

GOVERNMENT OF INDIA  
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

**LOK SABHA**  
**UNSTARRED QUESTION NO: 3114**  
TO BE ANSWERED ON 20.03.2023

**Landslides and Cloudbursts in Hilly Areas**

3114. SHRIMATI PRATIBHA SINGH

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

- (a) whether the Government taken note into disaster risks reduction for landslides and cloudbursts and propose to plan for latest technology to risk reduction in hilly areas;
- (b) if so, the details thereof;
- (c) whether the Government has made any assessment of the damage caused by landslides and cloud bursts in such States during the last three years;
- (d) if so, the details and results thereof; and
- (e) the remedial measures taken/being taken by the Government in this regard?

**ANSWER**

MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE  
(SHRI ASHWINI KUMAR CHOUBEY)

(a) to (e) Cloudbursts are short lived extreme weather events in which heavy rainfall occurs over very small areas (20-30 sq.km.) at a very fast rate (100mm/hr). In India, cloudbursts occur during monsoon season over orographically dominant regions like Himalayan region, north eastern States and Western Ghats. Prediction of cloud burst is a challenging task. This is mainly attributed to small size, short duration and sudden development of thunderstorm and also due to the complexity of associated atmospheric processes which prevail in tropical regions like India. As such, cloudbursts are not predictable across the world. High Resolution Numerical Weather Prediction (NWP) models are also available with Indian Meteorological Department (IMD) to provide forecast on occurrence of thunderstorm in short range. The warnings are made available to State Governments and general public through various modes of dissemination including social media, so as to take precautionary measures.

Geological Survey of India has launched a program called National Landslide Susceptibility Mapping (NLSM) to prepare landslide inventory, and landslide susceptibility map on a 1:50,000 scale in a seamless manner for 4.34 lakh sq. km. area prone to landslides. The landslide susceptibility map categorises the landmass into three zones – “High”, “Moderate”, and “Low” based on the degree of likelihood of future landslide initiation in an area under natural conditions. GSI has completed the preparation of the baseline landslide susceptibility map of the above-mentioned area.

Besides, GSI has been carrying out 1:10,000 scale landslide susceptibility mapping of critical

sectors and detailed site-specific landslide investigations on a 1:1000 scale mostly as per the requests of the concerned State Governments, and other stakeholders.

The Government has brought about a paradigm shift in the approach to disaster management from a relief-centric to a holistic and integrated approach covering the entire gamut of disaster management encompassing prevention, mitigation, preparedness, response, relief, recovery and reconstruction. In pursuance to the Disaster Management Act, 2005, the National Policy on Disaster Management (NPDM) had been issued in 2009. It aims to build a safe and disaster resilient India by developing a holistic, proactive, multi-disaster oriented and technology driven strategy.

Besides, in accordance with the provisions of the Disaster Management Act, 2005 and NPDM, 2009, the National Disaster Management Authority (NDMA) had prepared the National Disaster Management Plan (NDMP) in 2016 and further revised it in 2019, providing therein a framework and responsibility matrix to all Government agencies at National, State and District levels covering all facets of disaster management cycle

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