

**GOVERNMENT OF INDIA
EARTH SCIENCES
LOK SABHA**

UNSTARRED QUESTION NO:2364
ANSWERED ON:11.03.2015
VULNERABILITY ASSESSMENT OF BUILDINGS
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Will the Minister of EARTH SCIENCES be pleased to state:

- (a) whether any study/assessment has been done to identify structurally unsafe/ dangerous buildings in the highly earthquake prone areas in the country;
- (b) if so, the details thereof along with the details of collapsible and non- collapsible buildings identified, location-wise;
- (c) if not, the reasons therefore and the existing guidelines in regard to routine building audits, if any; and
- (d) the steps taken/proposed to be taken to ensure construction of safe/earthquake resistant new buildings and retrofitting in old buildings?

Answer

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

(a-d) In a pilot mode, studies have been taken up for Guwahati and Delhi region through rapid visual screening (RVS) of assessing the structural safety of buildings due to existing complex socio cultural and built environment encompassing wide range of dwelling units from non engineered units with traditional skill to the most modern buildings. Essentially RVS procedure considers different building types that are most commonly found in India. Whereas the building categories considered for the purpose includes Type A, Type B, Type C and Type X categories as detailed in annexure-1.

By imparting professional training to the Engineers of the civic bodies, Delhi Government is enhancing the technical capabilities of field engineering wings to survey potentially weak buildings. Guidelines for improving Earthquake Resistance of Low Strength Masonry Buildings (IS 13828:1993) that covers the special features of design and construction for improving earthquake resistance of buildings of low-strength masonry are already in force to supplement these efforts.

The Delhi Government in coordination with the National Institute of Disaster Management (NIDM) and National Disaster Management Authority (NDMA) had organized 6-training programmes for training 300-Engineers of Municipal Corporation of Delhi and New Delhi Municipal Committee on the "Rapid Visual Screening (RVS)" with particular reference to the evaluation of safety criteria for dangerous buildings in Delhi. Sphere heading the RVS pilot of identifying 10000 buildings in East Delhi, NIDM in its last training programme, that concluded in the first week of November, 2012, had deliberated in detail the findings from RVS pilot study and made MCD engineers familiar with the special purpose RVS data management software. The above training programmes have kept a good balance between class room lectures and hands on exercise, along with some nondestructive testing exercises in the field.

Guidelines have also been published by the Bureau of Indian Standards (BIS), Building Materials & Technology Promotion Council (BMTPC) and Housing and Urban Development Corporation (HUDCO) etc. for the design and construction of earthquake resistant structures to minimize the loss of life and damage to property caused by earthquakes (Annexure II). 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.

Ministry of Home Affairs is keen to see at least from now that all new buildings constructed under various National and State schemes should be made earthquake resistant (as per the Bureau of Indian Standards detailed at Annexure-III) in the first instant so that no new additions to the stock of existing unsafe buildings are made.

Central Public Works Department (CPWD) has prepared an Handbook of Siesmic Retrofit of Buildings for existing buildings that do not meet the seismic strength requirement. It is to be noted that the guidelines contained in the CPWDs Handbook are more to give a general sense of safe/ unsafe nature of the existing building/ structure so that individual households can take further measures to prevent loss of life and property.