



Local Responses to Too Much and Too Little Water in the Greater Himalayan Region

ICIMOD

FOR MOUNTAINS AND PEOPLE

About ICIMOD

The International Centre for Integrated Mountain Development, ICIMOD, is a regional knowledge development and learning centre serving the eight regional member countries of the Hindu Kush-Himalayas – Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan – and based in Kathmandu, Nepal. Globalisation and climate change have an increasing influence on the stability of fragile mountain ecosystems and the livelihoods of mountain people. ICIMOD aims to assist mountain people to understand these changes, adapt to them, and make the most of new opportunities, while addressing upstream-downstream issues. We support regional transboundary programmes through partnership with regional partner institutions, facilitate the exchange of experience, and serve as a regional knowledge hub. We strengthen networking among regional and global centres of excellence. Overall, we are working to develop an economically and environmentally sound mountain ecosystem to improve the living standards of mountain populations and to sustain vital ecosystem services for the billions of people living downstream – now, and for the future.



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Foreword

Over the last few years, ICIMOD's long-term work towards its vision – that the mountain population of the greater Himalayas enjoys improved well-being in a sustainable global environment – has increasingly incorporated activities with a bearing on the impact of climate change. As this impact affects people's livelihoods in the mountains and downstream, it becomes necessary to seek ways to support people's ability to adapt to the current and forthcoming changes – some related to changes in climate and some related to changes in society.

To this end, changes are not new to people of the greater Himalayan region. People have been living with challenges related to large seasonal differences in the climate, particularly water availability, for generations. Similarly, the region has seen many changes in society over time. The question is whether the resilience that people have developed over time is sufficient in the current world of rapid change. The pace of ongoing climate change is probably unprecedented, and globalisation makes the world smaller, as local markets, once isolated from the outside world, are suddenly linked to global market prices.

To be able to answer this question, we believe that there is a need for better first hand information. We need to document current local adaptation strategies to be able to assess whether these will be functional in a world of accelerated changes. The findings presented in this report indicate that people rely on a range of responses when exposed to floods and water stress, some responses are merely short-term coping and not sustainable in the long term. Other responses actually prove to be robust in a longer time perspective.

It is important that governments in the region and other key actors in climate change adaptation have access to improved knowledge regarding which responses to floods and droughts are successful. They can then support appropriate responses and develop them into sustainable strategies for adaptation to change.

ICIMOD's work towards improved knowledge of the impact of climate change and of communities' adaptation to these changes is best done through national partners in the region and recognised international knowledge centres. The current study is the result of such a consortium of national, regional, and global institutions, that has enabled us to reach a level of understanding considerably higher than if each had undertaken the study on their own.

We think that the findings in this report provide a sound beginning for a comprehensive, more full scale understanding of climate change impact and adaptation in the greater Himalayan region, which encompasses water availability, disasters, biodiversity, human health and wellbeing, and livelihoods at large.

Andreas Schild
Director General, ICIMOD

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This report synthesises the main findings from five studies of local responses to climate-related water stress and floods. The case studies were carried out between June 2008 and September 2009 as part of the two projects 'Too much water, too little water – adaptation strategies to climate-induced water stress and hazards in the greater Himalayan region', funded by the Swedish International Development Cooperation Agency (Sida), and 'Himalayan climate change impact and adaptation assessment' (HICIA), funded by the Norwegian Ministry of Foreign Affairs. This financial support from Sweden and Norway, which enabled important field work leading to findings on climate change and adaptation based on evidence, is gratefully acknowledged.

The five case studies were carried out in: i) Yunnan province, China, by the Kunming Institute of Botany (KIB) in collaboration with the World Agroforestry Centre (ICRAF); ii) Assam state, India, by Aaranyak; iii) Bihar state, India, by Winrock International, India (WII); iv) the Koshi basin, Nepal, by the Institute for Social and Environmental Transition – Nepal (ISETN); and v) Chitral District, Pakistan, by the Aga Khan Rural Support Programme (AKRSP).

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The case studies are accompanied by studies of policies influencing local people's ability to adapt. This work is ongoing by ISET, ICRAF, and the National Institute for Disaster Management (NIDM), India, and only provisional findings have been incorporated in this report.

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