

**GOVERNMENT OF INDIA  
MINISTRY OF EARTH SCIENCES  
LOK SABHA  
UNSTARRED QUESTION NO. 3234  
TO BE ANSWERED ON WEDNESDAY, 9<sup>TH</sup> AUGUST, 2023**

**AWARENESS ON EARTHQUAKES**

3234. SHRI SANJAY KAKA PATIL:  
SHRI P. V. MIDHUN REDDY:  
SHRI MARGANI BHARAT:

Will the Minister of EARTH SCIENCES be pleased to state:

- (a) whether it is a fact that over 59 per cent of the land in the country is vulnerable to moderate or severe earthquakes;
- (b) if so, the steps taken to raise awareness about how to respond during an earthquake, including the funds spent on these efforts;
- (c) whether any study or screening has been done to determine the most earthquake-vulnerable areas in India and how to safeguard them;
- (d) if so, the details thereof and if not, the reasons therefor;
- (e) whether the Government has taken any additional steps to improve community preparedness in vulnerable areas, such as disseminating basic first aid knowledge; and
- (f) if so, the details thereof and if not, the reasons therefor?

**ANSWER  
THE MINISTER OF EARTH SCIENCES  
(SHRI KIREN RIJJU)**

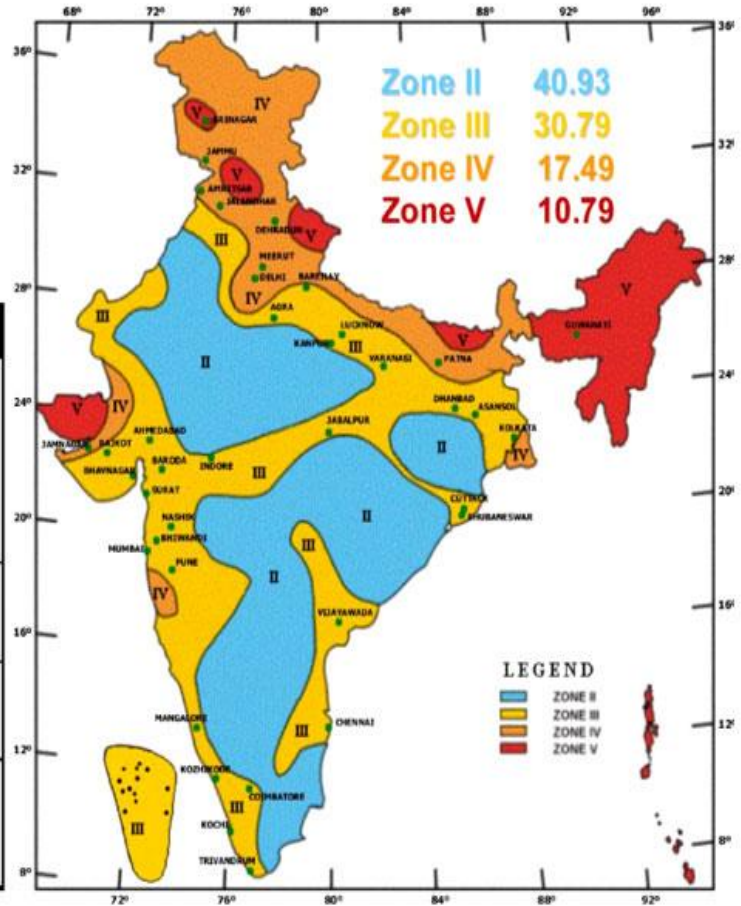
- (a) Yes Sir. The entire country has been divided into four seismic zones viz., zone V (highest seismically active), IV, III and II (least seismically active). A total of ~59% of the land mass of India (covering all states of India) is prone to earthquakes of different shaking intensities. As per the seismic zoning map of the country, ~ 11% area of the country falls in zone V, ~17% in zone IV, ~ 31% in zone III and remaining in zone II. Seismic zoning map of India is annexed at Annexure-I.
- (b) The National Disaster Management Authority (NDMA) and National Institute of Disaster Management (NIDM) regularly conduct earthquake awareness campaigns and organize mock drills in collaboration with the National Disaster Response Force (NDRF) for relief and rehabilitation all across the country. These campaigns serve to sensitize the public about earthquake prevention and preparedness measures.

- (c) and (d) The National Center for Seismology (NCS), Ministry of Earth Sciences (MoES) has embarked on seismic hazard evaluation process known as Seismic Microzonation. This initiative is aimed to assessing seismic risks at a localized level, specifically targeting densely populated urban areas across India. Seismic Microzonation study is important as it helps to generate inputs for constructing earthquake risk resilient buildings/infrastructures/dwellings to reduce and mitigate the impacts of earthquake shaking and for minimising the damages to structures and loss of lives for safer urban planning. Comprehensive studies in this regard have been conducted for prominent cities like Delhi, Kolkata, Guwahati, Bengaluru, and Gangtok. Detailed reports outlining the findings of these assessments are publicly accessible. The Bureau of Indian Standards (BIS) has published guidelines for designing structures based on these seismic zones. The NDMA, NIDM and other relevant authorities regularly conduct public awareness campaigns to educate people about earthquake preparedness, response, and safety measures. These campaigns include information on creating emergency kits, conducting evacuation drills, and securing furniture and heavy items within homes.
- (e) and (f) Government enacted the Disaster Management (DM) Act, 2005 for holistic, integrated and effective approach for Disaster Management. As per DM Act 2005, State Government have prepared their Disaster Management plan to effectively prepare, mitigate and respond to any disaster situation. Organization like State Disaster Response Force (SDRF), National Disaster Response Force (NDRF), AapdaMitra and other first responders immediately start the Search and rescue operation during any Disaster.

**Seismic Zone  
Map of India: -2002**

About **59 percent** of the land area of India is liable to seismic hazard damage

Zone	Intensity
<b>Zone V</b>	<b>Very High Risk Zone</b> Area liable to shaking Intensity IX (and above)
<b>Zone IV</b>	<b>High Risk Zone</b> Intensity VIII
<b>Zone III</b>	<b>Moderate Risk Zone</b> Intensity VII
<b>Zone II</b>	<b>Low Risk Zone</b> VI (and lower)



**Fig. 1 Seismic zonation and intensity map of India**

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