GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
LOK SABHA
UNSTARRED QUESTION NO. 2295
TO BE ANSWERED ON WEDNESDAY, 12TH MARCH, 2025

OCCURRENCE OF EARTHQUAKES

2295. SHRI KALYAN BANERJEE:

Will the Minister of EARTH SCIENCES be pleased to state:

(a) whether it is a fact that occurrence of earthquakes in the country has risen during the period 2020-2024 in comparison to 2015-19;
(b) if so, the details of earthquakes reported during the last ten years and the reasons therefor;
(c) whether it is due to changes in seismic zones activities reported during 2010 and if so, the details thereof; and
(d) the action taken by the Government to monitor the same and provide information for precautions timely?

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

(a) Yes.

(b) Earthquakes of Magnitude 3.0 to 4.9 has increased during 2020 to 2024 compared to 2015 to 2019 indicating stress release and not allowing a accumulation of strain energy sufficiently for more number of earthquakes magnitude beyond 5.0 and above which are more or less similar in that during different durations; as detailed in following table:

Magnitude Range	2010-2014	2015-2019	2020-2024
$\leq$ 3.0	424	244	1344
3.0-3.9	1119	1224	3205
4.0-4.9	1663	2203	2408
5.0-5.9	471	354	263
$\geq$ 6.0	26	24	19

(c) There is no change in seismic zones due to increased seismicity. As per Bureau of Indian Standards Seismic Hazard Zonation Map of the country is grouped into four seismic zones viz. Zone-II, -III, -IV and –V. Of these, Zone V is seismically the most prone region, while zone II is the least based on the distribution of peak ground acceleration.

(d) This classification helps to improve understanding of seismic risks and better prepare for potential earthquake-related hazards. This zoning system helps in providing more specific recommendations for building construction and land use planning in different regions, especially in areas prone to seismic activities.

Besides, the Government of India took the following actions to ensure better monitoring and provide timely information

Strengthening the Seismic Monitoring Network: The national seismic network was enhanced with the installation of more seismic stations and observatories. This enabled better detection and real-time reporting of seismic events across the country. National Centre for Seismology has recently upgraded its national seismic network with the state of art seismographs. This network consists of 166 stations spread across the country and capable of detecting earthquakes of magnitude 3 and above.

Public Awareness and Disaster Preparedness: The government launched awareness campaigns to educate the public about earthquake risks and safety measures. This included guidance on building earthquake-resistant structures and how to respond during an earthquake.

Building Codes and Regulations: The government issued new building codes and construction guidelines based on detailed investigations under Seismic Microzonation of cities in India that focused on making structures more earthquake risk resistant to seismic activities, particularly in high-risk zones (IV & V) to moderate risk zones (II & III).

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