

**GOVERNMENT OF INDIA
EARTH SCIENCES
LOK SABHA**

UNSTARRED QUESTION NO:2479
ANSWERED ON:10.03.2011
STUDY REGARDING NATURAL CALAMITIES
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Will the Minister of EARTH SCIENCES be pleased to state:

- (a) whether the Government has conducted or proposes to conduct any study regarding natural calamities like land-slides and avalanches occurred during last year in certain areas of the country;
- (b) if so, the details thereof;
- (c) whether there is any method existing to identify such places for taking precautionary measures; and
- (d) if so, the details thereof?

Answer

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

(a)-(b) Yes Madam. Geological Survey of India (GSI) carries out different types of landslide studies every year through its Annual Field Season Programme and also carries out preliminary appraisal on the occurrences of landslides every year as per request from State/Central Agencies/Media reports. Monitoring of snow accumulation and avalanche early warning is carried out by the Snow and Avalanche Establishment (SASE), Chandigarh of the Defence Research & Development Organisation (DRDO) for the vulnerable upper reaches of Himalayas in the states of Jammu & Kashmir and Himachal Pradesh. Regular operational avalanche warnings are issued to the Army and civilian population in hitherto snow bound regions of north-west Himalayas.

(c) Yes Madam.

(d) About 15% area of India is landslide prone and all such zones are mapped. The landslide prone stretches may tentatively be identified through Landslide Hazard Zonation (LHZ) studies and slope stability studies. Major on-going activities of the GSI include LHZ on Macro-Scale (1:25,000/50,000) to classify the landslide prone hilly terrain of the country into different zones and in Meso-Scale (1:5000/10,000) to assess the stability status of the existing thickly populated townships/important civil engineering structure etc./ proposed expansion scheme/new construction of townships.

SASE is also the nodal agency for studying and developing avalanche mitigation technologies. The methodologies include aerial reconnaissance/ground surveys, which are further used as an input to prepare avalanche hazard maps. The precautionary measures include the passive control of avalanche viz. to ensure safe mobility, training to the troops (approximately 5000 in number every year) and active control of avalanches by building control structures as a permanent solution.