GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
LOKSABHA
UNSTARRED QUESTION NO. 3555
TO BE ANSWERED ON WEDNESDAY, 22nd MARCH, 2023

SAMUDRAYAAN MISSION

3555. SHRI VINOD KUMAR SONKAR:
SHRIMATI APARUPA PODDAR:
SHRI BHOLA SINGH:
SHRI RAJVEER SINGH (RAJU BHAIYA):
SHRI RAJA AMARESHWARA NAIK:
DR. JAYANTA KUMAR ROY:
SHRIMATI SANGEETA KUMARI SINGH DEO:

Will the Minister of Earth Sciences be pleased to state:

(a) whether the Government has planned Samudrayaan mission for the exploration of deep sea resources;
(b) if so, the details thereof including the objectives of the mission;
(c) whether the Matsya 6000 vehicle is being developed for the Samudrayaan mission;
(d) if so, the details thereof;
(e) the other steps being taken by the Government for the exploration of deep sea and the projected timeline for the said mission;
(f) whether it is a fact that India spends 0.7 per cent of Gross Domestic Product (GDP) on research and development;
(g) if so, the achievements and progress of the first phase of ‘Samudrayaan'; and
(h) the proposal for deep sea exploration in the country in the next five years?

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

(a) Yes Sir.

(b) Major objective of the Samudrayaan Mission is to design, and develop one working prototype and one final Manned Submersible rated for 6000 meter water depth.

(c) Yes Sir.

(d) Under the Deep Ocean Mission program, National Institute of Ocean Technology (NIOT) (an autonomous institute of the Ministry of Earth Sciences, Government of India) is indigenously developing a manned scientific submersible Matsya 6000 for enabling deep-ocean human missions up to 6000m water depth. Matsya 6000 is designed to carry 3 humans for a period of 12h and shall have an emergency endurance of 96h. Matsya 6000 has a 2.1 metre internal diameter Titanium alloy personnel sphere for housing humans and equipped with subsystems for buoyancy management enabling descent/ascent, power and control systems, manoeuvring propellers, subsea intervention manipulators, navigation and positioning devices, data and voice communication systems, on-board energy storage batteries, as well as systems for emergency support.

(e) - (f) The technologies developed under the mission during 2021-26 would help in exploration and harnessing of the deep sea living and non-living resources. Manned submersible is likely to be realized by 2026. Deep water trials, integrated mining machine demonstration etc are planned in the second phase of the Mission 2024-26. An amount of Rs 4077 cr has been allocated for Deep Ocean Mission for the period of 2021-2026.

(g) Some of the notable achievements and progress of Deep Ocean Mission include; i) The design and procurement of sub-systems for Manned Submersible has been completed and integration is in progress, and ii) Design of Mining Machine is ready and demonstration trial is planned during 2024-26.

(h) The activities under Deep Sea Exploration for next 5 years include Development of Technologies for Manned Submersible, Technological innovations for exploration of Deep Sea biodiversity, Deep Ocean Survey and Exploration for mineral resources.

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