

0-SMART Scheme

January 26, 2021

In News: The 0-SMART (Ocean Services, Modelling, Applications, Resources, and Technology) Scheme , The umbrella scheme has been implemented by the Ministry of Earth Sciences.

0-SMART Scheme

- The services rendered under the 0-SMART will provide economic benefits to a number of user communities in the coastal and ocean sectors, namely, fisheries, offshore industry, coastal states, Defence, Shipping, Ports etc.
- It seeks to address issues relating to SDG-14, which aims to conserve the use of oceans, marine resources for sustainable development.
- It also provides the necessary scientific and technological background required for the implementation of various aspects of Blue Economy.
- The State of Art Early Warning Systems established Scheme will help in effectively dealing with ocean disasters like Tsunami, storm surges.
- The technologies being developed will help in harnessing the vast ocean resources of both living and non-living resources from the seas around India.
- A fleet of research vessels viz., Technology Demonstration vessel SagarNidhi, Oceanographic Research Vessel SagarKanya, Fisheries and Oceanographic Research Vessel SagarSampada and Coastal Research Vessel SagarPurvi have been acquired to provide required research support.

Objective of 0-SMART Scheme:

- The Scheme generates and regularly updates information on Marine Living Resources and their relationship with the physical in Indian Exclusive Economic Zone (EEZ).
- Periodically monitors water levels of sea pollutants for

health assessment of the coastal waters of India. To develop shoreline change maps for the assessment of coastal erosion.

- Develop a wide range of state-of-art ocean observation systems for the acquisition of real-time data from seas around India.
- Generate and disseminate a suite of user-oriented advisories, ocean information, data, warnings, and data products for the benefits of society.
- Develop High-resolution models for the ocean forecast and reanalysis systems.
- Develop algorithms for the validation of satellite data for coastal research. Monitor changes in coastal research.
- Develop technologies to tap the marine bioresources
- To develop technologies generating energy and freshwater from oceans
- Develop underwater vehicles and technologies and establish ballast water treatment facilities.
- Support maintenance and operation of five research vessels for ocean monitoring/survey/technology demonstration programmes.

Exclusive Economic Zone (EEZ)

- Each coastal State may claim an EEZ beyond and adjacent to its territorial sea that extends seaward up to 200 nm from its baselines.
- **Within its EEZ, a coastal state has:**
 - Sovereign rights for the purpose of exploring, exploiting, conserving and managing natural resources, whether living or nonliving, of the seabed and subsoil.
 - Rights to carry out activities like the production of energy from the water, currents and wind.
- Unlike the territorial sea and the contiguous zone, the EEZ only allows for the above-mentioned resource rights.

It does not give a coastal state the right to prohibit or limit freedom of navigation or overflight, subject to very limited exceptions

Blue Economy

- The concept was introduced by Gunter Pauli in his 2010 book- “The Blue Economy: 10 years, 100 innovations, 100 million jobs”.
- It is the sustainable use of ocean resources for economic growth, improved livelihoods and jobs, and ocean ecosystem health.
- It advocates the greening of ocean development strategies for higher productivity and conservation of ocean’s health.
- It encompasses–
 - **Renewable Energy:** Sustainable marine energy can play a vital role in social and economic development.
 - **Fisheries:** Sustainable fisheries can generate more revenue, more fish and help restore fish stocks.
 - **Maritime Transport:** Over 80% of international goods traded are transported by sea.
 - **Tourism:** Ocean and coastal tourism can bring jobs and economic growth.
 - **Climate Change:** Oceans are an important carbon sink (blue carbon) and help mitigate climate change.
 - **Waste Management:** Better waste management on land can help oceans recover.
- Blue Economy emphasizes on integration of development of the ocean economy with social inclusion, environmental sustainability, combined with innovative business models.
- This is reflected in Sustainable Development Goal (SDG 14), which calls to conserve and sustainably use the oceans, seas and marine resources for sustainable

development