

**GOVERNMENT OF INDIA  
MINISTRY OF EARTH SCIENCES  
LOK SABHA  
UNSTARRED QUESTION NO. 3243  
TO BE ANSWERED ON WEDNESDAY, 9<sup>TH</sup> AUGUST, 2023**

**DEEP OCEAN MISSION**

3243. SHRIMATI SUNITA DUGGAL:

Will the Minister of EARTH SCIENCES be pleased to state:

- (a) whether the Government has made any progress in the development of technologies for Deep Sea Mining and Manned Submersible under the Deep Ocean Mission and if so, the details thereof;
- (b) whether any progress has been made in the development of Integrated Mining System for mining of poly-metallic nodules from seabed; and
- (c) if so, the details thereof?

**ANSWER**

**THE MINISTER OF EARTH SCIENCES  
(SHRI KIREN RIJJU)**

- (a) Under the Deep Ocean Mission program, Ministry of Earth Sciences through National Institute of Ocean Technology (NIOT) has made significant progress in development of Technology for Deep Sea Mining and Manned Submersible. A manned scientific submersible Matsya6000 to carry 3 humans for a period of 12 hours up to a depth of 6000m in the ocean has been designed and it is in integration stage.
- (b) & (c) An integrated mining machine has been developed for exploratory mining of polymetallic nodules from the sea bed and demonstration of locomotion trial was conducted at Central Indian Ocean.

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