GOVERNMENT OF INDIA
EARTH SCIENCES
LOK SABHA

UNSTARRED QUESTION NO:2525
ANSWERED ON:18.08.2006
FORECASTING OF EARTHQUAKE .
Sugavanam Shri E.G.

Will the Minister of EARTH SCIENCES be pleased to state:

(a) whether many of the areas in Delhi is falling in highest risk category of earthquake hazards ;

(b) if so, the details of high, moderate and low hazard areas;

(c) whether any techniques are available to make structural changes in the existing building and the steps taken by the government to educate the public;

(d) if so, the details thereof;

(e) whether the Government has constituted any research team to forecast earthquakes in this country; and

(f) if so, details thereof.

Answer

MINISTER OF SCIENCE & TECHNOLOGY AND MINISTER OF EARTH SCIENCES (KAPIL SIBAL)

(a) & (b) As per seismic zoning map (enclosure 1), Delhi lies in seismic zone IV, which is not the highest risk category.

Recently Earthquake Risk Evaluation Center, India Meteorological Department has conducted a study at 1:50,000 scale to further microzone National Capital Territory (NCT) Delhi. As per this study, territory of NCT Delhi has been found to have nine different ground characteristics, which respond to earthquakes differently, all fall within zone IV, and generate three levels of hazard viz. low, moderate and high.

According to this study

i) Areas of East and Northest Delhi (Such as Patparganj, Shahadra, Burari and Narela) areas of Chhatarpur in the south (Ghitorni, Dera mandi, Asola, Arajungarh etc.) and West of Delhi ridge (Mahipalpur, Cantt, Karolbagh, Narayana etc.) fall under high hazard category.

ii) Ridge, Delhi University area, Anand parvat, Vasant Kunj, Tuglakabad, Greater Kailash etc. fall under low hazard category.

iii) Rest of Delhi falls under moderate hazard category.

A detailed map showing these nine units along with levels of hazard is enclosed (Enclosure-2).

(c)Yes Sir.

(d)Bureau of Indian Standards (BIS) has published the criterion for design and construction of earthquake resistant structures. For poorly built structures also, BIS has prepared guidelines for retrofitting. In addition to this, guidelines have also been proposed by HUDCO.

(e) & (f) No specific research team has been constituted for the purpose, since no techniques for prediction are available anywhere in the world so far. However, in order to understand the earthquake process in India, various research groups are studying different precursors and multiparameatric geophysical observations such as Helium & Radon gas anomaly, water-level changes, Ultra Low frequency/ Very Low frequency emissions, Strain built-up including micro-seismicity etc.