GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

**LOK SABHA**
**UNSTARRED QUESTION NO. 6441**
TO BE ANSWERED ON 06.04.2018

**Landslides in North-Eastern Region**

6441. SHRI PREM DAS RAI:

Will the Minister of ENVIRONMENT, FOREST AND CLIMATE CHANGE be pleased to state:

(a) whether the Government has taken steps to ensure landslide risk reduction and management in the North-Eastern Region including Sikkim; and
(b) if so, the details thereof?

**ANSWER**

**MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE**
**(DR. MAHESH SHARMA)**

(a) and (b) As per the information received, the Geological Survey of India (GSI) has taken initiatives in the field of landslide risk reduction and management through landslide susceptibility mapping in various scales in different parts of the country including North-Eastern Region (NER) and Sikkim.

GSI in its landslide studies included Pre-disaster studies (multi-scale landslide susceptibility/hazard/risk mapping & conducting landslide awareness programmes); and Post-disaster studies (landslide inventory mapping, site specific detailed geological mapping, slope stability analysis and landslide monitoring).

Under Pre-disaster studies, GSI has already formulated and carried out a National Landslide Susceptibility Mapping (NLSM) Programme on macro-scale (1:50,000 scale) in various parts of the country including NER and Sikkim. Approximately, 44,600 sq. km area has been completed under NLSM in all the states of NER, except Arunachal Pradesh. The State Remote Sensing Application Centre (SRASC) of Arunachal Pradesh has carried out landslide susceptibility mapping for the entire Arunachal Pradesh. The outcome of the study includes preparation of landslide inventory database and spatial database for geo-factors of landslides.

Besides this, GSI has also carried out meso-scale (1:10,000) landslide susceptibility mapping in different regions. Analog maps of Landslide Susceptibility on meso-scale (1:10,000) have been prepared by GSI for Shillong town in Meghalaya; Serchip, Chiahtiang Townships and Lunglei area of Mizoram, Mangan Urban area, Singtam-Mangkha-Dikchu road corridor and Singhik-Manul-Paegum-Chungthang road sector of North Sikkim Highway in Sikkim.

On landslide remediation, GSI has carried out Site specific landslide studies through detailed mapping (1:2000 scale) at Sonapur landslide in Meghalaya; and Martam Landslide, Rongpo Landslide, 9 mile landslide complex, Malten Landslide, Old Carbonment area, Gangtok, B2 slide, Monitoring of 9 mile slide complex, Andheri Jhora Landslide on Ranipool Pakyong road, Bojek, Psochen Pheri, Lanta-Khola, Manvir colony, Namak, Theng and Mayang Chu landslide, Sub-Jail Complex area, Omchung Gyalshing, Kyangsla and 17 Mile landslide, Sangkhola landslide on NH-31A, 5th Mile Landslide on Gangtok-Nathula road in Sikkim.

GSI has recently conducted Research and Development (R&D) on 1:50000 landslide hazard and risk mapping for regional planning with case studies on selected highly vulnerable areas of Higher Himalayas in various parts of NER.

For capacity building, GSI has conducted landslide awareness programmes in collaboration with State Governments and National Disaster Management Agency (NDMA). Contact programmes are being conducted in various towns of North East for raising awareness and developing resilience. National Institute of Disaster Management (NIDM) has also organized more than 20 Training Programmes on Disaster Risk Reduction including landslides since 2006 in different states of the Northeast including Sikkim.

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