

**GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
LOK SABHA
UNSTARRED QUESTION No. 1968
TO BE ANSWERED ON FRIDAY, FEBRUARY 12, 2021**

INTEGRATED OCEAN DRILLING PROGRAMME

1968. SHRI G.M. SIDDESHWAR:

Will the Minister of EARTH SCIENCES be pleased to state:-

- (a) whether the Ministry has been partner to Integrated Ocean Drilling Programme in the past years, if so, the details thereof;
- (b) the achievements made under this programme; and
- (c) whether the Ministry is planning to work with other countries on such joint missions in future and if so, the details thereof?

**ANSWER
MINISTER FOR MINISTRY OF SCIENCE AND TECHNOLOGY AND
MINISTRY OF EARTH SCIENCES
(DR. HARSH VARDHAN)**

- (a) Yes, Sir. Ministry of Earth Sciences (MoES) joined International Ocean Discovery Program (IODP) – erstwhile Integrated Ocean Drilling Program consortium in 2009 as an Associated Member through memorandum of understanding (MoU) between MoES and National Science Foundation (NSF), USA. As a part of the MoU, Indian scientists have been participating on various IODP expeditions every year. Also, India through MoES is represented on three panels of IODP, namely, JOIDES RESOLUTION Facility Governing Board, IODP Forum and Science Evaluation Panel. Currently, 23 countries including, India are partner to IODP and because of this, several IODP expeditions had been conducted in the Arabian Sea and Bay of Bengal in the last few years.
- (b) IODP has been a great scientific initiative for Indian geoscientists. Indian scientists have achieved positive momentum in ocean R&D and have come to the fore of scientific research in many aspects:
 - 1) The MoU with NSF guarantees exclusive access of drilling core samples and participation of Indian scientists/ researchers in every IODP expeditions conducted 63394/2021/O/o PO (AKG) 2 around the world onboard JOIDES RESOLUTION as well as European Consortium's Mission Specific Platforms (MSP).
 - 2) More than 45 Indian scientists have participated in various IODP expeditions since 2009.

- 3) Taking lead, in 2015, India undertook an exclusive drilling expedition, IODP-355, in the Arabian Sea to collect long sediment cores for unravelling the long-term evolution of Indian Monsoon and its linkages with the mountain building process in the Himalaya. During the expedition, two boreholes were drilled in the Laxmi basin, eastern Arabian sea, Indian ocean with the help of the research vessel JOIDES Resolution. In total, ~1700 m of sediment and sedimentary rock, as well as 17 m of igneous basement was drilled. IODP-355 expedition has also enabled scientists to discover how a short-lived subduction event around 70 million years ago played a key role in shaping the present day western Indian continental margin. The expedition has yielded more than 30 top notch scientific publications led by Indian scientists.
- 4) Association with IODP has enhanced collaboration of Indian participants with international institutions and universities.
- (c) Yes, Sir. India being part of this international consortium 23-member countries, continues to involve and engage our Indian marine researchers in the future scientific drilling expeditions.
