

**GOVERNMENT OF INDIA
EARTH SCIENCES
LOK SABHA**

UNSTARRED QUESTION NO:539
ANSWERED ON:24.11.2011
IDENTIFICATION OF SEISMIC-ZONES
Gavit Shri Manikrao Hodlya

Will the Minister of EARTH SCIENCES be pleased to state:

- (a) whether the capital Delhi falls in a seismic-zone;
- (b) if so, the level of seismic-zone thereof, the area of the capital which falls in the higher seismic-zone, the area which falls in the lesser seismic-zone; and
- (c) the steps being taken by the Government to minimize the damage in the higher seismic-zone area?

Answer

MINISTER OF STATE IN THE MINISTRY OF PLANNING, MINISTER OF STATE IN THE MINISTRY OF SCIENCE AND TECHNOLOGY AND MINISTER OF STATE IN THE MINISTRY OF EARTH SCIENCES(SHRI ASHWANI KUMAR)

(a) Yes Madam.

(b) Bureau of Indian Standards [IS-1893 (Part-1): 2002] has grouped the country into four seismic zones viz. Zone-II, III, IV and V of these, Zone V is the most seismically active region, while zone II is the least. As per this zoning, the entire Delhi region falls in seismic zone IV and as per this classification, the Delhi region is classified as "Severe intensity zone" and is broadly considered to be associated with maximum earthquake effects, as per intensity VIII on Modified Mercalli Intensity (MMI) scale as detailed below:

"Damage slight in specially designed structures; considerable in ordinary but substantial buildings with partial collapse; very heavy in poorly built structures; panel walls thrown out of framed structures; falling of chimney, factory stacks, columns, monuments, and walls; heavy furniture overturned, sand and mud ejected in small amounts; changes in well water; and disturbs persons driving motor cars."

(c) Guidelines have also been published by the Bureau of Indian Standards (BIS), Building Materials & Technology Promotion Council (BMTPC), Housing and Urban Development Corporation (HUDCO) and National Disaster Management Authority (NDMA) for the design and construction of earthquake resistant structures to minimize the loss of life and damage to property caused by earthquakes. The Government has completed the 1st level seismic microzonation study of NCT of Delhi on 1:50000 scale. The seismic microzonation maps are useful in land use planning, formulation of site specific design and construction criteria for the buildings and structures, towards minimizing the damage to property and loss of life caused by earthquakes. The Government has implemented various programmes to educate and raise awareness amongst school children and general public on various aspects of earthquakes, their impacts and measures to mitigate losses.