

## Author's Accepted Manuscript

Towards improved flood disaster governance in Nepal: a case study in Sindhupalchok District

Marie Delalay, Alan D. Ziegler, Mandira Singh Shrestha, Robert James Wasson, Karen Sudmeier-Rieux, Brian G. McAdoo, Ishaan Kochhar



[www.elsevier.com/locate/ijdr](http://www.elsevier.com/locate/ijdr)

PII: S2212-4209(18)30106-7  
DOI: <https://doi.org/10.1016/j.ijdr.2018.05.025>  
Reference: IJDRR912

To appear in: *International Journal of Disaster Risk Reduction*

Received date: 25 January 2018  
Revised date: 30 May 2018  
Accepted date: 30 May 2018

Cite this article as: Marie Delalay, Alan D. Ziegler, Mandira Singh Shrestha, Robert James Wasson, Karen Sudmeier-Rieux, Brian G. McAdoo and Ishaan Kochhar, Towards improved flood disaster governance in Nepal: a case study in Sindhupalchok District, *International Journal of Disaster Risk Reduction*, <https://doi.org/10.1016/j.ijdr.2018.05.025>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting galley proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

## Towards improved flood disaster governance in Nepal: a case study in Sindhupalchok District

Marie Delalay<sup>a\*</sup>, Alan D. Ziegler<sup>a</sup>, Mandira Singh Shrestha<sup>b</sup>, Robert James Wasson<sup>c</sup>, Karen Sudmeier-Rieux<sup>d</sup>, Brian G. McAdoo<sup>e</sup>, Ishaan Kochhar<sup>b</sup>

<sup>a</sup>Geography Department, National University of Singapore (NUS)

<sup>b</sup>International Centre for Integrated Mountain Development (ICIMOD), Kathmandu, Nepal

<sup>c</sup>Institute of Water Policy, National University of Singapore

<sup>d</sup>Faculty of Geosciences and Environment, University of Lausanne, Switzerland

<sup>e</sup>Yale-NUS College, National University of Singapore

\*Corresponding author: Marie Delalay, 5 Arts Link, Block AS3, Singapore 117570, mariesdelalay@gmail.com

### Abstract

Recent flood disasters in Nepal have been the result of a combination of a fast-growing vulnerability of the local population and variable, possibly changing climatic conditions. In the future, flood disasters are likely to occur if vulnerability does not decrease. Nonetheless, the current state of flood disaster governance in Nepal, including flood risk assessment, is limited. To better inform policy and flood disaster governance, we created a flood risk assessment model that maps and quantifies the vulnerability of populations in flood-prone areas in Sindhupalchok District, Nepal. Three scenarios were considered in the model: a baseline-flood scenario, a medium-extreme-flood scenario, and a high-extreme-flood scenario. Overall, the model demonstrates that the local population is indeed vulnerable to flood risk, and increasingly for extreme floods. The model results indicate the following: (1) vulnerability to flood risk increases significantly from the baseline-flood scenario to the two extreme-flood scenarios; (2) houses are especially vulnerable to flood risk in the Village Development Committees (VDCs) of Gloche, Pagretar, Tatopani, Kadambas, and Bahrabise; and (3) income and food from crop production are most vulnerable to flood risk in the VDCs of Gloche, Fulpingdanda, Kadambas, Tatopani, and Batase. Based on these results, moving towards improved flood disaster governance, we make recommendations to improve measures for flood risk reduction with a focus on implementing flood early warning systems, clarifying the assignment of roles and responsibilities to stakeholders in flood risk governance, and increasing the development/use of flood risk assessment models.

Download English Version:

<https://daneshyari.com/en/article/7471130>

Download Persian Version:

<https://daneshyari.com/article/7471130>

[Daneshyari.com](https://daneshyari.com)