

COP15
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ICIMOD and CICERO Event, 16 December 2009

Facing the Challenges

Climate change adaptation in the greater Himalayas

Venue: The Bellona Room at the Bella Centre

Time: 11:15 to 12:45

Climate change has brought a new dimension to the awareness of scientists, and a growing number of citizens and politicians, about the importance of mountains for the wellbeing of humanity. The vision of melting glaciers and receding permafrost is frightening. Mountains as natural systems with natural and human features may no longer be able to provide the services that until now have been taken for granted. The greater Himalayan region in particular is expected to become a hotspot for climate change, especially in relation to water stress and water-related hazards. The incidence and intensity of these consequences of a changing climate are expected to increase in the region as a result of an increase in precipitation during the monsoon season and glacier retreat in the high mountains, both following from global climate change. Such changes pose a serious challenge to reducing the vulnerability of the 210 million people living in the mountains themselves and the more than 1.3 billion people living in the ten major river basins downstream. This event is being held to address these issues.

The event aims: (1) to raise awareness among the international community about the Hindu Kush-Himalayan (HKH) region's vulnerability as a hotspot for climate change, how its mountains are being affected, and the consequences in terms of water-related hazards and water stress and ultimately for ecosystem services, food security, and people's livelihoods; (2) to give the countries in the region a forum to share with the international community and among themselves the adaptation-related policies and strategic measures that their national governments are pursuing to respond to these challenges; and (3) to solicit suggestions for a regional initiative on research needs and regional cooperation for climate change adaptation in the region.

Provisional Agenda

Chair **Andreas Schild**, Director General, ICIMODOpening remarks **Pål Prestrud**, Director General, CICERO

Keynote speakers Information on how climate change is affecting the mountain regions of the HKH countries and the initiatives being taken by governments to strengthen and build resilient communities that can adapt to climate change provided by:

Madhav Kumar Nepal, Prime Minister of Nepal (t.b.c.)**Jairam Ramesh**, Minister for Environment and Forest, Gol**Pema Gyamtsho**, Minister of Agriculture and Forest, Bhutan**Head of Delegation**, Pakistan (t.b.c.)**Head of Delegation**, China (t.b.c.)**Erik Solheim**, Minister of Environment, Norway

Moderated panel discussion Response to questions from the floor to be followed by brief concluding remarks by the speakers

Closing remarks **Pål Prestrud**

Regional needs

Various needs have already been identified for action in the Hindu Kush-Himalayan region. Some of the more important are summarised below as a basis for discussion.

- 1. Support for community-led adaptation:** Poor and marginalised groups among the Himalayan mountain populations and downstream flood plain inhabitants are particularly vulnerable to the adverse effects of climate change. Isolation and lack of infrastructure is resulting in an increase in the difference in wellbeing and adaptive capacity of upstream and downstream communities. In the mountain areas, development measures cannot be effective without building the adaptive capacity of communities. One approach to reducing vulnerability and strengthening local level adaptation is to use bottom-up, community led processes built on local knowledge, innovations, and practices. We need to understand the role of local knowledge in building resilience, find ways for public policy to build on and promote such knowledge, and focus on empowering communities to adapt using participatory technology development with support from outside.
- 2. Improving water security:** The amount, and especially variability, of rainfall presents challenges to food production, trade, and infrastructure development. The affected countries typically lack the most common response to hydrologic variability – water storage infrastructure. Until basic water security is achieved, the scale of social impacts and related economic impacts could be such that the economy, environment, and society are significantly affected. Climate change has the potential to significantly change the hydrological dynamics of the region, especially if a greater proportion of precipitation falls as rain instead of snow, as projected. We need to look at the intra-annual and inter-annual rainfall variability as the determinant of water security and find ways to increase water storage capacity to improve water security.
- 3. Ensuring sustainable ecosystem services:** The greater Himalayan region hosts four of the 34 Global Biodiversity Hotspots and a large number of high altitude wetlands. The region provides abundant ecosystem services to downstream populations in terms of provisioning services (for genetic resources, food, fibre, freshwater), regulating services (including the regulation of climate, water, and some human diseases), supporting services (productivity, soil fertility, nutrient cycling), and cultural services (spiritual, recreational, and aesthetic). Ecosystem structures, processes, and production functions need to be conserved and managed to ensure the sustainability of ecosystem services such as the availability of biodiversity resources and food, environmental regulation, flood control, drinking water purification, and hydropower generation. Environmental concerns need to be integrated into the process of planning and implementing natural resources development projects. Institutional mechanisms for payment for ecosystem services (PES) may help to create a win-win solution for both the users of natural resources and the environment, and can be developed at different scales, from local to national to regional, involving communities, governments, and the private sector.
- 4. Reducing scientific uncertainty:** There is an urgent need to look at the consequences of climate change on snow and ice and its ultimate effects on water-related stress and hazards. Receding cryosphere and melting glaciers have a direct effect on vulnerabilities in the mountains, including on water-related hazards and water stress, which could ultimately affect ecosystem services, livelihoods, and food security. The high interdependence in mountain areas indicates the need to exchange experience and information, and coordinate measures, in a regional transboundary setting. For this, it is important to develop regional knowledge bases, enhance data collection, and promote the sharing of data that already exists. For example, sharing hydro-meteorological information in a regional, transboundary, upstream-downstream context is crucial for the establishment of efficient early warning systems for disaster preparedness.
- 5. A regional initiative:** There is an urgent need to launch a regional initiative to study the effects of climate change on river flow variability, erosion, and sedimentation, and water storage requirements.

For further information please contact

Bhaskar S Karky

bkarky@icimod.org

Front photo: Pakistan, Alex Treadway

Back photo: India, Partha Das

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International Centre for Integrated Mountain Development

GPO Box 3226, Kathmandu, Khumaltar, Lalitpur, Nepal

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

