GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
RAJYA SABHA
UNSTARRED QUESTION No. 191
TO BE ANSWERED ON TUESDAY, NOVEMBER 19, 2019

EARTHQUAKE WARNING AND SECURITY SYSTEM

191. SHRI DHARMAPURI SRINIVAS :

Will the Minister of EARTH SCIENCES be pleased to state:

(a) whether Government has implemented Earthquake Early Warning System in India, if so, the details thereof and the status of the project along with the time-limit of the project;
(b) whether this project is working on the prediction of an impending earthquake or process data to farthest cities through GPRS after sensing the primary waves of an earthquake; and
(c) whether there is any technology available with all security features to sense primary waves of an earthquake, if so, the details thereof?

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

(a) Ministry of Earth Sciences had supported a pilot project for Earthquake Early Warning at IIT, Roorkee. Under this project, sensors were installed at 100 selected locations in Uttarakhand as part of an exercise to provide an alert for surface waves (which are destructive in nature), in case any high magnitude earthquake occurs in the Himalayan region. The alert time may range from a few seconds to little more than a minute and is primarily a function of distance of the user from the epicentre of the earthquake. Ministry funded this project until March 2017 and after that Uttarakhand Government is supporting this project. However, this project is carried out only on experimental mode.
(b) No Sir. At present there is no technique available worldwide to predict the earthquakes. However, in case of an earthquake, the primary waves are detected prior to destructive surface waves and based on that an early warning alert can be issued using advanced communication systems. It is helpful to predict the arrival of destructive wave with a lead time of few seconds in case of an earthquake as the speed of surface waves is slower than the Primary waves (depending upon the distance of the user from the epicentre of the earthquake).
(c) At present all Broadband seismometers and Strong Motion sensors are fully capable of sensing the primary waves of an earthquake.

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