

GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

LOK SABHA
UNSTARRED QUESTION NO. 3220
TO BE ANSWERED ON 05.01.2017

Landslide Risk Reduction and Management

3220. 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-East 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 programme); and Post-disaster studies (landslide inventory mapping and 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 the ongoing National Landslide Susceptibility Mapping Project (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 (i) generation of field maps, (ii) categorization of hill slope in terms of landslide susceptibility, (iii) preparation of landslide inventory database using high resolution remote sensing data, archival information and field inputs and (iv) preparation of spatial database for geo-factors of landslides.

Besides this, GSI has also carried out meso-scale (on 1:10,000 scale) landslide susceptibility mapping in the different regions for (i) preparation of meso-scale detailed landslide inventory database using very high resolution remote sensing data and field

inputs (ii) application of appropriate deterministic techniques for slope stability assessment and (iii) preparation of meso-scale landslide susceptibility map in a GIS by integrating rated and weighted thematic geofactor maps.

In addition, Analog maps of Landslide Susceptibility on meso-scale (1:10,000) has been prepared by GSI in Shillong town of 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 study through detailed mapping (1:2000 scale) at Sonapur landslide in Meghalaya; 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 concluded 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.

In order to capacity building, GSI has conducted landslide awareness programme in collaboration with State Government and National Disaster Management Agency (NDMA). Contact programmes are being conducted for raising awareness and developing resilience. Recently completed contact programmes are in Aizwal, Mizoram (on 22 July 2015); Guwahati, Assam (on 15 July 2016); East Jaintia Hills district, Meghalaya (on 22 August 2017).

Further, the National Institute of Disaster Management (NIDM) invites participants from all the states/U'I of the country in its in-campus training programmes including North-Eastern Region. In addition NIDM has been conducting training programmes in North Eastern Region.

As part of the mandate under the Disaster Management Act 2005, the NIDM has organized more than 20 Training Programmes on Disaster Risk Reduction including landslides since 2006 in different states of the Northeast India including Sikkim.
