

**GOVERNMENT OF INDIA  
EARTH SCIENCES  
LOK SABHA**

UNSTARRED QUESTION NO:2736

ANSWERED ON:05.08.2015

Earthquake Warning System

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

- (a) whether a summit on 'combating earthquake disaster' was held recently and if so, the details and the issues discussed and the outcome thereof;
- (b) whether the Government has joined hands with foreign countries to develop a model for early earthquake warning system and if so, the details thereof along with the time by which it is likely to be developed, country -wise;
- (c) whether the Government proposes to launch a satellite to visualize surface displacement in this regard;
- (d) if so, the details thereof and the time by which it is likely to be launched; and
- (e) the other steps taken/being taken by the Government to develop a model for early earthquake warning system to reduce the human casualties?

**Answer**

THE MINISTER OF STATE FOR MINISTRY OF SCIENCE AND TECHNOLOGY AND  
MINISTRY OF EARTH SCIENCES  
(SHRI Y. S. CHOWDARY)

(a) Yes Madam. MCC Chamber of Commerce & Industry, Kolkatta organized a Summit on 'Combating Earthquake Disaster' on July 14, 2015. Upgrading the Knowledge of the Mechanism, Processes and Prediction of Earthquake; Human Consciousness to consult the Structural Engineers and construct as per the stipulated structural safety guidelines and codes to make Earthquake Resistant Buildings and Building a sound Social, Government and Industrial Infrastructure - are the three pillars around which the Summit deliberated and outlined the Solution to the Preparedness and Combating Earthquake Disasters involving all stakeholders.

(b) No Madam.

(c)-(d) Yes Madam. Indian Space Research Organization (ISRO) in collaboration with Jet Propulsion Laboratory of National Oceanic and Space Administration (NASA) USA has plans to build and launch a Dual Frequency (L & S Band) ISRO-NASA Synthetic Aperture Radar (SAR) Imaging Satellite for studying deformation/displacement. Details of the satellite launch are yet to be firmed up. Design of the on-board sensors is focused to generate data in interferometer mode for measuring time varying surface displacement from the space with accuracy of 2cm or better.

(e) Efforts have been made towards generation of long-term, comprehensive multi-parametric geophysical observations in seismically active areas, such as Uttarakhand, Shillong, Port Blair and by underground measurements within deep bore holes of earthquake-prone areas in Koyna under Scientific Deep Drilling Investigation Program to analyse the data in near real time and, to establish possible relationship between various earthquake precursory phenomenon and the earthquake generation processes.