GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
LOK SABHA
UNSTARRED QUESTION NO. 5197
TO BE ANSWERED ON WEDNESDAY, 2ND APRIL, 2025

TARANG FACILITY IN INDIA

5197. SHRI KRIPANATH MALLAH:

Will the Minister of EARTH SCIENCES be pleased to state:

(a)   the features of Tarang facility at Indian National Centre for Ocean Information Services; and

(b)   whether the facility will help ocean scientists to provide warning for tsunamis in India and neighboring countries and if so, the details thereof?

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

(a)   'TARANG' is a 64-bit High Performance Computing (HPC) system, capable of supporting multi-tasking, multi-programming, multi-user and time-sharing environment, of a proven architecture with scalable processing elements, scalable high performance I/O, scalable interconnection network and a balanced design to have 99.5% uptime with adequate redundancies and to avoid single point of failure so as to meet the operational requirements. The HPC system is supported by technical support facilities such as transformers, diesel generators, UPS, batteries, multiple utility paths, lighting system, adequate number of earthing pits and cables.

The compute capacity is about 1 Peta FLOPS, with 2 Peta Byte storage and 3 Peta Byte archival storage. Additionally, there is a dedicated standalone system for Artificial Intelligence (AI) and Machine Learning (ML) applications with a capacity of 15.5 Peta FLOPS.

(b)   Yes sir. The HPC would help scientists to run advance operational models for providing Tsunami Early Warnings for India and other 25 countries on the Indian Ocean rim. Further, the new computational facility will also be used for next generation Ocean State Forecast system having more accurate representation of physical processes, non-hydrostatic dynamics, high resolution nests for local forecasts and advanced data assimilation techniques and augment the quality of the forecasts using the available GPU processors.

*****