Cryospheric Hazards in the Mt. Everest Region, Nepal

HOW TO BUILD COMMUNITY RESILIENCE?

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RESEARCH

We analyzed glacial lake outburst flood (GLOF) risks posed by Imja Lake (5,010m), located in the Mt Everest Region of Nepal, as a case study to ***examine the institutional conditions under which mountain communities can develop effective disaster risk reduction strategies to address cryospheric hazards and disaster risks.*** In doing so, we conducted an institutional analysis of a GLOF risk management project.

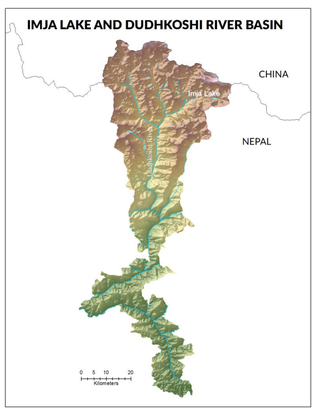

Fig 1: Ima Tsho/Lake (photo: ICIMOD 2011) and its potential GLOF risk affected area (map source: GoN/DHM 2013)

Institutional analysis is crucial in identifying and contextualizing both facilitating and impending factors of disaster risk reduction. A growing body of literature suggests that building "community resilience"—rather than a singular focus on a hazardous glacial lake or other natural hazards—is a more effective and sustainable solution to disaster risks.

RESULTS

1

The 2016 emergency remediation work lowered the Imja Lake by 3.4m and it has been touted as one of the successfully completed mitigation projects in mountains. It remains to be seen the long-term success of the work. The locals have mixed feeling about the project, but it has served as a "cognitive fix" for those living in the fear along the Dudhkoshi River basin for the past several years.

2

Institutional analysis of the Imja GLOF risk mitigation project reveals ***a disconnect between external and internal institutions*** on how GLOF risks and the mitigation mechanisms are perceived, interpreted, and prioritized.

Fig 2. Institutional conditions shaping the risk reduction arena (Adapted from Carey et al 2012; Berkes & Ross 2013)

3

This disconnect exists because there is a mismatch between the priorities of the external and internal organizations. Tourism-based economy is the lens through which Khumbu communities assess their vulnerability to cryospheric hazards and risks. In contrast to external organizations' singular focus on Imja, the disaster risk portfolio of the local is more integrative and includes several other important hazards and risks (e.g., earthquake, avalanche, unseasonal weather)

GOING FORWARD

Disaster risk mitigation is always challenging in high mountains because of rugged terrains, inaccessibility, and other barriers specific to mountains. Lessons can be learned from how mountain communities have been adapting to their unique challenges for generations.

Mitigation can turn into mere bureaucratic exercises when those are implemented as time-bound, contractual transactions; these delay the implementation and in turn, lead to rushed completion of mitigation efforts.

Agenda setting for disaster risks, mainly anticipation and response, by external organizations can be effective only when there is local buy-in, participation, and a sense of ownership. Disaster risk plans can be more resilient when closely tied to local economy (e.g., tourism) and social realities.

Recognizing the self-organization capacity, knowledge, and agency of local people in disaster risk management plans can build trust between the external and internal organizations, which in turn, can lead to more synergy and transformative resilience.

To learn more about this study, scan the code or contact milan.shrestha@asu.edu