

**GOVERNMENT OF INDIA
MINISTRY OF HOME AFFAIRS**

**RAJYA SABHA
UNSTARRED QUESTION NO. 1184**

**TO BE ANSWERED ON THE 10TH DECEMBER, 2025/ AGRAHAYANA 19, 1947
(SAKA)**

GLACIAL LAKE OUTBURST FLOODS

1184 DR. SIKANDER KUMAR:

Will the Minister of HOME AFFAIRS be pleased to state:

(a) whether the Ministry has developed any drainage system to channel excess water away from vulnerable zones;

(b) if so, the details thereof;

(c) whether the Ministry has made any efforts to engage with local communities and involve them in flood management and mitigation efforts in Lahaul-Spiti, if so, efforts taken in this regard; and

(d) the measures being taken to address flood protection and management in Lahaul-Spiti, especially in areas prone to Glacial Lake Outburst Floods (GLOFs)?

ANSWER

**MINISTER OF STATE IN THE MINISTRY OF HOME AFFAIRS
(SHRI NITYANAND RAI)**

(a) and (b): The drainage or controlled breaching measures are highly site-specific and executed by respective State Governments. National Disaster Management Authority (NDMA) supports the State Governments through risk assessments and expert recommendations on controlled drainage and outlet stabilization, wherever environmentally and technically feasible. The

State Governments implement structural drainage interventions, if found feasible, with technical and scientific support from NDMA and associated national institutions.

(c): NDMA has issued technical Glacial Lake Outburst Flood (GLOF) advisories to the States to guide and support the State Governments on structural mitigation, watershed management and slope stabilisation, while conducting capacity-building activities for district officials and communities to enhance preparedness, evacuation planning, and response readiness. Regular community-level awareness programmes are undertaken to sensitise downstream populations to GLOF risks, supported by targeted outreach to vulnerable groups such as women, children, and senior citizens.

(d): Central Government has approved the National Glacial Lake Outburst Flood (GLOF) Risk Mitigation project (NGRMP) for its implementation in four states namely, Arunachal Pradesh, Himachal Pradesh, Sikkim and Uttarakhand at a financial outlay of Rs.150.00 crore. The NGRMP is aimed at reducing the risks associated with GLOFs in disaster prone regions including Lahaul-Spiti. Under NGRMP, NDMA has conducted assessments of potentially dangerous glacial lakes across the Himalayan region, including Lahaul-Spiti. Priority lakes are monitored continuously by agencies such as

Central Water Commission (CWC), Indian Institute of Remote Sensing (IIRS), Geological Survey of India (GSI) and National Remote Sensing Centre (NRSC) through satellite imagery, Unmanned Aerial Vehicle (UAV) surveys and ground-based sensors.

NDMA has issued guidelines for the Management of Glacial Lake Outburst Floods in October 2020. The guidelines lay down the Standard Operating Procedure (SOP) titled, “averting threats emanating from GLOFs and Landslide Lake Outburst Floods (LLOFs) in Himalayan Region”.

CWC has finalized the Criteria for Risk Indexing of Glacial Lakes offering a structured approach for identifying and ranking Glacial Lakes based on their likelihood of failure and the potential damage they could cause in the event of GLOF. CWC has also published “Guidelines for structural measures to mitigate adverse effects of GLOF on Dams” in July 2025.
