

# Annual Report 2012

ICIMOD

## **Building on the Past; Looking to the Future**

The Hindu Kush Himalayas  
are a truly global resource...

## **Regional Programmes: A Vision for Long-Term Impact**

FOR MOUNTAINS AND PEOPLE



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Kalasha Valley, Pakistan



Ladakh, India

# Annual Report 2012



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Songpan, China

# Message from the Director General

Dear Readers, Friends, and Supporters of ICIMOD,

I am pleased to share the ICIMOD Annual Report for 2012. ICIMOD has made considerable progress in generating and sharing mountain knowledge to contribute to positive impact in the region. This year we worked to refine our strategy to ensure even greater impact in the future. Through work with our national partners, uptake of ICIMOD knowledge within our member countries has resulted in improved policy and the adoption of tools and approaches to improve the lives of mountain men, women and children. Knowledge from the Centre also played a critical role in successfully advocating for the importance of mountains, especially the Hindu Kush Himalayas, at global forums.

This report documents ICIMOD's progress and results in 2012, which build on its experience and the networks it has developed over the years. Promising results have been attained through its work on value chains and beekeeping, contributions to policy change related to rangelands, piloting of inclusive approaches to REDD+, capacity building in the region on glacier monitoring, and improving flood forecasting and early warning systems. Our scientific output has increased with important work on the cryosphere, climate change, poverty and vulnerability, and migration. In 2012, ICIMOD worked extensively with youth from the Hindu Kush Himalayas to address regional issues, not only by building their capacity to advocate for mountain issues at national, regional, and global levels, but also in arming them with cutting-edge research tools.

A series of consultations with partners in the region and beyond in the first half of 2012 helped the Centre fine-tune its Strategic Framework and develop a roadmap for the next five years through the third Medium Term Action Plan for 2013 to 2017. Recognizing ICIMOD's niche role in facilitating dialogue and sharing knowledge in the region and addressing issues that cross borders, this framework calls for improved partnerships, promotes ownership in its member countries, emphasizes the importance of good science, and incorporates impact pathways into planning and monitoring for better results. Looking forward, these documents will focus ICIMOD's work and help transform the Centre's growing body of knowledge into even greater action in on-the-ground practices, national policies, regional cooperation, and global processes.

It was an exciting first year for me as Director General. I would like to thank ICIMOD staff, partners, and supporters, especially those who provided their valuable time and input over the last year to help us refine the Centre's strategy and ensure we continue working to address the needs of the women, men, and children of the region. I am especially grateful to the Centre's core donors: the Governments of Afghanistan, Austria, Bangladesh, Bhutan, China, India, Myanmar, Nepal, Norway, Pakistan, Switzerland, and now the United Kingdom, who contributed core funding for the first time this year. Their support helps drive innovation and promote cooperation and provides the glue that holds the Centre together as it works to improve the lives of the people of the Hindu Kush Himalayan region.



A handwritten signature in black ink, which appears to read 'David Molden'. The signature is fluid and cursive.

David Molden

# Building on the Past; Looking to the Future

The Hindu Kush Himalayas are a truly global resource with a rich biological and cultural diversity. The problems in mountain areas are multifaceted and too complicated to address through one discipline or approach. Over the last 30 years, ICIMOD has developed its capacity to work within the region's complex myriad of strengths, challenges, opportunities, and vulnerabilities. However in recent years the sustainability of the region's vital natural resources and the resilience of mountain people are being increasingly challenged by emerging global, regional, and local changes.

ICIMOD must continually adapt to respond to local, national, and regional needs and address evolving scenarios in regional member countries while representing mountain issues globally.

Manipur, India

## Lessons Learned in the Last Five Years

**Position ICIMOD as a regional institution in support of the Mountain Agenda:** The Mountain Agenda gained momentum in global discussions, with ICIMOD increasingly recognized as a centre for knowledge on mountains in global discourses and forums.

**Generate greater ownership by the countries:** Efforts to address the needs and priorities of regional member countries during the past five years have resulted in greater regional ownership of ICIMOD activities. In addition to rising core contributions by regional member countries, India donated USD 1 million to the ICIMOD Foundation, and China provided financial support to the development of the Koshi Basin Programme proposal, which led to funding of the programme.

**Share regional knowledge:** The impacts of climate change on the cryosphere, water availability, and biodiversity and the threat of disaster are topics of regional concern. Availability of regional information and metadata is an issue that needs immediate attention. Baseline information and regional-level information were lacking four years ago.

**Fill the knowledge data gap systematically:** Filling data gaps must be systematically approached for regional representation; geographical and eco-region coverage; representation of ecosystem types and cultures; and relevance to upstream and downstream contexts. Its trans-Himalayan transects and river basin approaches are now embedded in the regional programme structure for a systematic approach for knowledge generation and sharing for the Hindu Kush Himalayas.

**Increase scientific credibility:** Good scientific information is lacking for the region. To support evidence-based policy making in regional member countries, ICIMOD and its partners must further increase their scientific credibility.

**Show impact on the ground:** Realizing the importance of capturing and monitoring impact more systematically, ICIMOD has adopted impact pathways analysis as a way to first identify desired changes and then work backward to identify the outputs, activities, and actors necessary to bring them about.

**Support a holistic approach:** Interfaces between natural sciences and social sciences, science and policy, policy and practice, mountains (upstream) and plains (downstream), and national and local benefits of development can only be addressed by adopting a

transdisciplinary and integrated approach. Addressing common climate change impacts requires countries to work across borders and regionally.

**Strengthen gender analysis and equity:** Research has found that mountain women and girls are more affected by climate and socioeconomic changes, such as men's outmigration. To address these challenges and bring about change on the ground, ICIMOD will continue to strongly integrate gender in its programming.



Mustang, Nepal

**Generate knowledge about emerging economic and development issues:** ICIMOD has analysed regional issues of agriculture, food security, rural development, natural resource governance and shared this knowledge with relevant stakeholders, including policy makers in the region. These contributed significantly to raising mountain issues in the agricultural and rural development agenda and raised ICIMOD's visibility.

**Offer incentive-based mechanisms:** Mountain people are often undercompensated for their important role in protecting mountain resources. ICIMOD has developed a framework for the valuation of mountain ecosystem services and developed customized economic assessment tools, methods, and approaches to create incentives for mountain communities to continue in their role as stewards of mountain resources.

**Enhance communication:** Knowledge management and communication are at the core of ICIMOD's mandate. Various communication strategies are required to reach the range of stakeholders in the region. To enhance impact, there is a need to develop a sound communication strategy for ICIMOD, including its work with partners.

## Working Across Disciplines for Greater Impact

The 2008 Strategic Framework set a long-term vision for ICIMOD. Building on this vision, in 2012 ICIMOD developed a new strategic framework by consulting with regional member countries, stakeholders, ICIMOD staff, the ICIMOD Support Group, the Board of Governors, which includes representatives from all regional member countries, and 30 Friends of ICIMOD, including former Board Members and regional and international professionals. Altogether, 261 institutions and 557 individuals were involved in national consultations and one regional consultation, which helped ensure the Centre continues to respond to needs on the ground in our regional member countries.

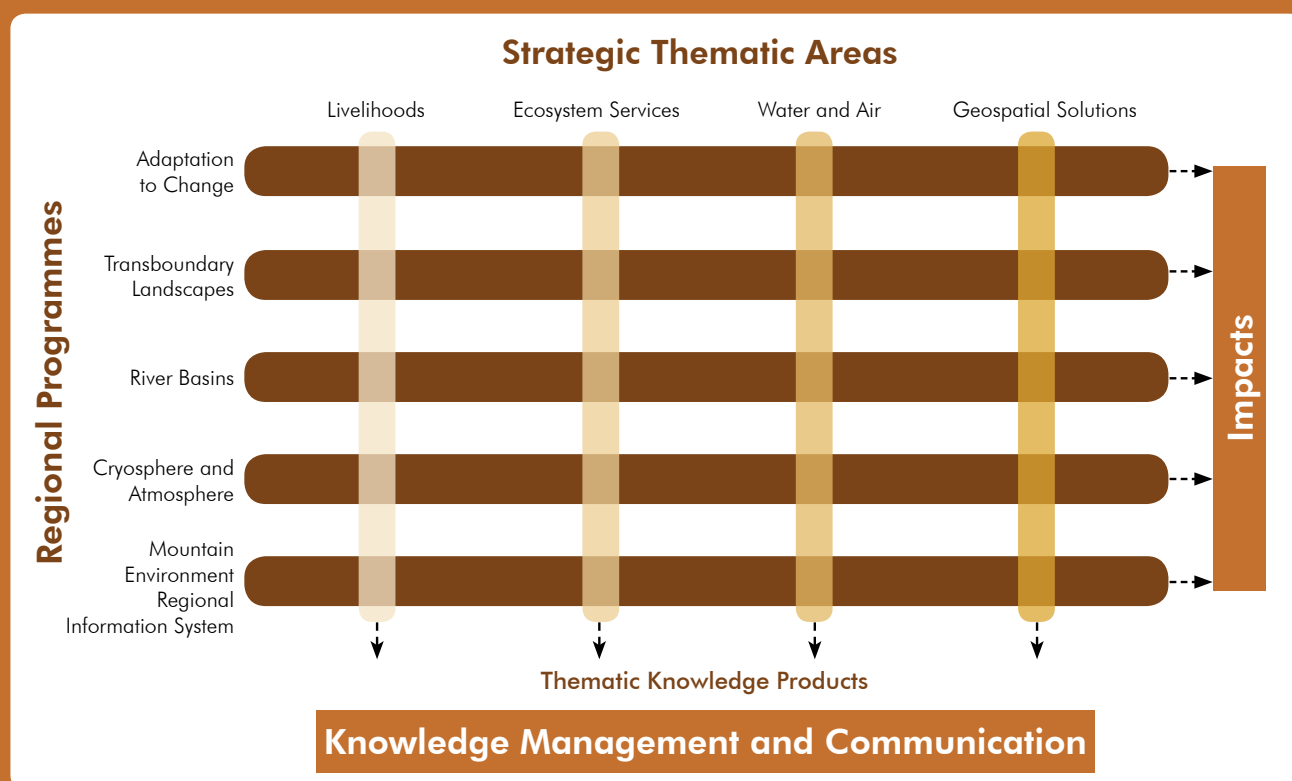
The new Strategic Framework 2012 unveils a major shift in ICIMOD's structure to facilitate interdisciplinary work. It strives for impact through six long-term, transdisciplinary regional programmes supported by expertise in strategic thematic areas. As a knowledge

institution, all of ICIMOD's work is underpinned by a strategy for sharing targeted knowledge to affect change at local, national, and regional levels.

ICIMOD's work is aligned with its Strategic Framework through a five-year roadmap, the Medium-Term Action Plan (MTAP). The first MTAP, from 2003 to 2007, aimed to deliver projects on the ground. MTAP-II covered the period of 2008 to 2012 and tried to address data gaps and promote adaptation to climate change. In the coming MTAP-III, from 2013 to 2017, ICIMOD will build on lessons learned to deliver greater impacts on the ground and transform research into action.

The Strategic Framework 2012 and implementation of MTAP-III require an organizational change to make ICIMOD more responsive to the needs and demands of its stakeholders and partner organizations, especially the women, men, and children of the HKH region.

Within ICIMOD's new structure, long-term, transdisciplinary regional programmes are designed to deliver impact in regional member countries with the support of experts from strategic thematic areas. Knowledge management and communication underpin programmatic and thematic activities. Himalayan University Consortium, not shown in the chart below, is an emerging Regional Programme.



## Honing Core Competencies through Strategic Thematic Areas

ICIMOD's strategic themes provide technical knowledge to raise emerging issues, to research questions, and to develop the tools and methodologies necessary for ICIMOD to carry out science for development. ICIMOD's strategic thematic areas work to mobilize global and regional expertise to provide input to regional programmes, initiatives, and partners in member countries. Cross-cutting topics such as gender, governance, poverty, economic analysis, and private sector engagement are integrated into the strategic themes, and require special emphasis in the regional programmes.

“ICIMOD's fields of specialization enrich the repository of mountain-related knowledge of individual mountain states. It is time that the expertise and linkages available with and through ICIMOD is made available to various Ministries dealing with mountain-related issues.”

– Dr RS Tolia, former Chief Secretary of State, Uttarakhand, India, in 'A Planning Framework for the Mountain States of India'

### Livelihoods

The Livelihoods theme provides in-depth knowledge and a sound understanding of the social and economic conditions needed to generate and customize knowledge about drivers of change and their impacts as well as emerging challenges and opportunities for livelihood enhancement. The theme explores appropriate frameworks for promoting innovations, strategies, approaches, and methodologies for improved and sustainable livelihood options.

### Ecosystem Services

The Ecosystem Services theme provides scientific understanding of ecosystem structures and functions to help build resilience and develop sustainable land-use practices in landscapes of the region under different types of ecosystem. The theme

generates scientific knowledge to contribute to global understanding on key issues related to biodiversity conservation and management, integrated forest and watershed development, and regional rangeland management, with additional focus on high-altitude wetlands and mountain farming systems.

### Water and Air

The Water and Air theme brings sound research expertise to build on the knowledge of regional water regimes, river basins, and snow and glacial mapping for the HKH region using remote sensing and GIS technologies; field-based glacier mass balance monitoring, glaciohydrological models, atmospheric pollution, and assessment of climate change impacts.

### Geospatial Solutions

The Geospatial Solutions theme builds institutional and regional capability to mainstream geospatial solutions that help bridge the knowledge gap on regional priorities. It offers a state-of-the-art geo-ICT facility with operational satellite receiving stations, high-end farm and storage devices, and the latest software platform and cloud computing options. It engages with regional and international agencies to adapt international knowledge to mountain environments. The thematic team works with other Thematic Areas and Regional Programmes to fulfil the growing demands for geospatial information services.

Rangamati Hill District, Bangladesh




Yala Glacier, Nepal



# Working for Greater Impact

The year 2012 gave ICIMOD the opportunity to reflect on the significant progress it has made over the last five years and to set a foundation for delivering greater impact. During the first half of the year, ICIMOD, in consultation with its regional member countries, the Board of Governors, donors, and Friends of ICIMOD, took the time to look back on achievements and lessons learned over the last five-year Medium Term Action Plan-II as well as anticipate emerging challenges and opportunities to strengthen its Strategic Framework. This laid out a roadmap for the next five years to come in the Centre's third Medium Term Action Plan.

Tackling the complex and evolving challenges of the region requires an integrated and collaborative approach. To facilitate this, ICIMOD has adopted a new way of working to consolidate and integrate efforts across disciplines to better help serve the people of the region. ICIMOD has identified six long-term, transdisciplinary regional programmes that work to deliver impacts on the ground. These programmes are supported by specialists with expertise in ICIMOD's core competency areas of livelihoods, ecosystem services, water and air, and geospatial solutions. All activities at ICIMOD are underpinned by a strong knowledge management and communication strategy to ensure that ICIMOD's knowledge is shared across the region and around the globe to improve the lives of mountain people.



Indawgyi Lake, Myanmar

## Science approaches for responsive development

The use of evidence-based knowledge and high-quality science is crucial for developing strong recommendations for improved policy and practice in regional member countries. By further advancing the quality of its research, ICIMOD will ensure the use of current, state-of-the-art knowledge to address issues in the region as well as gain greater scientific credibility in the global arena. To do this, it has enhanced scientific exchange with research institutions and universities in the region and globally.

In the HKH region, there is insufficient understanding of the drivers of change, including how climate change is affecting water resources and people's livelihoods, and how these changes affect men and women differently and their varying responses.

ICIMOD is developing strategies to systematically fill critical data gaps, including on the cryosphere of the Hindu Kush Himalayas. Ground-breaking research on the region's snow and ice supported by a growing number of experts on related subjects working at the Centre has resulted in a number of strong outputs, including a paper on *The State and Fate of Himalayan Glaciers* coauthored by ICIMOD and published in 2012 in the top-ranking journal *Science*.

ICIMOD's growing expertise in all fields and heightened level of research is reflected in staff contributions to 70 publications, including over 25 peer-reviewed journal articles and 14 book chapters.

“The Pakistan Agricultural Research Council (PARC) has a long history of partnership with ICIMOD and hosts the ICIMOD Pakistan Office. ICIMOD is helping PARC with the strategic planning of its Mountain Agriculture Research Centre in Gilgit. Workshops organized at PARC and regular exchange visits between technical staff of the two institutions has augmented the professional capacity of PARC scientists. ICIMOD has also helped train PARC scientists in GIS technology and honeybee production.”

– Dr Syed Ghazanfar Abbas, Pakistan Agricultural Research Council, Islamabad

## Sharing knowledge for positive change

Knowledge is the key to making positive change in the lives of people in the region. As ICIMOD's role as a source of reliable knowledge and data continues to grow, regional member countries are increasingly calling on ICIMOD for solutions to pressing issues.

In 2012, ICIMOD assisted the Government of Nepal in determining the cause of a catastrophic flash flood in the Seti River, which resulted in the death or disappearance of at least 72 people and caused great loss of property. Improving understanding of the source of devastating natural disasters will lead to ways to improve disaster risk reduction in the future. In Afghanistan, Nepal, and Pakistan partners are applying learning from customized national trainings on low-cost soil and water conservation.

In India, ICIMOD contributed to the development of the vision and strategy of the newly established Mountain Division within the Ministry of Environment and Forests. In addition, ICIMOD assessments of poverty and vulnerability and analysis of ecosystem services have been used as inputs to India's 12th Five Year Plan by the working group on Mountain Ecosystems and Concerns in Hill States, a subcommittee of the Indian Planning Commission.

In the global arena, ICIMOD is gaining credibility as a reliable source for information on the Hindu Kush Himalayas and mountains, in general. The Centre contributed knowledge to advocate for mountain issues at global forums such as Rio+20 and in publications such as UNDP's Asia-Pacific Human Development Report on Climate Change, which could influence national and international policies.

## Bringing people together to bridge science, policy, and practice

To bridge the gap between good science and policy and on-the-ground practices, ICIMOD encourages discussion, evidence-based knowledge sharing, and cooperation between people across national boundaries. ICIMOD has a niche role in generating and sharing knowledge and facilitating discussion on transboundary issues by providing a platform where policy makers, experts, and practitioners can exchange ideas and perspectives towards the achievement of sustainable mountain development. In 2012, ICIMOD organized 74 events with the participation of 1,762 persons, of whom 23% were women.

## Door-opening meetings for ideas and impact

“These summits and meets provide for the ‘silent’ churning of ideas and actions among several stakeholders.

“Science and climate change discourse and action is proving to be the best binder of nations, who find political and strategic differences too deep to be bridged in a short time frame. Member countries can now clearly see ICIMOD’s potential for joint action on issues that are transboundary in nature.

“Regional collaborative programmes like the Kailash Sacred Landscape Conservation and Development Initiative would have been unthinkable without the presence of ICIMOD in the region.

“When it comes to seeking solutions in the region I often hear ICIMOD’s name being mentioned, and that creates space for ICIMOD, or maybe it is that the Centre’s positive image is gradually building up.

“Excellent documentation and continuous sharing of reports and literature by ICIMOD has played a major role in creating this positive image for ICIMOD. Mind you this is not a small achievement in Asia.”

– Dr R.S. Tolia, former Chief Secretary of State, Uttarakhand, India describes the silent impact of ICIMOD through its participation in meetings, summits, and conferences

### Tracking the path to positive change

Over the past 30 years, action research has been an avenue for ICIMOD to investigate regional issues and generate knowledge to support evidence-based decision making and informed adaptation strategies. ICIMOD works to test options that partners and others can use and replicate. To better predict, monitor, and evaluate the steps of each project, as well as improve the positive impact of its work in mountain communities, the Centre has adopted a more stringent programme monitoring and evaluation regime. By mapping impact pathways – determining how knowledge is used, who uses it, and its potential to create ripples of change – ICIMOD’s work will have greater chance to create positive change in the region.

### Making funding more effective

Over the past five years, ICIMOD’s funding has grown and the number of funding sources has expanded. At the same time, core funding remains a pivotal part of maintaining the Centre’s level of innovation and science quality.

A goal within MTAP-III and the new strategic framework is to make the Centre more consolidated and integrated. Changes in the organizational structure to facilitate this vision, including the introduction of six long-term, transdisciplinary programmes, play a major role in making funding more effective. In conjunction with this, programme-level reporting provides greater value for money to donors as more comprehensive, synergetic results are achieved.

With support from the ICIMOD Support Group – the Centre’s donor coordinating function – progress was made during 2012 in the development of a joint financing arrangement. This arrangement aims to offset the need for specific project and programme reporting where possible to harmonize the funding approach among donors.

ICIMOD has begun to develop a broader range of partnerships in the public and private sectors for funding and implementation. ICIMOD is working to identify and reach out to new partners in regional member countries that can take ownership of initiative work and upscale it so project impacts can have a broader reach. This includes increasing engagement with the private sector to help improve the lives of mountain people.

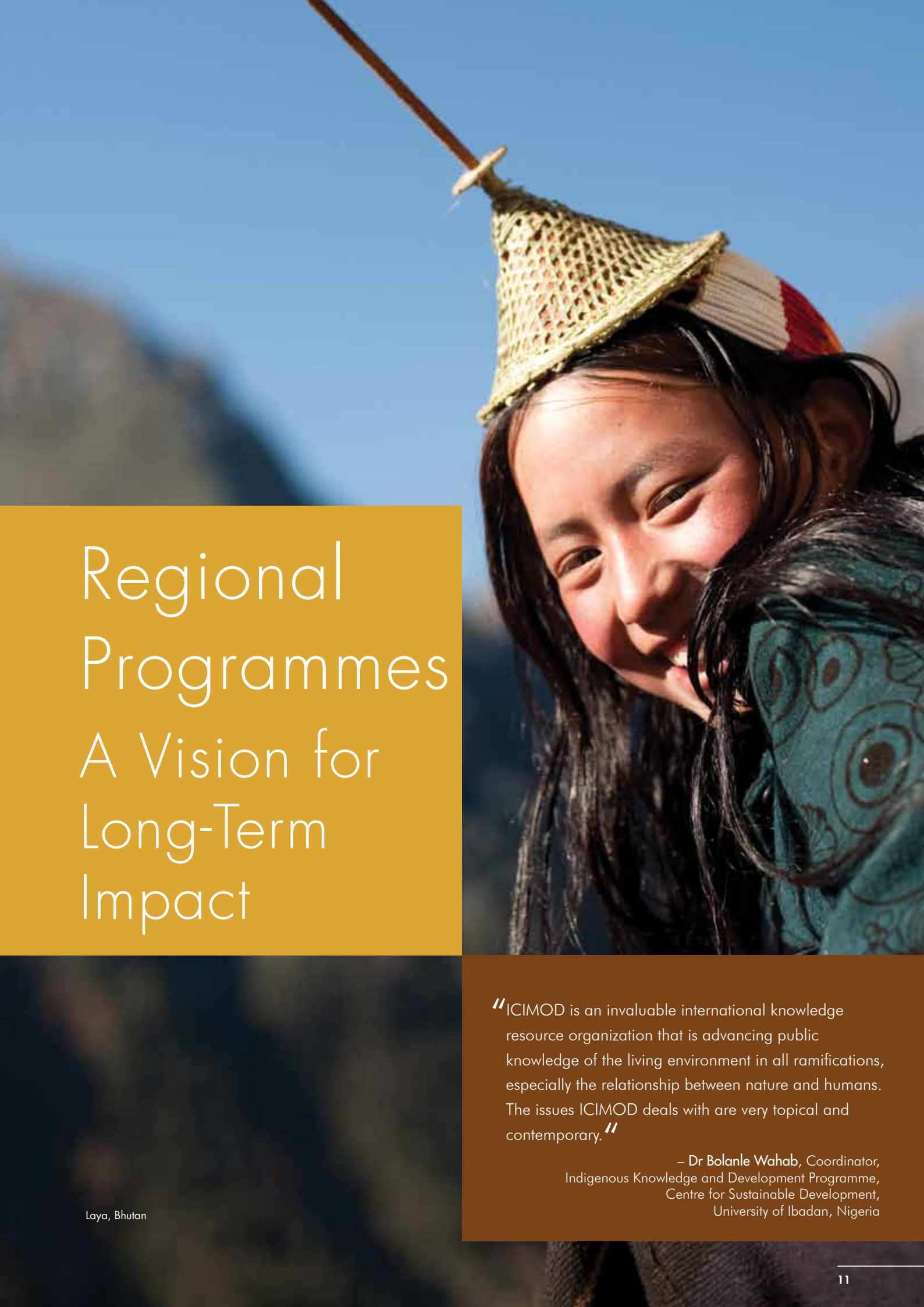
### Talking with the private sector for sustainable development

In September 2012, leaders of the private sector from the Federation of Nepalese Chambers of Commerce and Industry (FNCCI) and experts from ICIMOD came together to discuss links between private sector activities and sustainable mountain development.

Business leaders said ICIMOD could play a key role in sharing knowledge with politicians to help them better understand the needs of mountain communities and the private sector. This kind of collaboration could help both ICIMOD and the private sector influence policy and share knowledge that will make business more vibrant, relevant, and sustainable.

“By working with ICIMOD, the FNCCI can promote an understanding of business with a different, sustainable perspective – business sustaining business. Sustainable development is about meeting our needs today, but also thinking about the generations to come.”

– Sanjay Giri, Coordinator,  
Environment Forum of the FNCCI



# Regional Programmes A Vision for Long-Term Impact

Laya, Bhutan

“ICIMOD is an invaluable international knowledge resource organization that is advancing public knowledge of the living environment in all ramifications, especially the relationship between nature and humans. The issues ICIMOD deals with are very topical and contemporary.”

– Dr Bolanle Wahab, Coordinator,  
Indigenous Knowledge and Development Programme,  
Centre for Sustainable Development,  
University of Ibadan, Nigeria

# Adaptation to Change



**A**daptation and resilience have always been hallmarks of mountain people and landscapes, especially in the Hindu Kush Himalayan region. However, across the region, communities are facing unprecedented changes. Rapid population growth, migration, urbanization, and climate change have begun to pose new challenges to traditional livelihood strategies and coping mechanisms.

ICIMOD worked in 2012 to enhance the resilience of vulnerable mountain communities by providing scientific support to the development of adaptation mechanisms and policy and working with partners to promote them. The AdaptHimal Initiative focused on building the resilience of the poor to climate and socioeconomic change, and the Himali Initiative explored ways to improve livelihoods by enriching high-mountain agribusiness. ICIMOD research has

“Building on 25 years of its research and development on indigenous honeybees, conservation issues, and wider use for pollination and bee products for improving livelihoods, ICIMOD should carry this programme further by adopting and promoting a completely new approach to extensive beekeeping with *Apis cerana* and become the Centre of Excellence for Asian Bees.”

– From the external evaluation of ICIMOD’s beekeeping programme

Bandarban District, Bangladesh



shown that focusing solely on natural resources for community-based climate change adaptation is not sustainable given the magnitude of projected future climate change. ICIMOD initiatives will also focus on alternative livelihoods that consider access to markets, remittances, skills development, and tourism.

Progress has been made in 2012 to reduce the uncertainties of climate change impacts and enhance capacities and policies for adaptation

through the Himalayan Climate Change Adaptation Programme (HICAP). In its second year, the programme generated knowledge that can be used to help develop equitable adaptation measures and influence policies that take women’s role in natural resource management into account. HICAP has partnered with over 20 organizations. This partnership approach is expected to lead to greater ownership, impact, and uptake of HICAP knowledge.

## Assessing poverty, vulnerability, and adaptive capacity

Analysis of poverty and vulnerability, economic development, migration, and value chains provides valuable information to help policy makers make informed decisions to address issues in the region.

For instance, ICIMOD's analysis of mountain poverty in the HKH revealed that poverty levels in the mountains are about 5% higher than in the plains, thus facilitating a better understanding and awareness of mountain poverty amongst national and regional policy makers. These findings were referenced in the development of India's Twelfth Five-Year Plan. ICIMOD now has an MoU with India's National Institute for Administrative Research to develop training modules and a communication package for public service employees and policy makers.

*“The ICIMOD assessment draws our attention towards some of the poorest regions of India: Manipur Hills, Assam Hills, Tripura, Uttarakhand and West Bengal Hills,”*

– Dr RS Tolia, former Chief Secretary of State, Uttarakhand, India



Uttarakhand, India



Data from ICIMOD's Poverty and Vulnerability Assessment Tool has significantly shaped the design of IFAD's Country Strategy Programme for Nepal. Linkages between labour migration and water stress highlighted in the results have been taken up by the United Nations University; UN Population Fund; UK Government's Foresight Committee; ADB; University of Sussex; and IFAD.

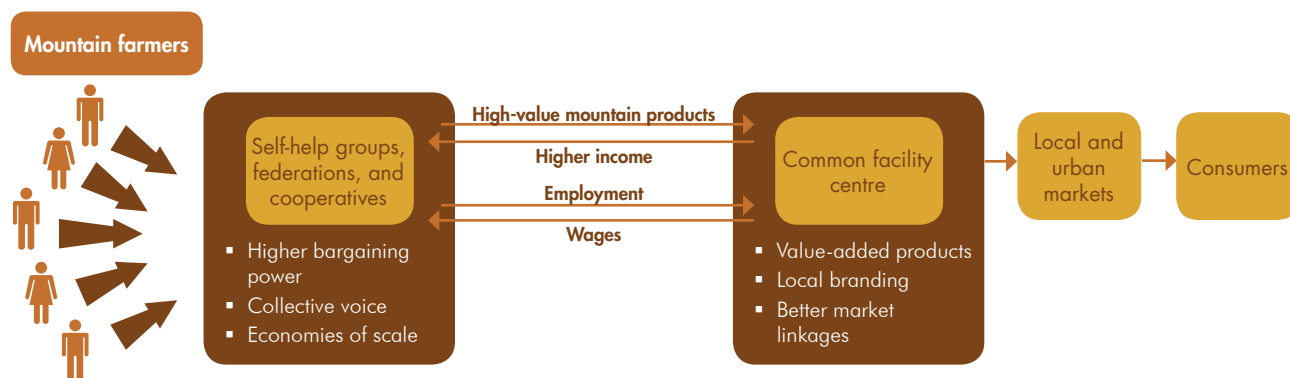
The Vulnerability and Adaptive Capacity Assessment (VACA) is perhaps the first large-scale, statistically sound assessment of livelihood vulnerability and its determinants in the HKH, as well as the adaptive capacity of the region's mountain people. So far, the assessment has covered more than 7,000 households in four river sub-basins that traverse China, India, Pakistan, and Nepal, with more to come. The study's results will be integrated with other scientific research findings in the sub-basins to help identify and promote adaptation patterns and strategies at the community level. The VACA results will be used to map target areas and groups for interventions and will serve as a baseline for further in-depth studies.

Rukum, Nepal

# Promoting Livelihoods through Value Chain Development

In spite of the challenges resulting from rapid change in the Hindu Kush Himalayas, opportunities are also emerging. With increased urbanization comes a demand for niche, organic, and high-value mountain products. Through work with partners on pro-poor value chain development and the creation of common facility centres in Bhutan and Nepal, ICIMOD has worked to ensure poor mountain people benefit from these opportunities by including them as producers and entrepreneurs of high-value products.

## How value chain development benefits mountain farmers: an example of common facility centres



## The tulsi solution

Deepa Devi, from Chamoli in the Indian state of Uttarakhand, maintains her family's fields. Deepa and many others in her community were forced to leave their fields fallow because of attacks by wildlife, particularly monkeys. By growing tulsi (basil), she is able to again cultivate her fields and her income has increased. Below she shares her story:

"I started planting tulsi three years ago, when the Himalayan Action Research Centre [an ICIMOD partner] told us about its benefits. The idea that we could reap full benefit from fields we had previously left fallow because of monkeys was very attractive. We received intensive training on tulsi plantation at a common facility centre (CFC) run by HARC on tulsi plantation.

"In the beginning, only a few of us started as an experiment, and we all earned a small profit. We soon started expanding the production. Today, I grow around 10-12 quintals of tulsi and I am thinking of expanding further. If there is good rainfall, I can earn up to USD 45 from one field. Even if I hire help for tilling the land or other related work, I still make a nice profit.

"The best thing about tulsi is that as soon as it is ready for cutting, we have the buyer at our doorstep. The CFC purchases it directly from us for use in making tulsi tea in its processing unit. We can also work in the processing unit to earn extra money. Other women without land are also able to earn money by working in the processing unit.

## The ripple effect:

"When we started working with tulsi, only a few savings group members were growing it. Now everyone in the village is interested because they have seen us reap the benefits. Last year, I gave four other families seeds from my personal store. This year they were able to grow 2-3 quintals of tulsi.

"Today I have become financially independent. My husband is not here but I no longer have to wait for him to send money. If I need something, I have my own money to spend. I have gained so much confidence. I have my own opinion and thoughts on issues. I feel I can help others now!

"We want the CFC to expand. If the groups come together and work well then we can set an example and others will join us. It is not impossible. Today I feel nothing is impossible. I want to keep learning."

# Protecting Indigenous Honeybees; Promoting Mountain Livelihoods

ICIMOD's work on beekeeping over the last 20 years has led to significant improvements in the livelihoods of poor mountain producers and biodiversity conservation at national and regional levels. In the beekeeping project's last phase, implemented from 2008 to 2012, ICIMOD conducted action research for generating and sharing knowledge and building the capacity of individuals and institutions to increase the income and improve the livelihoods of mountain people. Research and development was undertaken in collaboration with 17 national partner institutions, including government organizations, NGOs, associations, federations, and cooperatives in Afghanistan, Bangladesh, Bhutan, China, India, Nepal, and Pakistan.



Alital, Dadeldhura, Nepal

## Local, national, and regional impacts

Key achievements include the development of national and regional support networks and a diverse range of knowledge products targeted at farmers that have been improved, published, and translated. The *Beekeeping Training for Farmers in the Himalayas - Resource Manual for Trainers*, a landmark publication from 2012, has been translated into five regional languages: Bangla, Dari, Hindi, Nepali, and Urdu.

Community-based beekeeping enterprises have led to the empowerment of mountain beekeepers through increased participation in cooperatives and associations. Himsara Kami, Nepal, was trained by a beekeeping cooperative. She is doubly disadvantaged being as a widow and being from a lower caste. She says beekeeping is her main source of cash income. For five years, Himsara has practised improved beekeeping and now has 14 colonies of *Apis cerana*. Last year, she sold honey to a nearby trader worth USD 290.

“Thank you for sharing this useful publication.

The updated information on beekeeping will be beneficial for staff in the Environment and Natural Resource Management Section of our institute as well as for people who attend our library, including staff of rural support programmes and development sector organizations, and university students.”

– Seerat Fatima, Institute of Rural Management, Islamabad, Pakistan

The National Bee Board of the Department of Agriculture and Cooperation, Ministry of Agriculture, Government of India expressed interest in printing 4,000 copies. Another publication explored quality assurance measures for improving the marketability and quality of honey from the HKH region.

These achievements have led to significant impacts. At the national level, Bhutan has included beekeeping in its five-year plan; Indian farmers have improving apple yields as a result of honey bee pollination; and Himachal State Government in India now supports pollination enterprises at a policy level.

ICIMOD is a now respected partner of the International Pollinator Initiative, with rising global credibility for its research on indigenous honeybees and pollination management. In 2012, an ICIMOD publication on the value of insect pollinators to agricultural economies provides evidence of the role insect pollinators play in improving food security and livelihoods of mountain communities to inform policy and decisions at all levels.

In 2012, a team evaluated the project's successes and challenges over the last two decades and looked for ways to incorporate this important research into ICIMOD's revised Strategic Framework and new Medium-Term Action Plan. One recommendation included the establishment of a Centre of Excellence for Asian Bees at ICIMOD.

# Uptake of REDD+ Learning in the HKH Region

ICIMOD, together with partners in Nepal, piloted a pioneering REDD+ project in three watersheds in 2011 that explored and tested options for the governance and financial transparency of community-based REDD+ initiatives. The project provided local communities with necessary training and incentives for the protection and the enhancement of local forest through the establishment of a community-managed Forest Carbon Trust Fund. Within this community-based model, REDD+ benefits reached the poorest and most disadvantaged communities. As one of the world's first carbon offset projects involving local communities in monitoring the carbon in their forests, the project provides valuable global learning on how to build the capacity of local stakeholders in implementing carbon offset programmes. Through this project, local communities will be in a position to make informed decisions when an international REDD+ policy is decided.

Gorkha, Nepal

“The REDD+ project has brought together various stakeholders in the district, including District Forest Officers, the District Development Committee, and representatives from the Nepal Federation of Indigenous Nationalities, as well as a mix of women and men. It has helped identify the problems people are facing, the relationship between the forest and humans, and areas for improvement. We are happy with this.”

– Bharat Dhungana, Coordinator,  
Chitwan District REDD+ Programme

## Replicating the approach

Pakistan is now replicating this REDD+ approach, beginning with a series of district-level consultations at the end of 2012 to which ICIMOD was invited. ICIMOD is providing guidance to a similar project in Bhutan. In addition, one of the national partners from the pilot project in Nepal, the Federation of Community Forest Users-Nepal, is using experiences from the field to help shape a national REDD+ policy framework. The other national partner, the Asian Network for Sustainable Agriculture and Bioresources, is now using the methodology in other similar project sites in Nepal.

“With thanks I would like to acknowledge receipt of two copies of the video ‘REDD+ for Green Communities: Lessons from a pilot project in Nepal’. The video would be of great use for our division as we are also in the initial phase of REDD+ programme in Bhutan.”

– Tsering Gyeltshen, Offtg. Chief,  
Watershed Management Division,  
Department of Forests and Park Services,  
Ministry of Agriculture and Forests,  
Thimphu, Bhutan



## Remote sensing for REDD+

Obtaining comprehensive field measurements of carbon for large swathes of forest in remote areas can be a difficult or impractical task. Drawing on its expertise in geospatial solutions, ICIMOD has developed a method to map and calculate carbon pool estimates of above-ground biomass using remote sensing images. The method uses high-resolution satellite images to estimate tree crown area and relate that information with ground-based carbon measurements. Such relationships help to precisely extrapolate ground-based carbon estimation for larger areas. Carbon databases prepared over different time periods using these approaches help facilitate accurate assessments of changes, trends, and the effectiveness of REDD+ efforts.



High-resolution satellite image (left) with application of remote sensing-estimated tree crown area mapping (right)

# Transboundary Landscapes



**R**ecognizing the need for regional cooperation to sustain ecosystem goods and services and protect biodiversity in landscapes that cross national borders, ICIMOD has adopted a people-centred approach that makes it possible to address the conservation and sustainable use of natural resources in landscapes that are defined by ecosystems rather than administrative boundaries.

Since ICIMOD identified seven transboundary landscapes for possible intergovernmental cooperation in 2007, the Centre has worked to develop strategies for valuing ecosystem services and restoring degraded ecosystems. It has conducted strategic environmental assessments, planning, and analysis to inform policy decisions. ICIMOD completed socioeconomic assessments in the Kailash Sacred landscape and began

“I always consider ICIMOD an important platform for regional collaboration in biodiversity conservation and climate change adaptation. ICIMOD organized a series of training workshops for the Kailash project implementation, which provided benefits to project members beyond the project.”

– Professor Yang Yongping, Institute of Tibetan Plateau Research, Chinese Academy of Sciences (CAS), Beijing

Above Merchulu, Pakistan



conducting a valuation of economic benefits from the rich biodiversity of the Kangchenjunga landscape.

ICIMOD has been recognized by the Subsidiary Body on Scientific, Technical, and Technological Advice to the CBD as a mountain centre promoting transboundary cooperation for regional biodiversity conservation. Now there is growing

recognition across the region of the need for transboundary cooperation to protect critical ecosystems. The governments of Bhutan, India, and Nepal agreed to enhance cooperation in the Kangchenjunga landscape. A similar agreement between China, India, and Myanmar was secured for conservation efforts in the Brahmaputra-Salween landscape, and between China and Pakistan in the Karokoram-Pamir landscape.

# Developing Conservation Corridors to Protect Biodiversity

The landscape surrounding Mount Kangchenjunga in parts of western Bhutan, northeastern India, and eastern Nepal is both culturally and biologically rich. The unique landscape includes 15 protected areas and is home to a wide variety of flora and fauna, including rare and endangered species. In the face of climate change, shifting habitation patterns and landscape degradation outside these protected areas has resulted in 'islands' of natural habitat for important species such as snow leopard and red panda.

In 2012, the three countries committed to the preparatory phase of the Kangchenjunga Landscape Initiative, with efforts already underway to develop protected biodiversity conservation corridors to connect the mosaic of existing protected areas. These corridors will better protect the landscape's biodiversity and help address cross-border problems such as poaching, overgrazing, forest fires, and the spread of livestock disease. Such collaboration can also help remediate unsustainable development activities in the landscape that threaten valuable ecosystem goods and services which sustain the lives and livelihoods of local communities.



Blue sheep, Kangchenjunga, Nepal

“The challenges of biodiversity conservation and management in Kangchenjunga can only be addressed if all three countries cooperate at various levels – from local to bilateral to regional.”

– Bhim Prasad Dhungel,  
Minister of Tourism, Forests, Environment, and  
Wildlife Management of the Government  
of Sikkim, India.

Ladakh, India

## A Milestone Year for Rangeland and Biodiversity Policy

ICIMOD has worked over the last two decades to support improved rangeland and biodiversity policy by providing technical and financial support to national partners.

In 2012, the Government of Nepal promulgated the Rangeland Policy 2012 and a draft rangeland policy has been developed in Pakistan. In Afghanistan, ICIMOD contributed to the review of the national rangeland policy by sharing experiences and knowledge from other RMCs. China and India have completed draft synthesis reports on rangeland policies. Partners from regional member countries visited Bhutan on policy study visit to share good practices and learning. ICIMOD has analysed government schemes for payment for ecosystem services in the pastoral areas of China to develop reward schemes for rangelands and a tourism plan for rangeland areas in Bhutan. Livestock valuation studies have been completed in five HKH countries, which will provide a basis of the status of livestock in the region.

With support from ICIMOD and national partners, the state government of Nagaland in India has promulgated and enforced the Nagaland Biological Diversity Rule 2012.



# Integrating Transboundary Efforts for Conservation and Development

The Kailash Sacred Landscape Conservation and Development Initiative (KSLCDI), a collaborative effort among China, India, and Nepal, wrapped up its preparatory phase in 2012 and began planning for the implementation of activities to improve natural resource management, livelihood options, and the wellbeing of people living in the landscape. The implementation of the initiative will ensure the integration of local human needs with conservation and development. The initiative is developing a knowledge base on specific local information such as cross border livestock grazing between Nepal and China and the development of high-value commodities.

The KSLCDI has become a model for leveraging national schemes and plans for integrated development, including in border areas of Uttarakhand, India. In the past, agencies made plans for each sector in isolation. Now, through the KSLCDI, plans are more integrated and involve all stakeholders in the region.

“Your work and your series of publications is quite unbelievable. It is interesting to see your approach to maintain or even improve biodiversity conservation in the HKH region. Moreover, I am especially impressed by ICIMOD’s efforts to facilitate transboundary cooperation. Thanks not only for your initiative, but especially for documenting your knowledge. Please give all my thanks and compliments to your team members.

“I see that biodiversity has become a very strong pillar of ICIMOD’s activities. This is wonderful, because biodiversity will soon become a high priority worldwide. Your work in the Himalayas is on the way to playing a key role in the coming scientific and political debates about biodiversity.”

– Professor Bruno Messerli, Switzerland

## Facilitating the process

“The work around Kailash provides substantial scientific information to lead the process of cooperation and collaboration.”

– Dr BMS Rathore, Joint Secretary,  
Ministry of Environment and Forests,  
Government of India



Mount Kailash, Tibet Autonomous Region, China

“We conducted collaborative research with ICIMOD on the KSLCDI to first prepare the feasibility assessment report and then develop the strategy and implementation plan. We involved Tribhuvan University (TU) students in collecting data and experts from TU, the government, and freelancers from a wide range of fields to analyse the data and compose reports, which were published in 2012.

“ICIMOD facilitated the process among the three governments. Because of its regional mandate, ICIMOD is capable of strengthening the network of partners at the official level in a programme like this. We need an official body to coordinate these transboundary initiatives and ICIMOD does well at encouraging regional cooperation and supporting funding.”

– Dr Ram Prasad Chaudhary, Central Department of Botany and Research Centre for Applied Science and Technology, Tribhuvan University, Kathmandu, Nepal

# River Basins



Improved water resource management is essential for the sustainable development of the Hindu Kush Himalayan region and downstream communities. Countries in the region increasingly recognize that the sustainable development of the economic potential of river systems – for domestic use, fisheries, hydropower, navigation, and irrigation – can reduce poverty, improve livelihoods, conserve ecosystems, and

contribute to drought and flood management. River basin management promotes meaningful interaction between various actors at a basin-wide scale to maximize benefits while minimizing adverse effects.

Effective water management in the region depends on strong regional water cooperation as an important mechanism to support informed decision

“ICIMOD is well positioned to lead the Koshi Basin Programme because it is an intergovernmental organization with 29 years of experience in the region, thereby making it an important platform for dialogue.”

– Russell Rollason, Australian Agency for International Development

Zoige wetlands, China



making. It also requires understanding of the changing water dynamics and threats to water resources in the HKH region, particularly in light of the impacts of climate change.

In 2012, ICIMOD launched its first river basin initiative, which adopts the river basin approach, to improve knowledge on future water availability and potential changes in the Koshi River basin.

Participatory work has been undertaken to prepare a similar initiative for the Indus River. New knowledge will be used to develop responsive and participatory adaptive water management strategies for local communities and at the basin-wide level. ICIMOD's work with river basins also aims to increase disaster risk reduction efforts by building the capacity of national partners and working with at-risk communities.

# Mapping Impact to Enhance Regional Water Management

*“You cannot manage what you cannot describe and measure. The Koshi Basin Programme provides ICIMOD and supporting researchers an opportunity to do something spectacular – to bring about a change in conventional research through action research and pathways for change.*

*A key outcome from the Koshi Basin Programme will be bringing the research components forward to the community and changing community perceptions of reality to what reality is.”*

*– Prof. Don Blackmore, Australia, at the Koshi Basin Programme Inception Workshop.*

In 2012, ICIMOD launched its first river basin management initiative, aimed at improving the management of the Koshi River basin. The Koshi River, which traverses China, Nepal, India, and Bangladesh, and its basin are witnessing dramatic change. In the face of these changes, there is an urgent need to improve understanding of the nexus between water, food, and energy; to develop new

## The Koshi River Basin

The Koshi River basin plays a key role in the irrigation of downstream areas and has a large potential for hydropower development. However, its diverse topography, young geological formations, vast glaciation, and strong monsoon influence make it highly prone to erosion, sedimentation, and natural hazards, such as glacial lake outburst floods (GLOF), landslides and debris flow, droughts, and flood.

These events may increase in magnitude and frequency in the current context of global environmental change. Increasing population, urbanization, and encroachment have added additional pressures on the basin’s freshwater ecosystems. Poor mountain women and men are often the most vulnerable to natural disasters and the least able to adapt and respond to rapid changes. Facing these challenges requires a collective effort among all stakeholders.



Koshi basin, Nepal

knowledge on how to address situations of too much and too little water; and to inform policy dialogue for transboundary cooperation. The Koshi Basin Programme provides a basis for regional cooperation between China, India, and Nepal to address emerging challenges and opportunities in flood risk management, food production and irrigation, economic opportunities, and energy.

The Koshi Basin Programme is the first initiative for which ICIMOD conducted impact pathway mapping before the development of the initiative’s initial funding proposal. This analysis helped demonstrate which activities are needed to create desired changes and the actors that must be involved. Issues of gender and equality and their linkages to drivers of change were included in the analysis, as well as the potential employment of incentive-based mechanisms to improve water use efficiency and productivity. This preliminary mapping will help guide the programme to ensure greater impacts

*“There is a sound basis for why the Koshi basin was chosen for this programme – it is transboundary in nature and is a sub-basin of the Ganges, where over 600 million people are directly or indirectly impacted by issues surrounding the water-food-energy nexus. Improved management of the Koshi River basin can have positive impacts on a very large population.”*

*– Russell Rollason, Australian Agency for International Development*

# Developing Flood Information Systems to Save Lives

In 2012, ICIMOD upgraded 23 hydrometeorological stations in four countries – Bhutan, Bangladesh, Nepal, and Pakistan – to improve national and regional flood information systems as a part of the HKH Hydrological Cycle Observation System (HKH-HYCOS) being implemented together with the World Meteorological Organization. Upgraded stations are equipped with state-of-the-art sensors and communication devices that enable the transmission of real-time rainfall and water level data. Data from over 300 stations in the HKH region feed into a Regional Flood Information System (RFIS) to improve disaster risk reduction efforts.

Through two regional and three national trainings on the installation and operation of hydrometeorological instruments and database management held in 2012, the project has strengthened the capacity of partners in regional member countries in hydrometeorological services and national flood information systems to improve the reliability and timeliness of their flood forecasting.

Fourteen more stations will be upgraded in 2013. The Centre has also developed and tested a community-based flood early warning system to improve disaster risk reduction. In the future, ICIMOD will also develop flood outlook products based on real-time data and hydrodynamic model to further improve flood forecasts and early warning systems.

“Under the HKH HYCOS initiative, a National Installation and Training Workshop was conducted in Nowshera, Pakistan in September 2012. During this a number of representatives from institutions working with flood and disaster management attended a comprehensive training session. On the basis of this training, the Pakistan Meteorological Department was able to install two AWS stations in Kalam and Guips, which are working properly.”

– Muhammad Riaz, Chief Meteorologist,  
Pakistan Meteorological Department



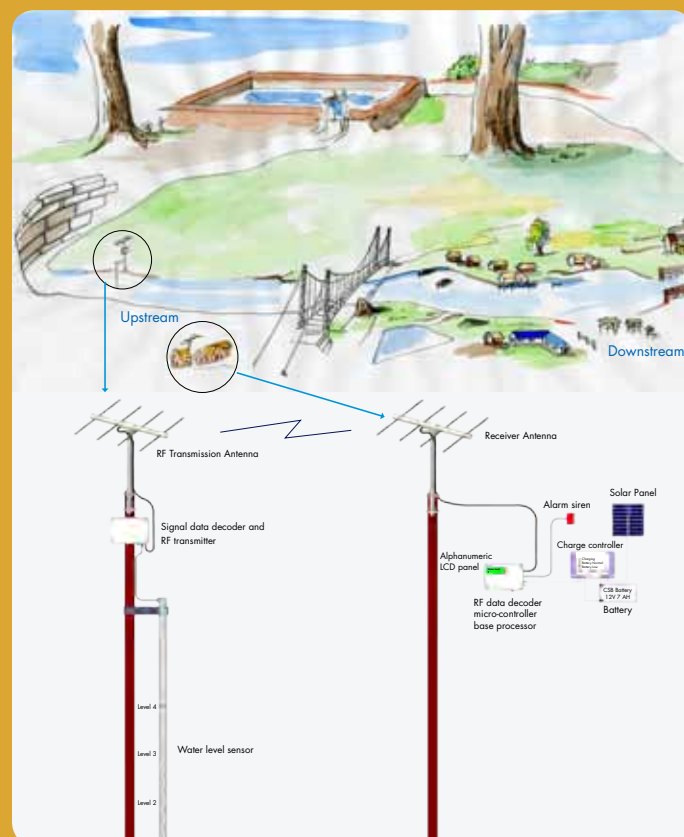
Automatic weather station, Bhutan

## Women and flooding

Women play an important role in both disaster risk reduction and disaster response. At the same time, in the event of a natural disaster, such as a flood, women and girls are also more vulnerable. As ICIMOD works to improve flood forecasting in the region and develop early warning systems to better prepare and alert communities in the event of a flood, the Centre realizes the importance of identifying and addressing the specific needs of women and girls.

An 2012 assessment of early warning systems in Nepal and Bhutan through a gender lens highlighted key shortcomings in developing and implementing early warning systems that consider structural and gender-based differences between women's and men's situations following disaster. The project is now exploring options to ensure that the special needs of women and girls are included in early warning systems.

## Illustration showing how the community-based flood early warning system notifies people living downstream



# Cryosphere and Atmosphere



**T**he Hindu Kush Himalayas contain the largest concentration of snow, glaciers, and permafrost outside the Polar Regions. This vast accumulation of snow and ice is a natural reserve of water and is the source of ten major river systems in Asia that supply water to more than 1.3 billion people downstream. Changes in the cryosphere of the Hindu Kush Himalayas have the potential to directly impact millions of people,

especially those who are dependent on water supplies fed by snow and glacier melt. However, there is lack of long-term, consistent cryosphere monitoring, which is central to understanding the effects and potential impacts of the changing climate on the cryosphere. ICIMOD is working to enhance understanding of complex cryospheric processes, including rising threats of glacial lake outburst floods, to better understand how changes

“Glacier retreat and its impact on water resources are of interest to India. The cryosphere group should work toward generating higher quality hydromet data in the Himalayan cryosphere for water discharge and security in lean periods, for vulnerability assessment, and for eco-sustainability.”

– Alagappan Ramanathan, Jawaharlal Nehru University, New Delhi

Yala Glacier, Langtang, Nepal



in the contribution of snow and glacier melt to runoff will affect people living downstream.

Climate change is driven by changes in the atmospheric concentration of substances that absorb incoming light or outgoing infrared radiation. While warming temperatures, a phenomenon that is more acute at higher elevations, play a role in accelerated melting, there is growing evidence of the role of black carbon

in the region's cryosphere. Black carbon particles resulting from incomplete combustion are deposited on the glacier and snow and contribute to increased snow and ice melt in the upper reaches of the Hindu Kush Himalayas. Because of the intrinsic link between the emission of black carbon and other short-lived air pollutants and changes in the cryosphere, the two initiatives of cryosphere and atmosphere are housed together within the new organizational structure.

# Building Regional Capacity for Glacier Monitoring

In 2012, ICIMOD focused efforts to improve monitoring of the region's cryosphere on building the capacity of partner institutions and students from the region. Scientists from partner institutions and students from the Master's programme in Glaciology at Kathmandu University, a degree programme that ICIMOD helped establish in 2011, joined monitoring expeditions to glaciers in the Langtang Valley of Nepal. ICIMOD experts trained participants on taking glacier mass balance measurements, meteorological measurements, and hydrological measurements and the use of geodetic measurement techniques and GPS and Total Station surveying equipment.

Another critical part of strengthening cryospheric research in the Hindu Kush Himalayas is improving regional cooperation. ICIMOD hosted an international conference in May 2012 where scientists and partners from the region came together to share knowledge and discuss paths for cooperation in cryosphere research. A web-based cryosphere knowledge hub was initiated at ICIMOD, cementing the Centre's role in facilitating regional cooperation and knowledge sharing on the region's cryosphere.

“Through this collaboration between ICIMOD and Kathmandu University, we get more opportunities and hands-on glaciology training. We have access to computers and software that we would not have otherwise.”

– Achut Parajuli, Kathmandu University

“The training provided by ICIMOD, especially in Matlab, has helped us learn about programming and modelling hydrology. As a beginner, the training was a great way to build my knowledge.”

– Sonika Shahi, Kathmandu University

Yala Glacier, Langtang, Nepal





Sonika Shahi, a student of Glaciology at Kathmandu University, measures ice melt from a stake on Yala Glacier, Langtang, Nepal.

“The students had information sharing sessions every evening to discuss what we observed throughout the day. In the earlier part of the trek these sessions were very useful, and the comments and feedback from the experts were very encouraging.”

– Sanjaya Guring, Kathmandu University

“I attended the Glacier Mass Balance Measurement Training in May 2012 with other regional participants. The theoretical training before the field visit was useful during practical demonstrations. The literature and data analysis provided helped us better understand the results of mass balance experiments.

“This training led us to replicate mass balance experiments on Pakistan’s glaciers. Mass balance experiments were done on Baltoro Glacier in collaboration with German and Italian scientists and on Passu Glacier by our own team.”

– Adnan Shafiq Rana,  
Meteorologist, Research and Development Division,  
Pakistan Meteorological Department

## Pakistan and UN Seek to Cut Risk of Glacial Lake Floods

One major achievement at ICIMOD to address the threat of glacial outburst floods has been the creation of an inventory system for glacial lakes in the Hindu Kush Himalayan (HKH) region using improved data and methodologies. In 2005, ICIMOD compiled an inventory of Pakistan’s 5,000 glaciers across an area covering 15,000 km<sup>2</sup>. It found that 52 glacial lakes were in a potentially dangerous condition.

In 2012, an outcome of this long-term work is a project designed by the United Nations Development Programme (UNDP) and Pakistan’s Ministry of Climate Change based on this earlier work. The project has chosen two sites to reduce the risks of glacial lake flooding in northern Pakistan. The project will develop the ability of public institutions and vulnerable communities to understand and address the risks of glacial lake floods. It plans to work with local people to draft disaster management plans and install early warning systems.

This is one of the first initiatives to be funded by the UN Adaptation Fund, which finances programmes that help developing countries adapt to the negative effects of climate change. This project, whose initial design is based off of ICIMOD research, could serve as a model for other GLOF projects in the mountains of the region.



# Partnering for Cleaner Air

There is broad scientific consensus that short-lived climate pollutants such as black carbon, methane, and many hydrofluorocarbons are the number two driver of global climate change behind greenhouse gases and pose a urgent and collective challenge. In 2012, ICIMOD joined the Climate and Clean Air Coalition to Reduce Short-Lived Climate Pollutants, the first global effort to address short-lived climate pollutants, as a non-state partner.

ICIMOD's current work on the atmosphere has a special focus on black carbon: improving science, exploring mitigation measures, sharing knowledge, and influencing policy. Prior to joining the coalition, ICIMOD made substantial contributions in this field through UNEP's Atmospheric Brown Cloud project and the Malé Declaration on Control and Prevention of Air Pollution and its likely Transboundary Effects for South Asia.

## The health costs of air pollution

In 2012, ICIMOD published a peer-reviewed study, *Rapid Urban Assessment of Air Quality for Kathmandu, Nepal*, the first to collect data on different types of emissions in both wet and dry seasons in the increasingly polluted Kathmandu Valley.

*"An estimated 30 million rupees (USD 400,000) in hospital costs could be saved every year by reducing the level of airborne pollutants to meet World Health Organisation guidelines," the study suggested.*

The study has an emission database for Kathmandu and offers information on hot spot areas of the city, which the government could use in plans or mitigation measures. It utilizes a template based on measures outlined in the Malé Declaration that were tested in Hyderabad as a pilot for future studies in South Asia.

“Many congratulations on the publication ‘Rapid Urban Air Quality Assessment of Kathmandu Valley’. I hope it will generate public pressure to make the ministry take action. I am currently in Afghanistan working to develop a National Strategy for Air Quality Management. I would greatly appreciate if you could send me the Malé Emissions Inventory Workbook Template - Version 2.4 used in developing the emission inventory.”

– Chiranjibi Gautam, ESIA Adviser,  
National Environmental Protection Agency of  
Afghanistan, World Bank-SDNRP II

A map from an ICIMOD study shows the concentration of particulate matter less than 2.5 micrometres in diameter in Kathmandu, Nepal. Particulate pollution – especially fine particles – can get deep into the lungs and cause serious health problems and can cause reduced visibility and affect a diversity of ecosystems.





Kathmandu Valley, Nepal

## Developing local and regional solutions to reduce black carbon

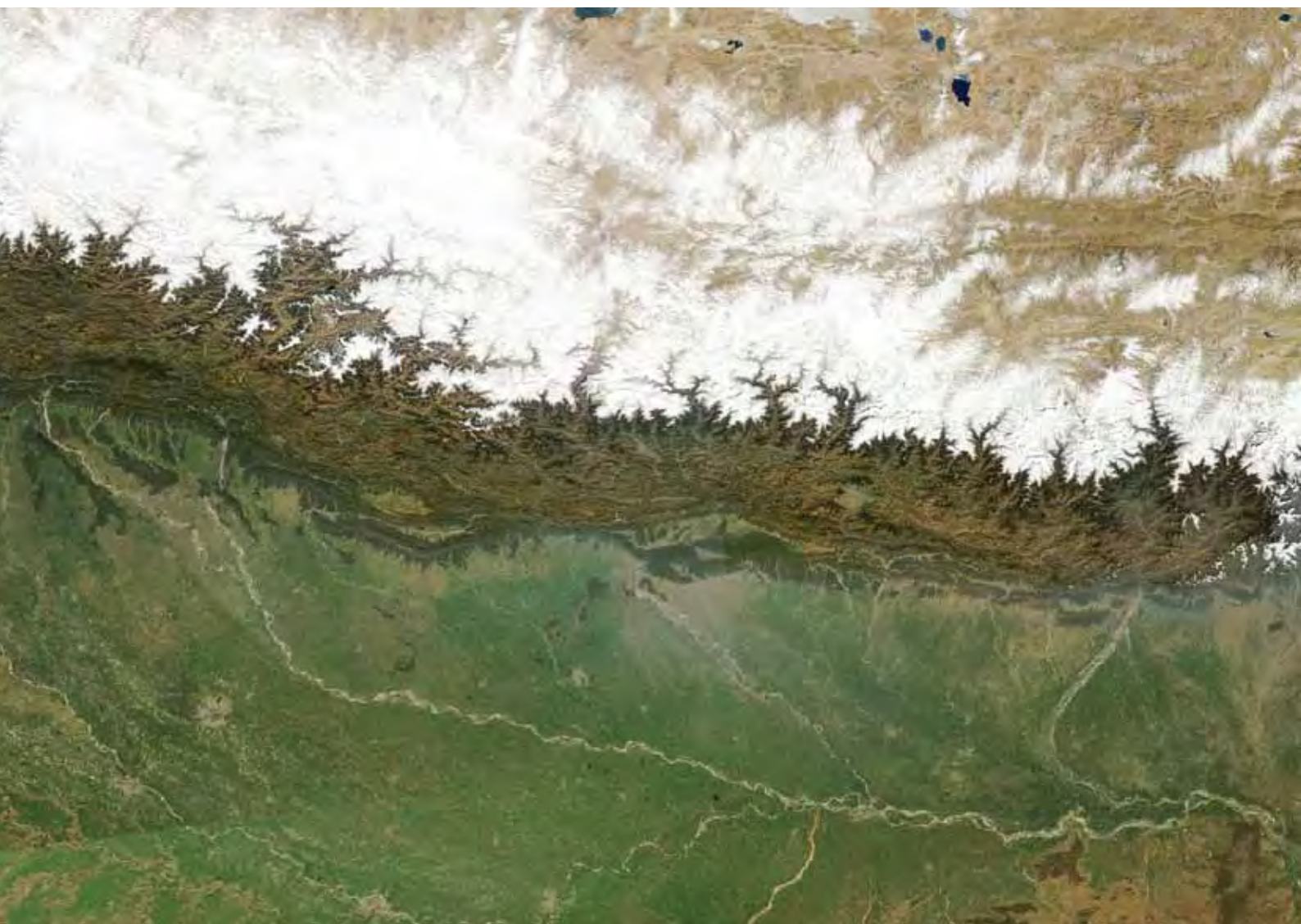
ICIMOD has identified black carbon and other short-lived climate pollutants as a major area of focus in the next five years. Working to reduce the emission of black carbon in the region has the potential to create considerable impacts, both in terms of air quality and the wellbeing of people living in the Hindu Kush Himalayas.

Unlike greenhouse gases, black carbon is very short-lived in the atmosphere, disappearing within days to weeks after the emission sources are shut down. Reducing black carbon aerosols have multiple benefits, including reduction of climate impacts, benefits to human health, and improved agricultural productivity. Improved technologies can help

reduce black carbon emissions, including the use of alternative and cleaner fuels for cooking and cleaner burning stoves; reducing emissions from industries using coal, especially brick kilns; improving vehicle emissions, especially diesel-powered, through refined fuel and improved filters; and reducing the open burning of agricultural residue and other waste.

ICIMOD has planned activities to study the health and climate benefits of various types of improved cookstoves through a pilot programme beginning in 2013 and is working to identify and build awareness of improved technologies for brick kiln operators and policy makers to help reduce black carbon in the region.

# Mountain Environment Regional Information System



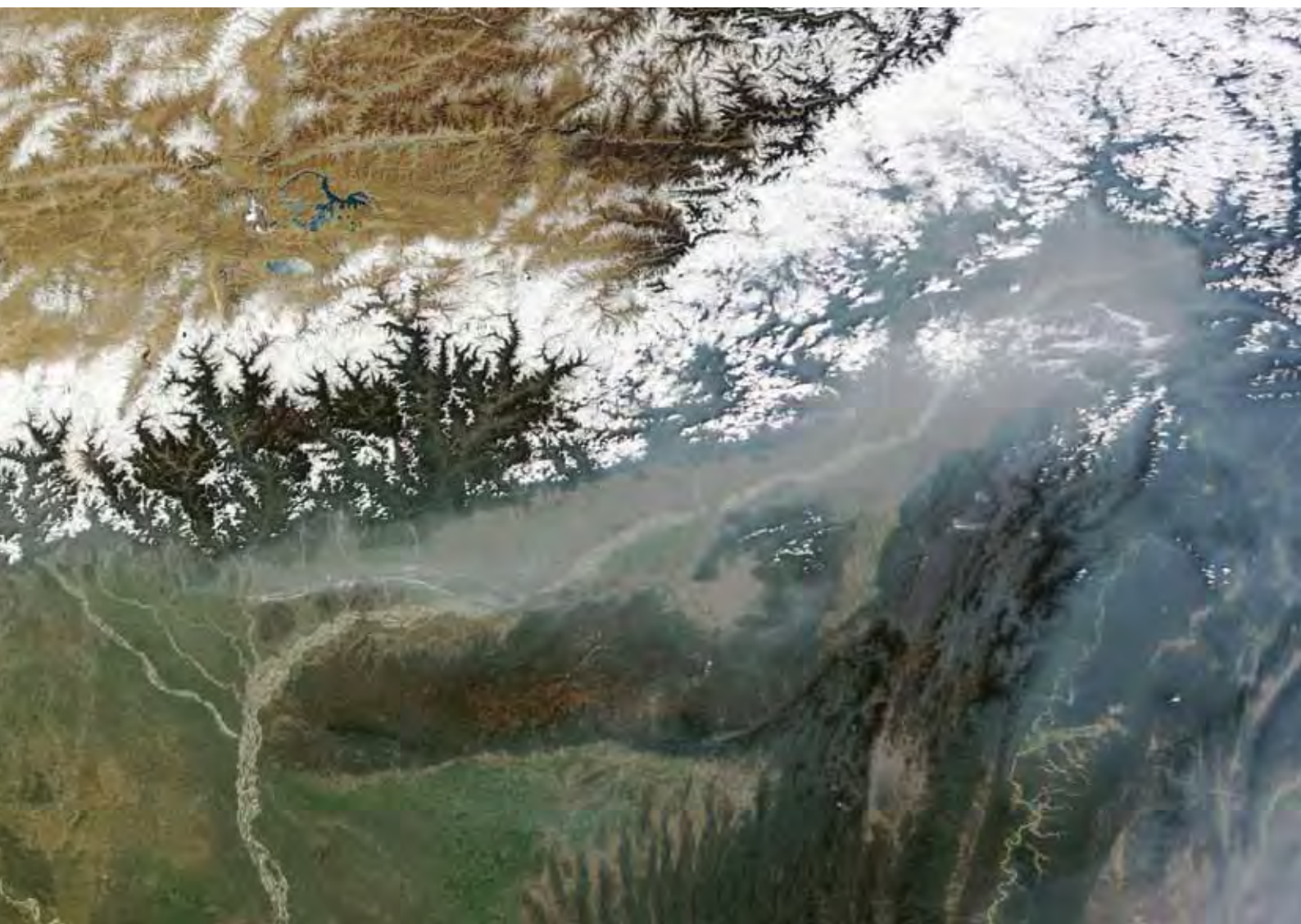
In 2012, strategic partnerships augmented ICIMOD's capacity as a regional resource centre for geoinformation and earth observation in the Hindu Kush Himalayan region. It strengthened partnerships with USAID and NASA through the SERVIR-Himalaya Initiative to promote the use of earth observation and geospatial technologies for timely decision making on pressing environmental challenges in the Hindu Kush Himalayan region.

The Mountain GeoPortal, ICIMOD's integrated data platform, has enhanced interactive mapping and database components in the region. The number of visitors increased by over 50% compared to previous years and downloads of GIS datasets increased to over 2,500 annually. Since 2008, over 600,000 knowledge explorers, researchers, and professionals in disaster risk reduction have visited ICIMOD's Disaster Risk Reduction website.

“We are happy to work with ICIMOD on the SERVIR-Himalaya programme. Through this collaboration we are already seeing great benefits for mountain communities in the Hindu Kush Himalayan region.”

– Daniel Irwin, SERVIR Director NASA

Satellite image captured by MODIS receiver



Within ICIMOD’s initiatives, geospatial tools and the resources of the Mountain Environment Regional Information System are being increasingly applied. Remote sensing instruments were used to estimate carbon REDD+ pilot sites in three watersheds of Nepal, with the aim of upscaling remote sensing-based approaches and methodologies in other parts of the region. National land cover databases for Bangladesh, Bhutan, Nepal, and Pakistan have also been prepared.

Under SERVIR-Himalaya, 15 training courses on the application of geoinformatics have been conducted for more than 300 participants, including representatives from all regional member countries. ICIMOD has promoted an exchange programme with national partners and offered internships and opportunities for young professionals. Capacity building in rapid response mapping for disasters was done with the Japan Aerospace Exploration Agency through regional training workshops.

## Real-Time Direct Access to Space Images

For direct access to real-time data, a MODIS (Moderate Resolution Imaging Spectroradiometer) receiver and acquisition system was installed on the rooftop of ICIMOD Headquarters. It links to a processing facility in the Centre's central server room and a visualization system housed in the Centre.

With this receiver, ICIMOD has direct access to real-time MODIS data from two NASA scientific research satellites. Each day, two snapshots of the earth's surface are delivered to the Centre with a spatial resolution (250 m, 500 m and 1 km) appropriate for national and regional studies. Previously, the global servers

took 2-3 days to relay data; now the data transfer takes 15 minutes. MODIS imageries and derivative environmental products made available with this new addition are used by ICIMOD and its national partners in almost all ICIMOD programmes and initiatives.



## Forest Fire Detection and Monitoring System in Nepal

“This system is extremely useful for the members of Community Forest User Groups and District Forest Officers to protect our forests by knowing when and where a fire has started. We are able to take action to stop the fires because everyone knows very quickly.”

– Sabina Rai, FECOFUN Chairperson  
Bhojpur District

To contribute to mitigating the many adverse ecological and economic effects of forest fires, ICIMOD, in close collaboration with the Department of Forests of Nepal, developed and piloted a national forest fire detection and monitoring system. The system assimilates active fire data generated by ICIMOD's MODIS receiving station and adopts NASA's fire detection algorithm, which has been extensively used in detecting and monitoring forest fires across the globe.

After the system automatically adds important information to fire data, including the district and VDC in which the fire was detected, emails and



SMS notifications are sent to over 220 subscribers, including District Forest Officers and focal persons of the Federation of Community Forestry Users in all districts of Nepal. The information is also published on ICIMOD's Mountain GeoPortal for visualization of fire locations on any given day.

## Youth Champions Using Geospatial Tools

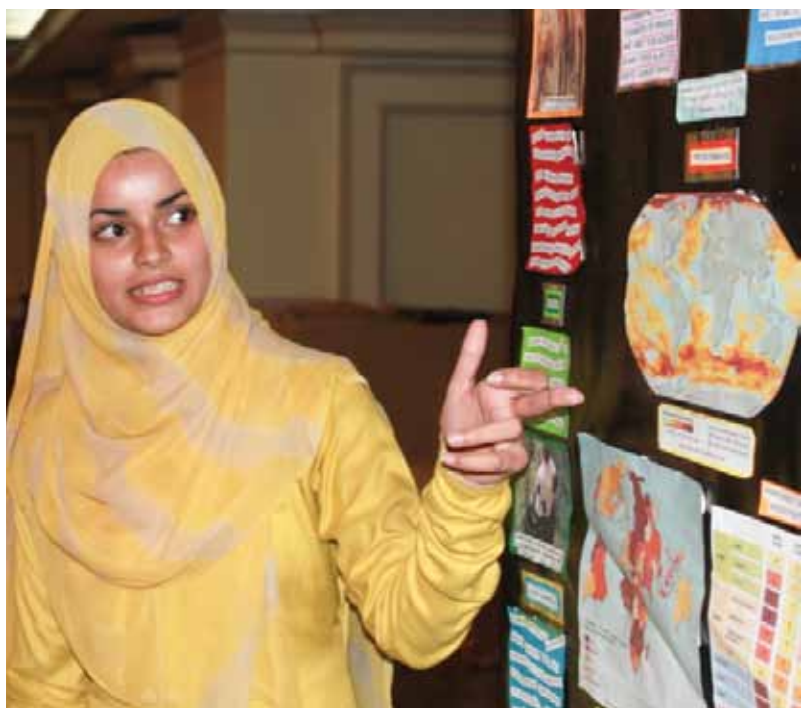
Through the SERVIR-Himalaya Initiative's youth programme, ICIMOD trains youth from the region in the use of earth observation and Geographic Information Systems (GIS) in the HKH. Initiatives include youth forums, participation in the DEVELOP initiative, internships at ICIMOD, and support for theses development. SERVIR-Himalaya Youth Forums held in Bangladesh, Bhutan, Nepal, and Pakistan combined technical sessions with innovative ways to teach about sustainability. Out of these forums came several 'champions' – talented youth taking action and inspiring others to use GIS technologies to address climate change-related issues.

For example, after participating in the regional SERVIR-Himalaya Youth Forum in Bhutan in 2012, Vineet Chhatra, India, started the NGO Habsut and organized workshops in Bangladesh, India, Nepal, and Sri Lanka. ICIMOD organized a special course on the basics of GIS and the use of GPS for 20 university students, including Ashish Adikhari, Nepal, who was enthusiastic about using these technologies in the development of his MSc thesis and fieldwork.

“During the SERVIR-Himalaya Bhutan Youth Forum, we learned about climate change, basic GIS, and how to apply GIS skills to enhance climate change adaptation. In Bhutan, I work for the Department of Disaster Management. During a six-month internship at ICIMOD to learn GIS for disaster risk reduction, I developed an emergency response system that will allow people in Thimphu to report their situation after a big earthquake through crowd-sourcing. With ICIMOD staff, we developed a concept for disaster reporting in a standard format and GIS information web page for Bhutan.”

– Til Bahadur Gurung, Bhutan

Through the NASA DEVELOP Programme, three ICIMOD interns from Kathmandu University – Laxmi Thapa, Florencia Tuladhar, and Eliza Shrestha – created a climate change vulnerability index for Nepal using socioeconomic, biophysical and satellite-derived data. In collaboration with DEVELOP interns in the United States and with guidance from resource persons at the National Space Science and Technology Center in Alabama, US, and advisers at the Global Hydrology and Climate Center and the University of Georgia, their team developed a technical report, presentation, poster, and video on their project, which won the grand prize in the NASA Develop Virtual Poster Session



SERVIR-Himalaya Youth Forum, Pakistan

“The maps we created could guide policy makers in identifying, prioritizing, and allocating resources to develop a robust, integrated approach to increase resilience to climate risk at national and local level.”

– Laxmi Thapa  
NASA DEVELOP Programme Intern

“It was neat to see students collaborating from around the globe to apply NASA earth observations to real-world issues. The Nepal project stood out with great teamwork, focused research, and a great video.”

– Jonathan Gleason, NASA Clouds and the Earth's Radiant Energy System (CERES) Data Management Lead and member of the judging panel

# Knowledge for Policy, Practice, and Science



Sharing the knowledge generated by ICIMOD is at the core of the Centre's efforts to raise awareness of mountain issues, to support evidence-based decision making, and to help mountain systems and communities adapt to change. ICIMOD's knowledge management and communication efforts cover the social and technical processes

supporting information gathering, packaging in forms appropriate for different audiences, uptake and learning, and dissemination. These efforts contribute to the outcomes of the Centre and are essential to fostering dialogue and exchange among the researchers, practitioners, and decision makers in the region as well as the global community.

“It is time that the mountain states of India engage pro-actively with regional institutions like ICIMOD, who have significant documented publications, not only restricted to the HKH region, but about other mountain systems of the world.”

– Dr RS Tolia, former Chief Secretary of State, Uttarakhand, India, from ‘A Planning Framework for the Mountain States of India

Panjshir River, Afghanistan



ICIMOD aims to ensure that knowledge transfer results in engagement, learning, and changes in policy, programmes, and behaviour. Through this, ICIMOD works to improve understanding among different audiences – local, national, regional, and global – about the value of mountain systems and important mountain issues such as climate change to influence action and achieve impact.

Knowledge is communicated through a wide array of publications, databases, multimedia, and web content, all of which are available globally online, as well as through meetings, workshops, and online discussions. The impressive number of online visitors and downloads and growing media coverage attest to the expanding reach and use of ICIMOD knowledge products.

## Regional country events to support mountain perspectives

Working through knowledge partners in regional member countries, ICIMOD supports events in throughout the region to raise awareness of mountain issues beyond its headquarters in Kathmandu. In 2012, ICIMOD provided support to 34 outreach events and celebrations of UN-declared international days. To capitalize on the awareness that International Mountain Day can build, in 2012, ICIMOD supported activities to celebrate International Mountain Day in India, Nepal, and Pakistan.

## Video Conferencing: A low-carbon approach to sharing knowledge



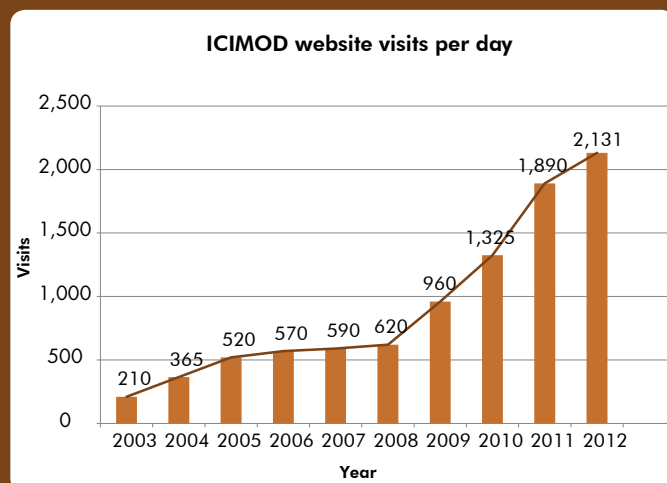
As a new approach to knowledge sharing and exchange, ICIMOD, together with British Council Nepal, organized a Skype-enabled video conference on 24 February 2012. The topic was 'Earth Debate: Can We Put a Price on Nature?'. Youth from Bangladesh, China, India, and Nepal participated in a real-time virtual discussion with a Kathmandu-based panel of experts from the development, media, and tourism sectors. Increasingly, ICIMOD regards video conferencing as an economic, green approach to knowledge sharing – one that transcends international borders and time zones and leaves behind little carbon footprint.

## Targeting knowledge for different audiences

To ensure a greater uptake of ICIMOD's knowledge, the Centre is increasing efforts to package knowledge in ways that are targeted to the audiences it aims to reach, including farmers, policy makers, students, and young professionals. ICIMOD distributed its technical and general publications widely in the region and beyond through both traditional and online channels. The ICIMOD website gained popularity worldwide in 2012, with over 2,100 visits per day. Over 74,840 soft copies or chapters of ICIMOD's publications were downloaded from HIMALDOC, ICIMOD's knowledge repository. Similarly, hard copies of 23,795 technical and 70,392 general publications were distributed through various channels by post; at meetings, conferences, and exhibitions and in response to individual requests.

In addition to nine technical publications in 2012, ICIMOD produced 30 general publications with greater focus on clear messages and visual impact. ICIMOD has fully branded and continuously improved its website with mandatory editing for all content.

In 2012, ICIMOD received 121 requests for interviews, conducted four press briefings, and published 21 newspaper articles, 12 press releases, six editions of e-news, and 65 e-circulars, and 558 items of press coverage. A monthly news digest was introduced in July 2012 to streamline the sharing of ICIMOD news and events to the Centre's email contacts. The Centre also helped organize and support five mobile photo exhibitions showcasing changes in the Himalayas in different Japanese cities.



Realizing the shift towards digital information resources, ICIMOD has further developed HIMALDOC, a digital library for regional information sharing platform with almost 20,000 records (articles, theses, working papers, reports, opinion, interviews, books and multimedia resources) and all ICIMOD publications, photos, and other knowledge products.



Lalitpur, Nepal

## New ways of knowledge outreach

New modes of communication and interactive knowledge sharing tools are quickly becoming the global norm and will provide further momentum to knowledge management efforts. ICIMOD works to find a balance between global knowledge management and communication innovations while remaining relevant to the region's unique sociocultural context. To bolster traditional modes of knowledge sharing, ICIMOD has put additional emphasis on multimedia and video storytelling and increased its presence on social media sites like Twitter and Facebook.

## Hub for external networks

ICIMOD serves as the base for the Asia Pacific Water Forum, Asia Pacific Mountain Network, and Asia Pacific Adaptation Network. The Asia Pacific Mountain Network (APMN) has more than 7,500 subscribers – a membership base of 2,500 people and a network of over 4,000 youth and sustainable mountain development professionals. Over the past year, APMN trained over 200 youth and 50 media representatives through. APMN youth forums contributed to ICIMOD's ongoing advocacy work at regional and global forums.

## Comments from readers...

“I am very grateful to ICIMOD for developing such a detailed beekeeping manual. I am a Training Farm Manager working for GIZ in Peshawar and my job is to arrange and impart vocational trainings for women. This manual will definitely help me in my current job. Thank you very much.”

– Seema Qazi, Pakistan

“The publication ‘Climate variability and change in the Himalayas: Community perceptions and responses’ has been shared with NGOs working in the north part of Khyber Pakhtunkhwa Province in Pakistan, especially in mountains highly vulnerable to natural disaster. I highly appreciate the quality and instrumentality of the ICIMOD publications.”

– Khalid Hussain, Pakistan

“Thanks for ‘Flash flood risk management: A training of trainers manual.’ It is very useful for field workers and managers. I am associated with an NGO called SPEED doing grassroots-level work in Uttaranchal, India. It would be very beneficial for them.”

– Dr Ramesh Uniyal, Bioresource Division, India

“Congratulations to all of ICIMOD's staff for their efforts on glaciological research in the HKH showcased in two wonderful publications. Thank you very much. These could be very helpful to me and my team working on Himalayan glaciers.”

– Dr DP Dobhal, Scientist, WIHG, India

“ICIMOD has highlighted a very important issue: media and other communication channels can play an important role in experience sharing and alliance building among grassroots organizations working for indigenous people. We provide communications support to more than 200 non-profit organizations in Pakistan through communication trainings, information, research and networking.”

– Aftab Iqbal, Director, Pakistan Centre for Development Communication (PCDC), Islamabad, Pakistan



## ICIMOD Knowledge Park at Godavari

In 2012, the ICIMOD Knowledge Park at Godavari – a venue for testing, promoting, and training farmers on green technologies – introduced a number of new tools to empower farmers from around the region with alternative livelihood options and ways to improve living standards, including new solar technologies, improved cooking stoves, and multiple use water systems.

A carbon monitoring plot introduced at the park will allow experts to share REDD+ monitoring techniques with community level forest user groups. A flood early warning system installed on site will be used to test and refine the technology for implementation in at-risk villages as well as raise awareness and demonstrate this life-saving technology.

In 2012, ICIMOD started a Mountain Product Shop to sell 'green' goods from Godavari and members of the local community. It also gave different species of medicinal and aromatic plants to the Nepali NGO, Environmental Camps for Conservation Awareness (ECCA), for herbal gardens in schools of the Kathmandu Valley.

In total, 165 field visits to the Park brought 5,281 visitors, of whom 810 were policy makers or development workers, 643 were farmers, and 3,818 were students. In addition, ICIMOD used the Knowledge Park to conduct trainings, workshops, and meetings, hosting ten events with an additional 243 participants.



At the ICIMOD Knowledge Park at Godavari, visitors can learn about technologies including beekeeping, water harvesting, and solar technologies.

## Green Solutions Fair and ICIMOD Green Champion Award

In December 2012, the Knowledge Park hosted the first ICIMOD Green Solutions Fair, which gave a platform for 11 private sector companies from the region to share green products and technologies with over 5,000 visitors.

At the Green Solutions Fair, ICIMOD presented the first Green Champion Award to Tara Mani Khatiwada for his vision and leadership in promoting kiwi farming and other green solutions in eastern Nepal. Khatiwada first learned how to cultivate kiwi fruit at the Knowledge Park and was among the first to introduce kiwi cultivation to Ilam District of Nepal. He also actively promotes the production of bio-briquettes, mushroom cultivation, and the use of organic fertilizers.



### Comments from visitors to the knowledge park

“The Park is filled with interesting knowledge about sustainable development and the management of natural resources. It is great place for students and others to learn about the environment. Thank you ICIMOD!”

– Niharika, Shishu Kunja High School, Kathmandu, Nepal

“The students and teachers from GLOBE India visited the Knowledge Park. This was wonderful exploration to them. We appreciate the help ICIMOD provided to plan the visit and the knowledge shared with the students. We hope GLOBE students from India and Nepal will visit this park again.”

– Dr Desh Bandhu, Director GLOBE, India

“One of the most amazing experiences in Nepal. These people get it. The world needs to learn from ICIMOD!”

– Nicole Travis, Pittsburgh University, US

“The Knowledge Park is worth seeing for all development practitioners with an aim to learn and replicate innovative, low-cost technologies and useful techniques, especially for eco-friendly agricultural development in mountain areas.”

– Babar Khan, Gilgit, Pakistan

## Farming kiwi fruit: An option for additional income



A kiwi farmer from Ilam, Nepal

ICIMOD's 2012 Green Champion, Tara Mani Khatiwada of the Environment Protection and Alternative Power Development Private Limited (EPAPD), introduced kiwi farming to eastern Nepal in 2007 after learning about kiwi cultivation and receiving starter stem cuttings during a visit to the ICIMOD Knowledge Park.

Since then, he has promoted kiwi cultivation in Ilam District of Nepal by meeting farmers, training them on techniques, selling starter cuttings, and

marketing kiwi fruit. Now kiwi is a desirable income alternative for local farmers.

"At first, ICIMOD gave me technical knowledge about growing kiwi. Then I learned more from the internet. When I started kiwi farming in 2007, other farmers became interested and started growing their own kiwi. Now, there are about 1,400 kiwi farmers in Ilam alone. Kiwi farming is an additional income generation option for farmers. So far progress has exceeded my expectations and I believe that kiwi will bring lots of economic benefits," said Khatiwada.

After a week-long training from EPAPD, Tej Bahadur Gurung planted 200 kiwi plants on land where he normally grew maize. "It is easier to grow kiwi than maize; it is less time-consuming and less work. Plus, it yields greater economic benefits, he said. He also runs a nursery where he sells cuttings for NPR 400-500 apiece.

## Biobriquettes for livelihoods and forest conservation

In response to demands from communities and partners working in Mustang and Jumla districts of Nepal, ICIMOD gave biobriquette training as a part of the High Mountain Agribusiness and Livelihood Improvement (HIMALI) project. In these districts, continued degradation of forests and rangelands has increased the time it takes to collect fuelwood, a task women are primarily responsible for.

Forty participants (15 men and 25 women) in Mustang and Jumla attended a three-day training on how to make briquettes from waste paper, sawdust, and rice husks with a briquette-pressing machine. This technology has been introduced as

a community-based solution for climate change adaptation. Briquettes can be easily made at home from locally available natural resources, reducing the need for fuelwood. After taking part in the training, several participants have continued to share this technology with others.

Sita Ram Tamang is an entrepreneur who first learned to make biobriquettes at the Knowledge Park in 1999. He has been producing them commercially since 2003 and provides jobs to ten people for nine months of the year, with another 10-15 people earning income from collecting biomass from the forest.

"There are many farmers who have benefited from the training from the Knowledge Park. I have shared my knowledge with the people in my village and in seven other districts. I would like to teach briquette making in more places so more people can benefit. Briquette making is good for people as they earn a daily wage. We have ten people in my village working on this and others in Dolakha, Sindhupalchowk, and Ramechhap.

"The briquettes have the added advantage of not making smoke, which is better for our health. We realize that making the briquettes saves fuelwood and the forest, which grows faster with less jungle weed, which is used in making the briquettes."

A woman from Mustang stacks dried biobriquettes, Nepal



A smiling woman with a nose ring, wearing a blue short-sleeved shirt and a colorful striped headscarf, is holding a large, round, woven basket filled with rice. She is standing in a rural field with green trees in the background under a blue sky with white clouds. The basket she is holding is made of woven straw and has a dark wooden rim.

# Gender, Governance, and Women's Leadership

The year 2012 saw significant progress in gender and governance activities at ICIMOD. The Bhutan+10 conference on gender and sustainable mountain development generated enthusiasm and a new network for gender and empowerment.

Rangamati District, Bangladesh

## Gender inclusion and integration:

ICIMOD is strengthening gender integration at ICIMOD by documenting and analysing governance and gender issues and equity in the HKH and developing in-house capacity.

In the development of the Strategic Framework 2012 and MTAP-III, concerted efforts were made to integrate gender and governance issues and perspectives into the design of the new regional programmes. Increasingly, programmes are requesting inputs on gender and governance issues, especially on gender and adaptation to climate change and the 'feminization' of natural resource management.

ICIMOD introduced several important innovations, including the first gender audit of the Centre by a senior international gender consultant following a participatory method; the launch of a network on gender, environment, and mountains; the development of a conceptual framework for adaptation to climate change.

## Governance of natural resources:

ICIMOD held a roundtable and commissioned a state-of-the-art paper on governance and natural resource management issues in the region and has worked to develop of training manual on governance advocacy, gender, and local governance tools and guidelines

In 2012, the Centre launched an important study on gender and biodiversity management in the region to help to fill urgent regional knowledge gaps. To improve awareness of issues and highlight opportunities to integrate gender perspectives into the conservation and development of the Kangchenjunga landscape, gender analysis was carried out to examine the past decade of ICIMOD's work in the landscape.

ICIMOD made extra efforts to ensure that economically poor women producers and collectors are empowered by promoting gender-sensitive community-based high-value products and value chains in India and Nepal. It conducted scoping studies and fieldwork in Nepal and Bhutan and commissioned papers on gender and climate change adaptation. It also worked to integrate gender issues into the HICAP vulnerability and adaptive capacity assessment, held gender trainings through HIMALI, and conducted gender assessments in Bhutan, India, and Nepal through AdaptHimal.

## Women in the spotlight:

ICIMOD continued to strengthen its best gender practices including the International Women's Day celebration, annual Gender Champion Awards, the Gender Resource Team (GReaT), Gender Focal Points, Women's Leadership and Management Training, and implementation of the Gender Equity Policy. The Centre has given particular attention to improving the gender balance in senior positions. Five women scientists and staff benefited from an international training on women's leadership, management, and negotiation skills.


*"The CGIAR's Women Leadership and Management training was the most useful training I have ever attended. It helped me to know myself and others, and to gain some techniques and insights on how to deal with people who come from different academic and sociocultural backgrounds and have different perspectives on 'development' or 'change.' Women scientists and professional at ICIMOD can make a difference within the institution if we are given the opportunity."*

– Manohara Khadka  
Gender Specialist, Livelihoods

*"The 'Women Leadership and Management Training' provided an environment for women to share and learn from experiences of other women from around the world. It was interesting how similar our stories are. The content of the training was well-conceived and practical so that I could easily relate it to my work, life situation, and experience."*

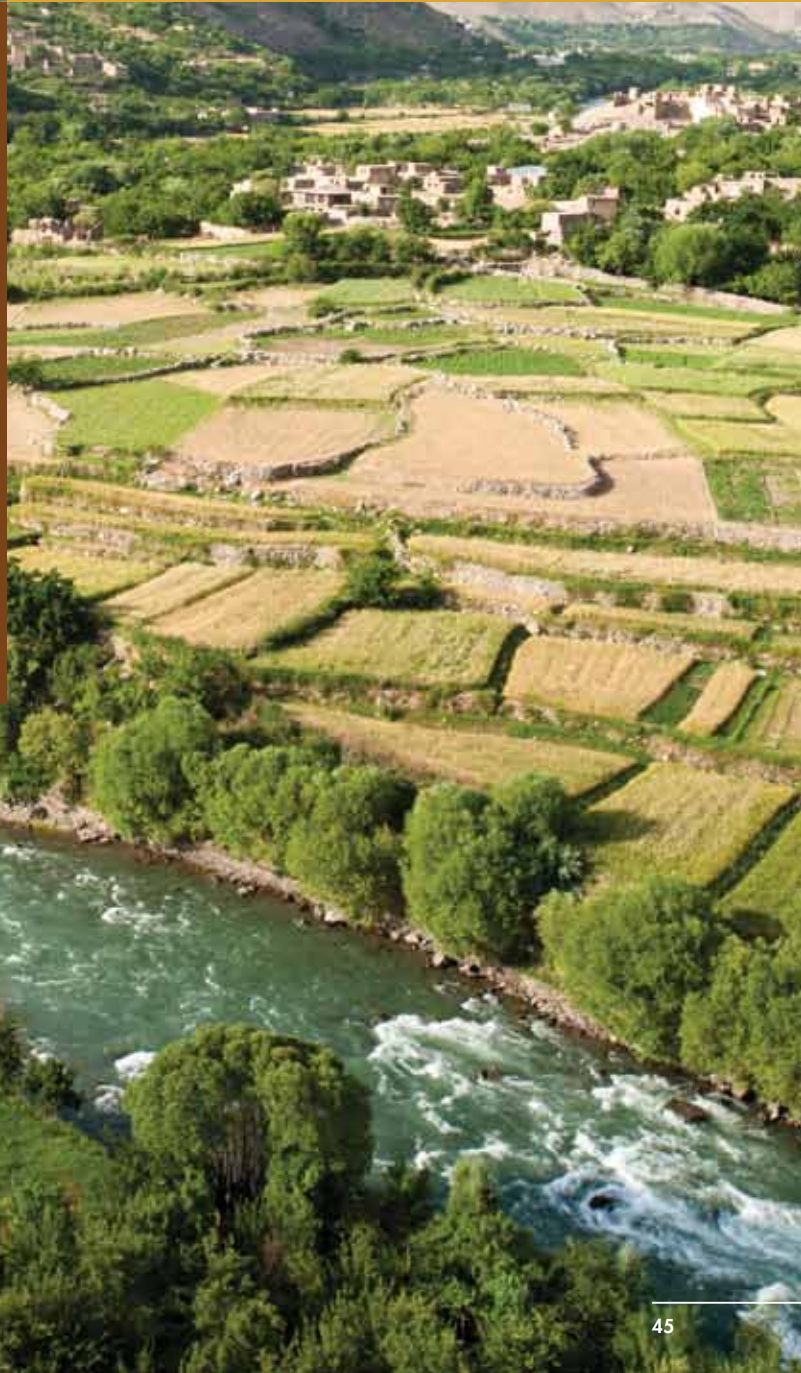
*"It was inspiring to know that leadership qualities need not be innate and are skills you can learn and make use of to enhance the leadership potential in you. I no longer doubt myself and know that women can be better leaders and managers."*

– Bandana Shakya  
Biodiversity Analyst,  
Ecosystem Services



# Mountains Matter: Advocating for the Hindu Kush Himalayas

ICIMOD shares research and knowledge from the HKH region with an international community of experts, scientists, and policy makers at global environmental forums. It advocates for recognition of the importance of both the Hindu Kush Himalayas as a source of vital ecosystem services and water for a vast region and the role that mountain people play in sustaining these resources. The year 2012 was significant for ICIMOD and the Mountain Agenda, with ICIMOD's active participation in a wide range of international events raising awareness of the importance of mountains, especially those in the HKH region.



## Promoting the Mountain Agenda at Rio+20

At the Rio+20 Conference in June 2012, Heads of State and high-level representatives from around the world adopted a declaration calling for international support for sustainable mountain development and encouraging countries to adopt mountain-specific policies. The final outcome document recognizes the global benefits of mountain ecosystems and the vital contributions of mountain people to sustainable development, bringing official recognition to the Mountain Agenda introduced. This is a major step in promoting the future wellbeing of mountain people.

At Rio+20, ICIMOD-organized events highlighting green growth strategies in mountains, women's role on the frontline of sustainable mountain development, and the need to improve the natural resource management in mountain areas to ensure the provision of water, food, and clean energy. An appeal from mountain youth participating in the Global Youth Forum on Mountain Issues and Sustainable Actions was shared with delegates. Its influence can be seen in mountain-related paragraphs in the final Rio+20 Declaration.



“The three paragraphs on mountains lay out a long-term vision for a holistic approach for sustainable mountain development”

– Gyan Chandra Acharya

Under-Secretary-General and High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States



## From the Rio+20 Declaration, The Future We Want:

### Mountains

**210.** We recognize that the benefits derived from mountain regions are essential for sustainable development. Mountain ecosystems play a crucial role in providing water resources to a large portion of the world's population; fragile mountain ecosystems are particularly vulnerable to the adverse impacts of climate change, deforestation and forest degradation, land use change, land degradation, and natural disasters; and mountain glaciers around the world are retreating and getting thinner with increasing impacts on the environment and human well-being.

**211.** We further recognize that mountains are often home to communities, including indigenous peoples and local communities, who have developed sustainable uses of mountain resources. They are, however, often marginalized, and we therefore stress that continued effort will be required to address poverty, food security and nutrition, social exclusion and environmental degradation in these areas. We invite States to strengthen cooperative action with effective involvement and sharing of experience of all relevant stakeholders, by strengthening existing arrangements, agreements, and centers of excellence for sustainable mountain development, as well as exploring new arrangements and agreements, as appropriate.

**212.** We call for greater efforts toward the conservation of mountain ecosystems, including their biodiversity. We encourage States to adopt a long-term vision and holistic approaches, including through incorporating mountain-specific policies into national sustainable development strategies which could include, inter alia, poverty reduction plans and programmes in mountain areas, particularly in developing countries. In this regard, we call for international support for sustainable mountain development in developing countries

## Mountain biodiversity in CBD COP-11

An ICIMOD delegation attended the Eleventh Meeting of the Conference of Parties to the Convention on Biological Diversity (CBD COP-11) in October 2012 in Hyderabad, India, to follow negotiations on agenda relevant to ICIMOD's work. ICIMOD's work on transboundary landscapes was highlighted during a side event, during which representatives from Bhutan, China, India, Nepal, and Pakistan showed an interest in intensifying regional cooperation for the management of several of the region's transboundary landscapes.

ICIMOD also hosted side events on high-altitude wetlands and the Nagoya Protocol in collaboration with other regional and national institutes. ICIMOD was awarded the Public Choice Award during a poster competition in appreciation of ICIMOD's work towards meeting Aichi Biodiversity Targets and sustainable development goals.

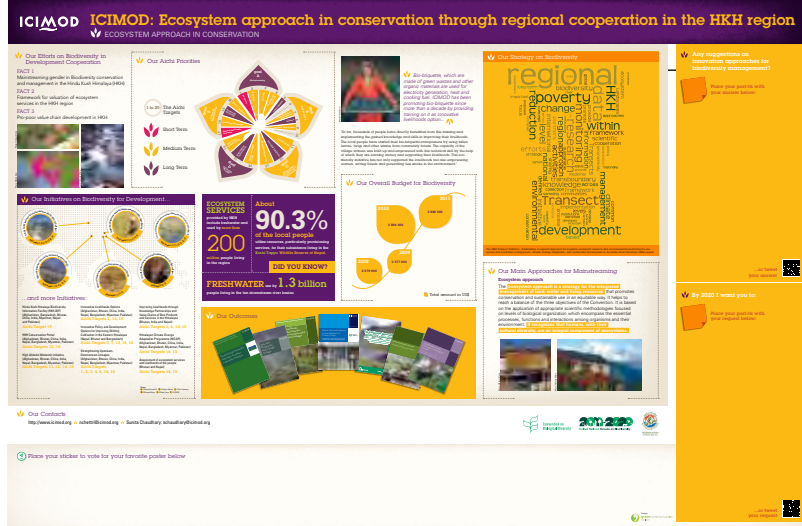
## Green economy and mountain countries

Representatives of more than 25 mountain countries attended the International Conference of Mountain Countries on Climate Change in Kathmandu, organized in April 2012 by the Government of Nepal with ICIMOD's support. The Kathmandu Call for Action issued at the meeting was carried to Rio+20, after which Nepal was elected as chair of Least Developed Countries group for 2013 to 2014.

In 2012, ICIMOD contributed messages from the International Conference on Green Economy and Sustainable Mountain Development held in 2011 to a global report on green economy and mountain development.

## Mountain Day 2

At Mountain Day 2, organized by ICIMOD and the Mountain Partnership at the Eighteenth Conference of the Parties to the UNFCCC in Doha, participants shared climate change stories from the world's mountain regions that illustrated the potential impacts of climate change on mountain water resources, food security, and livelihoods. The stories sent a message to national negotiators that mountain-dependant water availability and use will be critical in the future and that mountain communities need global support to adapt and build resilience to climate change.



Poster awarded Public Choice Award at CBD COP-11

## Representing mountains at water events

At international and regional water events, ICIMOD presses for:

- regional cooperation for sharing data and information among countries in the HKH;
- greater emphasis on the need for water governance at a local level and better climate adaptation and mitigation initiatives; and
- integrated information systems for flood-risk management.

At the sixth World Water Forum, ICIMOD was invited to organize the Asia-Pacific session on 'Water Risks and Resilience'. ICIMOD also co-organized two sessions at Stockholm World Water Week. At the second World Water Week session, Dr Eklabya Sharma, Director of Programme Operations, noted that as the sources of the world's major rivers, mountain areas play a vital role in the water cycle, for biodiversity, and for hydroelectric power.

Knowledge cafe participants at Mountain Day 2





## Indian Mountain Initiative

Progress made by the Indian Mountain Initiative (IMI) catalyses and galvanizes scientists, administrators, social workers, and development practitioners in India to reflect on the relationship between the environment and development efforts, demonstrates the growing ownership of the Mountain Agenda by regional countries.

In 2012, the IMI and several partners organized the second Sustainable Mountain Development Summit with support from ICIMOD, which closed with the Gangtok Declaration to take IMI forward.

“The mountain states in India have not received due attention and we recommend that greater focus and emphasis be given to the sustainable mountain development without delay.”

“Mountains are important not only to mountain communities, but also to millions living downstream. It is important that mountains are considered in local, regional, and global terms.”

– KT Gyaltsen, Honourable Speaker,  
Sikkim Legislative Assembly

## Bhutan+10: Attention to gender and cultural conditions

The Bhutan+10 Conference – Gender and Sustainable Mountain Development in a Changing World – gave over 180 people from diverse backgrounds an opportunity to share experiences and good practices. A publication on gender and biodiversity and the Gender Environment Mountain (GEM) Network were launched during the conference, and the final declaration called for:

- Attention to gender at the highest policy levels in the region
- Consideration of the specific socio-cultural and ecological conditions of mountains
- Enabling conditions for change for women and farmers on the ground
- Special attention to issues arising from men’s outmigration, like the feminization of natural resource management and women’s increasing workload
- Support for networking and media engagement to raise awareness
- Integration of mountain perspectives in global and national agendas.



# Empowering Youth to Drive Change

The ICIMOD Youth Initiative inspires and supports young people to advocate for mountain issues in global, regional, and national forums. Since it began in 2009, the global membership of the Youth Engagement in Sustainable Mountain Development (Y4SMD) initiative has grown to almost 4,000 members, a majority of which are from ICIMOD's regional member countries.

Whether dealing with climate change or sustainable mountain development, youth participants are encouraged and empowered to act and advocate for pressing local and global issues. And their voices make a difference. At a Global Youth Forum during Rio+20, participating mountain youth developed an appeal to delegates for recognition of mountain issues, which is reflected in three mountain-specific paragraphs in the final declaration.

*"ICIMOD's Youth Initiative inspires youth to be change agents. Since 2011, we have been organizing campaigns, projects, and awareness sessions on environmental sustainability issues in our communities. In 2013, we organized the Myanmar National Youth Forum. These are the result of ICIMOD's Youth Initiative. ICIMOD encouraged me to engage with other youth, to share knowledge to help my communities, and to raise my voice within national and global policy making platforms"*

– May Zin Thaw,  
Founder of Youth Informed, Myanmar

National Youth Forums were held in all of ICIMOD's regional member countries in late 2012 and early 2013. The issues raised and discussed were relevant for each country, with local resource persons leading discussion on country-specific issues. Local ICIMOD Youth Ambassadors drove these events with minimal guidance and financial support from ICIMOD.

Ten ICIMOD Youth Ambassadors organized a Global Youth Forum and a knowledge cafe on mountain issues at UNFCCC COP-18 in Doha. In the box to the right, some of these young people share their thoughts.

## Daring to talk

*"My walk with ICIMOD started in January 2012 when I attended the SERVIR-Himalaya Youth Forum in Dhaka. There I learned how to use new tools and improved my networking skills. In September, I attended the Asia-Pacific Graduates Youth Forum on Green Solutions in Nepal, where I was selected to attend UNFCCC COP-18."*



*"After returning, I organized the National Youth Forum on Green Solutions in Bangladesh to highlight issues from the country's hilly region. Without support and advice from ICIMOD, arranging such a big event in Bangladesh would not have been possible. This event was a reflection of the skills and knowledge I learned from ICIMOD. The ICIMOD youth initiative encourages youth to generate ideas and seek solutions to improve their own community and the world."*

– Marufa Ishaque, ICIMOD Youth Ambassador from Bangladesh, presented a Youth Appeal to the negotiator from Bangladesh at the UNFCCC conference in Doha.

*"The best part of the Nepal Youth Task Force on Rio+20 was lobbying for mountain issues with other youth from the region and being recognized by the Government of Nepal for our initiative. ICIMOD's Youth Initiative should be broadened to motivate and provide new youth with a platform."*

– Avishek Shrestha, Nepal,  
UNFCCC Youth Focal Point for the Global South 2012

*"ICIMOD's Youth Initiative has built my understanding of mountain and climate change issues, their impacts, and ways to find the best possible solution, including influencing policy. During Rio+20 and UNFCCC COP-18, I represented youth from the region and aired our concerns in front of policy makers. In Doha, I presented the Youth Appeal during the ministerial roundtable discussion for consideration in the international negotiations. This was a once in a lifetime opportunity, and attending Rio+20 was a once in a generation experience."*

– Sameera Zaib, Coordinator of the  
Asia Pacific Youth Task Force on Rio+20, Pakistan



MoU signing at ICIMOD



Partnership Development,  
Publications, People, and  
Finances

# Partnership Development

ICIMOD establishes strategic partnerships with regional and international organizations to address mountain issues and to enhance the social and environmental security of mountain people. Some of the partnerships entered into from January to December 2012 are listed here.

## Strategic partnerships with international organizations

- For analysis of water availability in the upper Indus, Ganges, and Brahmaputra basins, an agreement was entered into with Futurewater, Netherlands, under the Himalayan Climate Change Adaptation Programme (HICAP).
- Concerning the assessment of climate change impacts on the hydrological regime of the Himalayas, a Memorandum of Understanding was signed with SN Power, Norway.
- For the implementation of a programme on biodiversity conservation in the Kailash region, a contract was signed and funds were received from
  - Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), Germany; and
  - Department for International Development (DFID), United Kingdom.
- To facilitate an interdisciplinary network to promote holistic environment system analysis, quantitative ecosystem services analysis, integrated modelling, and sustainable resource management, an agreement was entered into with Friedrich Schiller University, Germany.
- A small-scale funding agreement was signed with the United Nations Environment Programme (UNEP) to contribute to the consolidation and piloting of decision support tools to improve and strengthen management systems for sustainable development and environmental conservation of the Central Karakoram National Park.
- An agreement was entered into with the Royal Norwegian Embassy-Kathmandu to organize the International Conference of Mountain Countries on Climate Change, including the organization of the International Expert Consultation to provide technical and scientific feedback to the Conference.
- In support of activities related to the Asia Pacific Sustainable Mountain Development regional hub hosted by ICIMOD, partnership was entered into with the Consortium for the Sustainable Development of the Andean Ecoregion (CONDESAN), Peru.
- To enable cooperation and mutually promote academic, scientific, and cultural exchange activities, a Memorandum of Understanding was signed with Chubu University, Japan.
- For research into the role of educational institutions as innovation intermediaries for inclusive development, an agreement was signed with the International Development Research Centre (IDRC), Canada.
- An agreement was entered into with the United Nations Development Programme (UNDP) to support the Government of Nepal in preparation for the United Nations Conference on Sustainable Development (Rio+20).
- To implement Phase I of the Koshi Basin Programme, a grant agreement was signed with the Australian Agency for International Development (AusAID), Australia.
- An agreement was signed with the Global Biodiversity Information Facility Secretariat (GBIF), Denmark, in support of regional training events on biodiversity data publishing in the Hindu Kush Himalayas.
- Two contracts were signed with the Institute for Global Environmental Strategies (IGES), Japan, for a study for the identification of win-win adaptation options through adaptation metrics and integrated adaptation decision making frameworks and for ICIMOD's role as the Thematic Node for Mountains of the Asia Pacific Adaptation Network (APAN).
- A contract was entered into the Food and Agriculture Organization of the United Nations (FAO) for support to for improving strategic collaboration and partnerships among key regional and global stakeholders on climate change in mountain regions.

- A Memorandum of Understanding was signed with the Finish Meteorological Institute (FMI), Finland, for collaboration of mutual interest and benefit.
- For the preparation and submission of a report on the implementation of the South Asia Sub-Regional Action Programme to the 11th Session of the Committee for the Review of the Implementation of the Convention to Combat Desertification, a contract was signed with United Nations Convention to Combat Desertification (UNCCD).
- In support of Bhutan+10 conference on gender and sustainable mountain development in a changing world, agreements were signed with
  - Deutsche Gesellschaft fur Internationale Zusammenarbeit (GIZ) GmbH, Germany;
  - Federal Department of Foreign Affairs (FDFA), Switzerland; and
  - International Development Research Centre (IDRC), Canada.
- For the implementation of Phase I of the Sustainable Atmosphere for the Kathmandu Valley (SusKat) project, partnership was entered into with the Institute for Advanced Sustainability Studies, Germany.

- An agreement was signed with the United Nations Environment Programme (UNEP) to improve communication of environmental issues in Asia Pacific.

### **Partnerships with regional institutions for programme implementation**

- For monitoring and assessment of changes in the glaciers, snow, and glacio-hydrology of the Hindu Kush Himalayas and with a special focus on strengthening the capacity of Nepalese organizations through the HKH Cryosphere Monitoring Project, agreements were signed with:
  - Central Department of Hydrology and Meteorology, Tribhuvan University, Nepal
  - Department of Hydrology and Meteorology, Ministry of Environment, Nepal
  - Water and Energy Commission Secretariat, Nepal
- Swiss Federal Institute of Technology Zurich (ETH), Switzerland
- For assessment of water availability, demand, and adaptation options in river basins in the context



of climate change under the Himalayan Climate Change Adaptation Programme, agreements were signed with:

- Foundation for Innovation and Technology Transfer, Indian Institute of Technology, India;
- International Water Management Institute, Pakistan; and
- Institute of Water Modelling, Bangladesh.
- For developing an integrated mechanism to combat rangeland desertification in Ruorgai County, Upper Yellow River, China, ICIMOD entered into partnership with the Sichuan Grassland Sciences Academy, China.
- For cooperation on joint research to solve fundamental and applied scientific problems in the Hindu Kush Himalayan region, ICIMOD signed an agreement with the Institute of Mountain Hazards and Environment, Chinese Academy of Sciences, China.
- To support the organization of the Sustainable Mountain Development Summit: 2012, an agreement was signed through the Indian Mountain Initiative with
  - Department for International Development (DFID); and
  - Central Himalayan Environment Association (CHEA), India.
- For the implementation of the project Establishment of a Regional Flood Information System in the Hindu Kush Himalayan region (HKH-HYCOS), a Letter of Agreement was signed with
  - Department of Hydromet Services, Ministry of Economic Affairs, Royal Government of Bhutan; and
  - Real Time Solutions, Bhutan.
- For capacity building of Indian administrative officers in mountain-specific climate change adaptation and research related to mountains,



- A strategic agreement was signed with the Tibet Academy of Agricultural and Animal Sciences (TAAAS), China, for broad collaboration.
- An agreement was signed with the GB Pant Institute of Himalayan Environment and Development (GBPIHED), India, to organize a country consultation in India.
- An institutional partnership contract was entered into with Lanzhou University, China, as well as an agreement for the adoption and upscaling of various technological rangeland options for livelihood diversification and better adaptation to climate change.
- a collaborative partnership was developed with the National Institute of Administrative Research (NIAR), India.
- To carry out activities related to the rangeland policy of Nepal, an agreement was signed with the Department of Livestock, Nepal.
- For the secondment of young Chinese professionals at ICIMOD, a Memorandum of Understanding was signed with the Chinese Academy of Sciences (CAS), China.

# Publications

## From ICIMOD...

ICIMOD disseminates much of the information gathered during programme activities in the form of printed and electronic publications targeted at policy makers, development workers, government experts and decision makers, students, and the interested public. Full length books and manuals are still published, but increasingly publications are being prepared in shorter, more attractive, and easy-to-read information sheets and short formats. Long proceedings and more technical material are prepared in electronic format, for example on a CD-ROM with an introductory booklet or simply through web posting. Staff also publish more academic results in (usually peer-reviewed) journals. All ICIMOD's own publications can be downloaded free of charge from [www.icimod.org/himaldoc](http://www.icimod.org/himaldoc). Hard copies are provided free to institutions actively involved in sustainable development of the Hindu Kush Himalayan region.

### Books and booklets

**Rapid Urban Assessment of Air Quality for Kathmandu, Nepal – Summary** 28pp.  
ISBN 978 92 9115 267 4- LCCN 2012-323210

**Resource manual on flash flood risk management – Module 3: Structural measures** Shrestha, AB; GC, E; Adhikary, RP; Rai, SK. 102pp ISBN 978 92 9115 265 0  
LCCN 2012-323209

**Gender and biodiversity management in the greater Himalayas: Towards equitable mountain development** Khadka, M; Verma, R; 76pp  
ISBN 978 92 9115 262 9 LCCN 2012-323208

**Caring for Our Transboundary Landscape – Illustrations from the Kailash Sacred Landscape** Oli, KP; Rana, PSJ; Peili, S; Rawal, RS; Chaudhary, RP. 56pp ISBN 978 92 9115 250 6  
LCCN 2012-232205

**Quality assurance for the honey trade in the Hindu Kush Himalayan region** Partap, U; Gurung, MB; Joshi, SR. 64pp ISBN 978 92 9115 245 2  
LCCN 2012-323203

**Value of insect pollinators to Himalayan agricultural economies** Partap, U; Partap, T; Sharma, HK; Phartiyal, P; Marma, A; Tamang, NB; Ken, T; Munawar MS. 70pp ISBN 978 92 9115 260 5 LCCN 2012-323207

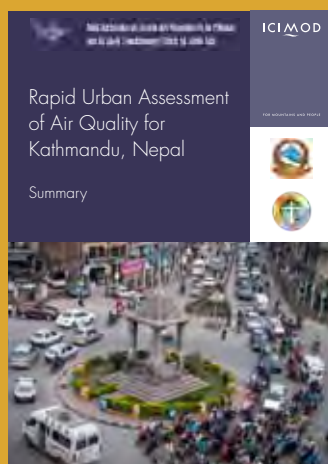
**Mainstreaming community-based conservation in a transboundary mountain landscape – Lessons from Kangchenjunga** Phuntsho, K; Chettri, N; Oli, KP. 24pp ISBN 978 92 9115 252 0  
LCCN 2012-323206

**Beekeeping training for farmers in the Himalayas – Resource manual for trainers (Nepali version)** 222 pp ISBN 978 92 9115 237 7  
LCCN 2012-323202

**Beekeeping training for farmers in the Himalayas – Resource manual for trainers** Gurung, MB; Partap, U; Shrestha, NCTD; Sharma, HK; Islam, N; Tamang, NB. 190pp ISBN 978 92 9115 231 5  
LCCN 2012-323201

**Role of Policy and Institutions in Local Adaptation to Climate Change – Case studies on responses to too much and too little water in the Hindu Kush Himalayas** Pradhan, NS; Khadgi, VR; Schipper, L; Kaur, N; Geoghegan, T. 86pp ISBN 978 92 9115 228 5  
LCCN 2012-323200

**Contribution of Himalayan Ecosystems to Water, Energy, and Food Security in South Asia: A nexus approach** Rasul, G. 8pp



## Conference and Workshop Report

International Conference on the Cryosphere of the Hindu Kush Himalayas: State of the Knowledge and Workshop on Hindu Kush Himalayan Cryosphere Data Sharing Policy, 14-18 May 2012 42pp

## Project Document

Kailash Sacred Landscape Conservation and Development Initiative: A regional programme implementation plan (2012 – 2016) 36pp

## Working Papers

Transboundary landscape management framework for ecological and socioeconomic resilience. ICIMOD Working Paper 2012/7 Shakya, B; Chettri, N; Rawat, GS. 40pp ISBN 978 92 9115 258 2

Options for payment mechanisms under national REDD+ programmes. ICIMOD Working Paper 2012/6 Skutsch, MM; Karky BS; Rana, EB; Kotru, R; Karki, S; Joshi, L; Pradhan, N; Gilani, H; Joshi, G. 20pp ISBN 978 92 9115 243 8

Value of forest ecosystem services: A quantitative estimation from the Kangchenjunga landscape in eastern Nepal. ICIMOD Working Paper 2012/5 Pant, KP; Rasul, G; Chettri, N; Rai, KR; Sharma, E. 30pp ISBN 978 92 9115 254 4

Towards developing the Brahmaputra-Salween Landscape – Report on the experts regional consultation for transboundary biodiversity management and climate change adaptation. ICIMOD Working Paper 2012/4 30pp ISBN 978 92 9115 236 0

Towards developing the Karakoram-Pamir Landscape – Report of the regional consultation to develop future strategic programme for biodiversity management and climate change adaptation ICIMOD Working Paper 2012/3 28pp ISBN 978 92 9115 235 3

Mountain biodiversity conservation and management: Selected examples of good practices and lessons learned from the Hindu Kush Himalayan region ICIMOD Working Paper 2012/2 Chettri, N; Sherchan, U; Chaudhary, S; Shakya, B (eds). 70pp ISBN 978 92 9115 234 6

Policy and Processes that Enable Honey Export: A Case Study from India ICIMOD Working Paper 2012/1 Sharma, HK; Partap, U; Gurung, MB. 209pp ISBN 978 92 9115 230 8

## CD-ROMs and DVDs

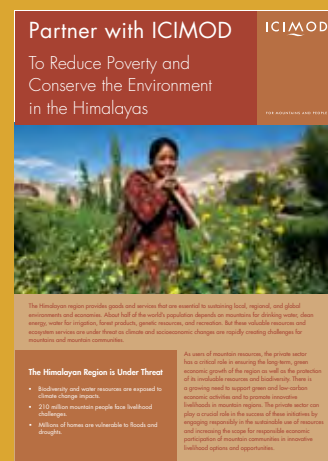
REDD+ for Green Communities: Lessons from a pilot project in Nepal (video) (full-length 25 mins; abbreviated 10 mins)

REDD+ for Green Communities: Lessons from a pilot project in Nepal (video) – Nepali version (25 mins)

Biodiversity conservation and management in the Hindu Kush Himalayan region (DVD) Selected publications, films, and others, 1985-2012 (updated)

Climate change in the Hindu Kush Himalayan region (DVD) Selected publications on impacts, adaptation, and others from 1986 to 2012 (updated)

Rapid Urban Assessment of Air Quality for Kathmandu, Nepal – Full Report 28pp. ISBN 978 92 9115 267 4- LCCN 2012-323210



## General publications

Annual Report 2011

Asia-Pacific Mountain Courier – Special issue

CNICIMOD Newsletter Vol. 6, No. 1, April 2012

CNICIMOD Newsletter Vol. 6, No. 2, October 2012

## Information sheets/briefing papers/project brochures

Kailash Sacred Landscape Conservation and Development Initiative (KSLCDI): Transcending boundaries for conservation and development

Access and Benefit Sharing from Genetic Resources and Associated Traditional Knowledge

Partner with ICIMOD: To Reduce Poverty and Conserve the Environment in the Himalayas

HIMALA: Climate Impacts on Snow, Glaciers, and Hydrology in the Hindu Kush Himalayas

Forest Fire Detection and Monitoring System in Nepal

Establishment of a Regional Flood Information System: Making flood information travel faster than flood water

The Hindu Kush Himalayan Conservation Portal (updated)

APAN Mountain Climate Change Thematic Node

Status of Glaciers in the Indus Basin

Snow Cover Status and Trends in the Indus Basin

Role of Policy and Institutions in Local Adaptation to Climate Change: Case studies on responses

Mountain Poverty in the Hindu Kush-Himalayas: Regional analysis for Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan

## Multimedia (available on YouTube)

Mountain Men and Women Adapting to Climate Change - A Photo Story from Nepal

Bhutan+10 Declaration

Kiwi Farming in Ilam, Nepal

REDD+ for Green Communities: Lessons from a pilot project in Nepal

Sights and Sounds of the Mountains

Seti Flash Flood Reconnaissance Visit

Bio-briquette as an Alternative Source

Sun Koshi River Basin and Flash Flood Risk

# .....other publications by ICIMOD staff

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# ICIMOD Board of Governors 2012

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The Director General of ICIMOD is a member of the ICIMOD Board of Governors Ex-officio

\* Elected Chair of the Board of Governors at the meeting held in Yangon, Myanmar, November 2012

\*\* Dr Tishya Chatterjee, IAS served on the ICIMOD Board of Governors from January 2012 to November 2012

\*\*\* Mr Khushro Pervaiz Khan, Additional Secretary, Economic Affairs Division, Pak Secretariat (November 2011 to March 2012) and Mr Shafqat Naghmi, Secretary, Ministry of Food, Agriculture and Livestock (March-June 2012) served on the ICIMOD Board of Governors in 2012

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 Shrestha, Anu Joshi  
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 Shrestha, Finu  
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 Shrestha, Krishna  
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 Shrestha, Rajendra Bahadur  
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 Shrestha, Subasana  
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 Karmacharya, Jay Prasad  
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 Shukla, Radheshyam

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 Bajracharya, Nani Keshari  
 Bajracharya, Narendra  
 Bajracharya (Shrestha), Pramila  
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Gurung, Dipshikha  
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 KC, Rishi  
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 KC, Sudama  
 Kansakar, Chandra Bir Singh  
 Khatri Thapa, Rekha  
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 Magar, Bishnu  
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 Maharjan, Krishna  
 Maharjan, Ram  
 Maharjan, Chini Kaji  
 Mali, Rajendra Prakash  
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 Rana, Ganga Bahadur  
 Ranjit, Rabindra  
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 Shrestha, Mohan Krishna  
 Shrestha, Kishore  
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 Shrestha, Nabindra Raj  
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 Vaidya, Jenny

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 Vaidya, Ramesh Anand  
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 Nepal, Mani  
 Shyamsunder, Priya  
 Syangden, Bhawana

# Financial Report

## ICIMOD Income and Expenditure Accounts 2003-2012

The financial management of the Centre is implemented through the establishment of programme and core funds, and co-financing project funds. All unrestricted contributions made by sponsors and member countries are credited to the core programme funds. All restricted contributions made by sponsors, governments, and non-government sources for specific projects are credited to co-financing project funds.

### Core Programme Funds

In US Dollars

SOURCE	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
<b>A. Regional</b>	<b>170,880</b>	<b>220,563</b>	<b>344,805</b>	<b>276,196</b>	<b>245,249</b>	<b>359,116</b>	<b>334,209</b>	<b>630,277</b>	<b>539,592</b>	<b>830,902</b>
Afghanistan		5,000		10,000	5,770	7,873	10,742	14,658	14,658	35,342
Bangladesh	10,000	28,300	10,000	20,000	10,000	11,240	11,758	–	12,348	12,988
Bhutan		7,500	15,000	7,500	8,243		32,543	25,651	35,000	30,000
China	45,000	145,000	45,000	100,000	100,000	100,000	100,000	150,000	150,000	150,000 *
India	84,695	11,284	155,456	113,106	72,075	50,794	149,189	160,223	171,713	292,750
Myanmar	9,667	9,956			19,706	29,223	10,746	35,222	35,222	29,822
Nepal	12,903	13,523	14,154	13,784	21,246	23,566	19,231	20,175	20,819	80,000
Pakistan	8,615		105,195	11,806	8,209	136,420	–	224,348	99,832	200,000
<b>B. Non-Regional</b>	<b>2,562,469</b>	<b>2,703,124</b>	<b>2,592,999</b>	<b>2,733,819</b>	<b>2,860,492</b>	<b>4,739,611</b>	<b>4,066,646</b>	<b>3,858,895</b>	<b>3,463,530</b>	<b>4,990,609</b>
Austria	114,118	125,460	122,349	120,357	137,097	160,883	136,364	94,444	98,124	85,642
Denmark		400,572	200,901	–	214,264	–	–	–	–	–
DFID				–	–	–	–	–	–	1,770,968
Germany	854,625	494,694	630,416	931,632	888,988	1,002,060	1,536,038	1,225,203	1,446,528	1,186,611
Netherlands	585,714	660,438	600,000	600,000	540,000	60,000	–	–	–	–
Norway	508,012	521,960	539,333	581,830	580,143	1,843,281	817,625	841,652	909,310	882,211
Sweden						779,676	714,550	714,550	–	–
Switzerland	500,000	500,000	500,000	500,000	500,000	893,711	862,069	983,046	1,009,568	1,065,177
<b>C. Other Income</b>	<b>172,209</b>	<b>175,155</b>	<b>130,360</b>	<b>334,535</b>	<b>632,666</b>	<b>1,296,940</b>	<b>1,182,790</b>	<b>1,105,367</b>	<b>1,686,966</b>	<b>1,493,387</b>
<b>Total Core (A+B+C)</b>	<b>2,905,558</b>	<b>3,098,842</b>	<b>3,068,164</b>	<b>3,344,550</b>	<b>3,738,407</b>	<b>6,395,667</b>	<b>5,583,645</b>	<b>5,594,539</b>	<b>5,690,088</b>	<b>7,314,898</b>
<b>Project Co-financing</b>	<b>3,124,694</b>	<b>2,596,420</b>	<b>3,237,024</b>	<b>3,072,532</b>	<b>4,002,301</b>	<b>5,801,899</b>	<b>6,112,452</b>	<b>7,732,803</b>	<b>14,050,498</b>	<b>15,608,647</b>
<b>GRAND TOTAL</b>	<b>6,030,252</b>	<b>5,695,262</b>	<b>6,305,188</b>	<b>6,417,082</b>	<b>7,740,708</b>	<b>12,197,566</b>	<b>11,696,097</b>	<b>13,327,342</b>	<b>19,740,586</b>	<b>22,923,545</b>

EXPENDITURE	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Programme Cost	1,403,669	1,730,067	1,805,625	1,938,261	2,395,461	3,672,008	4,447,710	4,654,126	3,303,616	3,393,004
Project Cost	2,598,643	3,018,022	3,242,531	3,103,868	3,808,778	4,785,076	5,998,834	7,653,146	9,797,169	13,007,025
Support Cost 1	699,467	675,486	515,203	493,003	537,721	752,133	541,655	1,067,357	1,050,206	599,401
Directorate Cost 2	383,728	366,075	419,671	523,626	552,520	714,544	701,408	650,827	1,077,021	1,002,101
<b>Total Expenditures</b>	<b>5,085,507</b>	<b>5,789,650</b>	<b>5,983,030</b>	<b>6,058,758</b>	<b>7,294,480</b>	<b>9,923,761</b>	<b>11,689,607</b>	<b>14,025,456</b>	<b>15,228,012</b>	<b>18,001,531</b>

Note: Support cost in 2012 includes exchange gain amounting to US\$ 148,660.

\* China has provided core contribution in 2013 as per the approved funding strategy.

## Project Co-financing Funds

In US Dollars

SOURCE	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Australia								–	–	1,479,600
Austria	462,558	339,977	432,394	523,798	538,037	615,087	586,667	267,555	416,844	127,138
Finland							602,410	–	1,154,401	
Germany	101,509	51,826	191	252,528	95,891	214,436	204,378	878,025	209,074	1,350,101
Netherlands	420,814	352,894	169,012					–	–	
Norway			100,630				647,354	1,379,884	4,779,286	4,496,448
Sweden							350,925	343,425	1,845,325	1,736,409
Switzerland	404,820	547,166	648,496	420,477	510,690	1,179,487	190,307	271,158	85,481	151,514
USA	91,950	98,816	158,320	161,641	364,858	742,374	426,354	422,452	513,862	983,088
ITALY/IUCN	47,969	72,441	9,275	152,062	510,381	583,702	200,262	111,832	–	

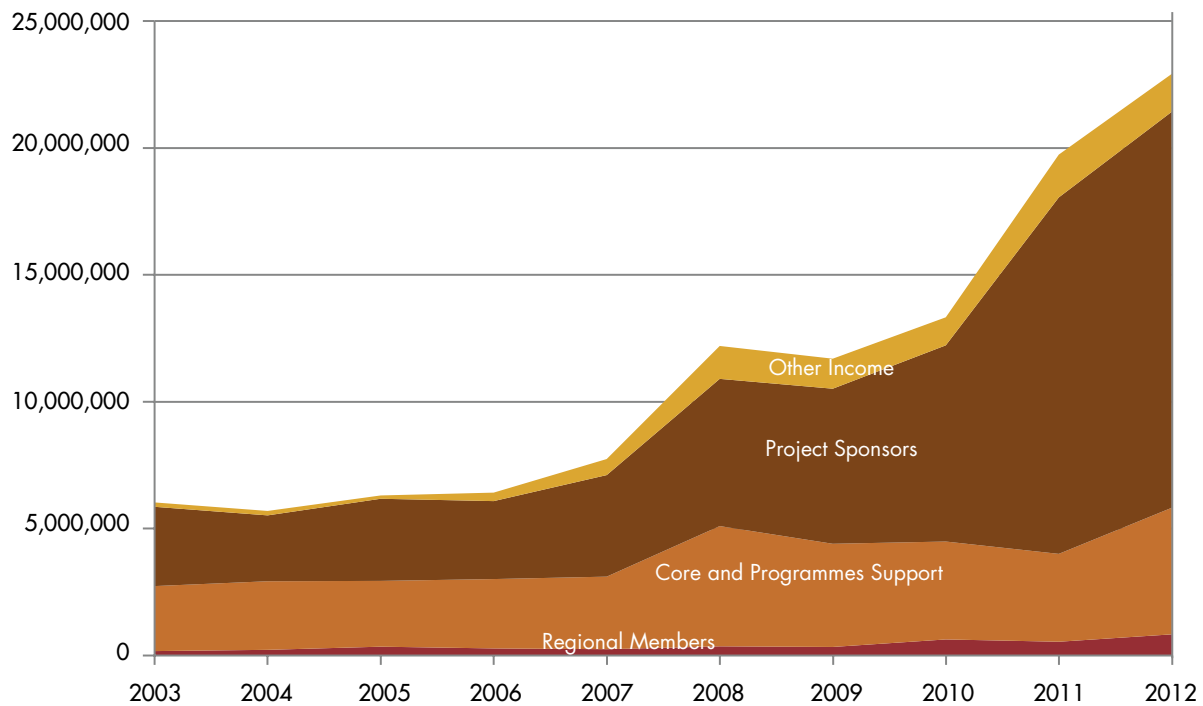
ADA								228,472	238,755	238,413
ADB		20,000	4,000	19,340			57,090	213,737	110,000	12,821
EU			33,631	429,077	30,717	136,875	71,228	–	60,355	2,786,458
CIP	8,100	9,000			85,690	31,990	40,000	43,173	65,683	80,407
FAO	70,500	165,200	83,025	50,425	106,785	101,274	98,700	384,118	686,632	230,165
ISNAR	72,000							–	–	
UNEP	125,000	100,558	119,337	101,560	55,500	176,300	270,000	424,534	442,284	358,342
UNESCO	18,000	9,000	8,000	4,000	12,400	14,600	2,000	65,000	48,000	
WWF	28,614	24,825				5,000		–	–	
IFAD	428,000	127,000	433,000	95,391	469,430	10,000	379,506	573,019	551,348	549,515
DFID								–	–	74,881
UNIFEM	48,760							–	–	
ESA			44,609					–	–	
WI			124,649			69,636		–	–	
FORD	200,000	200,000	143,127		100,000	200,000		200,000	–	
IDRC	177,784	132,290	338,707	517,383	297,398	784,121	833,867	632,098	682,861	422,503
MacArthur	100,000	75,000	175,000	100,000	150,000	240,000		400,000	–	
ICCO	133,436	24,021	140,015	168,845	146,790		152,779	164,403	173,938	
CEH, UK	52,888	7,248						–	–	
CFC/FAO					301,143			–	–	
APN/START	71,734	68,600	13,400					–	–	
ITC	35,467	41,991						–	–	
Twente	24,791	81,953	30,096	71,209	132,183	172,767		–	70,211	2,688
Sandia		41,969	24,909					–	–	
CICERO						34,814	238,533	356,350	–	
World Bank						23,385	202,541	70,815	1,511,128	
UNDP						337,075	327,375	–	89,030	226,218
Others		4,645	3,201	4,796	94,408	128,976	230,176	302,753	316,000	301,939
<b>T O T A L</b>	<b>3,124,694</b>	<b>2,596,420</b>	<b>3,237,024</b>	<b>3,072,532</b>	<b>4,002,301</b>	<b>5,801,899</b>	<b>6,112,452</b>	<b>7,732,803</b>	<b>14,050,498</b>	<b>15,608,648</b>

EXPENDITURES	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
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<b>Total Expenditure</b>	<b>2,598,643</b>	<b>3,018,022</b>	<b>3,242,531</b>	<b>3,103,868</b>	<b>3,808,778</b>	<b>4,785,076</b>	<b>5,998,834</b>	<b>7,653,146</b>	<b>9,797,169</b>	<b>13,007,025</b>
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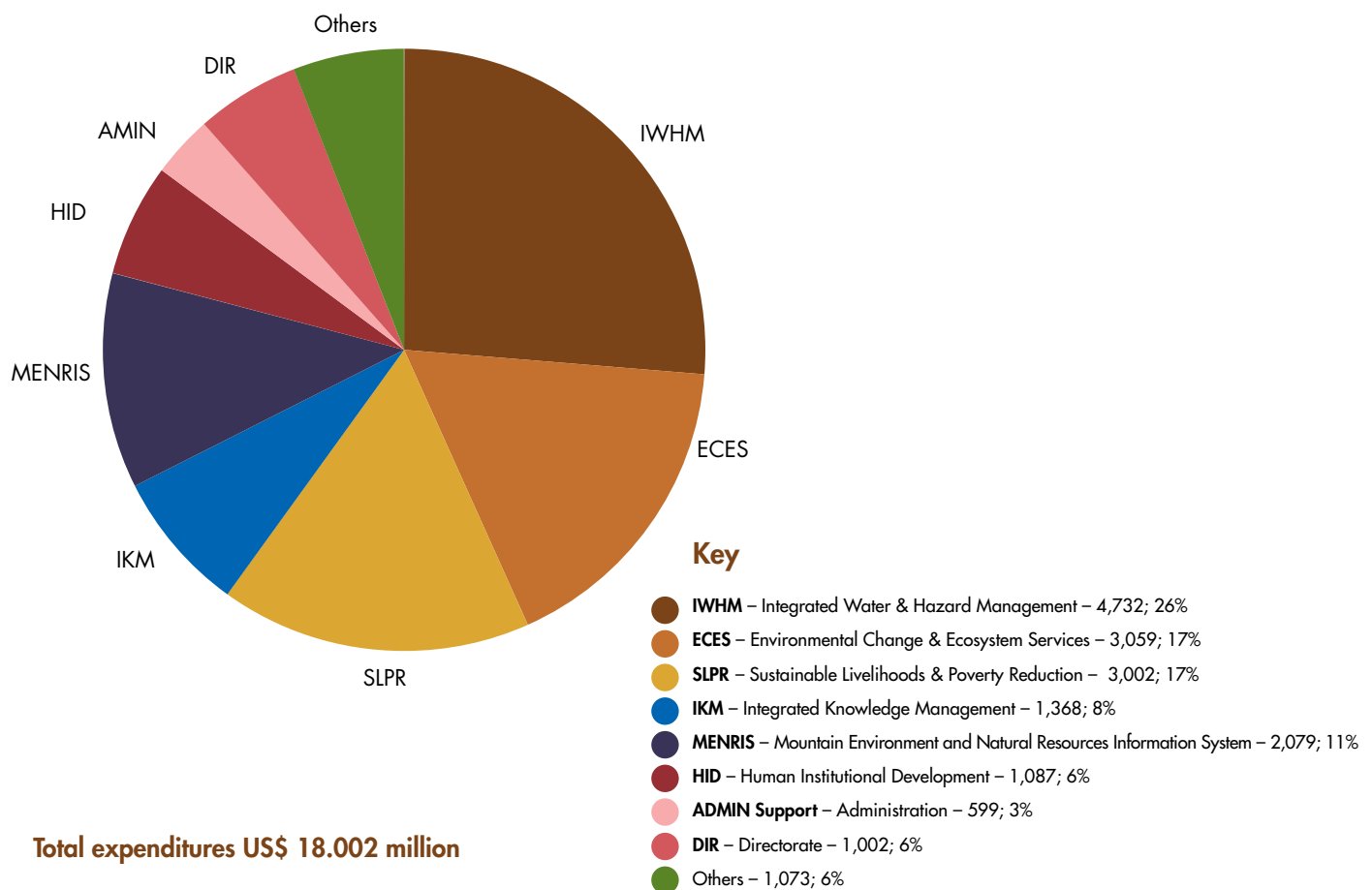
## ICIMOD Funding Sources 2003-2012

In thousand US Dollars



## ICIMOD Expenses by Programme 2012

In thousand US Dollars



# International Centre for Integrated Mountain Development

## Statement of Assets, Liabilities, Loan and Fund Balances

### as of 31 December 2012

All amounts in United States Dollars

	Schedule	As at 31 December 2012	As at 31 December 2011
<b>Fund Balances</b>			
General Reserve	1	3,252,113	2,998,943
Operational Reserve	1	963,320	411,403
Exchange Equalisation Reserve	1	503,606	503,606
Restricted Programme Support Fund Balance (net) [Note 3 (f) on Schedule 14]			
Government of Germany		-	2,493
Restricted Core Programme Support Fund Balance (net) [Note 3 (g) on Schedule 14]			
Department for International Development (DFID)		1,770,968	-
Special Projects Fund Balances (net)	6D		
Amounts to be incurred on projects		11,605,373	8,243,080
Amounts to be recovered		(1,864,553)	(1,103,882)
<b>Total Sources of Funds</b>		<b>16,230,827</b>	<b>11,055,643</b>
<b>Assets and Liabilities</b>			
Fixed Assets	2	1,665,240	1,686,545
Capital Work-in-Progress		361,683	-
Current Assets, Loans and Advances:			
Cash and Bank Balances	3	17,931,363	11,514,834
Loans and Advances	4	1,612,902	1,172,532
		19,544,265	12,687,366
Less: Current Liabilities and Provisions	5	(5,340,361)	(3,318,268)
Net Current Assets		14,203,904	9,369,098
<b>Total Application of Funds</b>		<b>16,230,827</b>	<b>11,055,643</b>
Notes forming part of the financial statements	14		

Schedules referred to above form an integral part of the Statement of Assets, Liabilities and Fund Balances

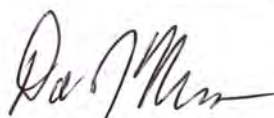
In terms of our report attached

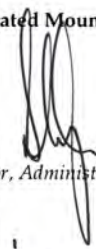
For DELOITTE HASKINS & SELLS  
Chartered Accountants

  
ALKA CHADHA  
Partner



For International Centre for Integrated Mountain Development

  
Director General

  
Director, Administration and Finance

  
Budget & Finance Officer

Place: Gurgaon, India  
Date: 5 APRIL, 2013

Place: Kathmandu, Nepal  
Date: 5 APRIL, 2013

# International Centre for Integrated Mountain Development

## Operating Statement for the Year Ended 31 December 2012

All amounts in United States Dollars

	Schedule	Year ended 31 December 2012	Year ended 31 December 2011
<b>INCOME</b>			
<b>Contribution from Donors</b>	6		
Restricted Programme Support	6A	1,186,611	1,446,528
Core and Other Programmes Support	6B	2,863,932	2,556,594
Restricted Core Programme Support	6C	1,770,968	-
Special Projects	6D	15,608,647	14,050,498
<b>Other Income</b>	7	1,493,387	1,686,966
	(A)	<u>22,923,545</u>	<u>19,740,586</u>
<b>EXPENDITURE</b>			
<b>Programme Cost</b>			
Restricted	8	1,189,104	1,347,898
Others	9	1,670,196	1,378,791
<b>Special Projects Cost</b>	10	12,616,645	9,206,866
<b>Scaling Up Cost</b>	11		
Programmes	11A	273,072	462,049
Special Projects	11B	390,380	590,303
<b>Core Support Cost</b>			
Directorate	12	1,600,188	1,475,850
Administrative Support	13	869,757	896,317
Depreciation [Note 3(a)(iii) on Schedule 14]		78,217	77,916
Less: Indirect Cost Allocation [Note 2 (xi) on Schedule 14]		<u>(537,368)</u>	<u>(471,392)</u>
		2,010,794	1,978,691
<b>Foreign Exchange Loss / (Gain) (net)</b>		(148,660)	263,414
	(B)	<u>18,001,531</u>	<u>15,228,012</u>
<b>Surplus of Income over Expenditure</b>	(A-B)	<u>4,922,014</u>	<u>4,512,574</u>
Less: Surplus of Special Projects' income over expenditure transferred to Special Project Fund Balances (net)		2,601,622	4,253,329
Less: (Deficit)/Surplus of Restricted Programme Support's income over expenditure transferred to Restricted Programme Support Fund Balance (net)		(2,493)	98,630
Less: Surplus of Restricted Core Programme Support's income over expenditure transferred to Restricted Core Programme Support Fund Balance (net)		1,770,968	-
<b>Net Surplus adjusted to Operational Reserve</b>		<u>551,917</u>	<u>160,615</u>

Notes forming part of the financial statements

14

Schedules referred to above form an integral part of the Operating Statement

In terms of our report attached

For DELOITTE HASKINS & SELLS  
Chartered Accountants

*Alka Chadha*  
ALKA CHADHA  
Partner



For International Centre for Integrated Mountain Development

*Dr. J. M. ...*  
Director General

*[Signature]*  
Director, Administration and Finance

*[Signature]*  
Budget & Finance Officer

Place: Gurgaon, India

Date: 5 APRIL, 2013

Place: Kathmandu, Nepal

Date: 5 APRIL, 2013

# International Centre for Integrated Mountain Development

## Cash Flow Statement for the Year Ended 31 December 2012

All amounts in United States Dollars

Particulars	Year ended 31 December 2012	Year ended 31 December 2011
<b>A. Cash flow from operating activities</b>		
Net Suplus as per Operating Statement	551,917	160,615
Adjustment for:		
Depreciation	78,217	77,916
Capital expenditure charged in the programmes	570,870	314,989
Interest on time deposits	(93,382)	(71,611)
Profit on sale of fixed assets	(1,834)	(313)
Exchange fluctuation-unrealised	130,568	251,270
Operating surplus before working capital changes	1,236,356	732,866
Adjustments for:		
Loans and Advances	(442,185)	(25,213)
Current Liabilities and Provisions	2,016,914	(323,543)
Net cash from operating activities	2,811,085	384,110
<b>B. Cash flow from investing activities</b>		
Purchase of fixed assets	(736,295)	(437,888)
Sale of fixed assets	1,834	313
(Increase) in time deposits with banks	(3,498,050)	(2,660,732)
Interest received	99,247	58,817
Net cash (used in) investing activities	(4,133,264)	(3,039,490)
<b>C. Cash flow from financing activities</b>		
Movements in Special Projects Fund	2,601,622	4,253,329
Movements in Restricted Programme Support Fund	(2,493)	98,630
Movements in Restricted Core Programme Support Fund	1,770,968	-
Net cash from financing activities	4,370,097	4,351,959
<b>D. Effects of Foreign Exchange differences on Cash and cash equivalents</b>	45,797	(241,677)
Net increase/ (decrease) in cash and cash equivalents (A + B + C + D)	3,093,715	1,454,902
Cash and cash equivalents at the beginning of the year	1,535,856	80,954
Cash and cash equivalents at the end of the year (Refer Schedule 3)	4,629,571	1,535,856


In terms of our report attached

For DELOITTE HASKINS & SELLS  
Chartered Accountants

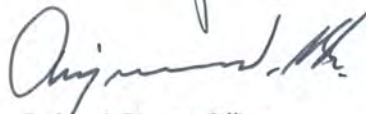
  
ALKA CHADHA  
Partner



For International Centre for Integrated Mountain Development

  
Director General

  
Director, Administration and Finance

  
Budget & Finance Officer

Place: Gurgaon, India  
Date: 5 APRIL, 2013

Place: Kathmandu, Nepal  
Date: 5 APRIL, 2013

# ICIMOD Members, Sponsors, and Funding Partners

## CORE FUNDING

### Regional member countries

Afghanistan	India
Bangladesh	Myanmar
Bhutan	Nepal
China	Pakistan

### Non-regional countries

Austria  
Norway  
Switzerland  
United Kingdom

## PROGRAMMATIC FUNDING

- Australian Agency for International Development (AusAID)
- Austrian Development Agency (ADA)
- Bundesministerium für Wirtschaftliche Zusammenarbeit (BMZ), Germany
- Department for International Development (DFID)
- European Union (EU)
- International Fund for Agricultural Development (IFAD)
- Government of Norway
  - Ministry of Foreign Affairs
  - Norwegian Agency for Development Cooperation (NORAD)
  - The Royal Norwegian Embassy, Kathmandu
- Swedish International Development Cooperation Agency (SIDA)
- United States Agency for International Development (USAID)

## STRATEGIC AND PROJECT FUNDING

- Association of American Geographers (AAG)
- Asian Development Bank (ADB)
- Asia Pacific Water Forum (APWF)
- Austrian Development Agency (ADA)
- Capacity Building International Germany (Inwent)
- Common Fund for Commodities (CFC)
- Consortium for the Sustainable Development of the Andean Ecoregion (CONDESAN)
- Department for Business Innovation Skills (DBIS)
- Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)
- Elsevier Foundation
- Food and Agriculture Organization of the United Nations (FAO)
- Institute for Global Environment Strategies (IGES)
- Interchurch Organization for Development Cooperation (ICCO)
- International Development Research Centre, Canada (IDRC)
- International Potato Center (CIP)
- MacArthur Foundation
- Ministry of Foreign Affairs, Finland
- National Aeronautics and Space Administration (NASA)
- Overseas Development Institute (ODI)
- Stockholm Environment Institute (SEI)
- Swiss Agency for Development and Cooperation (SDC)
- The Ford Foundation
- The World Bank
- Twente University
- United Nations Development Programme (UNDP)
- United Nations Environment Programme (UNEP)
- United Nations Convention to Combat Desertification (UNCCD)
- United States Embassy, Kathmandu
- University Corporation for Atmospheric Research (UCAR)
- World Agroforestry Centre (ICRAF)
- World Meteorological Organization (WMO)

## About ICIMOD

The International Centre for Integrated Mountain Development (ICIMOD) is a regional intergovernmental learning and knowledge sharing centre serving the eight regional member countries of the Hindu Kush Himalayan (HKH) region – Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan. Mountains are important global ecosystems facing especially rapid socioeconomic and environmental changes, particularly the impacts of climate change. Our aim is to influence policy and practices to meet environmental and livelihood challenges emerging in the HKH region. To do this we bring together researchers, practitioners and policy makers from the region and around the globe to generate and share knowledge, support evidence-based decision making, and encourage regional collaboration. ICIMOD delivers impact through its six Regional Programmes of Adaptation to Change, Transboundary Landscapes, River Basins, Cryosphere and Atmosphere, Mountain Environment Regional Information System, and Himalayan University Consortium (emerging). These regional programmes are supported by the four Thematic Areas of Livelihoods, Ecosystem Services, Water and Air, and Geospatial Solutions and underpinned by Knowledge Management and Communication. ICIMOD seeks to improve the lives and livelihoods of mountain women and men, now and for the future.

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.

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