

**GOVERNMENT OF INDIA  
MINISTRY OF EARTH SCIENCES  
LOK SABHA  
UNSTARRED QUESTION No. 3891  
TO BE ANSWERED ON WEDNESDAY, AUGUST 9, 2017  
DEEP OCEAN MISSION**

**3891. SHRI CH. MALLA REDDY:  
SHRIMATI POONAM MAHAJAN:**

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

- (a) whether the Government proposes to launch a Deep Ocean Mission and if so, the objectives of the mission, costs incurred and the technology developed for the said mission;**
- (b) whether the technology is being either developed in various research institutes of the India or being imported and if so, the details thereof;**
- (c) whether the Government has conducted a study on the impact on ocean biodiversity that could be caused by deep-sea metal extraction through the Deep Ocean Mission, and if so, the details of findings thereof; and**
- (d) the details of funds allocated/utilized and progress achieved under national programme on polymetallic nodules during each of the last three years and the current year so far?**

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

- (a) Yes, Madam, Government proposes to launch the Deep Ocean Mission. Development of technologies for exploration and harnessing of living and non-living resources, survey and exploration of deep sea and Marine biodiversity and bio-technology are the broad objectives of this mission. The total cost of the mission would be more than 5000 crores for 5 years.**
- (b) National Institute of Ocean Technology, an autonomous institute under Ministry of Earth Sciences has developed some of the technologies for Deep Ocean. They would be further developing the technology.**
- (c) An artificial benthic disturbance was created to simulate impact of deep sea mining in 1997 in Central Indian Ocean Basin and to study the effect of sediment re-suspension and resettlement. Results of periodic monitoring up to 2005-06 indicated that the benthic conditions steadily moved towards restoration and recolonization, and effect of disturbance was waning off.**
- (d) A vibration sinkage system was developed in 2014-15 to measure sinkage in seabed. Configuration and handling studies of flexible riser system was carried out in 2015-16. A dedicated seabed minerals laboratory was set up in 2016-17 at Institute of Minerals and Materials Technologies, Bhubaneswar. Expenditure of Rs.24.60 crore, Rs.38.00 crore and Rs.9.95 Crore were incurred for Polymetallic Nodules programme (PMN) during 2014-15, 2015-16 and 2016-17 respectively. No funds have been released so far during the current year for Polymetallic Nodules Programme.**

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