

GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
RAJYA SABHA
UNSTARRED QUESTION NO. 2290
ANSWERED ON 20/03/2025

EARTHQUAKE PREDICTION

2290. SHRI BABUBHAI JESANGBHAI DESAI:

Will the Minister of **Earth Sciences** be pleased to state:

- (a) whether any emergency response system is in place for earthquake prediction;
- (b) if so, the accuracy with which it could be predicted;
- (c) whether Government has urged the scientists/ISRO to undertake research for earthquake prediction system and if so, the details thereof;
- (d) whether Government has reached any agreement with other foreign countries for joint working on this issue;
- (e) whether Government was alert about recently earthquakes in Delhi; and
- (f) if so, the details thereof and if not, the reasons therefor?

ANSWER

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

- (a) and (b) As on today, there is no proven scientific technique available, anywhere in the world to predict/forecast in advance the occurrence of earthquakes with the reasonable degree of accuracy with regard to space, time and magnitude. No country has the capability of predicting or forecasting the occurrence of earthquakes in advance.

However, research efforts are made in India and elsewhere for developing/using an Earthquake Early Warning (EEW) System, to alert people once an earthquake occurs based on the arrival time of Primary Seismic wave (P-wave) of the earthquake. The warning time however is much shorter and of the order of a few seconds depending upon source to detector distance. The fidelity, robustness and success rate of such warning systems are still to be assessed thoroughly before the system can be considered for real time operations.

Moreover, National Centre of Seismology (NCS), Ministry of Earth Sciences (MoES) uses a large network of seismological stations (166 stations) to monitor the occurrence of earthquakes and report the time, magnitude and depth in minimal time as possible time of the occurrence of an earthquake.

- (c) and (d) Question doesn't arise.

(e) and (f) Yes, an earthquake of M:4.0 occurred at 05:36:55 IST of 17th February 2025 in Jheel Park, Dhaula Kuan, New Delhi (28.59° N and 77.16° E) with focal depth of 5 km. The epicentre was approximately 10 Km SW of Red Fort and 7 Km NE of Indira Gandhi International Airport. More information about this earthquake is available at the website of National Centre for Seismology (seismo.gov.in). NCS-MoES also provided timely explanations to print and electronic media.

Delhi NCR is well equipped with a total of 20 permanent seismic observatories which always keep an eye on earthquake activity in Delhi and its adjoining region. Also, 15 Co-located GPS stations with Seismic observatories in Delhi NCR. These stations are recently installed to study the earthquake building processes.
