GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
LOK SABHA
UNSTARRED QUESTION NO. 3054
TO BE ANSWERED ON WEDNESDAY, 19th MARCH, 2025

PRITHVI Vigyan (PRITHVI) programme

3054. DR. PRASHANT YADAORAO PADOLE**:**

Will the Minister of EARTH SCIENCES be pleased to state:

(a) the details of the amalgamation of ongoing research projects, such as ACROSS, O-SMART, PACER, SAGE, and REACHOUT, under the PRITHVI scheme and the expected outcomes from this consolidation;
(b) the measures being taken to facilitate international collaboration under PRITHVI and the criteria for evaluating proposals from global scientific institutions;
(c) the progress made under the Rs. 4,077 crore Deep Ocean Mission including findings on metal reserves and zones identified for hydrothermal activities and sulphide mineralisation; and
(d) the steps being implemented to enhance Country's capacity to address climate change impacts through improved understanding of the atmosphere-ocean-pole interactions?

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

(a) The various components of ongoing research projects, such as ACROSS, O-SMART, PACER, SAGE, and REACHOUT, under the PRITHVI scheme are inter-dependent. The overarching scheme of PRITHVI holistically addresses all the components to improve the understating of the Earth System Sciences and to provide reliable services for the country. These integrated R&D efforts will help in addressing the grand challenges of weather, ocean, climate, seismological and geological hazards and explore the living and non-living resources for their sustainable harnessing.

(b) MoES supports international collaborative projects of mutual interest under PRITHVI scheme. For the evaluation of collaborative proposals from global scientific institutions, a joint expert committee is set up, which evaluates and recommends the proposal.

(c) Deep Ocean Mission was launched in 2021 with a total budget outlay of Rs 4,077 crores to be implemented by the Ministry of Earth Sciences. It is a multi-disciplinary programme with activities encompassing six verticals, namely a) Development of Technologies for Deep Sea Mining and Manned Submersible, Underwater Vehicles and Underwater Robotics for exploring and harnessing ocean resources, b) Development of Ocean Climate Change Advisory Services, c) Technological innovation for exploration and conservation of deep-sea biodiversity, d) Deep Ocean Survey and Exploration, e) Energy and Freshwater from the Ocean, and f) Advance Marine Station for Ocean Biology. Survey has been conducted at potential sites of multi-metal hydrothermal sulphide mineralisation along the Indian Ocean mid-oceanic ridges using autonomous underwater vehicle (AUV) in March 2024 at ten locations, of which two locations of active and two locations of inactive vents showing sulphide mineralisation have been identified.

(d) In order to enhance India's capacity to address climate change impacts through improved understanding of the atmosphere-ocean-pole interactions, a number of activities have been carried out, including augmentation of the existing observational networks on land, poles and in oceans, augmenting the High-Performance Computing (HPC) facility, improving understanding of weather and climate processes and enhancing prediction capabilities by developing improved earth system models, Training and Research at MoES Institutes, as well as Collaborative Research. Further, the Ministry has recently launched Mission Mausam with the goal of making Bharat a "Weather-ready and Climate-smart" nation to mitigate the impact of climate change and extreme weather events and strengthen the resilience of communities.

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