

GOVERNMENT OF INDIA
 MINISTRY OF EARTH SCIENCES
RAJYA SABHA
UNSTARRED QUESTION NO. 1960
 ANSWERED ON 08/08/2024

SAMUDRAYAAN MISISON

1960. SHRI G.C. CHANDRASHEKHAR:

Will the Minister of Earth Sciences be pleased to state:

- (a) the budget allocation, disbursement and expenditure for the Samudrayaan Mission since its initiation, project-wise;
- (b) whether Government has data regarding the deep-sea explorations conducted since the Mission's inception, if so, the details thereof; and
- (c) the discoveries made through these explorations, the details thereof?

ANSWER

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

- (a) The Ministry of Earth Sciences (MoES) launched the Deep Ocean Mission (DOM) in September 2021, comprising six verticals. Vertical 1 of the DOM encompasses the Samudrayaan project, which is the development and demonstration of a Manned Submersible, 'Matsya 6000', aimed to carry three people to a depth of 6000 meters in the ocean with a suite of scientific sensors for ocean exploration and observation. The budget allocation, disbursement, and expenditure for the Samudrayaan project are as below;

Rupees in crores			
FY	Budget allocation	Disbursement	Expenditure
2021-22	110	55.00	45.07
2022-23	175	30.00	32.86
2023-24	150	90.00	83.82
2024-25*	100	20.00	15.85
2025-26	50	-	-
Total	585	195	177.60

* As on 2nd August, 2024

- (b) Yes. In December 2022, the National Institute of Ocean Technology (NIOT) - an autonomous institute of MoES, conducted ocean exploration for polymetallic manganese (PMN) nodules at 5,270 m depth in the Central Indian Ocean through the Autonomous Underwater Vehicle (AUV-Ocean Mineral Explorer-OMe 6000). High-resolution seafloor images were also captured that have provided information on deep-sea biodiversity, surface manganese nodule distribution, environmental parameters, and geophysical data sets at the deployed PMN site. In December 2023, ocean exploration for deep sea gas (methane) hydrates at Krishna Godavari Basin in the Bay of Bengal at 1,790 m depth was conducted through AUV-OMe-6000 and information on high-resolution seafloor data sets and chemosynthetic fauna was obtained.

During March-May 2024, National Centre for Polar and Ocean Research (NCPOR), Goa undertook AUV surveys in the Indian Ocean mid-oceanic ridges to explore and identify locations of hydrothermal sulphide mineralisation.

(c) Yes. The following major discoveries were made through ocean exploration activities through AUV-OMe-6000:

- An epibenthic fauna acorn worm (*Enteropneusta*) was discovered at 5,200 m depth in the Central Indian Ocean region in December 2022.
- Surface occurrence of gas (methane) hydrate was recorded from Krishna Godavari basin in the Bay of Bengal at 1,790 m depth in December 2023.
- Active and inactive hydrothermal vents have been mapped and identified in the Indian ocean ridge regions during April – May, 2024.
