

**GOVERNMENT OF INDIA
EARTH SCIENCES
LOK SABHA**

UNSTARRED QUESTION NO:5784

ANSWERED ON:02.05.2013

FREQUENCY OF EARTHQUAKES

Meghwal Shri Arjun Ram ;Swamygowda Shri N Cheluvaraya Swamy

Will the Minister of EARTH SCIENCES be pleased to state:

- (a) whether new technological skills and programmes have been adopted by the Government for seismology and earthquake prediction related research;
- (b) if so, the details thereof;
- (c) whether the frequency of the tremors of earthquakes in the country has increased;
- (d) if so, the parts of the country where tremors of earthquake were felt during the last one year and their intensity along with complete details thereof;
- (e) whether the Government proposes to set up a dedicated Seismology Research Lab;
- (f) if so, the details of the objectives of said laboratory;
- (g) whether the Government has made any efforts to identify the earthquake prone areas and to reassess the seismic zones; and
- (h) if so, the details thereof?

Answer

MINISTER FOR MINISTRY OF SCIENCE AND TECHNOLOGY AND MINISTRY OF EARTH SCIENCES (SHRI S. JAIPAL REDDY)

(a) Yes Madam.

(b) Preparatory studies have been initiated to carry out scientific investigations and select the suitable site for deep borehole drilling in the Koyana-Warna region. The investigations include, Seismological, Geophysical (seismic, gravity, magnetic), LIDAR, geomorphology and structural geological studies, apart from a few shallow (~ 1 km) exploratory boreholes.

(c) No apparent increase in the frequency of the tremors of earthquake in the country has been noticed.

(d) Does not arise.

(e) Yes Madam.

(f) As a part of the Koyana Deep Borehole Programme it is envisaged to set up a Research Laboratory at Karad. The Maharashtra Government has provided 125 acres of land in Hazarmachi area of Karad Taluka and Foundation Stone has already been laid by Minister of Earth Science on 24th May 2012 in presence of Hon'ble Chief Minister, Maharashtra and Secretary, Ministry of Earth Sciences.

Further, the Earth System Science Organization (ESSO) of the Ministry of Earth Sciences (MoES) is in the process of re-structuring the operational seismology and earthquake research in the country under the umbrella of a dedicated Center of excellence in Seismology. The broad objectives of the Center are as follows:

i) Provide earthquake (M:3.0 and above) related information to all user agencies in shortest possible time.

ii) Provide earthquake hazard and risk related products of specific region, required by various agencies for institutionalizing various preventive measures for design and construction of earthquake resistant structures, land use planning and for enacting building bye-laws towards minimizing damage to property and loss of lives due to earthquakes.

iii) Carry out research in pure and applied seismology and earthquake precursory phenomena, earthquake processes and modeling.

(g) Yes Madam.

(h) Earthquake prone areas of the county have been identified on the basis of scientific inputs relating to seismicity, earthquakes occurred in the past and tectonic setup of the region. Based on these inputs, Bureau of Indian Standards [IS 1893 (Part I):2002], has grouped the country into four seismic zones viz. Zone-II, -III, -IV and -V. Of these, Zone V is seismically the most active region, while zone II is the least. Broadly, Zone - V comprises entire northeastern India, parts of Jammu and Kashmir, Himachal Pradesh, Uttaranchal, Rann of Kutch in Gujarat, part of North Bihar and Andaman & Nicobar Islands. Zone - IV covers remaining parts of Jammu and Kashmir and Himachal Pradesh, National Capital Territory (NCT) of Delhi, Sikkim, Northern Parts of Uttar Pradesh, Bihar and West Bengal, parts of Gujarat and small portions of Maharashtra near the west coast and Rajasthan. Zone - III comprises Kerala, Goa, Lakshadweep islands, remaining parts of Uttar Pradesh, Gujarat and West Bengal, Parts of Punjab, Rajasthan, Madhya Pradesh, Bihar, Jharkhand, Chhattisgarh, Maharashtra, Orissa, Andhra Pradesh, Tamilnadu and Karnataka. Zone - II covers remaining parts of country.