

**GOVERNMENT OF INDIA**  
**MINISTRY OF EARTH SCIENCES**  
**LOK SABHA**  
**UNSTARRED QUESTION NO. 2368**  
**TO BE ANSWERED ON WEDNESDAY, 21<sup>ST</sup> DECEMBER, 2022**

**SAMUDRAYAAN MISSION**

2368. DR. TALARI RANGAIAH:

Will the Minister of EARTH SCIENCES be pleased to state:

- (a) the details of the Samudrayaan mission aimed at sending men into deep sea for deep ocean exploration and mining of rare minerals;
- (b) the benefits of the same;
- (c) the projected timeline for the mission; and
- (d) the details of other such project for the exploration of deep sea?

**ANSWER**

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

- (a) Samudrayaan mission is aimed to send three personnel to 6000 m depth in a vehicle called MATSYA 6000 for the exploration of deep sea resources like minerals. MATSYA 6000 vehicle is being designed and developed by National Institute of Ocean Technology (NIOT), Chennai under Ministry of Earth Sciences. It has an endurance of 12 hours under normal operation and 96 hours in case of emergency for human safety. Design of the vehicle is completed and realization of various components of the vehicle is in progress.
- (b) Manned Submersible facilitates the direct observation by the human in deep ocean in exploring mineral resources rich in Nickel, Cobalt, Rare Earths, Manganese etc. and collection of samples, which can be used for analysis. Apart from the scientific research and technological empowerment as the benefits, this mission has immediate spin-offs in the form of underwater engineering innovations in asset inspection, tourism and promotion of ocean literacy.
- (c) The mission is expected to be realised by year 2026.
- (d) Development of 6000 m depth rated Integrated Mining Machine and unmanned vehicles (tethered and automated) to explore deep sea resources and biodiversity assessment.

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