

INDIAN INSTITUTE OF TECHNOLOGY, INDORE, STUDY REVEALS...

23 glacial lakes can cause Kedarnath like disaster

OUR STAFF REPORTER
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Remember Kedarnath disaster that caused huge loss to human life and property?

There are 23 critical glacial lakes in Indian side of the Himalayas which have the potential of repeating a Kedarnath like tragedy, reveals a study conducted by Indian Institute of Tech-



nology Indore.

Dr Manish Kumar Goyal and Saket Dubey of IIT Indore assessed the glacial

lakes in the Indian Himalayas which can pose serious threat to downstream communities and lead to

catastrophic socio-economic disasters in case of a glacial lake outburst flood (GLOF).

"A comprehensive study of the glacial lake over the entire Indian Himalayas has revealed that there are 23 critical glacial lakes that have a possibility of an outburst severely endangering human life," said Goyal.

Further, the analysis of flow path by various glacial

lakes revealed that 67 glacial lakes contain at least one hydropower system along their flow path and an outburst in any of these lakes can be highly catastrophic.

"One of the major causes is attributed to the infiltration of an avalanche into the glacial lake which consequently breaks the water barriers and leads to an outburst. **CONTD. ON P8**

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23 glacial...

Analysis of the potential avalanche trajectories in the Indian Himalayas suggests that 36 out of 329 glacial lakes are susceptible to an avalanche entering the lake. Some of the notable lakes with very high Potential flood volume (PFV) include Gurudongmar Lake, Tso Lhamo Lake and J R B Lake; whereas, some of the lakes with high PFV and very high risk include Khangchung Tso and Shakho Cho," said Goyal, who lead the research team.

He said "the present investigation is the first to examine the hazard, downstream impact and risk of glacial hazard in a holistic manner accounting for both self-destructive and dynamic failure accompanied with the determination of downstream impact in terms of public utilities such as buildings, bridges and hydropower systems over the entire Indian Himalayas. The framework will support stakeholders and decision-makers in identifying critical glacial lakes and make well-informed decisions related to future modelling efforts, field studies and risk mitigation measures." The study was published in Water Resource Research, Wiley publishing group. It was also presented as a research highlight by "Nature Climate Change" for the year 2020.