

**GOVERNMENT OF INDIA  
MINISTRY OF EARTH SCIENCES  
RAJYA SABHA  
UNSTARRED QUESTION No. 2413  
TO BE ANSWERED ON THURSDAY, MARCH 19, 2015**

**NEW SOPHISTICATE TECHNOLOGY TO PREDICT EARTHQUAKES**

**2413. SHRIMATI SAROJINI HEMBRAM:**

**Will the Minister of EARTH SCIENCES be pleased to state:**

- (a) whether Government is planning to adopt any new sophisticate technology, apart from the existing ones to predict about the earthquakes in various zones of the country particularly for the safety of people living in the quake-prone high risk zones of the country; and**
- (b) if so, the details thereof and if not, the reasons therefor?**

**ANSWER**

**MINISTER OF STATE FOR MINISTRY OF SCIENCE AND TECHNOLOGY AND  
MINISTRY OF EARTH SCIENCES  
(Shri Y. S. Chowdary)**

- (a-b) To date, there is no proven scientific technique available, anywhere in the world, to predict/ forecast the occurrence of earthquakes with reasonable degree of accuracy with regard to space, time and magnitude. Nevertheless, efforts are being made world-over including India, to monitor and study various earthquake precursory phenomena in critical seismotectonic regions, which would not only help understand the earthquake generation processes better but also lead to identifying possible earthquake precursors, which may serve as useful predictors in future. As part of this, a Program on 'Seismicity & Earthquake Precursor' has been initiated by MoES, through a multi-institutional and multi-disciplinary mechanism to adopt an integrated approach of generation, assimilation and analyses of a variety of earthquake precursory phenomena in critical seismotectonic environments in the country in a comprehensive manner. The Ministry of Earth Sciences (MoES) has also initiated a major project on drilling a deep bore hole in the seismically active Koyna-Warna region in Maharashtra, to study in detail the ongoing earthquake generation processes in the region. The proposed scientific deep drilling investigations in the seismically active Koyna region will provide a unique opportunity and the much desired data sets to better understand the mechanisms of faulting, physics of reservoir triggered earthquakes and also contribute towards earthquake hazard assessment and develop models for earthquake forecast in future.**

**However, Government has taken several initiatives/ measures towards safety of people living in earthquake -prone zones. These include:**

**Guidelines have been published by the Bureau of Indian Standards (BIS), Building Materials & Technology Promotion Council (BMTPC), Housing and Urban Development Corporation (HUDCO) and National Disaster Management Authority (NDMA) for the design and construction of earthquake resistant structures to minimize the loss of life and damage to property caused by earthquakes. These guidelines are in wide circulation amongst the public and the administrative authorities responsible for the design and construction of earthquake resistant structures in earthquake prone areas.**

**Loss of life and damage to property caused by earthquakes may be considerably reduced through proper planning and implementation of pre- and post- disaster preparedness and management strategies by respective State and Central Government agencies in a coordinated manner. As part of pre-disaster preparedness measure, Government of India has completed seismic microzonation studies of some of the major cities in the country such as, Jabalpur, Guwahati, Bangalore, Sikkim, Ahmedabad, Gandhidham-Kandla, Kolkatta and Delhi.**

**Ministry of Earth sciences is also taking up microzonation of other megacities in a phased manner. These seismic microzonation maps are useful in land use planning and formulation of site specific design and construction criteria for the buildings and structures towards minimizing the damage to property and loss of life caused by earthquakes.**

**National Disaster Management Authority (NDMA) under Ministry of Home Affairs (MHA), other state Disaster Management Authorities, have also taken up various initiatives to educate and bring awareness amongst general public and school children on the general aspects of earthquakes, their impacts and measures to mitigate losses caused by them. A National Disaster Response Force (NDRF) is also functional under the general superintendence, direction and control of the National Disaster Management Authority (NDMA) for the purpose of specialized response to natural and man-made disasters.**

**Timely dissemination of information pertaining to occurrence of earthquakes to various concerned state and central government authorities helps in planning and implementing various post-disaster mitigation and management related issues. National Centre for Seismology (NCS)/ Ministry of Earth Sciences (MoES) is operating national seismological network to detect and locate earthquakes in the country and disseminate the information to all the concerned in least possible time.**

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