

Himalayan Climate Change Adaptation Programme (HICAP)

°CICERO
Center for International
Climate and Environmental
Research - Oslo

ICIMOD
30

GRID
ARENDA

THREE DECADES
FOR MOUNTAINS AND PEOPLE

Recent studies have shown that the Hindu Kush Himalayan (HKH) region and the downstream areas that depend on it, including the Indo-Gangetic plain – the ‘grain basket of South Asia’ – are particularly vulnerable to climate change. The warming trend in the HKH is higher than the global average – a cause for grave concern. The HKH region, with the greatest concentration of ice outside the polar regions (and hence dubbed ‘the third pole’), is the ‘water tower of Asia’, providing water to 1.3 billion people, a fifth of the world’s population.

The HKH region is also undergoing rapid change due to a number of other drivers, which make the natural and human systems in the region increasingly vulnerable. Climate change contributes to the frequency and magnitude of extreme weather events and natural hazards, leading to disasters with high economic and social costs. Although mountain communities generally have a high degree of self-reliance and a rich tradition of risk-aversion practices, the fast pace of change is compromising their capacities to deal effectively with change. In this regard women are particularly vulnerable.

Enhancing resilience of mountain communities through improved understanding of vulnerabilities, opportunities, and potentials for adaptation

Putting Himalayan Adaptation into Motion

At the sixteenth Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) in Cancun, Mexico in 2010, the Ministry of Foreign Affairs (MFA) Norway announced its support of more than USD 12 million to the International Centre for Integrated Mountain Development (ICIMOD), the Center for International Climate and Environment Research – Oslo (CICERO), and the United Nations Environment Programme (UNEP)/GRID-Arendal to help the people of the HKH region prepare for a difficult and unpredictable future in view of the rapidly melting glaciers and other impacts on livelihoods and socioecological systems. After a series of consultations the Himalayan Climate Change Adaptation Programme (HICAP) was created, based on the findings of two recent ICIMOD-led projects – ‘Too Much, Too Little Water’ and the Himalayan Climate Change Impact and Adaptation Assessment (HICIA) – both supported by MFA Norway and the Swedish International Development Cooperation Agency (Sida). In 2011, Sida committed an additional USD 3 million to HICAP for the Salween-Mekong sub-basin in Yunnan Province of China.



Objectives

HICAP, a major initiative under ICIMOD's Regional Programme on Adaptation to Change, is a five-year applied and basic research programme (2011–2016). It focuses on five sub-basins of major river systems of the HKH region: two sub-basins of the Brahmaputra and one each of the Indus, Ganges, and Salween-Mekong.

HICAP has the following aims:

- to increase understanding of uncertainties influencing climate change scenarios and water availability and demand projections for parts of major river basins, and to encourage use of the knowledge thus created;
- to enhance capacities to assess, monitor, communicate, prepare for, and undertake actions to respond to challenges and opportunities from impacts of climate change and other drivers of change;
- to make concrete and actionable proposals on strategies and policies (with particular reference to women and the poor) for uptake by stakeholders, including policy makers.

Questions addressed by HICAP

- What are the potential impacts (positive and negative) of change, and how can the capacity to monitor them be enhanced?
- What are the vulnerabilities and adaptive capacities of human and natural systems in the Hindu Kush Himalayan region?
- What evidence on the potential, risks, and opportunities can be provided to decision makers in order to increase the adaptive capacity of mountain people, especially women?

Conceptual Framework

In 2012, the Intergovernmental Panel on Climate Change (IPCC) revised its definition of adaptation to climate change as:

- in human systems, the process of adjustment to actual or expected climate and its effects, in order to moderate harm or exploit beneficial opportunities.
- in natural systems, the process of adjustment to actual climate and its effects; human intervention may facilitate adjustment to expected climate.

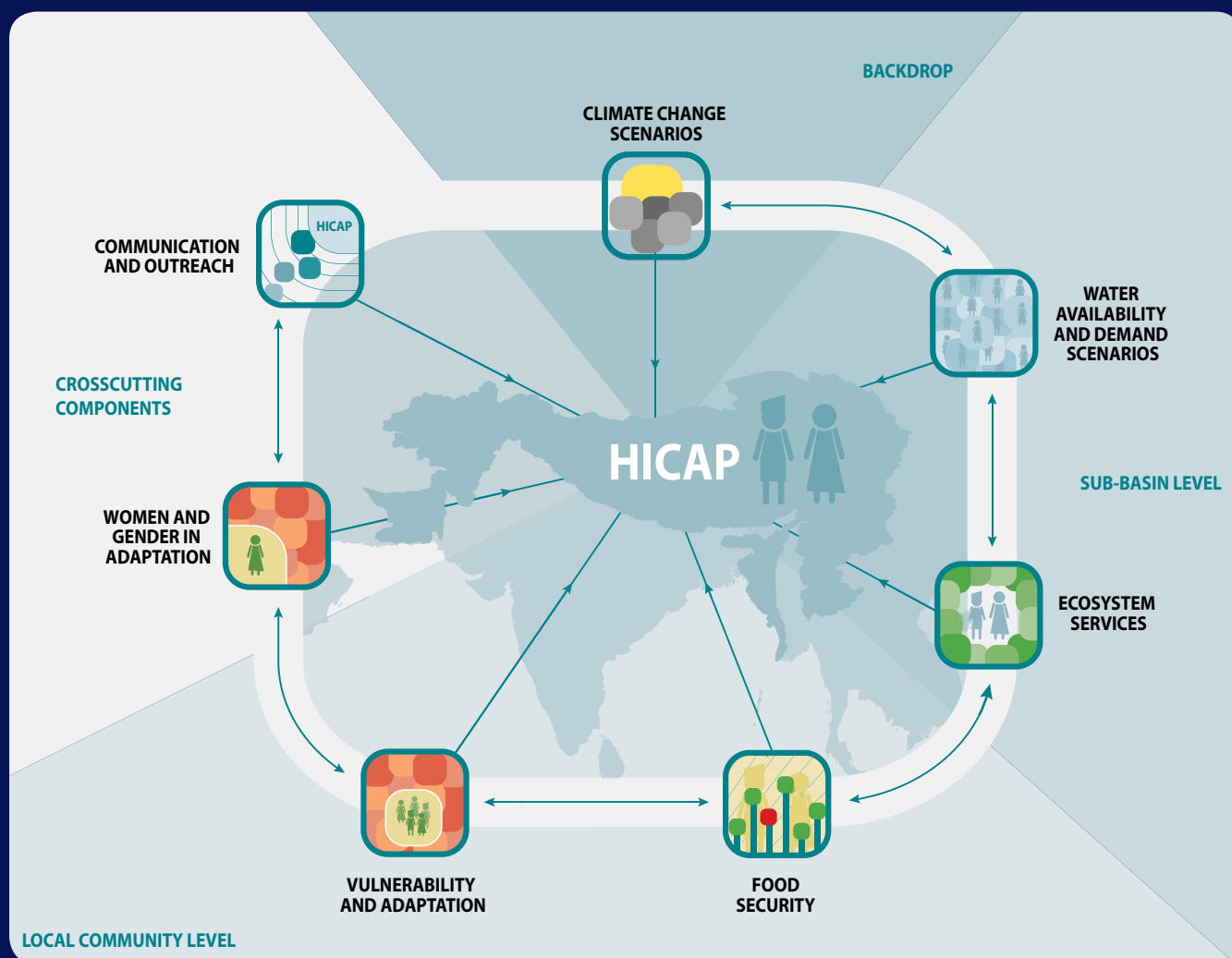
Accordingly, HICAP focuses on the following priority themes:

- understanding change: down-scaling and customizing climate scenarios at the basin and sub-basin levels and developing water availability and demand scenarios;
- assessing impacts: assessment of impacts of change on ecosystems, food security, and communities;
- responses and supporting needs: gender-segregated vulnerabilities and responses to impacts of climate change and other drivers of change.

HICAP is based on the premise that enhancing adaptive capacity and reducing negative impacts of climate change and other drivers of change will decrease the vulnerability of mountain communities, including women; and that their traditional and local knowledge, in tandem with current scientific knowledge, can be used to assess their resilience and foster adaptation. HICAP promotes adaptation-conducive and gender-sensitive policy and institutional environments. It also explores how planned adaptation can support autonomous adaptation to create resilient communities in the region and downstream.



HICAP framework



Components of HICAP

Components	Outputs
1. Climate change scenarios	Downscaled and customized climate scenarios at the basin and sub-basin level
2. Water availability and demand scenarios	Water availability and demand scenarios at the sub-basin level
3. Ecosystem services	Analysis of risks and opportunities for natural and managed ecosystems and the implications for sustained ecosystem services at the sub-basin level
4. Food security	Food security assessment at household and community levels, future scenarios at regional and selected sub-basin levels, and analysis of their relation to downstream food security
5. Vulnerability and adaptation	Analysis of autonomous adaptation patterns and strategies at the community level and their linkages with planned adaptation in the current policy environment; use of this evidence to establish conducive policy frameworks
6. Gender and adaptation	Analysis of differences in impacts and adaptive capacities between women and men; identification of strategies for ensuring equitable access to resources and opportunities for marginalized, minority, and indigenous people, especially women
7. Communication and outreach	Awareness raising, capacity building, and innovative dissemination of findings and recommendations contributing to informed decision making at local, regional, and international levels

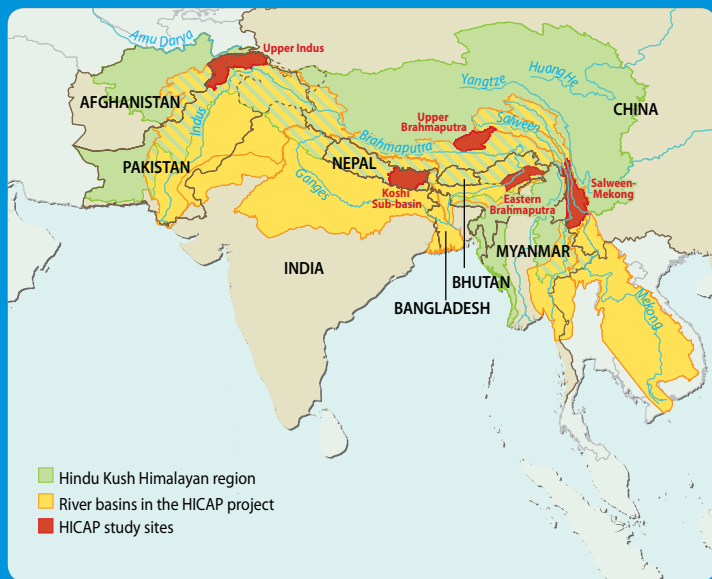
Vulnerability and Adaptive Capacity Assessment

The Vulnerability and Adaptive Capacity Assessment (VACA) survey is perhaps the first ever large-scale, statistically sound assessment of livelihood vulnerability and its determinants in the HKH region, as well as of the adaptive capacities of the region's mountain people; it covers more than 8,000 households in five river sub-basins spread over four countries. The results of the survey, carried out as part of HICAP applied research, will be integrated with the findings of other scientific research in the sub-basins to help identify and promote adaptation patterns and strategies at the community level. The VACA results will also be used to map target areas and groups for interventions and will serve as a baseline for further in-depth studies.

In addition to the survey, the research includes downscaling of scenarios, assessment of climate change impacts on ecosystems and food security, place-based studies, gender analysis, studies on migration and disaster risk reduction activities.



HICAP project sites



Base map source: ESRI Map and Data 2001

Implementing Partners

- Institute of Water Modelling (IWM), Bangladesh
- Asian International Rivers Centre (AIRC), China
- Chengdu Institute of Biology (CIB), China
- Institute of Geographic Sciences And Natural Resources Research (IGSNRR), China
- Kunming Institute of Botany (KIB), China
- Tibet Academy of Agricultural and Animal Sciences
- Yunnan Academy of Social Sciences (YASS), China
- Aaranyak, India
- Indian Institute of Technology Delhi (IIT-D), India
- Aga Khan Rural Support Programme (AKRSP), Pakistan
- International Water Management Institute (IWMI), Pakistan
- Koshi Victim Society, Nepal
- Nepal Development Research Institute (NDRI), Nepal
- Nepal Institute of Development Studies (NIDS), Nepal
- World Wide Fund for Nature (WWF) Nepal
- Future Water, the Netherlands
- Bjerknes Centre for Climate Research (BCCR), Norway
- University of Sussex, UK

HICAP is supported by the Ministry of Foreign Affairs/ Government of Norway and Swedish International Development Cooperation Agency (Sida)



ICIMOD gratefully acknowledges the support of its core donors: The Governments of Afghanistan, Austria, Bangladesh, Bhutan, China, India, Myanmar, Nepal, Norway, Pakistan, Switzerland, and the United Kingdom.

For further information

www.icimod.org/hicap

hicap@icimod.org

Nand Kishor Agrawal
Neera Shrestha Pradhan
Krisha Shrestha
Utsav Maden

nagrawal@icimod.org
nspradhan@icimod.org
krshrestha@icimod.org
umaden@icimod.org

Photos: p 1 A Treadway, pp 2 (Left), 4 L Hislop, p 2 (Right) U Mishra

© ICIMOD 2013

International Centre for Integrated Mountain Development

GPO Box 3226, Kathmandu, Nepal

Tel +977-1-5003222 email info@icimod.org web www.icimod.org

Prepared by ICIMOD Publications Unit, August 2013