadu after the Adichanallur archaeological site.
- This site is estimated to be from the period between the 5th century BCE and the 3rd century CE.

Key facts about the Sangam period

- The word ‘Sangam’ is the Tamil form of the Sanskrit word Sangha which means a group of persons or an association.

- This sangama was an academy of poets who flourished in three different periods and different places under the **patronage of the Pandyan kings.**
- The **Sangam literature,** which was largely consolidated from the third Sangam, sheds light on people's living conditions at the start of the Christian era.
- It gives information about the secular matter relating to public and social activities like government, war charity, trade, worship, agriculture, etc.
- Sangam literature consists of the earliest Tamil works (Tolkappiyam), the ten poems (Pattupattu), the eight anthologies (Ettutogai) and the eighteen minor works (Padinenkilkanakku), and the three epics.

GIVING DATA ITS DUE: CREATING A RICH DATA ECOSYSTEM BY NATIONAL DATA & ANALYTICS PLATFORM

- The article puts thrust upon the Government of India creating new roadmaps and enabling the development of a rich data ecosystem by National Data & Analytics Platform.

National Data & Analytics Platform (NDAP)

- **About:** It was launched in 2022 by NITI Aayog, in collaboration with different ministries and state governments, providing standardized datasets from across India's vast landscape of administrative data.
  - It hosts foundational datasets from central and state government entities, presents them coherently in **machine-readable formats, with a user-friendly interface** and provides tools for analytics and visualization.
- **Objective**: The platform aims to **democratize access to public government data** by making data accessible, interoperable, interactive, and available on a user-friendly platform.
- **Target users**: NDAP's target users include policymakers, civil servants, university students and researchers, journalists, innovators, and civil society groups.

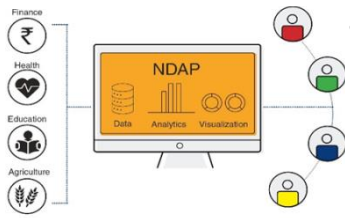
Why There was a Need to Bring NDAP?

- **Public data** is often stored on platforms that are **difficult to use** and in formats that delay analysis.

- Thus, data from different sources **cannot be cross-linked**e., users cannot compare data from different departments or data gathered over time.
- Also, **slow updating processes** and **inconsistencies in data quality**, raises concerns if the appropriate data is publicly available.
- Also, the rise of data and digital technologies are rapidly transforming economies and societies, with enormous implications for governments' daily operations.
- Hence, every step of the **NDAP design process** addressed these challenges by including **rigorous user testing** to ensure that the platform precisely solves these issues.

Demonstration of How NDAP can Leverage Data to Strengthen Good Governance?

- **For example**, a state-level civil servant building new primary health centres (PHCs) for communities that lack existing health facilities needs to find and integrate three datasets from three different organisations as follows:
  - The health department's **Management Information System** (MIS) for a list of communities with existing PHCs
  - The **Economic Census** from the Ministry of Statistics and Programme Implementation (MoSPI) to get a list of communities with private health facilities
  - The **Population Census** from the Registrar General of India (RGI) to prioritize villages based on size
- These separate datasets despite being all public, requires additional task of finding them and downloading data that takes time and requires knowledge of three separate portals.
  - This is followed by greater **challenge of coherently linking the datasets** to produce a single list of the largest communities without existing health centres.
- With NDAP, the decision-maker can access the data from all three sources seamlessly linked into a single dataset within no time.



- The data can then be downloaded and analysed using inbuilt analytics and visualization tools to better understand the data on the platform itself.

Significance of NDAP

- NDAP uses cutting-edge methods to link **diverse datasets** from across the government and enables the use of several types of data at once.
- All datasets are **standardized to a common schema**, which makes it **easy to merge** datasets and do **cross-sectoral analysis**.
- NDAP by following a **use-case based approach** ensures that the datasets hosted on the platform are tailored to the needs of data users from government, academia, journalism, civil society, and the private sector.
  - Its users can create **flexible tables and visualizations** for **easy exploratory analysis** using the platform's in-built analysis tools.
- NDAP is **quality benchmarked** as datasets on the platform are required to meet a minimum data quality standard that is defined using **NDAP's in-house 5-star rating framework**.
- NDAP can **save considerable time** of the civil servants and make their **decisions more data-driven**, resulting better governance and programme outcomes for the common public.
- Its **public access** has provided **opportunities for all**, including states, ministries, and India's data community, to support NDAP by helping improve, expand and update the platform's existing datasets and capabilities.
- NDAP has also been made an integral part of the **State Support Mission of NITI Aayog** and the development of **state-specific portals** on the lines of NDAP helps in cost and time saving ensuring all states become equal partners in data-driven governance.

WHAT IS A NEUROMORPHIC CAMERA?

Researchers at the Indian Institute of Science (IISc) have developed a novel technique that combines optical microscopy with a neuromorphic camera aided by machine learning algorithms that can go beyond the diffraction limit of light and detect minute objects.

About Neuromorphic camera:

- A neuromorphic camera **mimics the way the human retina converts light into electrical impulses.**

- **How does it work?**
- In a **typical camera**, **each pixel captures the intensity of light falling on it for the entire exposure time** the camera focuses on the object. **All these pixels are pooled together** to reconstruct an image of the object.
- **In neuromorphic cameras**, **each pixel operates independently and asynchronously**, **generating events or spikes only when there is a change in the intensity of light** falling on that pixel.
- **This generates sparse and lower amounts of data** compared to traditional cameras, which capture every pixel value at a fixed rate, regardless of whether there is any change in the scene.
- This **allows a neuromorphic camera to "sample" the environment with much higher temporal resolution** because **it is not limited by a frame rate** like normal cameras and also **performs background suppression.**
- Neuromorphic cameras **have a very high dynamic range (>120 dB)** which means they can be used in different conditions ranging from a very low-light environment to very high-light conditions.