

GOVERNMENT OF INDIA  
MINISTRY OF JAL SHAKTI  
DEPARTMENT OF WATER RESOURCES, RIVER DEVELOPMENT & GANGA REJUVENATION  
**LOK SABHA**

**UNSTARRED QUESTION NO. 883**

ANSWERED ON 23.07.2026

**SURVEY ON GLACIAL LAKE OUTBURST FLOODS**

883. Dr. THIRUMAVALAVAN THOLKAPPIYAN:

Will the Minister of **JAL SHAKTI** be pleased to state:

- (a) whether the Government has conducted any survey regarding Glacial Lake Outburst Floods (GLOFs) during the last three years and if so, the details thereof; and
- (b) whether any early warning system has been installed to provide advance information regarding floods based on the findings of such GLOFs survey and if so, the details thereof along with the cost involved in this regard?

**ANSWER**

**THE MINISTER OF STATE FOR JAL SHAKTI**

(SHRI RAJ BHUSHAN CHOUDHARY)

**(a)** Yes. The Government of India has undertaken surveys and scientific assessments to identify and evaluate the risks associated with Glacial Lake Outburst Floods (GLOFs) in the Indian Himalayan Region.

Central Water Commission (CWC) has identified several potentially dangerous glacial lakes for priority monitoring and currently monitors 2,485 glacial lakes having an area greater than 10 hectares across the Himalayan river basins, covering four States and two Union Territories, during the period June to October every year using remote sensing techniques.

Subsequently, the National Disaster Management Authority (NDMA), in collaboration with national scientific agencies, carried out scientific assessment of 189 high-risk glacial lakes across the Indian Himalayan Region during 2025. Based on the assessment, 56 glacial lakes were classified as very high risk considering their potential to trigger GLOFs and the exposure of downstream habitations and infrastructure.

**(b)** Based on the findings of the GLOF hazard assessments and glacial lake monitoring, the Government has initiated the establishment of GLOF Early Warning Systems (EWS) at selected high-risk glacial lakes in the Indian Himalayan Region.

Further, NDMA is implementing the National GLOF Risk Mitigation Programme (NGRMP), which was approved in 2024, for implementation in the States of Himachal Pradesh, Uttarakhand, Sikkim and Arunachal Pradesh at a total approved cost of Rs. 150 crore. The programme envisages Hazard and Risk Assessment, Monitoring and Early Warning Systems, site-specific structural and non-structural mitigation measures, and community awareness and capacity building.

However, at present, no end-to-end GLOF Early Warning System has been commissioned under the National GLOF Risk Mitigation Programme.

In addition, NDMA, in collaboration with the Swiss Agency for Development and Cooperation (SDC) and the Sikkim State Disaster Management Authority (SSDMA), conducted multi-agency expeditions to the high-risk South Lhonak and Shako Cho glacial lakes in Sikkim during 2023 and 2024 to facilitate scientific investigations and the development of appropriate monitoring, early warning mechanisms and mitigation measures.

An amount of Rs. 52.50 crore has been earmarked under the Monitoring and Early Warning System component of the NGRMP, out of the total programme outlay of Rs. 150 crore.

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