GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
LOK SABHA
UNSTARRED QUESTION NO. 1660
TO BE ANSWERED ON WEDNESDAY, 10TH DECEMBER, 2025

DEEP OCEAN MISSION

1660. SHRI MUKESHKUMAR CHANDRAKAANT DALAL:
SHRI KRISHNA PRASAD TENNETI:
SHRI BIBHU PRASAD TARAI:

Will the Minister of EARTH SCIENCES be pleased to state:

(a) whether India has undertaken exploration activities in the 75,000 sq. km area allotted by the International Seabed Authority in the Central Indian Ocean Basin for polymetallic nodule mining and if so, the details thereof and the progress achieved so far;
(b) the details of minerals identified in the said area, such as cobalt, nickel, copper and manganese along with the estimated resource potential thereof; and
(c) whether the Government proposes to develop indigenous deep-sea mining technology under the Deep Ocean Mission and if so, the details thereof along with the stage of development of the deep-sea mining system and underwater vehicles?

ANSWER
THE MINISTER OF STATE (INDEPENDENT CHARGE) FOR
MINISTRY OF SCIENCE AND TECHNOLOGY
AND EARTH SCIENCES
(DR. JITENDRA SINGH)

(a) Yes Sir. India has taken exploration activities in the 75000 sq. km area allocated by International Seabed Authority in the Central Indian Ocean Basin. The area has been uniformly sampled for nodules at an interval of 12.5 km to estimate the abundance and grade of nodules. Besides, baseline data generation for marine environmental characteristics, development of mining technology and development of metallurgical process are also undertaken.

(b) The total nodules present in the allotted area of 75,000 sq.km have been estimated to be 366 million metric tons (MMT) on dry weight basis, which on average contains 0.14% Cobalt, 1.14% Nickel, 1.09% Copper, and 25.2% Manganese.

(c) Yes Sir. Under Deep Ocean Mission, the National Institute of Ocean Technology (NIOT) has designed a deep-sea mining system aiming at sustainable harvesting polymetallic nodules from depths of up to 5500 m. The mobility and system-powering trials of NIOT's deep-sea mining machine were conducted at 5270 m depth in 2021 at the Central Indian Ocean. NIOT has also designed the underwater vehicles, namely, MATSYA 6000, which is a Deep-Sea Human Submersible. First demonstration of the integrated system functionality of MATSYA with three human beings was successfully demonstrated, in the calm waters during February 2025.

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