

Prelims Focus - 23rd March 2024

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1. Gibraltar Strait

Recent News:

According to a modelling study, a currently inactive subduction zone beneath the Gibraltar Strait might become active and move towards the Atlantic Ocean, which could create an Atlantic version of the “Ring of Fire” in approximately 20 million years.

Details:

- The Strait of Gibraltar is a narrow passage connecting the Atlantic Ocean and the Mediterranean Sea.
- It is important for trade and navigation between Europe, Africa, and Asia. The strait has challenging conditions for large ships, with strong currents and variable winds.
- The movement of water is influenced by differences in density and salinity. The area is rich in plant and animal species and serves as a migration pathway for whales, dolphins, and seabirds.
- Throughout history, the strait has been a boundary between continents and cultures, with diverse influences.
- It is significant for global shipping and has potential for energy projects. The strait’s strategic location has led to conflicts and military importance.

2. Great Indian Bustard (GIB)

Recent News:

The Supreme Court formed a panel of experts to assess the potential for electric lines in key

habitats of the Great Indian Bustard.

Details:

- The Great Indian Bustard, known locally as Godawan, is a large bird belonging to the bustard family and is one of the heaviest flying birds in the world.
- They are not skilled fliers but have excellent side vision to spot predators.
- The bird is the state bird of Rajasthan and was the mascot for CMS COP13 held in Gandhinagar, India in 2020. The Great Indian Bustard is found in dry grasslands and scrublands on the Indian subcontinent, with the largest populations in Rajasthan.
- It is considered an indicator of grassland ecosystem health. They are omnivores and reproduce slowly, laying a few eggs and providing parental care for almost a year.
- Threats to the species include habitat loss, hunting, and poaching. Conservation efforts include the launch of Project Bustard in 2012 and the species being included in a recovery program by the Ministry of Environment, Forests and Climate Change.

3.Operation Indravati

In News: India has recently launched 'Operation Indravati' to evacuate its nationals from Haiti.

- Haiti has been witnessing violence for over two years since the July 2021 assassination of President Jovenel Moise.
- Now several armed groups launched coordinated assaults on key installations in Haiti in an attempt to force the resignation of the country's de facto prime Minister Ariel Henry.
- **About Haiti**
 - **Capital:** Port-au-Prince
 - Haiti, is a country on the island of Hispaniola in the Caribbean Sea, east of Cuba and Jamaica, and south of The Bahamas.

4.Sound Laser

In News: Researchers in China have built a new device which can create a laser beam out of sound particles.

- It is an unprecedentedly bright laser that shoots particles of sound instead of light.
- Unlike regular lasers that emit light particles known as photons, those machines release particle-like chunks of sounds known as phonons.
- Also known as Sound Amplification by Stimulated Emission of Radiation (SASER), those "sound lasers" produce a beam of uniform sound waves on a nanoscale. The first successful SASERs were developed in 2009.
- **Significance:** These particles may be used in optoelectronics, terahertz-frequency ultrasound, sign modulation and manipulating nanoparticles.
 - Laser's ability to transport by liquids without being distorted could show useful in the entirety from biomedicine to underwater imaging.

5. Project Gaia

In News: The European Central Bank, the Bank for International Settlements, the Bank of Spain, and the Bundesbank of Germany have introduced **Project Gaia**.

- Project Gaia aims to help analysts seek company climate-associated disclosures and extract records quickly and correctly the usage of artificial intelligence (AI).
- The Project included Large Language Models (LLMs) into an utility and leveraged it for information extraction.
- Large Language Models (LLMs)
 - A huge language model (LLM) is a kind of artificial intelligence (AI) algorithm that uses deep getting to know strategies and massively large statistics units to understand, summarize, generate and are expecting new content.
 - Deep studying involves the probabilistic evaluation of unstructured statistics, which ultimately allows the deep gaining knowledge of models to understand distinctions between pieces of content material without human intervention.