

GOVERNMENT OF INDIA  
MINISTRY OF EARTH SCIENCES  
**RAJYA SABHA**  
**UNSTARRED QUESTION No - 976**  
ANSWERED ON 15/12/2022

**SEISMIC HAZARD MICROZONATION**

976. DR. FAUZIA KHAN:

Will the Minister of Earth Sciences be pleased to state:

- (a) the details of the phased Seismic Hazard Microzonation undertaken in cities such as Coimbatore, Chennai, Bhubaneswar, Mangalore, Agra, Amritsar, Lucknow, Kanpur, Varanasi, Patna, Dhanbad and Meerut;
- (b) whether Government has undertaken any projects that would prepare a reliable prediction model as followed in the case of tsunamis; and
- (c) 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) The details of the phased Seismic Hazard Microzonation undertaken for cities such as Coimbatore, Chennai, Bhubaneswar, Mangalore (Phase-I); Agra, Amritsar, Lucknow, Kanpur, Varanasi, Patna, Dhanbad and Meerut (Phase-II) by National Centre for Seismology, Ministry of Earth Sciences, which are as follows.

Phase-I: Seismic Hazard Microzonation undertaken in four cities such as Chennai, Mangalore, Coimbatore and Bhubaneswar, the field investigations and laboratory tests of core samples from various boreholes of each city have been completed. Integrated geoscientific tools consisted of seismological, geotechnical and geophysical methodologies for each city are deployed to acquire diverse set of Data. Data analysis and data processing has been conducted extensively. NCS - MoES is actively engaged in writing of comprehensive report of each city using the state-of-the-art Seismic Hazard Microzonation methodology. Reports for the cities under seismic microzonation are to be released on completion of the compilation of entire dataset and interpretation of the processed data for each city.

Phase-II: Seismic Hazard Microzonation undertaken in eight cities such as Agra, Amritsar, Lucknow, Kanpur, Varanasi, Patna, Dhanbad, and Meerut, data generation in the field and laboratory through geotechnical and geophysical investigations are in progress for each city. About 60-70% work of the field executions and laboratory data analysis of each city are completed till date.

- (b)& (c) To date, there is no proven scientific technique available, anywhere in the world, to predict the occurrence of earthquakes with reasonable degree of accuracy for location, time and size of the earthquake or magnitude.

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