GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
LOK SABHA
UNSTARRED QUESTION No. 5511
TO BE ANSWERED ON WEDNESDAY, 5TH APRIL, 2023

NATIONAL SEISMOLOGICAL DATA

5511. **SHRI SANJAY KAKA PATIL:**

Will the Minister of Earth Sciences be pleased to state:

(a) whether the Government intends to set up a National Seismological Data repository;
(b) if so, the details thereof and if not, the reasons therefor;
(c) the benefits proposed in this respect;
(d) the challenges faced in this regard; and
(e) the proposed measures to be taken in this direction?

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

(a) to (c) The National Center for Seismology (NCS), an attached office of Ministry of Earth Sciences, maintains a National Seismological Data repository, which contains different datasets such as the Earthquake catalog, Seismological Bulletins, seismological observatory details, waveform data, etc. The Seismological Data is used in various seismological studies including seismicity, seismic hazard potential of the Indian subcontinent, and other related R&D activities in different fields of earthquake engineering and Geosciences.

(d) The main challenge involved in maintaining the national seismological data repository center is quality control of seismic data to ensure that the collected data is reliable and accurate. Standardization of the data format and metadata management including seismic station details, robust data backup and archiving systems, and the latest security measures to protect against cyber-attacks and unauthorized access are other challenges in maintaining national seismological data repository. All the above steps are functional in the present data repository. Furthermore, the backup data center at INCOIS, Hyderabad, apart from data centre at NCS HQ, New Delhi provide data redundancy in the operations.

(e) The size of seismic data volumes keeps increasing exponentially on a daily basis with new incoming data. In order to manage such large volumes of data, the computer hardware and software infrastructure are being upgraded from time to time. The earthquake auto-location software has recently been upgraded. It is planned to upgrade and augment the existing facility at Central Receiving Station (CRS) of NCS to monitor large number of seismic stations in real time mode at par the global standard. Augmentation of seismological observatories across the country has improved the detection threshold down to earthquake magnitude 3.0.

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