Prelim Bits 23-09-2023 | UPSC Daily Current Affairs

Artificial Reef (AR)

Department of Fisheries is promoting Artificial Reef (AR) under Pradhan Mantri Matsya Sampada Yojana (PMMSY) for rejuvenating coastal fisheries.

The program

- **Initiatives -** Department of Fisheries has sanctioned 732 artificial reef units for *10 coastal states* as a sub-activity under Integrated Modern Coastal Fishing Villages of the PMMSY.
- **Funding -** 60% funding from the Centre and 40% from the State governments.

  Pradhan Mantri Matsya Sampada Yojana promotes blue revolution through sustainable and responsible development of the fisheries sector.

- **Implemented by -** Fishery Survey of India (FSI) and ICAR-Central Marine Fisheries Research Institute (CMFRI).

Artificial Reefs

- **About -** An artificial reef is a manmade structure that may mimic some of the characteristics of a natural reef.
- Artificial reefs are one of the tool used by marine conservationists to restore coral reefs around the globe.
- **Made of -** They are made from a variety of natural or synthetic materials, and come in an infinite number of shapes and styles.
- **Goal -** To provide a stable growing area for corals, and habitat for fishes and all the other organisms that would find on a natural reef.
- **Advantages**
  1. Reduce wave damage on coasts.
  2. Helps regeneration of marine ecosystem and act as a carbon sink.
  3. Increase in catch rates and efficiency.
  4. Restrict bottom trawling in the near shore areas.

References

1. PIB | Artificial Reef (AR) under PMMSY
2. NOAA | Artificial Reef

Statue of Oneness

Madhya Pradesh Chief Minister unveiled the 108-foot-tall Statue of Oneness of Adi Shankaracharya at Omkareshwar.

Statue of Oneness

- It depicts Adi Shankaracharya as a 12-year-old child, the age he was when he is said to have visited Omkareshwar.
- **Location -** It is a multi-metal statue installed atop Mandhata Parvat hill at Omkareshwar, Madhya Pradesh.
- At the base of the statue is the Shankar Stambh, depicting 32 stories related to Shankaracharya.



Adi Shankaracharya

- **Period -** He was born in Kerela's Kaladi and is believed to have lived between 788 and 820 AD.
- **Guru -** He studied under his guru ***Govinda Bhagavatpada*** and soon became a proponent of ***Advaita Vedanta*** at Omkareshwar.
- He challenged the prevailing philosophical traditions including Buddhism and Jainism.
- **Places visited -** He visited spiritual centres such as Kanchi to Kamrup (Assam), and Kashmir, Kedar and Badri dhams, as well as Sringeri, Ujjain, Kashi, Puri, and Joshimath.
- **Works -** The most notable work are the commentaries on the 10 Upanishads, the Brahmasutra and the Gita.

Other such statues in India

- **Statue of Unity –** It is a statue of Sardar Vallabhai Patel, regarded as the Iron Man of India.
- The statue is the world's tallest statue, located near the Sardar Sarovar Dam, in the banks of the Narmada River.
- **Statue of Equality** - The Statue of Equality is the statue of Sri Ramanujacharya.
- Born in 1017 in Sriperumbudur in Tamil Nadu, Ramanujacharya is revered as a Vedic philosopher and social reformer.
- He traveled across India, advocating equality and social justice.
- It is the second-tallest statue in the world.

Reference

The Indian Express | Adi Shankaracharya statue at Omkareshwar

Origins-Spectral Interpretation-Resource Identification-Security-Regolith Explorer (OSIRIS-Rex) mission

NASA's OSIRIS-REx mission is set to drop a capsule containing samples from the asteroid

Bennu to Earth.

- **Aim -** It is a spacecraft that traveled to an asteroid named Bennu and collected a sample of rocks and dust from the surface.
- It is the first U.S. mission to collect a sample from an asteroid – Asteroid Bennu.
- The spacecraft is on its way back to Earth to deliver the sample.
- When it arrives, the spacecraft will release the capsule containing pieces of Bennu over Earth's atmosphere.
- This mission will help to investigate how planets formed and how life began, as well as improve the understanding of asteroids that could impact Earth.

Asteroid Bennu

- Named after an Egyptian deity, Bennu is located about 200 million miles away from the Earth.
- It was discovered by a NASA-funded Lincoln Near-Earth Asteroid Research team in 1999.
- It is a B-type asteroid, implying that it contains significant amounts of carbon and various other minerals.
- There is a slight chance that Bennu, a Near Earth Object (NEO), might strike the Earth in the next century, between 2175 and 2199.

NEOs are comets and asteroids nudged by the gravitational attraction of nearby planets into orbits, which allow them to enter the Earth's neighborhood.

References

1. The Indian Express | NASA's OSIRIS-REx
2. NASA | OSIRIS-REx

Cyclone genesis & WACE pattern

After 1990s the cyclone formation is said to be affected by anthropogenic trends.

Cyclone-genesis or cyclogenesis

- Cyclogenesis is initiated by a disturbance occurring along a stationary or very slow-moving front between cold and warm air.
- It is an indicator that denotes the chance of a cyclone forming.
- This disturbance distorts the front into the wavelike configuration.
- As the atmospheric pressure within the disturbance continues to decrease, it assumes the appearance of a cyclone and forces poleward and equatorward movements of warm and cold air, respectively.
- **Parameters**
    1. The sea surface temperature
    2. The ocean heat content
    3. Change in winds from the surface into the upper atmosphere (or the vertical

shear)
4. Rotation of winds near the surface

- If the conditions are supportive, it may lead to cyclone formation.
- All these factors except for wind rotation have seemingly favoured a higher cyclone formation potential since the 1990s.
- The rapid increase in the cyclogenesis potential over the Arabian Sea coincides with a shift in the ***Warm Arctic, Cold Eurasian, or WACE, pattern***.

Warm Arctic Cold Eurasian (WACE) pattern

- WACE is a pattern of warm surface temperatures over the Arctic and a large blob of cold surface temperatures over Eurasia.
- This pattern is associated with upper air circulation changes that reach into the Indian Ocean sector.

Upper air circulation refers to streams of air that flow at the higher altitudes of the atmosphere.

- The warm Arctic–cold Eurasia pattern is accompanied by an anomalous high pressure and anticyclonic circulation over the Eurasian continent.
- The warm, moist air mass is advected to the Arctic by the anomalous atmospheric circulations, and the increased downward turbulent heat flux also explains sea ice melt in the Barents and Kara seas.
- In other words, the sea ice loss in the Barents and Kara seas and the cooling of the Eurasian continent can both be traced to anomalous atmospheric circulations.

References

1. The Hindu | Something changed about cyclone formation
2. NOAA | Warm Arctic, Cold Continents (WACC) pattern

Greenwashing

The European Union (EU) finalised a new draft rule banning advertisements that mislead customers with false sustainability promises.

Greenwashing

- Greenwashing refers to a range of activities that companies or even countries indulge in to present misleading or dubious claims about their climate action.
- Also known as, green sheen, greenwashing is an attempt to capitalize on the growing demand for environmentally sound products.
- Greenwashing helps in boosting the image of the entity and help them garner benefits for things they do nothing against climate change.
- **Prevalence of greenwashing -** Greenwashing in the context of net-zero targets is being pursued by many corporations and sub-national governments.

- **Governments -** Developed countries are often accused of greenwashing their normal business investments in developing countries.
- They also greenwash their bilateral aid by highlighting climate co-benefits of the financial flows.
- **Companies -** The Volkswagen scandal, in which the German car company was found to have been cheating in emissions testing of its supposedly green diesel vehicles, was a case of greenwashing.
- Several other multinational corporations, including oil giants like Shell and BP, and Coca Cola have faced accusations of greenwashing.

Greenwashing in EU

- The EU finalised a new draft rule banning advertisements that mislead customers with false sustainability promises.
- The law will be rolled out in 2026 after receiving final approval from the European Parliament as well as the Council.
- Member states will have two years to incorporate the new rules into their laws and adopt the changes.
- In order to ensure consumers obtain trustworthy and verifiable information for making sustainable decisions, a mandate was issued in 2019 as part of the *EU Green Deal*.

The Green Deal

- It is a set of legislative proposals that attempts to put the EU on a green transitional path with the objective of achieving carbon neutrality by 2050.
- The new regulations contribute towards the EU's larger goals to attain net zero emissions by 2050.

References

1. Down to Earth | EU to contain greenwashing by 2026
2. Business News Daily | Green Washing

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