

Role of MoES in Monitoring of Coral Reef and their Restoration to Maintain the Ecosystem

Coral reefs are an important constituent of the global ecosystem responsible for protecting the coastlines from water wave actions and tropical storms. Coral reefs not only provide shelter to many marine organisms but also a source of nitrogen and many other essential nutrients for the marine organisms to thrive. Carbon and nitrogen fixing also takes place in coral reefs which helps recycling of the nutrients. Fishes breed here and juvenile fishes have a safe time before going out to the open sea.

In the past 30 years, more than 50% of the world's corals have died due to human activity like over fishing, tourism, pollution, and other climatic factors.

Ministry of Earth Sciences (MoES), Government of India is involved in coral monitoring, their restoration and management.

#Did you Know

Coral Reefs are Disappearing !

- Corals are very Fragile and sensitive, changes to temperature causes ocean acidification which can prevent growth and destroy coral reefs.
- Human factors including overfishing, tourism, Pollution and climate threaten corals, 50% of the world's coral has died in the past 30 years and 15% seriously threatened in the next 10-30 yrs.
- Ministry of Earth Sciences works on coral monitoring & restoration, manages the modelling & prediction efforts for coral reefs and chlorophyll mapping to monitor and assess ecosystem health. This task also involves measuring trace metal fluxes of aluminium, iron, magnesium, titanium and barium which are indicators of the ecosystem health as well as the export of carbon to the deep ocean.

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Modeling and prediction efforts for coral reefs and chlorophyll mapping is done by MoES to monitor the extent ecosystem damage due to human activity. Coral reef ecosystem system involves measuring of trace metal fluxes of aluminums, iron, magnesium, titanium and barium which are indicators of the ecosystem's health as well as the export of carbon to the deep system.

MoES projected a budget of Rs.185 crore as of 14/06/2019 to develop an ecosystem model for coral reef areas in Lakshadweep to predict likely changes of health of coral reefs in the event of climate variability especially the rise in seawater temperature and increase in anthropogenic activities. This would be a joint effort of National Centre for Coastal Research (NCCR), Chennai, Centre for Marine Living Resources & Ecology, Kochi. Indian National Centre for Ocean Information Services, Hyderabad, Centre for Climate Change Research, IITM, Pune and other Academic and R & D Institutions. [Ref: <https://moes.gov.in/programmes/studies-carbon-and-nitrogen-biogeochemistry-coral-ecosystem>]

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