GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
LOK SABHA
UNSTARRED QUESTION No. 4362
TO BE ANSWERED ON FRIDAY, DECEMBER 13, 2019

EARTHQUAKE FORECAST

4362. SHRI RAMCHARAN BOHRA:
SHRI CHANDESHWAR PRASAD:

Will the Minister of EARTH SCIENCES be pleased to state:

(a) whether new technological skills and programmes have been adopted by the Government for earthquake prediction related research, if so, the details thereof;
(b) whether the Government has requested Indian scientists/ISRO to carry out research in this regard to develop disaster response system, if so, the details thereof;
(c) whether the Government has signed any agreement/MoU with other countries to work jointly for developing disaster response system and if so, the details thereof and if not, the reasons therefor;
(d) whether the Government has set up/proposes to set up a dedicated Seismology Research Lab;
(e) if so, the details thereof along with the objective thereof;
(f) whether the Government has made any efforts to identify the earthquake prone areas and to re-assess the seismic zones especially in Bihar; and
(g) if so, the details thereof?

ANSWER
MINISTER FOR MINISTRY OF SCIENCE AND TECHNOLOGY AND
MINISTRY OF EARTH SCIENCES
(DR. HARSH VARDHAN)

(a) The prediction of earthquake is not possible with the current scientific knowledge, however, the damage due to earthquakes can be minimized by taking measures like; accurate seismic hazard assessment, adopting building codes and appropriate land-use planning. Ministry of Earth Sciences (MoES) has taken up seismic hazard assessment at micro level i.e. Microzonation for different urban areas in the country. The study has been completed for Delhi, Kolkata, Guwahati, Bengaluru etc. Further, a major programme on Scientific Deep Drilling in the Koyna region of Maharashtra has been initiated by MoES to understand earthquake processes in triggered environment.

(b) **No Sir. However, as part of R & D initiatives, ISRO is working on identifying earthquake precursors using space based inputs. RADAR Interferometry and studies on surface deformations related aspects using Synthetic Aperture Radar (SAR) are being explored.**

(c) **Yes Sir. Government has signed MoU/agreements with the following countries to enhance cooperation and collaboration to share information, lessons and policies for disaster risk reduction, including awareness, early warning and preparedness. Both sides will also provide technical support, as mutually decided, to enhance early warning system and capacity building for disaster risk management.**

The countries are: Japan, Shanghai Cooperation Organization (SCO) - China, Kazakhstan, Kyrgyzstan, Pakistan, Russia, Tajikistan and Uzbekistan and 4 observer States (Afghanistan, Belarus, Iran and Mongolia), Germany, Indonesia, SAARC countries, Russia and Switzerland.

(d) & (e) **A dedicated Centre called "National Centre for Seismology (NCS)" under the Ministry of Earth Sciences (MoES) has been established in 2014, as an attached office with an objective to monitor the earthquake activity in and around the country on 24x7 basis. The Centre is also mandated to undertake R&D on different aspects of seismology.**

(f) & (g) **Bureau of Indian Standards (BIS) has grouped the country into four seismic zones i.e. Zone-II, III, IV and V. As per this classification, Zone V is considered to be the most seismically active, while zone II is the least. According to this map Bihar state falls under zone V and IV, which can experience earthquake of intensity 8 to 9 on Modified Mercalli Intensity scale.**

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