

DATE: 17 June 2009

Climate Change, Glaciers, and Water Resources in the Himalayan Region: Adaptation to Climate Change Concerning the Impact of Melting Glaciers

I. What Gap Does ICIMOD Concrete Initiative Fill In?

Scientific information and applicable knowledge are necessary to develop policies for adaptation to climate change in the Himalayan region. There is a lack of good data and information on hydrology and meteorology for the region. For this reason, in the IPCC AR4 report, the region does not show up on the global scale due to lack of data and is seen as a 'white spot'. Given the global and ecological significance of the region, it is essential to provide support to create databases, tools and methodology for data analysis. It is also essential to strengthen the capacity of national governments for preparing appropriate strategies and action plans to contain the adverse impacts of climate change. Furthermore, there is a need to promote regional cooperation in development and exchange of data, information and knowledge for improved monitoring, forecasting, and risk assessment and for designing appropriate adaptation measures, such as early warning systems. To this end, ICIMOD launched a concrete initiative at the First Asia-Pacific Water Summit held at Beppu City, Japan, in December 2007.

II. What is the Objective of the ICIMOD Concrete Initiative?

The specific objectives of the ICIMOD initiative to be carried out in the Hindu Kush-Himalaya (HKH) region are as follows:

1. Development of monitoring and assessment schemes for cryosphere and water resources in a regional scale and strengthening national capacities for the monitoring and assessment of cryosphere and water resources on both national and field-based scales
2. Capacity development among ICIMOD's regional member country (RMC) partners to deal with multi-hazard risk assessment, including vulnerability assessment at community levels and the development and application of early warning systems and other preparedness measures.
3. Development of regional information sharing mechanisms, including the establishment of a regional water database and the development of basin-wide scenarios on climate change and its consequences for water availability and flood hazards.

III. Who is ICIMOD's Client?

ICIMOD's clients are professionals and policymakers in its eight regional member countries of the HKH region and the global scientific and professional community with interest on water resources and climate change adaptation.

IV. Update on progress of the work

ICIMOD has prepared an action plan for 2008-2012 and an annual work plan for 2009. Some of the highlights of the activities conducted by ICIMOD in 2008 and 2009 (January-May) are as follows:

International: ICIMOD organized a session at the 2008 World Water Week in Stockholm in August to create awareness of the international community about the problems related to climate change and water resources in the Himalayan region. At the 5th World Water Forum in March 2009, ICIMOD was one of the main partners for a number of sessions on the theme 'Global Changes and Risk Management'. It prepared a perspective document on mountains and water for one of the sessions of that theme. And it organized, with FAO, a side event on 'Mountains of the World: Water Towers for the 21st Century'. It also organized an international workshop in Kathmandu on cryosphere and hazards for the Hindu Kush-

Himalaya and the Tibetan Plateau in March-April 2008 and an international symposium on high mountain remote sensing cartography in September 2008. Finally, in October 2008, a synthesis report and a policy note was developed based on a two-week global e-conference in order to sensitize policy and decision makers on the sociocultural dimensions of disaster risk reduction, especially the relationship between culture and risk from natural hazards.

Regional: ICIMOD developed in 2008 a regional GLOF (Glacier Lakes Outburst Flood) risk assessment plan for the Hindu Kush-Himalaya region together with national partners from the HKH region. ICIMOD also organized an inception workshop for the regional research programme on the feasibility study for a Himalayan climate change impact and adaptation assessment (HICIA) with Center for International Climate and Environmental Research – Oslo (CICERO) and UNEP-Grid Arendal. A consultative workshop was organized in March 2009 to develop a regional coordinated scheme for cryosphere assessment and monitoring of snow and ice in the HKH region. A training course on ‘Glacier Mass Balance Monitoring’ was organized in April-May 2009 for 20 professionals from the HKH region and central Asia, which also included practice sessions in the field at the Yala Glacier of Nepal. ICIMOD also launched in June 2008 five field research teams to document current local adaptation strategies to climate-induced floods and droughts in China, India, Nepal and Pakistan. The field teams reported on their preliminary findings at a regional workshop in March 2009. In parallel, a policy study was also launched in March 2009 in close collaboration with the field teams to understand how policies directly or indirectly influence local adaptation strategies in the selected sites.

National: ICIMOD initiated preparatory activities to carry out field investigations in selected potential GLOF sites in Nepal with financial support from the World Bank. Field Investigations at the Imja Glacial Lake in Nepal was carried out in May 2009, which included topographical survey, bathymetric survey, mother glacier studies, geo-physical studies, hydro-meteorology studies of lake and downstream areas, and down-stream physical impact and vulnerability assessment. ICIMOD also delivered training packages on Disaster Risk Reduction in Pakistan to 850 people, including students and practitioners.

To sum up, ICIMOD is committed to the concrete initiative launched at the First Asia-Pacific Water Summit. It has a suitable organization structure for implementation and management of the activities related to the initiative through the three action areas within its Integrated Water and Hazard Management (IWHM) programme. Within the region and internationally, it has a good network of partner organizations necessary for successful implementation of the initiative. In addition, through its role as an APWF Regional Knowledge Hub, ICIMOD plans to document the reproducibility of its initiative for mountainous areas in other parts of the Asia-Pacific region. And, it has been successful in raising some funds for financial sustainability of the initiative.

