

**GOVERNMENT OF INDIA  
EARTH SCIENCES  
LOK SABHA**

UNSTARRED QUESTION NO:70  
ANSWERED ON:24.02.2016  
Coral Reef Bleach Alert System  
Mahajan Smt. Poonam

**Will the Minister of EARTH SCIENCES be pleased to state:**

- (a) whether the Government has developed Coral Reef Bleach Alert System to monitor the health of the coral system in the country;
- (b) if so, the details thereof including its parameters and the number of alert systems set up in India, State/UT-wise and the funds spent on developing the same;
- (c) the numbers of coral bleach advisories generated during the last three years, year-wise; and
- (d) whether the alert system has successfully protected and preserved the health of coral reefs in the country and if so, the details thereof?

**Answer**

THE MINISTER OF STATE FOR MINISTRY OF SCIENCE AND TECHNOLOGY AND  
MINISTRY OF EARTH SCIENCES  
(SHRI Y.S. CHOWDARY)

(a) Yes, Madam.

(b) A Coral Bleaching Alert System (CBAS) has been developed by the Indian National Centre for Ocean Information Services (INCOIS), Hyderabad of the Ministry of Earth Sciences (MoES), which is being operational since 2010. The primary parameter used in CBAS for generation of products, is night time Sea Surface Temperature (SST), derived from the National Oceanic and Atmospheric Administration (NOAA)'s Advanced Very High Resolution Radiometer (AVHRR). The alert system works on the principle that the rise in SST will impart thermal stress on the Coral reefs and if that thermal stress persists for longer periods the coral may start bleaching. The main CBAS products are Hotspot (representing the SST variations), Degree of Heating Week (representing thermal stress accumulated for past 3 months) and time-series plots to indicate the day-to-day changes in the SST. These products are being generated every three days and published on INCOIS website, for the 4 major Indian coral regions viz., the Andaman, & Nicobar, Lakshadweep, Gulf of Mannar and Gulf of Kutch. An amount of Rs. 4 lakhs was spent by INCOIS for developing this system. Under the scheme "Conservation and Management of Mangroves and Coral Reefs, the following grants (Rs. in lakhs) were released to the States/UTs by the Ministry of Environment, Forests and Climate Change (MoEFCC) during the last 3 years:

State/UT Tamil Nadu (Gulf of Mannar) Gujarat (Gulf of Kutch)  
2013-2014 to 2015-2016 84.38 56.95

(c) The number of advisories generated by INCOIS during the summer months during the last 3 years is as follows:

Year No of advisories

2013 122

2014 122

2015 122

Total 366

(d) Yes, Madam. The objective of developing the CBAS is to help in identification of thermal stress on coral systems for protection, preservation and the health of coral reefs in the country. These alerts can provide early indications of stress on coral ecosystem. Besides, towards conservation and management of coral reefs, a Centrally Sponsored Scheme has been under implementation since 1987-88 by the Ministry of Environment and Forest and Climate Change (MoEFFCC).