Himalayan Climate Change Adaptation Programme (HICAP)

CICERO
Center for International Climate and Environmental Research - Oslo

UNEP GRID ARENDAL
Environmental Knowledge for Change

ICIMOD
FOR MOUNTAINS AND PEOPLE

The warming trend in the Himalayas is higher than the global average – a cause for grave concern. The Himalayas, 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 Hindu Kush-Himalayan (HKH) region is highly dynamic as there are many socioeconomic and environmental drivers of change at play, including climate change. The impacts of these changes challenge the resilience of natural and human capacities and environments in the region. Climate change is believed to contribute to extreme weather events and possibly to increase the frequency and magnitude of natural hazards and associated disasters, exacting high economic and social costs. Recent studies have shown that the Himalayan region and the downstream areas that depend on its water supply and ecosystem services, including the Indo-Gangetic plain – 'the grain basket of South Asia' – are particularly vulnerable to climate change. Women often bear a disproportionately large share of the burden.

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

Adaptation Must Begin Now

At the sixteenth Conference of the Parties (COP16) to the United Nations Framework Convention on Climate Change (UNFCCC) in Cancun, Mexico, the Ministry of Foreign Affairs (MFA) Norway announced its support to ICIMOD, the Center for International Climate and Environment Research – Oslo (CICERO), and the United Nations Environment Programme (UNEP)/GRID-Arendal to help the Himalayas in view of the rapidly melting glaciers and the need for people to prepare for the challenges of the future. A series of consultations with these and other strategic and operational partners from the region and beyond culminated in the creation of the Himalayan Climate Change Adaptation Programme (HICAP). The programme is 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).

Objectives

HICAP is a five-year programme (2011–2015) focused on four sub-basins of major Himalayan river systems: two sub-basins in the Brahmaputra and one each in the Indus and the Ganges.

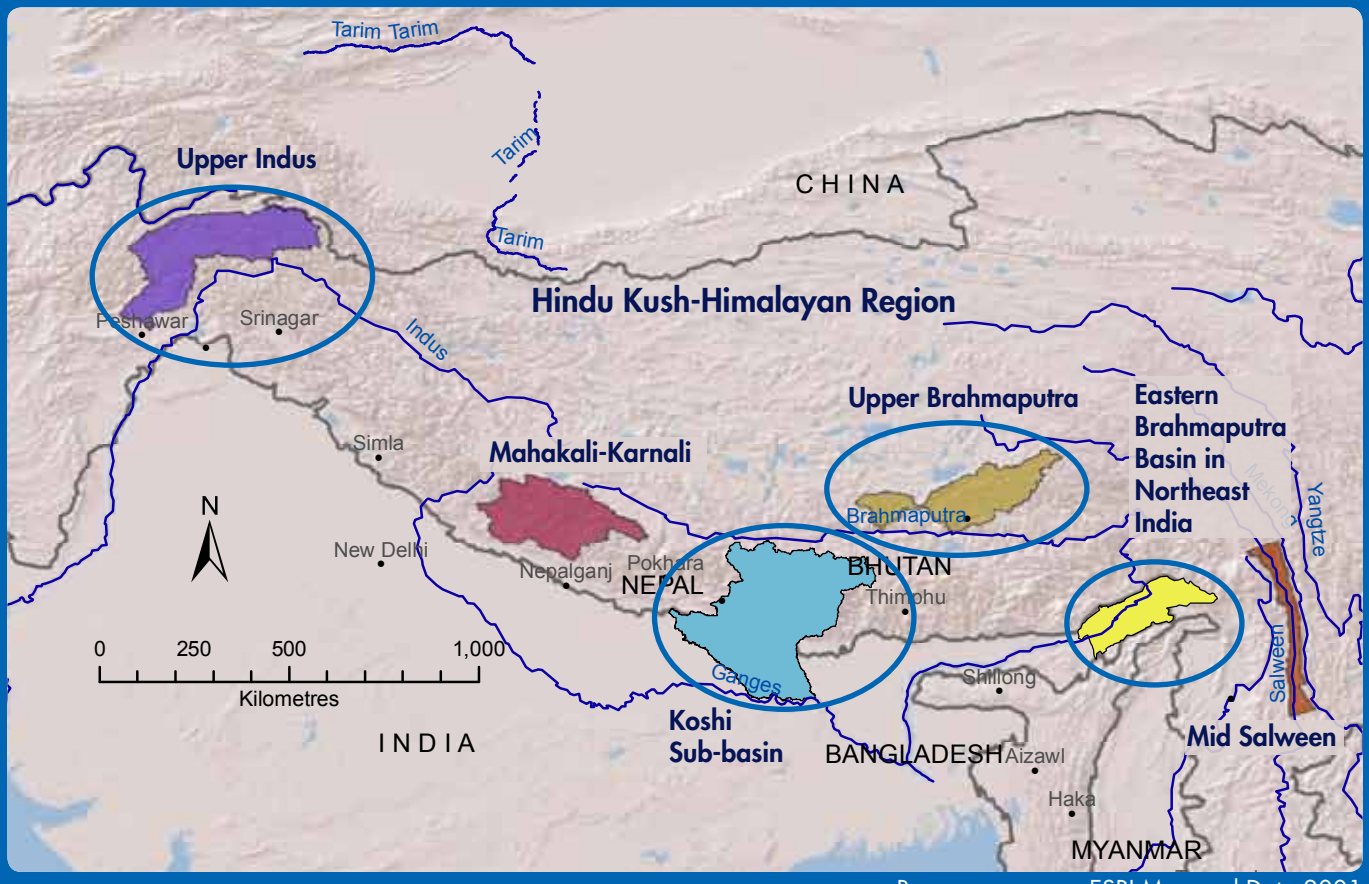
The major objectives are:

- **to reduce uncertainty** through downscaling and customising of global climate change scenarios and develop water availability and demand scenarios for parts of major river basins;
- **to develop knowledge and enhance capacities** to assess, monitor, and communicate the impacts of and responses to climate change (compounded with other drivers of change) on natural and socioeconomic environments at local, national, and regional levels;
- **to make concrete and actionable proposals for strategies and policies**, considering vulnerabilities, opportunities, and potentials for adaptation, with particular reference to strengthening the role of women and local communities.

Why Women in Adaptation?

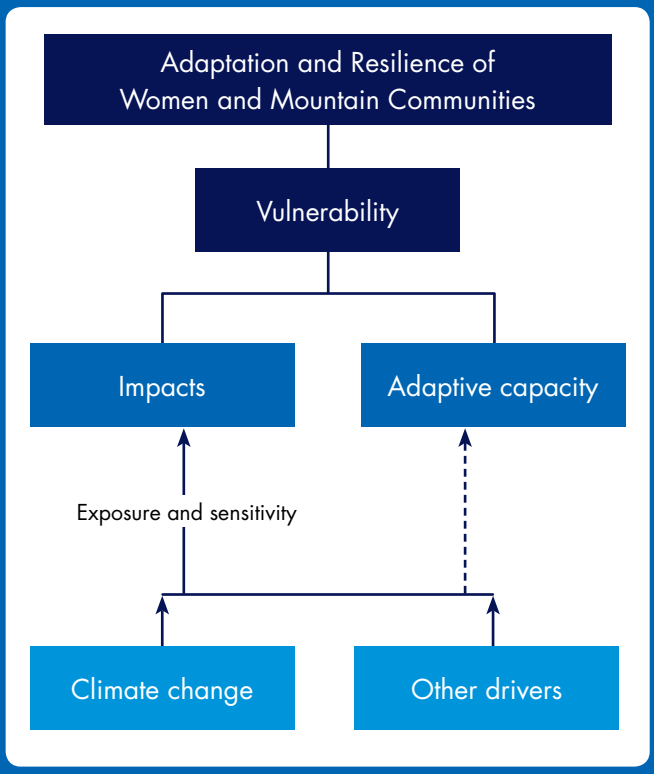
Women are more vulnerable than men to climate change as they face more social, economic, and political barriers limiting their coping capacity. However, women's responsibilities in households and communities, and as stewards of natural and household resources, position them well to contribute to strategies for adaptation to changing climate and environment.

HICAP study sites



Base map source: ESRI Map and Data 2001

HICAP Conceptual Framework



Conceptual Framework

As defined in the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) in 2007, adaptation to climate change takes place through adjustments to reduce vulnerability or to enhance resilience in response to observed or expected changes in climate and associated extreme weather events.

Enhancing adaptive capacity and reducing the negative impacts of climate change and other drivers will decrease the vulnerability of mountain communities, including women. The resilience of communities can be built and adaptation fostered by using the indigenous and local knowledge of communities in tandem with current scientific knowledge; and by promoting conducive and gender-sensitive policy and institutional environments.

Questions addressed by HICAP

- What are the potential impacts (positive and negative) of climate change and other drivers, and how can the capacity to monitor them be enhanced?
- What are the vulnerabilities and adaptive capacity of the socioeconomic and natural systems?
- 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?

Programme Framework

Based on the HICIA feasibility study, additional scoping studies of the Eastern Himalayas, and consultations with strategic partners, seven components were identified to generate policy-relevant knowledge of climate change impacts on natural resources and ecosystem services, and on the communities depending on these resources and services. Within these components, the work will also help strengthen knowledge of vulnerabilities and potentials, and of how planned adaptation can support autonomous adaptation to create resilient communities in the HKH region and downstream.

Components of HICAP

Component	Output(s)
1. Climate change scenarios	Downscaled and customised 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	The risks and opportunities of climate and other regional drivers of change for natural and managed ecosystems analysed, and the implications for sustained ecosystem services and their values assessed at the sub-basin level
4. Food security	Food security situation analysed at household and community levels; scenarios of future food security developed at regional and selected sub-basin levels and their relation to downstream situation analysed to develop policy and institutional response
5. Vulnerability and adaptation	Autonomous adaptation patterns and strategies at the community level (relating to the improvement of livelihoods, management of natural resources, and reduction of risk) analysed, documented, and validated; interlinkages between autonomous adaptation and the current policy setup for planned adaptation analysed, and evidence collected and disseminated for establishing conducive policy frameworks
6. Women in adaptation	Differences in impacts and adaptive capacities between and among women and men understood and addressed, and appropriate and sustainable adaptation strategies identified to ensure equitable access to resources and rights and opportunities of marginalised, minority, and indigenous people, especially women
7. Communications and outreach	Awareness raising and capacity building programmes implemented at all levels; the findings disseminated through innovative approaches; and recommendations made to contribute to informed decision making at local, regional, and international levels

For further information contact

Neera Shrestha Pradhan nspradhan@icimod.org

HICAP is supported by the Ministry of Foreign Affairs, Norway

Photos: p 1,4 A Treadway, p 2 N Baral, p 3 He Yong Tao*

* Entry for the ICIMOD Photo Contest on Mountain Biodiversity held in 2010

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 2011