

GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

RAJYA SABHA
UNSTARRED QUESTION NO. 523
TO BE ANSWERED ON 24.07.2025

Mitigation of natural disasters

523. SHRI HARSH MAHAJAN:

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

- (a) whether Government is aware of the fact that the frequency of natural disasters such as landslides, cloudbursts, glacier melt and earthquakes has increased in recent years in Himachal Pradesh, Uttarakhand and other hilly states, if so, the details thereof;
- (b) the measures taken by Government to mitigate the impact of these disasters in a timely manner; and
- (c) whether any special central scheme is in place for early disaster warning systems, permanent infrastructure and relief operations in hilly states, if so, the details thereof?

ANSWER

MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

(SHRI KIRTI VARDHAN SINGH)

(a) & (b) The Wadia Institute of Himalayan Geology (WIHG) under Department of Science & Technology (DST) has informed that the regions of Himachal Pradesh, Uttarakhand, and other Himalayan states have experienced some increase in natural disasters, including landslides, cloudbursts and glacier melt, in recent years. However, the earthquakes recorded by the WIHG seismological network in the Uttarakhand and Himachal Pradesh do not conclusively support increase or decrease in earthquake frequency in the past couple of decades.

As per information provided by the National Disaster Management Authority (NDMA) under Ministry of Home Affairs (MHA), the Indian Himalayan Region (IHR), including the states of Himachal Pradesh and Uttarakhand, lies in a high to very-high seismic risk zone due to the active tectonic interaction between the Indian and Eurasian plates. The geological stress accumulated due to tectonic interactions and the presence of major fault lines make the region highly susceptible to earthquakes.

To mitigate the impact of earthquake disasters, NDMA has undertaken several initiatives, like demonstration of retrofitting technologies across various states to promote earthquake-resilient construction practices and issuance of technical guidelines on earthquake-resistant construction and retrofitting. These efforts aim to enhance the understanding of seismic risk among stakeholders and encourage adoption of preventive measures at both institutional and community levels. NDMA has undertaken earthquake risk assessment for various cities,

particularly those in earthquake-prone areas like Uttarakhand, Himachal Pradesh and the North East States. The guidelines developed by NDMA serve as critical references for stakeholders, including engineers, architects, urban planners, policymakers, and the general public, to mitigate seismic risks. NDMA also conducts regular public awareness programmes and mock exercises to prepare all stakeholders to deal with earthquake events. In respect of landslides, NDMA has issued comprehensive guidelines on Landslide Hazard Mitigation, outlining risk assessment, early warning, capacity building, and long-term mitigation measures for vulnerable regions.

Further, as per information provided by the India Meteorological Department (IMD), under Ministry of Earth Sciences (MoES), observational and monitoring network such as Automatic Weather Stations (AWS), Automatic Rain Gauges (ARG) and Doppler Weather Radar (DWR) network over the hilly region have been increased to mitigate the impacts of weather related disaster events.

(c) As per information provided by the National Disaster Management Authority (NDMA), the National Landslide Risk Mitigation Programme (NLRMP), implemented for the 15 most landslide-prone States, has different components of mitigation interventions, early warning systems and institutional strengthening. Further, NDMA has launched the “Common Alerting Protocol (CAP)” based Integrated Alert System on Pan India basis, including all Hilly States, for dissemination of alerts pertaining to various disasters. The Alerts are disseminated in geo-targeted manner and in regional vernacular languages. The project integrates five Alert Generating Agencies, namely, India Meteorological Department (IMD), Central Water Commission (CWC), Indian National Centre for Ocean Information Services (INCOIS), Defence Geoinformatics Research Establishment (DGRE) and Forest Survey of India (FSI) with the State Disaster Management Authorities (SDMAs) of all States/UTs. The Alerts are currently disseminated through SMS, Mobile App, Sachet Public Portal, GAGAN & NaVIC Satellite terminals and RSS feed.

For further improving gap areas in early warning of extreme weather events, the Ministry of Earth Science (MoES) has launched a new Central Sector Scheme “Mission Mausam” with the goal of making the nation “Weather-ready and Climate-smart”.
