ICIMOD

ICIMOD

INTERNATIONAL CENTRE FOR INTEGRATED MOUNTAIN DEVELOPMENT

Achievements, Challenges, and Lessons Learned

ICIMOD in Brief

ICIMOD is an international, independent mountain learning and knowledge centre committed to improving the sustainable livelihoods of mountain peoples in the extended Himalayan region. ICIMOD serves eight regional member countries of the of the Hindu Kush-Himalayan area: Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan as well as the global mountain community. Founded in 1983, ICIMOD is based in Kathmandu, Nepal, and brings together a partnership of its regional member countries, over 300 partner institutions, and donors with a commitment to development action to secure the future of the greater Himalayan region.

Vision: Together with its partners and regional member countries, ICIMOD is committed to a shared vision of prosperous and secure mountain communities committed to peace, equity, and environmental sustainability.

Mission: ICIMOD's mission is to develop and provide integrated and innovative solutions, in cooperation with national, regional, and international partners, which foster action and change for overcoming mountain people's economic, social, and physical vulnerability.

Integrated Programmes

1. Natural Resource Management (NRM)
2. Agriculture and Rural Income Diversification (ARID)
3. Water, Hazards and Environmental Management (WHEM)
4. Culture, Equity, Gender and Governance (CEGG)
5. Policy and Partnership Development (PPD)
6. Information and Knowledge Management (IKM)

Regional Member Countries: Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan

Core Programme Donors: Austria, Denmark, Germany, The Netherlands, Norway, and Switzerland and regional member countries

Additional information on co-financing donors, partners, Board of Governors, budget, and recent publications is provided in information sheets in the back pocket.

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Cover photo: Mt. Khawa Karpo, situated in northwest Yunnan, China is one of the most sacred mountains for Tibetan people. The photo shows Khawa Karpo peak at top centre, the Mingyong Glaciers to the right, a Tibetan community at the centre, and the community's sacred forest to the left – *Xu Jianchu*

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Message from the Director General

Since its establishment, ICIMOD, with guidance and support from its international Board of Governors, has been working to improve the livelihoods of mountain peoples in an environmentally sound manner. This introduction to ICIMOD's work was prepared to provide a better understanding of where ICIMOD has come from, what it has achieved to date, and where it could have done better. It is a candid reflection by key members of the management and staff on the Centre's achievements and shortcomings, and its aspirations for the future.

The report draws upon ICIMOD's annual reports and programme and project documents as well as personal communication with ICIMOD staff and partner organisations. It was prepared by Dr. Pema Gyamtsho, then Head of Policy and Partnership Development, with research and computing support from Ms. Samjhana R. Thapa, and a literature review by Ms. Ayushma Rana. Inputs on various sections were received from programme managers and project coordinators; the Deputy Director General Programmes, Dr. Madhav Karki, recently reviewed and further revised the document with inputs from others.

J. Gabriel Campbell
Director General
ICIMOD

Acronyms and Abbreviations

CGIAR	Consultative Group on International Agricultural Research
EU	European Union
FAO	Food and Agriculture Organization
FECOFUN	Federation of Community Forestry Users in Nepal
GIS	geographic information system
GTZ	German Technical Cooperation
HKH	Hindu Kush-Himalaya/Himalayan
HIMAWANTI	Himalayan Grassroots Women's Natural Resource Management Association
HMGN	His Majesty's Government of Nepal
ICIMOD	International Centre for Integrated Mountain Development
ICT	information and communication technology
MDG	Millennium Development Goal
M&E	monitoring and evaluation
NGO	non-government organisation
PARDYP	People and Resource Dynamics Project
RCP	Regional Collaborative Programme
RMC	regional member country
RS	remote sensing
SALT	sloping agricultural land technology
SAWTEE	South Asia Watch on Trade Economics and Environment
WMO	World Meteorological Organization

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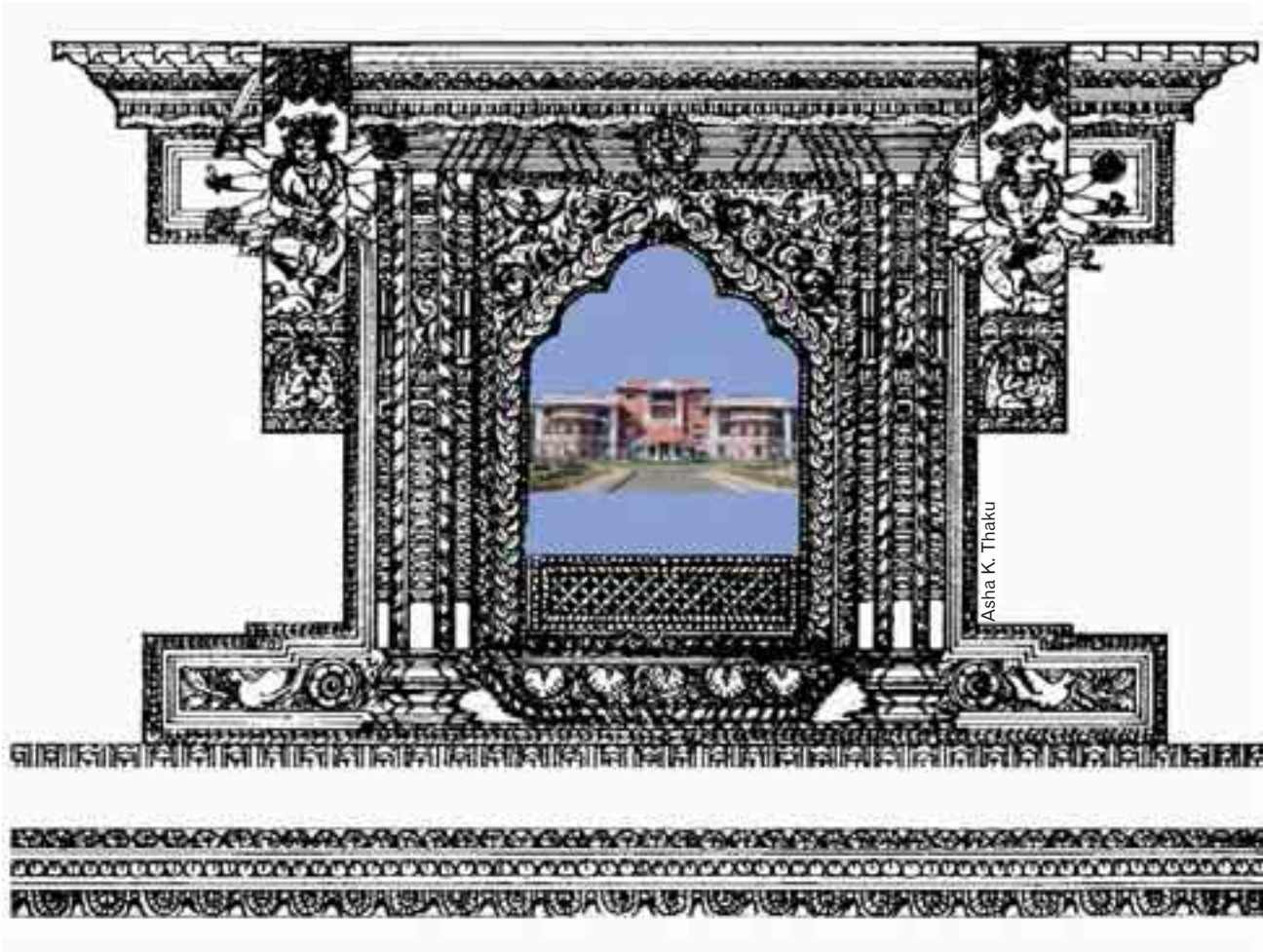


The New Headquarters Building

ICIMOD'S new headquarters at Khumaltar, Lalitpur District, in the Kathmandu Valley is the result of generous contributions of land by His Majesty's Government of Nepal and donations from the regional member countries Bangladesh, Bhutan, China, India, and Pakistan.

1 ICIMOD

The First International Mountain Centre

The International Centre for Integrated Mountain Development (ICIMOD) was established in 1983 with the dual mandate of reducing poverty and conserving the environment in the Hindu Kush-Himalayan (HKH) region, which covers all or parts of Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan.

The idea of creating an institution to promote the ecologically sound development of mountainous regions was first discussed at the International Workshop on the Development of Mountain Environment in December 1974 in Munich, Germany, but it was only five years later in 1979 during a United Nations Educational, Scientific and Cultural Organisation (UNESCO) Regional Meeting in Kathmandu, under the framework of the Man and the Biosphere Programme, that concrete commitments were made to establish the Centre. His Majesty's Government of Nepal (HMGN) offered to host the new institution, and the Governments of Switzerland and the Federal Republic of Germany and UNESCO agreed to act as the founding sponsors. His Majesty's Government of Nepal and UNESCO signed the agreement that provided the legal basis for establishing the Centre in September 1981 in Paris. The Centre was finally established and inaugurated in December 1983 with its headquarters in Kathmandu, Nepal and legitimised through an Act of Parliament in Nepal in the same year.

ICIMOD's dual mandate is to reduce poverty and conserve the environment of the Hindu Kush-Himalayan region.

As per Article 1 of its Statutes, the primary objectives of the Centre are to "help promote the development of an economically and environmentally sound mountain ecosystem and to improve the living standards of mountain populations of the Hindu Kush-Himalayan area, which, for the purpose of these Statutes, includes Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan. To this end the Centre will serve:

a) as a multi-disciplinary documentation centre,
b) as a focal point for training and applied research activities, and
c) as a consultative centre in scientific and technical matters for all the countries of the region upon their request."

ICIMOD's geographic area is the extended Himalaya, whose socioeconomic diversity is matched by a high degree of environmental diversity.

ICIMOD's geographic area of coverage spreads across the greater Himalayan region from Afghanistan to Southwest China extending over 3,500 km. Within it are included the world's tallest peak (Mt. Everest, 8848 masl), largest glacier (Siachen, 1112 sq.km), and highest plateau (the Tibetan Plateau). The area is the water tower of Asia; many major rivers originate from these high mountains including the Brahmaputra, the Ganges, the Indus, and the Mekong. The vegetation cover ranges from lush evergreen forests in the foothills of the eastern Himalayas to barren cold desert steppes in the north of the Tibetan Plateau.

The HKH region is home to an estimated 150 million inhabitants with exceptionally rich ethnic, religious and cultural backgrounds. With two of the world's biggest countries, China and India, within its fold and with a number of unresolved sensitive issues between the member nations, it continues to be one of the most challenging regions for fostering cooperation.

ICIMOD is governed by a Board of Governors consisting of one representative from each of the eight regional member countries (RMCs) and seven independent members who are nominated by the ICIMOD Support Group based on their recognised professional expertise and experience. The ICIMOD Support Group is composed of representatives from all the organisations and institutions, including the RMCs, that provide financial contributions to the Centre.

Source: base mapESRI Data and Maps

The extended Himalayan region

2 The Region at a Glance

The Hindu Kush-Himalayan (HKH) region stretches from Afghanistan in the west to Myanmar in the east and covers the mountain ranges from the Tibetan Plateau and other Himalayan mountain areas of China in the north to the Indo-Gangetic plains in the south. The mountain landscape, also known as the greater Himalayan region, extends over 3,500 kilometres. The region sustains close to 150 million people – nearly one-third of who live below the poverty line. The upstream ecological and socioeconomic conditions have an impact on the lives of another 500 million people living in the downstream plains and major valleys. The region contains the watersheds of major international river systems such as the Indus, the Ganges, the Brahamaputra, the Nu-Salween, the Lacang-Mekong, and the Yangtze (Jinsha). It is home to more than 100 ethnic groups and indigenous communities speaking as many languages and/or dialects. This remarkable socioeconomic and cultural diversity is matched by a high degree of environmental diversity; the region contains a myriad microclimates ranging from sub-tropical to cool temperate and from semi-arid in the west to wet tropical monsoon rainfall in the east, and there are huge variations in climate, soil, vegetation, and wildlife.

The region is home to some 150 million people of diverse ethnic origins, religions, and cultures – one of the most challenging areas for fostering cooperation.

State of the Environment

The vast majority of people in the HKH region live in rural areas and depend directly on natural resources for sustenance, including land, water, forest, grasslands, minerals, plants, and animals. The growing demand for food, fresh water, timber, fibre, fuelwood, and other non-timber forest products, stemming from the steadily increasing population combined with industrialisation, market specialisation, and an ever-growing demand for material consumption, has created severe pressure on the natural resources of the region. Land, which is the prime source of livelihoods, is severely degraded in many instances. Forest is shrinking and agriculture is under stress, accelerating land degradation through nutrient leaching and soil erosion. It is estimated that more than 300 million hectares of land in the HKH region is degraded to some extent.

Forest resources are also in a degraded condition in many parts of the region. While experts argue that the ideal per capita forest area is close to one hectare, the actual amount available in all countries, except

Xu Jianchu

Baima Snow Mountain Natural Park in northwest Yunnan; the tree line is moving up due to global warming.

Bhutan, is far below this creating a serious imbalance between population and natural resources. In Afghanistan, Bangladesh, China, and India the figure is estimated to be only around 0.1 ha. The HKH region is Asia's largest storehouse of fresh water and the region is a source of major river systems. These rivers are critical for the welfare of millions of people both upstream and downstream. Although once considered abundant, water is now becoming a scarce resource as demand increases and supply becomes more erratic.

The Himalayan mountain ecosystem is fragile and vulnerable.

About 60% of the geographic area of the greater Himalayan region is classified as rangelands, and a large number of animals and people depend fully or partially on this resource. The rangelands support a large livestock and wildlife population that supplies meat and milk products, wool and leather, transport, and nutrient recycling. The rangelands also provide critical watershed and climate functions and preserve diverse biological and cultural resources. However, most rangeland is under heavy stress because of excessive animal pressure, over exploitation, and inappropriate grazing management. The Himalayan region contains one of the global biodiversity hotspots, the

Eastern Himalaya, but this hotspot is also under threat. Many biodiversity resources, especially faunal and floral species are either being lost or becoming endangered due to over exploitation and loss of habitat.

There are also positive developments. In recent years, regional member countries have been gradually reformulating policies, laws, and plans to institute community-based natural resource management (CBNRM) under the framework of decentralisation and devolution. In some areas, such as range management and community forests, there are positive trends with increased green cover and grazing resources.

Fragility and Vulnerability

The Himalayan mountain ecosystem is fragile and vulnerable. The degradation of natural resources, especially forests, rangelands, and soils, has exacerbated environmental hazards such as landslides, glacier lake outburst floods (GLOFs), and flash floods, and seriously undermined the livelihoods of the majority of rural people living in and outside the region. Despite impressive economic growth in some of the countries in the region, poverty and inequality are still persistent and ubiquitous. Although poverty is widespread, its incidence and severity are disproportionately higher in the mountain areas of all the countries compared with the plains areas. A health survey conducted in 1996/97 in India found that the proportion of miscarriage is five times higher in the northern mountains as a result of women carrying heavy loads during pregnancy. The difficult condition of people's lives and the deprivation seen in many parts of the greater Himalayan region is comparable to the conditions prevailing in sub-Saharan Africa.

Many natural resources are degraded and water, once abundant, is becoming scarce.

Xu Jianchu

Mingyong glacier of Sacred Khawakarpo Mountain, Yunnan, China, showing glacier retreat due to climate change

Inequalities are widening between the socioeconomic indicators prevailing in the plains and mountains as well as within the different parts of the mountains. There is also a wide gap in the socioeconomic condition of different castes, ethnic groups, and economic status groups of mountain peoples. For example, gender inequalities are worsening among some ethnic groups as families devote scarce cash to educating sons while daughters are kept at home to provide labour for family farms; sons are often perceived as social security by mountain families. Income poverty, social and gender inequity, environmental degradation, deforestation, soil erosion, land degradation, and watershed deterioration are interplaying in mountain areas in a threatening manner maintaining vicious circles of poverty, and contributing to environmental degradation and hunger. Large sections of the region are now subject to unacceptable levels of social, physical, and economic vulnerability. Violent conflicts and political upheavals are prevalent and related to the growing marginalisation and disenfranchisement of many mountain peoples.

Pradeep Tulachan

A mountain child and sibling

Problems of biodiversity loss, land degradation, and deteriorating watershed quality will not remain confined to mountain areas but will spread to the region and beyond.

Need for Long-term Solutions

It is important to address these problems sustainably if the world is to achieve the globally set development targets such as the Millennium Development Goals. The ramifications of the problems of rampant loss of natural biodiversity, rapid land degradation, and deterioration in watershed quality will not remain limited to mountain areas but will spread to the whole region and beyond. For example, rising temperatures, the shrinking of glaciers, and disruption of hydrological cycles will impact on agricultural productivity and biodiversity in the plains due to increasing drought, floods, and sedimentation. Therefore, mountain problems that exist in the Himalayan region deserve special attention and urgent action. The success of international efforts to promote sustainable development and environmental conservation in the region may be critical to alleviate poverty, malnutrition, gender inequity, and to environmental conservation in the entire area of South,

Southeast, and East Asia by improving water, air, and environmental quality and promoting long-term sustainability. Unless the nexus between the prevailing problems of persistent poverty, environmental degradation, and increasing social inequality can be broken, the future well-being of the whole region is at risk as a result of increasing socio-political conflict, and marginalisation of ethnic minorities and weaker sections of society.

A major challenge faced by policy makers, professionals, development practitioners, and researchers in the region is how to improve the quality of lives of mountain people without degrading the natural resource base and reducing environmental quality. The International Centre for Integrated Mountain Development (ICIMOD) was established by the international community in 1983 precisely to address this and other related challenges in the Himalayan region. ICIMOD's mission of developing and providing integrated and innovative solutions, in collaboration with national, regional, and international partners, and of fostering collective action and socially inclusive policy change, aims to transform mountain people's economic, social, and physical vulnerability into ecological, social, and livelihood security.

Many mountain specific problems transcend national boundaries and require a broad regional approach and transboundary collaboration to address adequately.

ICIMOD's Regional Advantage

Many mountain specific problems, such as deforestation, land conversion, hazardous mining, soil erosion, land and environmental degradation, biodiversity loss, and watershed deterioration, transcend in one way or another the local and national boundaries and require a broad regional approach and transboundary collaboration to achieve effective solutions. ICIMOD, as an independent, non-political, and international organisation, staffed with multi-disciplinary professionals of many nationalities, and with more than two decades of experiential learning on mountain development, is in an appropriate and unique position to play the role of neutral player and honest knowledge broker. The Centre can bring a regional perspective into addressing the multiple and complex problems and provide necessary technical and policy support to RMCs in designing appropriate policies, programmes, and projects for developing, piloting, and testing innovative solutions. The potential for regional cooperation in addressing mountain issues has so far been under-utilised, as a result of various geo-political problems and tensions. ICIMOD, as an independent intergovernment organisation founded by the Hindu Kush-Himalayan countries, brings together the diverse stakeholders including policy makers onto a common platform to discuss, debate, and explore sustainable solutions for addressing complex issues. Regionally implemented projects lead to synergy and the exchange of ideas and lay the foundation for future collaboration and cooperation among countries.


a


b

Posters portraying various aspects of ICIMOD's evolving work and vision

a) Threats to the sustainable mountain environment
b) Diversified mountain economies
c) Empowered mountain women and
d) Conservation of biological and cultural heritage


c


d

3 Evolution in ICIMOD's Programmes and Strategies

ICIMOD's evolution can be described in four stages.

The Early Years: 1983 to 1987

From 1983 to 1987, ICIMOD went through a formative stage during which the Centre had to find its footing, build its identity and niche, and establish a base of operations. The Centre started in 1984 with five programmes: Watershed Management, Off-farm Employment Generation, Rural Energy Planning, Engineering in Fragile Environments, and Information Systems for Mountain Development, together with a Documentation and Information Exchange service. Major activities were confined to holding seminars and workshops on key mountain issues; and these were, for the most part, determined annually based on staff expertise and the nature of the funding available.

The regional member countries also faced many uncertainties regarding cooperation in programme activities. There was a general lack of awareness of ICIMOD's role and mandate among regional member countries and ownership was limited as the potential partner institutions were not confident in the true potential of the regional set-up. The representation on the Board from the regional member countries was also largely symbolic.

ICIMOD file

Members of the first Board of Governors (***from left to right***): Dr. Narsingh Narayan Singh, Dr. Klaus J. Lampe, Dr. Li Wenhua, Dr. T.N. Khoshoo, Dr. Gisbert Glaser, Dr. Ratna S.J.B. Rana, Mr. Hasan Nawab, Prof. Dor Bahadur Bista, Mr. Peter Gueller (Regent), Dr. Rudolf Hoegger

Expanding Organisation and Programmes: 1987 to 1993

It was during this period that ICIMOD firmly developed the Mountain Perspective Framework.

Between 1987 and 1993 the programmes were converted into five divisions: Mountain Land Use, Mountain Farming Systems, Mountain Social and Economic Development, Mountain Infrastructure and Technology, and Mountain Development Documentation and Information Services. New projects were developed in the areas of risk engineering, rural energy, seabuckthorn (*Hippophae l.*) cultivation, mountain farming systems, and mountain biodiversity. During this time, the documentation and information exchange was strengthened and the geographical information system (GIS) facilities created. There was increased recruitment of professional staff and a higher level of involvement from the regional member countries. Activities, however, were mostly limited and focused on publications, seminars, training sessions, and study tours. It was during this period that ICIMOD was able to firmly develop the Mountain Perspective Framework. This phase ended with the celebration of the 10th Anniversary Symposium, at which time a site was generously donated by HMGN at Godavari for research and demonstration. While there was significant growth in the programme during this phase, the sources of funding were dwindling and the Centre was unable to mobilise adequate levels of funding other than from the traditional core donors. One of the major concerns at the start of the next phase was the financial viability of the Centre.

Jeanie Fleming

Mountain farming systems have always been an important component of ICIMOD's work.

Capacity building in geospatial technology for mountain development is much sought after by partners

Consolidation – RCP I and II: 1994 to 2002

After ICIMOD's 10th anniversary, considerable attention was paid to i) packaging programmes and projects, ii) increasing donor funding beyond conventional donors, and iii) strengthening partnerships. The Regional Collaborative Programme (RCP) Phase 1 (1995-98) was thus born and a document was developed which served as the basis for programming and budgeting. During RCP-I, ICIMOD was reorganised into three thematic divisions – Mountain Farming Systems, Mountain Natural Resources, and Mountain Enterprises and Infrastructure; and three service divisions/sections – Mountain Environment and Natural Resources Information; Documentation, Information, and Training; and Administration, Finance and Logistics. RCP-I identified a total of 25 outputs and 95 activities to be implemented over a four-year period in ICIMOD's regional member countries. Several new programmes and projects were initiated including the People and Resource Dynamics in Mountain Watersheds of the HKH Project (PARDYP); the Regional Rangeland programme; Beekeeping; Gender, Environment and Sustainable Livelihoods; and Capacity Building in Geographical Information Systems/Remote Sensing Technologies. The management took time to visit and sensitise the regional member countries and partner institutions on the new programmes and projects. As a result, there was increased awareness of ICIMOD and its potential role as well

By 2001, ICIMOD had carved a niche as a centre of excellence in mountain development.

as increased funding and ownership by the regional member countries. There was also considerable emphasis on capacity building of partner institutions and the number and range of publications increased many times. This was a big period of growth for ICIMOD.

A strategy for better aligning development interventions in the region was developed with regional partners.

The momentum gained during RCP-I was further strengthened and consolidated during RCP-II (1998-2002). RCP-II was developed to mainstream mountain development in the Hindu Kush-Himalayan region based on regional cooperation. By 2001, ICIMOD had truly carved a niche for itself and was acknowledged as a centre of excellence in mountain development. As a result, it played an important role in the celebration of the UN declared International Year of the Mountains, 2002. It organised and co-organised several national, regional, and global events including the Asia High Summit in Kathmandu, Nepal, Celebrating Mountain Women in Paro, Bhutan, and parts of the Global Mountain Summit in Bishkek, Kyrgyzstan. ICIMOD also played a lead role in forming the Global Mountain Partnership, which was launched at the World Summit on Sustainable Development in Johannesburg, South Africa, in 2002, and was selected as the host of the Global Mountain Forum Secretariat.

Developing Regional Partnerships: 2003 to 2007

From 2002 onwards, the Centre started working on a new strategy and programme. An Overall Strategy and Medium Term Action Plan (MTAP 2003-2007) were developed which encapsulated a strategic approach for better aligning the opportunities for development interventions with the

Narendra Bajracharya

One of many meetings with partners at ICIMOD

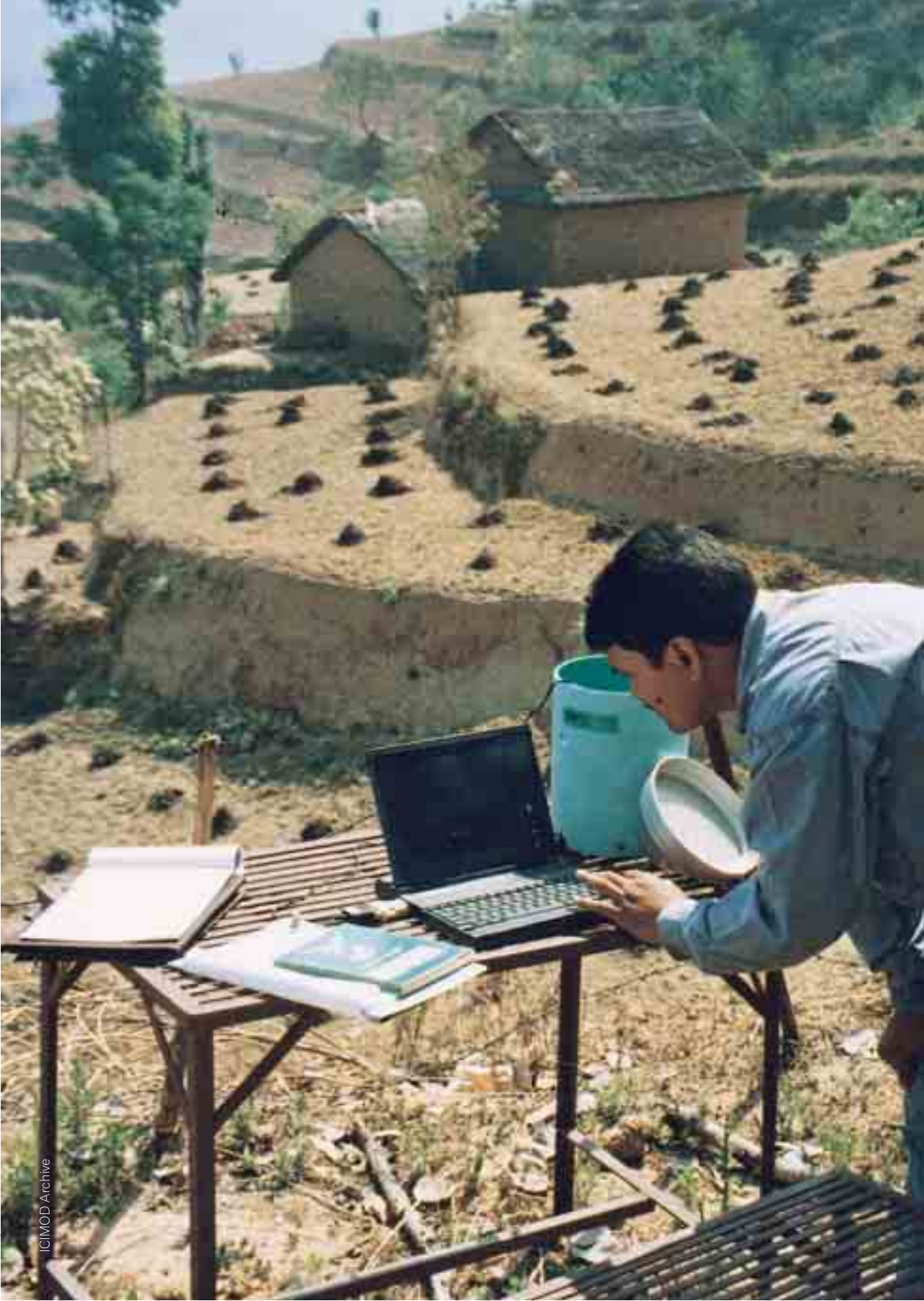
physical, social, and economic vulnerability dimensions of the HKH region. Six integrated programmes were identified: Natural Resources Management (NRM); Agriculture and Rural Income Diversification (ARID); Water, Hazards and Environmental Management (WHEM); Culture, Equity, Gender and Governance (CEGG); Policy and Partnership Development (PPD); and Information and Knowledge Management (IKM).

These programmes evolved as a result of the need to consolidate the Centre's earlier work, and following the recommendations of the 3rd Quinquennial Review conducted in 2001, directives from the Board of Governors, and the needs of the regional member countries as expressed during consultations held with partner institutions. The strategy was designed to provide more focus and relevance to the needs of the targeted clients, that is both grassroots-based beneficiaries and decision makers in mountain areas. The document was first discussed at a special Board meeting in Berchtesgaden, Germany, and later finalised and endorsed at the 32nd Board Meeting in Kathmandu in December 2002. Progress was slow during the first year of operation, as a result of the uncertain status of continued core funding from some of the donors. However, by mid 2004, the Centre had received assurances of continued core funding from all its donors to implement its Medium Term Action Plan (2003-07).

The strategy was designed to provide more focus and relevance to the needs of both the grassroots and decision makers in mountain areas.

Zbigniew Mikolajuk

A grassroots women's gathering in Nepal



ICIMOD Archive

4 Key Achievements

ICIMOD's key achievements in terms of contribution towards sustainable development in mountain areas of the HKH region and in the context of its statutory functions are highlighted in the following.

A Multi-Disciplinary Documentation Centre

One of ICIMOD's primary functions is to serve as a multi-disciplinary centre for the systematic exchange of knowledge and information related to integrated mountain development. At the time of ICIMOD's establishment, information on the HKH region was scarce and dispersed. Since then ICIMOD has become the major documentation centre dealing with mountain development in the region. ICIMOD's library is playing an important role in collecting, classifying, cataloguing, indexing, and making accessible documents in different forms related to mountain development. ICIMOD's publications on knowledge and information generated by its own programmes and those of partners, on information collected based on needs, and on topics of current interest, make a critical contribution towards establishing ICIMOD as a 'knowledge bank' on integrated mountain development. In the past, attention was focused solely on traditional means and approaches of knowledge management. With the introduction of modern communication technologies, such as the Internet and CD-ROMs, information sharing and exchange have become easier and quicker, and the concept of information and knowledge management has expanded to include all the activities related to identifying, organising, packaging, making accessible, and sharing information and knowledge, including both developing and using methodologies, and building capacity in-house and among partners.

ICIMOD is a multi-disciplinary centre for the systematic exchange of knowledge and information related to integrated mountain development.

Documentation and Publications

ICIMOD published and distributed more than 800 technical and general publications between 1983 and 2005 in forms ranging from books and other printed publications to CD-ROMs, films, and Internet postings. These publications cover a wide range of issues related to integrated

Left photo: Measuring and documenting precipitation at a watershed site

ICIMOD Archive

ICIMOD's library plays an important role in the collection, cataloguing and making accessible of documents in mountain development

ICIMOD publications cover a wide range of mountain issues in forms ranging from books to CD-ROMs, films, and Internet postings.

mountain development. The documents are made available to ICIMOD's partners in member countries as well as to the information market at large. The information contained in these publications has been cited in a large number of documents that concern mountains and has been used by various partner institutes to support development activities including training and curriculum development. The publishing unit has assigned ICIMOD's own ISBN numbers through the UNESCO User Group network since 1991 and has an established and documented in-house style and processing procedure. It is often asked to publish for partners and donors through co-publishing agreements. This gives credit to ICIMOD's work and facilitates its value for policy development.

Dissemination and Outreach

ICIMOD disseminates publications to a wide audience through its PEP (Publications Exchange Programme) and CTR (Contribution to Resource Centre) agreements with libraries, documentation centres, and information units in partner organisations in the regional member countries (83 PEP and 37 CTR agreements at the end of 2005).

The Information, Management, Communications and Outreach Division (IMCO, now a part of the Information and Knowledge Management Programme) assisted HMGN in formulating an ICT policy for Nepal. It established the Asia Pacific Mountain Network (in 1994/95), the Electronic Networking project, and NepalNet, facilitated the establishment of the Central Asian Mountain Information Network (CAMIN) in Kyrgyzstan, and helped the Kyrgyzstan group promote 2002 as the International Year of Mountains (IYM). This was noted by the Secretary General of the UN in his preamble to the clauses declaring 2002 as IYM.

ICIMOD's library database currently contains nearly 30,000 bibliographic records, together with 1000 titles of journals and periodicals, and more than 200 videos, as well as other reference materials on mountain research and development. Information about these resources is accessible to outside users through the on-line CDS-ISIS and AGRIS databases.

More recently, IMCO commenced work on an information and knowledge management strategy and a framework for policy delivery in mountain natural resources (MNR) in the HKH. It was selected as a lead partner together with the Mekong River Commission (MRC) and the Association of South East Asian Nations (ASEAN) in the GTZ NeroAsia networking project, and is drawing up a proposal for a 'Mountain Knowledge Partnership', a scheme that will facilitate access to and distribute knowledge and information on the HKH contained in a large variety of knowledge objects to the region and worldwide. The unit has also been carrying out action research on alternative media for delivery of useful information on natural resource-use policies to the grass roots. All of these initiatives are expected to have notable impacts on policies in mountain development.

Narendra Bajracharya

An ICIMOD staff member briefs the public during an ICIMOD Open House.

A Focal Point for Training

One of the most significant areas in which ICIMOD has made a difference is in capacity building of partner institutes and their staff. Visible and acknowledged success stories include the human resource development of the Tibetan Academy of Agricultural and Animal Husbandry Sciences (TAAS); and training in geographical information system (GIS) and remote sensing (RS) technologies for land use planning in Bangladesh and Bhutan, in GIS/RS application for municipality planning in Nepal, in apiculture in Nepal, India, and Pakistan; and in participatory action research and co-management of rangelands in Bhutan, China, and Nepal, among many others.

ICIMOD has made a difference in building the capacity of RMCs and partners.

GIS and Remote Sensing Technologies

Among the most visible contributions of ICIMOD to mountain development is the promotion of the use of GIS and RS technologies and building the capacity of member countries. Almost all the regional member countries have benefited from this programme and many leading GIS experts in the regional member countries were either trained at ICIMOD or by ICIMOD in their own countries. The most significant successes have been in the Tibet Autonomous Region of China, Bhutan, Bangladesh, Myanmar, Pakistan, and the State of Himachal Pradesh in India. The national GIS/RS units can now use these technologies effectively for economic planning and policy development, natural resources uses, and infrastructure development schemes. A very recent example of this is the use of information from ICIMOD's publication *Districts of Nepal – Indicators of Development* by the Nepal Planning Commission to select six districts as priority areas for poverty alleviation programmes. Examples of other applications include land use planning in Bhutan with the Ministry of Agriculture; glacial lake outburst flood (GLOF) studies in Nepal, Bhutan, and Pakistan; and municipal planning in Lalitpur, Nepal.

ICIMOD's Alumni

ICIMOD's staff, recruited from among its regional member countries, have had a significant impact on the capacity building of partners. Many now hold important positions in governments, universities, and international agencies concerned with mountain development. They have been entrusted with important responsibilities as vice-ministers, heads of research and development institutions, vice-chancellors of universities, and employees of other international agencies, including the United Nations. ICIMOD's short training courses in various fields of interest, such as GIS/RS, gender mainstreaming, entrepreneurship development, beekeeping, watershed management, rangeland management, and others, have been instrumental in promoting innovative practices in these areas in different countries.

Women and Energy file photo

Training with a women's group in Kotla, Himachal Pradesh, India

Through close contact and collaboration with research institutions, space and software agencies, and especially through strategic alliances with key GIS partners around the world, ICIMOD has developed and established a strong GIS network. Potential partner institutions continually request these services. A mountain GIS portal has been developed to share GIS resources over the Internet, providing a platform for sharing geographic data and knowledge using a common framework. GIS training for capacity building has been provided to 1,200 people from more than 150 institutions within and outside the region.

Almost all the regional member countries have benefited from the use of geographical information systems and remote sensing technologies.

Capacity Building of Partner Institutions

ICIMOD has also been successful in capacity building in other disciplines in institutions where it is engaged in providing both long-term and short-term training of staff as well as basic support to partner institutions to apply the skills and knowledge acquired through training. In the Tibet Autonomous Region of China, it supported the institutional development of the Tibetan Academy of Agricultural and Animal Husbandry Sciences (TAAAS) through post-graduate fellowships as well as short-term hands-on training in agricultural research and extension methodologies. Today, TAAAS has become the focal point institution for any donor assisted research and development intervention and has the capacity to organise international meetings, liaise with national and international organisations, conduct pioneering research, and plan and implement projects of various types. Similarly, the Central Bureau of Statistics, the Department of Hydrology and Meteorology, the Department of Parks and Wildlife Conservation, Tribhuvan University, and many others in Nepal; the Policy and Planning Division and the Department of Geology and Mines in Bhutan; the Agricultural University of Palampur in Himachal, India; and the

Department of Forestry in Myanmar were provided with support in various fields from GIS/RS application to participatory action research and the development of natural resources.

A Focal Point for Applied Research

Development and Advocacy of a Mountain Perspective Framework

A major contribution from ICIMOD was the Mountain Perspective Framework.

Another major contribution from ICIMOD was the development and promotion of a conceptual and operational framework called the **Mountain Perspective Framework** that defines the uniqueness of mountain situations as a basis for designing and implementing integrated mountain development solutions for sustainable livelihoods and the environment. Put in simple terms, the MPF indicates recognition and consideration of the unique conditions of mountain landscapes that broadly differentiate them from other areas. ICIMOD focused on these conditions, described as mountain specificities, and their interlinked imperatives, to help identify and address the constraints and opportunities characterising mountain areas.

The mountain characteristics identified include a high degree of fragility, inaccessibility, marginality, diversity, specific niche opportunities, and human adaptation systems historically evolved by

Ana Agustina Barros

Yaks, important livestock in the high mountains of the Himalaya for food, clothing, and transport

Pema Gyamtsho

Mid hills settlement in Bhutan

communities to address the local imperatives. These conditions (with significant intra-mountain variations) not only shape the pace and patterns of change but determine the degree of relevance and effectiveness of development/welfare interventions in mountain areas. Most of the above characteristics have biophysical and socioeconomic or political dimensions, as well as interlinkages, which call for an integrated approach to the planning and execution of interventions in mountain areas.

The Framework considers the unique conditions of mountains – different from other areas – in addressing constraints.

The implications and impacts of the MPF can be viewed as different parts of a process directed towards a paradigm shift in the approaches to mountain development – from a sectoral to an inter-sectoral approach; from addressing technical to addressing social issues; and from macro to micro level issues. At the micro level, ICIMOD promoted the change process through on-the-job training of field researchers and people from different NGOs and government line agencies to use the elements of the MPF in their field level activities. At the macro level, ICIMOD highlighted the usability of the MPF in explaining the issues and potential approaches to address them in areas such as sustainable mountain agriculture and integrated national resource management; global environmental change (including climate change) together with

its drivers and possible responses; economic globalisation and the associated risks and opportunities; and the poverty-environment nexus as it relates to mountain regions.

More concrete examples of the use of the MPF in the policy process through ICIMOD's advisory input include:

a) the preparation of an Action Plan for the Indian Himalayas by the Planning Commission, Government of India (1992);
b) reorientation of the thrust of the Development Strategy for Tibet under Agenda 21 programmes, through the Department of Science and Technology for Social Development, the State Science and Technology Commission (PR China), and the Xizang Government agencies;
c) preparation of an Agricultural Perspective Plan, by the National Planning Commission, HMGN (1993);
d) agricultural diversification and livelihood project development strategies adopted by Uttaranchal State in India; and
e) interactions with teams and individuals from Nepal and India preparing or planning for WTO's Doha meeting on economic globalisation with a special focus on the match/mismatch between the imperatives of mountain specificities and the structural and operational features of globalisation induced processes (2001 and 2002).

ICIMOD continues to be a major force behind people-based management of natural resources.

Community-based Management of Natural Resources

ICIMOD continues to be a major force behind the movement towards the development and practice of community-based management of natural resources and networking related to it. It has supported and facilitated the growth of community forestry in Nepal, and of people-based water-shed management and co-management of rangelands and bio-diversity in Bhutan, and the Tibet Autonomous Region of China. One of the major successes has been in water-shed management.


Madhav Dhakal

Measuring water discharge in the Jhikhu Khola Watershed, Nepal

Watershed Management

ICIMOD started watershed management research in 1993 and expanded it into a regional network, the People and Resource Dynamics in Mountain Watersheds of the Hindu Kush-Himalayas Project (PARDYP). This work was initiated in response to concerns about the pressures on the resources and the people in the middle mountain areas of the HKH, particularly the marginalisation of mountain farmers; the use and availability of water; issues appertaining to land and forest degradation; declining soil fertility and the carrying capacities of the resource base; the speed of regeneration; and the ability of the natural environment to support the growing needs of the increasing population. The first phase of PARDYP (October 1996 – September 1999) was devoted to the establishment of the research infrastructure, human resources, and systems. The second phase (October 1999 – December 2002) was designed to enhance the community-based approach and to target poverty reduction and improved management of natural resources.

ICIMOD's work on watersheds responds to concerns about pressure on people and resources in the Himalayan region.

Some of the achievements of PARDYP are:

- substantial generation of information and knowledge on watershed management;
- incorporation of HYMOS software for storage and analysis of hydro-meteorological data;

Fish Farming

ICIMOD piloted a fish farming scheme in the Bheta Gad Garur Ganga Watershed in Uttaranchal State, India, in December 2000, under the PARDYP-India Programme, in collaboration with the G.B. Pant Institute of Himalayan Environment and Development, Almora. The purpose of the trial was to use ponds prepared for water harvesting to generate income as well as to improve the management and utilisation of water through an attractive income generating scheme for the poor farmers living within the watershed.

Roger White

Fish pond in Bheta Gad Watershed, India

After just three years the income of poor farmers from fish farming had increased substantially, with reported net profits ranging from IRs. 1040 to IRs. 26,900 depending on the size and number of fish ponds. Forty farmers from 22 villages had embraced the technology and were operating around 61 fish ponds. Most of the farmers belong to poor, lower caste groups, which indicates that the scheme could be an effective means of addressing poverty and equity issues. This was possible because the technology demonstrated was cheap and simple and thus easily learned and affordable. The approach is now being extended to other watersheds.

- increased involvement of people in the management of common property resources leading to major changes in governance and access regimes;
- substantial contribution to the advancement of community forestry management in Nepal through its demonstration sites at Jhikhu Khola and Yarsha Khola;
- incorporation of fish farming in watershed management in India through its demonstration site at Kausani, Uttaranchal;
- wide scale adoption of water harvesting practices in China through its demonstration site in Baoshan, Yunnan Province;
- integrated fruit production on arid sloping lands in Pakistan through its demonstration site at Hilkot, Mansehra District; and
- regional exchange of methodologies and analytical frameworks for sustainable watershed management.

ICIMOD introduced sloping agricultural land technology to the region as an environmentally sound and economically attractive farmland practice.

Sloping Agricultural Land Technology

Sloping agricultural land technology (SALT) has been one of the most promising, environmentally sound, and economically attractive packages of sloping farmland practices introduced to the region by ICIMOD. Experience with SALT had been gained earlier, following visits and training in the Philippines where SALT has been implemented for many years. In this system, dense hedgerows of fast growing perennial nitrogen-fixing tree or shrub species are planted along contour lines thus creating a living barrier that traps sediments and gradually transforms the sloping land into terraced land. The hedgerows both markedly reduce soil erosion and contribute to improving and/or maintaining soil fertility. Regular pruning of hedgerows provides biomass for mulching and improving soil properties.

ICIMOD Archive

Trial plots for sloping agricultural land technology at ICIMOD's Demonstration and Training Centre at Godavari

SALT has been tested in six of the ICIMOD member countries, including extensive trials in China in Sichuan, Guizhou, and Yunnan Provinces. In Ningnan County alone, about 10,000 farmers have adopted the technology in one form or another; altogether around 2000 ha of land in five counties in Sichuan

Province have been covered under this land use system. In view of the high relevance and promising impact on the sustainable use of degraded sloping land, the Ministry of Science and Technology of the Government of the People's Republic of China has listed SALT as a key technology for environmental conservation. ICIMOD has prepared a number of publications on the technology including the proceedings of an International Symposium on SALT held in 2001, detailed results of trials at the Godavari Demonstration site, and a simple manual, which is available in a number of languages.

More than half of the region consists of rangelands, a valuable mountain resource.

In Bhutan, India, Nepal, and Pakistan, trials are in progress to study the feasibility of SALT in different agroecological zones. One of the limitations of the technology is the space occupied by hedgerows, which leaves less room for crop production. Thus although very useful on marginal sloping land, it may sometimes compromise the food security of smallholder farmers.

Rangeland Management

The Hindu Kush-Himalayan region, including the Tibetan Plateau, has a rangeland area of 2,060,000 sq.km or nearly 60% of the total

J. Gabriel Campbell

Rangelands are a welcome expanse of green in the overall rocky terrain of Afghanistan.

geographical area. Rangelands of various types represent an important natural resource of the region and are the main source of livelihoods for people through pastoralism. Besides livestock, the area supports a substantial diversity of wild ungulates (hoofed animals), and the pattern of development for pastoralism and rangeland use will greatly influence the conservation of a great variety of species.

Realising the importance of the rangeland resources in the HKH region, ICIMOD started working on rangelands in 1995. Based on the findings initial studies, a Regional Rangeland Programme (RRP) was developed and initiated in 1999. The goal of the programme is to reduce and eradicate poverty among rangeland dependent mountain people and to improve the productivity of rangeland ecosystems in the HKH region. The first phase (RRP-I) ended in December 2002 and the second phase (RRP-II) started in May 2003. The specific outcomes to date are summarised below.

The programme promotes a co-management approach that balances biodiversity conservation and socioeconomic needs.

- Documentation of the condition of rangelands in various parts of the HKH and description of the pastoral production systems, contributing to an improved understanding of the existing policies and practices and the specific research and development needs of the pastoral communities and the rangeland ecosystems. Since the programme began in 1996, 14 books on rangeland and high altitude livestock production have been published by ICIMOD representing a large pool of reference materials for rangeland management in the HKH region.
- Identification of suitable species for revegetation of degraded rangelands and for improvement of winter pastures in areas from the cold arid deserts of Mustang to the moist meadows in the eastern Himalayas.
- Training of a pool of range scientists and technicians from Afghanistan, Bhutan, Sichuan and Tibet in China, Ladakh in India, Mustang in Nepal, and Baluchistan in Pakistan in participatory methods of rangeland monitoring, planning and implementing of rangeland improvement and management measures with a focus on multiple-use and the co-management of rangeland resources.
- Increased understanding of the existing policies on rangelands, particularly in relation to tenural systems, and initiation of an active dialogue with the national partners concerned, on incorporating relevant changes to adopt a co-management approach that balances biodiversity conservation concerns with socioeconomic development needs.
- Better coordination and cooperation among national institutes dealing with rangeland issues; establishment of an active regional network of nine partner institutions in six countries.

The programme shows promise in positively influencing rangeland policies in the HKH region towards greater co-management and multiple-use management.

Mountain Biodiversity

In 1995, ICIMOD supported transboundary cooperation for biodiversity conservation and sustainable livelihoods in the Mt Everest ecosystem region in collaboration with The Mountain Institute, the Government of Nepal, and the Tibet Autonomous Region of China. The key transboundary issues considered were illegal poaching and trade in endangered species; the cross-border spread of forest fires; the cross-

ICIMOD, with partners, supported the first trans-Himalayan biodiversity conservation initiative in the region.

J. Gabriel Campbell

Sagarmatha National Park area

border spread of livestock disease; and improving local livelihoods. This was the first trans-Himalayan biodiversity conservation initiative in the region and it has shown ways for such cooperation that increasingly are being extended further east.


Farooq Ahmad

Beekeeping training in Nepal.

A significant contribution by ICIMOD to biodiversity conservation is its work on indigenous Himalayan honeybees.

ICIMOD expanded the Mt. Everest ecosystem experience to implement activities in other prospective transboundary complexes. Regional consultation on the Kangchenjunga ecosystem between India, Nepal, and the Tibet Autonomous Region, China, organised in 1997, strengthened the concept of transboundary cooperation. As a follow-up action, Nepal declared the Kanchenjunga Conservation Area on the Nepalese side while in Sikkim, India expanded the Kanchenjunga National Park to declare it a Biosphere Reserve. Now, ICIMOD in partnership with India, Nepal, and Bhutan has identified several corridors in the transboundary landscape of the Kangchenjunga. The process of transboundary cooperation between these countries has been initiated and is planned to extend to northeast India, Myanmar, and China.

Another significant contribution by ICIMOD in the area of biodiversity conservation is its work on the indigenous Himalayan honeybees, *Apis cerana*, *Apis dorsata*, and *Apis laboriosa*, which were considered threatened species. ICIMOD started this programme in 1991 with a project on 'Exploration of Genetic Diversity in the Himalayan Honeybee, *Apis cerana*'. The overall aim of this scientific research work was conservation of *Apis cerana* through development and promotion of beekeeping with this indigenous bee species. The research included studies on the status of beekeeping with *Apis cerana* in the HKH region, computer assisted morphometric and mitochondrial DNA analysis to identify different sub-species and the geographic distribution of this valuable genetic resource, research on the pollination ecology of vegetable seed production in the Kathmandu Valley, Nepal, behaviour and apiary management research to increase the productivity and efficiency of *Apis cerana* for better honey production, and pollination activities.

The research conducted on the status of beekeeping with *Apis cerana* in the HKH region revealed that this bee species is suffering precipitous decline and is threatened with extinction throughout its range, mainly because of its replacement with the exotic and more prolific *Apis mellifera*, habitat alteration, pesticide poisoning, diseases, and enemies, and particularly recurrence of sac brood virus disease. The non-hive cliff bee *Apis laboriosa* is also threatened by human predation, especially through extension of traditional honey hunting methods to use by commercial operators and for the entertainment of tourists. The decline in indigenous honeybee species is undesirable in terms of economic development, the productivity of farming systems, biodiversity conservation, and the carrying capacity of natural ecosystems.

The Centre was also one of the first institutions to study the potential of mountain tourism to alleviate poverty.

The programme has achieved the following results which have significant environmental and economic implications both locally and globally.

- Generation of data and information on the genetic diversity and geographical spread of indigenous bee species in the HKH region.
- Successful advocacy on the importance of indigenous bees for the conservation of domesticated and wild plant biodiversity through their role as pollinators.
- Successful selection and breeding of queen bees and the multiplication of colonies.
- Tested methods to control Thai sac brood virus and other bee diseases.
- Aroused the interest of regional governments, the international donor community, and the Global Environment Facility (GEF) to finance national, regional, and global programmes to promote the conservation and sustainable management of pollinators including indigenous bee species.
- Established functional networks in beekeeping research and development, facilitated the exchange of information, and enhanced regional cooperation.

Mountain Tourism

Mountain tourism has distinct characteristics and many additional dimensions compared to tourism in the plains and other destinations. The fragile geological conditions, the physical inaccessibility, and the highly vulnerable mountain cultures and livelihood systems, pose many challenges to tourism development in mountainous regions. ICIMOD was one of the first institutions to study the problems and potential of mountain tourism as a means to alleviate poverty and conserve the fragile environment of the HKH.

Heritage tourism such as in Bhutan is a growing tourism niche.

In 1994 ICIMOD implemented a series of studies through the project on 'Mountain Tourism for Local Community Development' in India, Nepal, and Pakistan in association with a variety of partners. An important finding of the studies was that, despite differences in the scale and type of tourism in the three countries, none had clearly defined policy perceptions of the role of tourism in mountain development. There was a general neglect towards linking approaches to tourism with local service production and delivery systems resulting in a high leakage of tourism generated income. As a result, it was recommended that empowering local communities to plan and implement tourism related activities would be useful to influence sustainable tourism policies. Partner institutions field-tested training manuals developed by the programme, which were later discussed at a regional workshop before being finalised and disseminated. Three separate training manuals were prepared for policy planners, programme personnel, and local community groups.

ICIMOD collects, documents, and replicates promising crops and practices such as the success of seabuckthorn in China.

The various documents and training manuals prepared by ICIMOD are used by different training institutions (e.g., Nepal Academy for Tourism and Hotel Management, Kathmandu, and Sarhad Rural Support Corporation (SRSC), Peshawar, Pakistan) and some overseas institutions and projects have requested permission from ICIMOD to use the manuals in developing tourism plans.

The Mountain Tourism Resource Centre at the ICIMOD Library has over 1,500 documents on mountain tourism, and on-line access to the bibliographical database through the ICIMOD website has proven useful in disseminating knowledge and information on experiences in and approaches to mountain tourism.

Recently, ICIMOD's initiative on tourism related to honeybee hunting was posted on the National Geographic website, where it was described as an innovative approach to promoting sustainable livelihoods and conserving bee biodiversity.

Gender Mainstreaming

In all of ICIMOD's work, gender dimensions have been considered in terms of how new policies, practices, and technologies should include gender relations and balance. ICIMOD's first gender cell was established in 1987 in the then Off-Farm Employment Division to look into off-farm opportunities and technologies that reduce drudgery for farm women, and the first international workshop on mountain women's entrepreneurship was held in 1988. A Gender and Development project was introduced into the Mountain Farming Systems Division at the inception of RCP-I (1995-1998). It trained a number of staff from key partner institutions and created a large network among ICIMOD partners. The initiative both assisted in large networks (Information Network for Women in Development [INWID] established by UNICEF's Production Credit for Rural Women) and established other new networks (Women in Land Use [WPLUS]). Other ICIMOD projects also took proactive gender mainstreaming initiatives to identify and create awareness of gender issues that are often pervasive but not highly visible among ICIMOD's regional member countries. For example, ICIMOD was heavily involved in the development of HIMAWANTI, a network of grassroot women, and has recently completed a project on Women, Energy and Water in three countries. However, developing and implementing a clear gender strategy and methodology continue to pose major challenges.

Developing and implementing a clear gender strategy and methodology continue to pose major challenges.

Seabuckthorn Cultivation

Around 1991, ICIMOD identified a promising Chinese experience worthy of replication in other regional member countries. The Chinese successfully utilised seabuckthorn (*Hippophae rhamnoides* Linn), an indigenous mountain shrub, for multiple purposes such as fuelwood, food and drink products, vegetative control of soil erosion, increasing soil fertility, and as a raw material to encourage agro-industrial activities. Seabuckthorn berries were shown to contain more than 100 types of nutrients and bioactive substances useful for human health. Promotion of seabuckthorn provided multiple options for using fragile and marginal mountain land areas to supply low-cost vitamins, a rich source of cash income, and off-farm employment, and an effective means of slope stabilisation and soil moisture conservation.

ICIMOD collected and documented information on the uses and marketing of seabuckthorn and replicated the Chinese success story by initiating activities to promote the cultivation, use, and marketing of seabuckthorn in other HKH areas through:


Ujol Sherchan

Seabuckthorn

- preparation of a video film with Chinese cooperation to generate awareness;
- organising a visit by a mission from the Chinese office of seabuckthorn to ICIMOD; their visit to seabuckthorn growing areas in Nepal; exhibition of over a dozen seabuckthorn products; and a business seminar involving Chinese experts and participants from other countries;
- training of selected people from different HKH countries through field visits to China in 1992; and
- other initiatives, including research and development, and processing technologies, which formed part of the follow-up to the training phase.

In Pakistan, promotion of seabuckthorn has become a state supported programme. In the mountain area of Chitral, women's self-help groups have been formed and are now actively involved in the plantation of seabuckthorn to revegetate barren slopes. In India, a research centre on seabuckthorn was established at Solan University in Himachal Pradesh. Prior to this, seabuckthorn was considered a weed and prevented from spreading. In Nepal, large scale plantation was carried out with the support of the United Nations Development Programme (UNDP). In all these areas, processing plants for seabuckthorn berries have been set up and the products have entered the local markets. While figures are not available, the conservative estimate is that thousands of mountain farmers have benefited from the increased income accrued through ICIMOD's promotional efforts. High level delegations continue to seek ICIMOD's technical and facilitative assistance in continuing to promote regional plantation and use of this species.

Thousands of mountain farmers have increased their incomes through ICIMOD's promotional efforts.

Mountain Risk Engineering

In the Hindu Kush-Himalayan region, slope failures, road washouts, damage to irrigation canals, and debris flow on fertile lands have resulted in considerable loss of life and property. There is a need for a comprehensive, multi-disciplinary approach to mountain instabilities and for small, preventive control measures that give priority to appropriate, cheap methods and techniques based on local materials.

The Mountain Risk Engineering (MRE) Programme introduced by ICIMOD was a step forward in the process of addressing these problems through the integration of various disciplines. Under this programme, priority was given to on-site, on-the-job training activities targeted at junior in-service officers and professionals, supervisors, farmers, and village labourers. The training was conducted on site in four main phases over 70 days and trainees were exposed to the kind of mountain hazards faced by local communities and of interest to local public authorities. The curriculum included a body of applied

Li Tianchi

A railway bridge in Dongchuan, Yunnan, China damaged by a debris flow

knowledge and specific procedures with an overall orientation to sustainable, low-cost, small-scale civil and biological engineering.

The MRE Integrated Training Programme achieved a considerable degree of success. The programme strategy and operational structure were tested and proved to be congruous and effective with the programme's stated objectives. In particular, decentralisation of most of the activities to National Project Management Units proved effective and established the basis for the sustainability of the activities at the national level. Regional member countries are fully aware of the technology, particularly the bio-engineering manuals which are widely used in activities to prevent mudslides along roads. Follow-up workshops mainstreamed MRE aspects in GTZ, the EU, and Swiss supported rural infrastructure projects affecting thousands of kilometres of roads.

ICIMOD introduced the Mountain Risk Engineering Programme to mitigate slope failure and other water-related disasters common in mountain areas.

Flood and Disaster Mitigation

The Ganges, Brahmaputra, Meghna, and Indus flood plains are affected by floods every year. High rates of poverty and population growth have increased vulnerability to flood disasters. Flooding places severe constraints on socioeconomic development and investment in agriculture, infrastructure, and industrial production. The two major challenges are collection of the necessary high quality hydro-meteorological data in all parts of the major river basins, including in remote areas with limited infrastructure, and facilitating a system for exchange of this data in real time between the countries through which each river runs to enable adequate lead time.

Mandira Shrestha

Floods and natural disasters affect the poor the most; displaced flood victims in the Terai

The programme has so far been successful in bringing together high-level people working on flood forecasting and disaster management from the HKH countries to learn of current and new approaches and to discuss possible new directions for more effective collaboration. It has initiated and promoted dialogue between the upper and lower riparian countries and has brought together and involved senior high-ranking policy and decision makers. It has also been successful in continuing the dialogue towards promoting regional cooperation and has made a significant contribution towards building confidence and trust amongst the participating countries. This has indicated the success of effective partnerships among ICIMOD, the World Meteorological Organization (WMO), and collaborating institutions in each of the regional member countries as well as with donors and international organisations working with flood related programmes.

Collection of quality water data and exchange of this data in real time are two key challenges.

Renewable Energy Technologies

Development of renewable and affordable technologies for energy generation in mountain areas is another focal area of ICIMOD's work. Detailed case studies were carried out in Nepal on the suitability of various renewable energy sources including micro-hydropower, solar photovoltaic technology, biogas technology, bio-briquettes, and pica-hydel options. A manual was compiled on the installation and operation of various types of renewable energy technologies and used for training and promotion. These renewable green technologies have the potential to earn clean development mechanism (CDM) credit under the Kyoto protocol. ICIMOD has successfully influenced the adoption of some of

these technologies in rural areas of Nepal, Bhutan, and India. In remote areas like Solukhumbu and Mustang in Nepal, ICIMOD is actively promoting solar panels and bio-briquettes as alternative sources of energy to fuelwood and dung, which can greatly reduce the strain on natural resources.

Water Harvesting Technologies

Water is a critical resource in most mountainous areas. Often people have to cover long distances and take several hours to collect water for daily household use. ICIMOD has successfully packaged a range of water harvesting technologies including rain water harvesting, surface water harvesting using polythene sheets, and hydraulic water pumps and a bicycle water pump that have a tremendous potential for alleviating water shortage problems for consumption and agriculture, particularly when combined with efficient water use technologies like drip irrigation. Some of these technologies have been widely adopted by regional member countries, for example rainwater harvesting in Nepal and surface water harvesting with polythene sheets in Bhutan. ICIMOD has now developed a menu of water harvesting and storage technologies that can be promoted in different parts of the HKH region depending on local conditions.

Bikash Sharma

Collecting water from the roof

ICIMOD has packaged a range of water harvesting technologies to capture this increasingly critical mountain resource.

Fostering Networks and Partnerships

Working in a region, where geography, history, national priorities, and cultural distinctions restrain the emergence of a regional identity and cooperation, ICIMOD has made a significant contribution to fostering understanding and cooperation. It has facilitated the exchange of ideas among like-minded professionals and various interest groups and the cross-fertilisation of best practices from one location to another at national, regional, and even global levels. Some of the tangible outcomes of these efforts are discussed here.

Community Networks

FECOFUN

Today there is a general realisation that community forestry in Nepal exemplifies a unique and successful case of how, given the appropriate policy and legal environment, users can collectively organise themselves and manage natural resources. Now, only two decades since the programme was initiated in 1992, there are more than 8.5 million Nepalese engaged in more than 10,000 forest user groups that are directly involved in the management of over 1.1 million hectares of

Members of a community forest user group in Nepal

Elisabeth Kerkhoff

community forests in the country, according to the Federation of Community Forestry Users Nepal (FECOFUN). FECOFUN is the national association for community forest user groups in Nepal, founded in 1995. Its mission is to safeguard the natural and legal rights of forest users, to inculcate self-reliance, and to increase the decision-making capacity of forest user groups. FECOFUN has a multi-tiered structure with forest user groups organised in village development committee level networks (the lower administrative unit of Nepal), range post networks, district networks, regional networks, and a central network (FECOFUN) at the national level. Today FECOFUN covers 74 of the 75 districts of Nepal. Since its establishment, this network has been instrumental in representing the concerns of community forest user groups in deliberations about policy regarding the rights of the community forest user groups. ICIMOD was actively involved in the evolution of FECOFUN from its inception period.

ICIMOD helped establish FECOFUN, which now covers over 1.1 million hectares of community forests.

Api-Net Nepal

Api-Net Nepal is another milestone in the achievements of ICIMOD's indigenous honeybee programme. The establishment of this network was facilitated by ICIMOD in consultation with different sections of beekeepers and apiculturists. The network was registered in 2002; it brought together beekeepers, honey hunters, traders, and development professionals from all over Nepal. It facilitated a discussion forum related to honeybees, conservation, blossoms, honey, and honey markets. The network also publishes a biannual bulletin in Nepalese.

Regional Networks

Perhaps, one of the most important, but not always easy to assess, successes of ICIMOD, is in fostering cooperation among its regional member countries. ICIMOD is the only non-political entity that can bring together policy makers, scientists, development workers, civil societies, and farmers from the different countries in the region to discuss ideas, exchange experiences, and pursue common goals in various areas of mountain development. While political differences continue to persist among regional member countries, cooperation has been successfully cultivated in many areas. Successful examples are transboundary biodiversity conservation, flood forecasting and disaster mitigation, germplasm exchange, and study and exposure visits in

various fields. The following paragraphs describe some of the formal regional networks supported by ICIMOD.

HIMAWANTI

The Himalayan Grassroots Women's Natural Resource Management Association (HIMAWANTI) is an independent, non-government organisation mandated to strengthen and promote the role of grassroots women in sustainable natural resource management in the countries of the HKH. Women participants from Nepal, India, and Pakistan formed a Regional Women's Community Forestry Users Group Network, which held a first planning workshop in Nepal in December 1995 with the aim of identifying problems of women user groups and evolving strategies for the future, especially an institutional mechanism for the network. The network was widened and renamed as HIMAWANTI.

The mission of HIMAWANTI is to ensure the emergence of appropriate policies and decision-making processes relating to programmes aimed at organising rural women and promoting their moral strength for the conservation and management of the natural resources of the HKH by giving priority to the rural women of the region.

ICIMOD fosters regional networks in a variety of fields.

Activities were designed and conducted to assist village women in the HKH to develop a small organisation of their own to facilitate regional consultation and empower women to create their own programmes and make their own decisions. In October 1999, after more than two years of planning and preparation, HIMAWANTI succeeded in bringing together more than 200 women from the region to a workshop entitled 'Focus on Grassroots Women in Natural Resources Management in the HKH', supported by ICIMOD. The aim was to provide a forum for grassroots women to share experiences and evolve strategies, and to strengthen communication and alliances among the rural women who are actually involved in conserving and managing natural resources. HIMAWANTI is actively functioning in Nepal and some parts of India but needs further support in other countries.

HKH-FRIEND

ICIMOD, in collaboration with UNESCO/IHP (International Hydrological Program), the WMO, and its regional member countries has been involved since the early 1990s in developing a better understanding of hydrological processes in the small watersheds of the HKH through the establishment of a regional network for hydrological research. It succeeded in launching the HKH-FRIEND (Flow Regimes from International Experimental Network Data) network in the HKH region in March 1996. HKH-FRIEND was officially endorsed by six of the eight regional member countries.

Glacial lake in the Everest region

The HKH countries are highly prone to floods of various frequency and magnitude, many of which cause heavy loss of human life and property. Several flood disasters in the past few decades have underscored the need for regional cooperation in sharing hydro-meteorological data and information to enable timely warning. Recognising this need, ICIMOD in collaboration with the World Meteorological Organization organised a high level consultative meeting on 'Developing a Framework for Flood Forecasting and Information Exchange in the Hindu Kush-Himalayan Region' in Kathmandu, in May 2001. Participants from Bangladesh, Bhutan, China, India, Nepal, and Pakistan agreed on an Action Plan for Regional Cooperation for Flood Information Exchange in the HKH Region. A consultative panel has been constituted with high level representation from each of the participating countries to provide guidance and advice on the effective implementation of the collaboration. In collaboration with WMO, a website <www.southasianfloods.org> was launched to provide a means of sharing and disseminating flood related information.

The Centre has inventoried and mapped glacial lakes and identified potential for outburst floods.

ICIMOD has also successfully inventoried and mapped the glacial lakes in Bhutan and Nepal and identified the potentially dangerous lakes in both countries. ICIMOD is currently working on similar studies in China, India, and Pakistan. This has galvanised the governments to conduct further studies on the behaviour of glacial lakes and to take preventive measures at source and downstream including the installation of observation and wireless facilities. ICIMOD is currently conducting a similar study in Pakistan in collaboration with the University of Peshawar.

SAWTEE

ICIMOD established a strategic alliance in 2001 with the South Asia Watch on Trade, Economics and Environment (SAWTEE). SAWTEE is a regional network of South Asian non-government organisations (NGOs) committed to a mission of enabling South Asian communities to harness gains from globalisation and to mitigate likely negative impacts.

In 2001, ICIMOD together with SAWTEE, launched a new initiative on Farmer's Rights to Livelihoods in the Hindu Kush-Himalayas. ICIMOD's contribution was to facilitate the emergence of this new programme, which could address issues related to the impact of globalisation and liberalisation on mountain communities and mountain resources. ICIMOD was instrumental in designing the programme and leveraging financial resources for SAWTEE to implement it. This programme has made a significant contribution over the last few years and has now grown from what was originally envisaged as a regional network to a global network called the Farmer's Rights Advocacy Network (FRANK), which was launched at the World Trade Organisation meeting at Cancun, Mexico in 2003.

The programme is being implemented in the mountain areas through SAWTEE's five partner organisations: the Bangladesh Environmental Lawyers' Association (BELA) in Bangladesh; the Consumer Unity and Trust Society (CUTS) in India; the Sustainable Development Policy Institute (SDPI) in Pakistan; the Forum for Protection of Public Interest (Pro Public) in Nepal; and the Law and Society Trust (LST) in Sri Lanka.

In 2001, ICIMOD together with a partner, launched a new initiative on Farmer's Rights to Livelihoods in the Hindu Kush-Himalaya.

SAWTEE has made a significant contribution by focusing on policy issues and mainstreaming discussions on the impact of globalisation on mountain areas, which was previously absent. SAWTEE has in the past and continues to organise regional workshops and forums and produces policy briefs, newsletters, and publications in print and on CD-ROM. It is currently launching the second phase of the programme in the Hindu Kush-Himalayas.

Global Role and Networks

ICIMOD's reputation in the global arena has been steadily enhanced and recognised. It was actively involved in the development of Chapter 13, Agenda 21, for the Rio Summit on Sustainable Development in 1992. In 2002, it was one of the founding members of the Global Mountain Partnership launched at the World Summit on Sustainable Development (WSSD) in Johannesburg. It was assigned by the United Nations to be a lead organisation in the hosting of events to celebrate the International Year of Mountains (IYM) 2002, and successfully co-steered the Bishkek Global Mountain Summit besides other major events in the region including the Asia High Summit held in Kathmandu in May 2002, and Celebrating Mountain Women held in Paro, Bhutan in October 2002. ICIMOD contributed to the development of the programme of work on 'Mountain Biological Diversity' of the Convention on Biological Diversity for the decision made by the Conference of Parties at its 7th meeting in Kuala Lumpur in 2004. As an outcome, ICIMOD launched the Global Mountain Women's Partnership in Thimphu, Bhutan, and Bishkek, Kyrgyzstan.

Celebrating Mountain Women (CMW)


Anupam Bhatia

Women wear costumes showcasing a mosaic of mountain cultural and historical traditions and highlighting their innovative spirit.

ICIMOD, in collaboration with the Royal Government of Bhutan, organised 'Celebrating Mountain Women', one of the first global mountain women's conferences, held in Paro, Bhutan from 1-4 October 2002 to mark the International Year of Mountains (IYM) 2002. Despite mountain women's predominant roles in primary sectors of economic development, they have little or no participation in policy, planning, and implementation. The Conference brought together over 250 mountain women and men from 35 countries and five continents with the objective of sharing experiences and aspirations, celebrating the drive and spirit of mountain women, discussing critical issues at hand, creating new coalitions, networks, and partnerships, improving and increasing media coverage, and searching for a new way forward.

This global gathering was an attempt to recognise and draw the world's attention to mountain women's immense contribution to sustaining life in harsh and fragile environments, their roles and responsibilities, their rights as nurturers of their families and communities, and their capacity for economic and social contributions to the community.

The conference focused on five major themes: natural resources; health and well being; entrepreneurship; legal, political, and human rights; and culture and indigenous knowledge. The gathering created a space for shared learning. Mountain women shared their experiences and exchanged knowledge to shed light on gender issues from different areas of the world. As part of the celebrations, various informal activities and events were carried out that exemplified mountain women's role in their respective societies. The mountain women's costumes, displaying cultural and traditional aspects, were a living testimony of women's exceptional talent and enduring spirit. Exhibition stalls displaying collections of arts, crafts, ceramics, clothing, food, herbs and spices, and other products highlighted the scope of mountain women's innovative talent and entrepreneurial skills. The recommendations that came out of the group discussions were incorporated in the 'Thimphu Declaration' and later presented at the 'Bishkek Global Mountain Summit' (BGMS) where they provided the basis for the launch of the 'Global Mountain Women's Partnership' (GMWP) with its objective to translate the demands of mountain women into action.

The Mountain Forum

The Mountain Forum is an alliance of regional networks that has successfully brought together existing networks to host a wide array of activities and bring lessons learned in the field into policy discussions at both national and international levels. ICIMOD is the home of the Asia Pacific Mountain Network (APMN), which it established in 1994/1995 under the Information and Knowledge Management programme. APMN is an informal on-line and off-line forum for information exchange and knowledge sharing on the sustainable development of mountain areas in the Asia/Pacific region among people and organisations working in or associated with these areas. It is now the Mountain Forum regional node for Asia and the Pacific. Since late 2000, ICIMOD has hosted the Global Secretariat of the Mountain Forum, and in late 2003 it incorporated the global information services of Mountain Forum, previously hosted by The Mountain Institute (TMI), into the Secretariat office.

ICIMOD hosts the global Mountain Forum Secretariat – an alliance for sustainable development around the world.

Global Partnerships

The Global Partnership for Sustainable Development in Mountain Regions was officially launched on 2 September 2002 at the World Summit on Sustainable Development (WSSD) in Johannesburg, South Africa. The Partnership is structured to ensure multi-stakeholder and longer-term approaches. In addition, it is conceived as an evolving alliance with the flexibility to address the complexity, diversity, and magnitude of mountain issues. ICIMOD has registered as a lead member for the initiatives on sustainable agriculture and rural development in mountains (SARD-M) and sustainable livelihoods, and as a member of the initiatives on gender, policy and law, research, and watershed management.

J. Gabriel Campbell

5 Major Achievements and Shortcomings

ICIMOD no doubt has faced serious challenges as a pioneer in the field of integrated mountain development charged with the mandate of reducing environmental degradation and enhancing conservation of natural resources at one end and reducing poverty by enhancing income generation among poor mountain inhabitants at the other. The Centre was created at a time when dialogue on sustainable development through balancing conservation and development was just taking off and when the need for such a paradigm shift was only beginning to emerge. Even after awareness and dialogue on sustainable development increased, following the adoption of Chapter 13, Agenda 21 of the Earth Summit in Rio, 1992, there continued to be major challenges, some of which ICIMOD has yet to address adequately.

ICIMOD's role has often been described as that of a facilitating institution occupying the interface between research and development.

Defining its Role and Building its Identity

The statutes of ICIMOD indicate that the Centre is intended to be neither a traditional research institution nor an implementer of development projects in the conventional sense. Its role has been often described as a facilitating institution occupying the interface between research and development with the following four main functions:

i) a multi-disciplinary documentation centre on integrated mountain development based on the systematic exchange of knowledge and experience through an organised information network

ii) a focal point for the mobilisation, conduct, and coordination of applied and problem solving research activities

iii) a focal point for training on integrated mountain development with special emphasis on the assessment of training needs and the development of relevant training materials based directly on field case studies

iv) a consultative centre to provide expert services on mountain development and resource management to the countries of the HKH Region

Left photo: The earthquake in Pakistan in October 2005 has been a big set back, but building on past work, ICIMOD is contributing to the rebuilding process.

In practice, however, it was difficult to fulfil these functions to everyone's satisfaction due to the varying degree of needs, priorities, and interests of the diverse clientele, and dependence on partners for implementation and on support from donors. The challenges faced by ICIMOD in fulfilling the above statutory functions can be summarised as follows.

The Centre has struggled to combine an integrated approach while keeping adequate focus to ensure results.

i) **As a documentation centre** – ICIMOD has been prolific in documentation and the publication and distribution of books within the region. Despite the popularity and widespread use of many of them, the utility of some has been criticised by some regional clients and development partners (2nd Quinquennial Review). Considering the vast majority of non-literate and non-English speaking people in the HKH, the primary use of written English media for information and knowledge dissemination means that many groups are reached only indirectly. However, the Centre has to meet the academic interests of many of its supporters and the challenge of living up to its reputation as an international institute on par with the CGIAR institutes with whom it is often associated. Publications written in English can be read across the region by the majority of mid and upper level officials and development workers, and can be used as a basis for preparing training and other materials. Working with partners, ICIMOD has increased publication in regional languages. The Centre has now embarked on some innovative means of communication using alternative media such as street and puppet theatre, and song and dance to communicate with less literate groups, and on preparing more focused information products within a comprehensive new knowledge management strategy.

Dyutiman Choudhary

Frame for a greenhouse, a simple mountain appropriate technology.

ii) **As a focal point for problem solving research** – ICIMOD has struggled with combining its mandate to address mountain issues in an integrated approach that responds to partners' needs, with the need for sufficient focus to ensure adequate results. This twin mandate has been difficult to put into operation and has resulted in instances of programmatic initiatives being under-financed, under-staffed, or without adequate follow through. This has sometimes led the Centre's agenda to be over-influenced by the financing agencies or by more visible, influential, and accessible lobby groups among its

clientele. This is a challenge that the Centre has to overcome as rightly pointed out in the 3rd Quinquennial Review: the need to prioritise and focus on fewer, but more strategic, issues. For this reason, the Centre embarked on a two-year collaborative strategic planning process resulting in focused, integrated programmes for the 2003-2007 Medium Term Action Plan.

iii) **As a focal point for training in integrated mountain development** – ICIMOD has been rightly credited with bringing together experiences from the region and sharing them in regional and international forums, creating awareness and building bridges among people of various backgrounds. However, its training programmes could be further strengthened and systematised including through the establishment of an Alumni Network. Training of staff from regional member countries has sometimes been too ad hoc. While responding to the specific needs of a partner institution, the training did not provide sufficient systematic learning and capacity building to bring about significant institutional change. Another challenge is that while technical and subject matter specialists are used to provide specific skills or knowledge training, they need additional skills to invoke attitudinal changes and learning. This gap still needs to be addressed.

For many years, ICIMOD's role in facilitating regional cooperation through information exchange, mutual learning, network building, and joint projects was inadequately addressed.

iv) **As a consultative centre to provide expert services** – ICIMOD's full potential has yet to be realised as an institution that can provide expert advisory services in integrated mountain development, apart from a few core areas of competence such as land use and GIS/RS technologies. While the trend is improving, the demand has often been linked to individuals rather than to ICIMOD as an institution. If the Centre decides to expand this service and become a resource Centre for expertise in mountain development, than a comprehensive strategy needs to be drawn up which would entail a fundamental shift from current thinking at the Centre. For most of its history, ICIMOD has chosen not to place emphasis on this originally identified role.

v) **As a facilitator for regional cooperation and networking** – Although not identified in the original statutes, one of ICIMOD's most important implied functions has been to serve as a facilitator for regional cooperation through information exchange, mutual learning opportunities, the formation of networks, and more direct cooperative actions and joint projects. For many years, this function was not explicitly addressed and partnership arrangements with ICIMOD's over 300 partners were frequently ad hoc. Some opportunities to help promote and sustain regional collaboration were no doubt lost. It is for this reason that the Centre's new

strategy incorporates explicit efforts to develop partnerships and regional cooperation more thoughtfully through a new partnership strategy.

Bridging the Missing Link between Research and Development

Scaling up successful technologies and approaches is an increasing priority.

ICIMOD has worked to bridge the gap between research and extension by triggering new policy options, innovative investment, and development programmes using the information and knowledge generated by research and by supporting capacity building. This goal has proven elusive in some programmes for a variety of reasons. Firstly, the scope and duration of some projects were too limited and dependent on the interest of the funding agencies. Secondly, when very practical and useful technologies were developed, there were no means identified to promote and upscale them, such as in the case of water harvesting, renewable energy, and gravity ropeway technologies. Developing longer-term planning and obtaining longer-term commitments that combine a search and packaging phase for technologies followed by a development and upscaling phase has been a challenge. Thirdly, research and development institutions in the regional member countries still operate along traditionally defined sectoral or functional divides and bringing them together towards a common cause needs time, methods of operations, and investment. Only those programmes that have longer-term support and continuity have been able to bridge this divide, as amply illustrated by the gradual

Elisabeth Kerkhoff

Terrace agriculture for optimum use of mountain slopes

but steady progress made in the community forestry, watershed management, rangeland management, beekeeping, and GIS/RS programmes.

Meeting Divergent Interests

Meeting the interests and priorities of ICIMOD's diverse stakeholders, ranging from beneficiary groups, through research and development partners, to donors and regional and international members of the Board, has presented a special challenge. While development agencies and beneficiary groups demand 'on the ground' success stories and benefits in terms of enhanced income and livelihoods, partner institutes are often more concerned with training, study tours, and funding support. Similarly, research and university partners are more interested in academic opportunities, while governments are concerned with development interventions (funding support). Likewise, ICIMOD's Board represents a diverse interest group based on their national and organisational policies, and professional and functional backgrounds. The debate between the relative emphasis on social sciences versus natural sciences as well as between policy interventions, technology generation, and development interventions among the board members is a continuing one. This dynamic interplay poses a creative challenge for ICIMOD. On the one hand it opens up new avenues of opportunity that will contribute to the ongoing development of the Centre, on the other it encourages development of an inclusive approach to prioritisation of programme activities.

Meeting the interests and priorities of diverse stakeholders has presented a special challenge.

Strengthening Ownership by the Regional Member Countries

ICIMOD's challenge from the start was to come up with ways and means of building trust and confidence, and fostering a sense of 'regional solidarity' around issues of common interest among its regional member countries. This was, and continues to be, a daunting challenge for the Centre as political and economic interests as well as cultural and ideological differences among the regional member countries continue to be major constraining factors. Although as a non-political body, ICIMOD has made significant headway in a number of areas, such as flood forecasting, information sharing in various fields, and biodiversity conservation, this has not yet matured to the level of regional ownership needed for ICIMOD to fulfil its mission in the long term. Inconsistent governance representation and ad hoc partnership arrangements have limited the scope for building greater ownership and more enduring relationships. Ex-officio regional member country representation has often resulted in rapid Board turnover. In addition, the Centre has not been able to fully capitalise on the emerging opportunities for regional cooperation presented by international

Narendra Bajracharya

Welcoming RMC partners to the Godavari Demonstration and Training Centre

conventions such as the Convention on Climate Change and Desertification and Millennium Development Goals to which the regional member countries are signatories.

Building Strategic Partnership Arrangements

Building lasting and fruitful partnerships is the key to ICIMOD's success.

Building lasting and fruitful partnerships, through which it can conduct its business, is the key to ICIMOD's success. While the Centre now boasts of an impressive list of approximately 60 major regional partners and 200 other collaborating partners from both in and out of the region, the relationships with many of them vary from informal contacts to a single activity level cooperation. The need for a more formal and strategic choice of partners was highlighted in the 3rd Quinquennial Review (2001) and adopted in the new Strategic Plan for 2003-2007. In the past, ICIMOD failed to adopt a set of criteria in choosing partners and in entering into formal partnership arrangements. While most partners contributed substantially to joint activities through financing in kind that roughly equalled ICIMOD's country allocation, few activities have been able to raise direct co-financing. Initiating joint planning from the outset and bringing a new collaborative mindset to programme development is the current challenge which ICIMOD must address for long-term sustainability. The challenge that faces ICIMOD is to strengthen representational mechanisms, continue to increase joint planning and implementation with partners, and engage in effective dialogue with appropriate focal point persons and institutions in regional member countries to build increased long-term ownership.

Adopting an Integrated Approach

While 'integration' and 'integrated approach' feature prominently in ICIMOD's lexicon, it has yet to evolve a successful integration of its programmes and to adopt a functional integrated approach. The new Medium Term Action Plan (2003-2007) attempts to address this challenge, however, while the programmes are all named as integrated, the level of programmatic integration remains modest and many of the programmes function by and large in the same manner as the divisions under the erstwhile RCPs I and II. The elements of integration need to be brought out more clearly after careful planning and further analysis. Likewise, the culture of adopting an integrated approach by the staff requires some degree of reorientation in individual and collective approaches.

Strengthening Monitoring and Evaluation

Monitoring and evaluation (M&E) continues to be a weak area for ICIMOD. It has not been able to introduce an M&E system that can capture the outputs and outcomes of its interventions satisfactorily. Because it has to work through its partners, who have different M&E systems and reporting requirements, and because it has to report to donors who have their own reporting criteria, ICIMOD has consistently found it difficult to evolve such a system. Nevertheless, work is now underway to develop an M&E system that will meet the reporting and evaluation needs of the programmes and projects under the Medium Term Action Plan (2003-2007) and considerable progress was made towards this end in 2005.

Progress is being made to develop an M&E system that meets the reporting and evaluation needs of ICIMOD's programmes and projects.

Kung Chin Thang

6 Lessons Learned

Over the two decades of its existence, ICIMOD has learned many lessons from the programmes and projects it implemented. Annex 1 provides a more detailed analysis of the level of success achieved in some initiatives and the reasons for their success or failure. The following general lessons have been drawn from this analysis and were used to develop the new strategy and Medium Term Action Plan (2003-07).

Strengthen Ownership by the Regional Member Countries

For ICIMOD to pursue its vision of securing prosperity and security for mountain communities and accomplish its mission of developing and providing economically and environmentally sound solutions to overcome economic, social, and physical vulnerabilities, there is a fundamental need to increase ownership of its programmes by the regional member countries. In addition to strengthening joint planning and strategic partnerships, increased continuity in governance and, in some instances, better alignment with regional country organisational mandates have proven to be effective pathways towards increased national and regional ownership. Countries that have appointed supporting technical persons within the Board Member's Ministry or organisation, whose tenure is usually longer than shorter-term Secretary-level appointments, have helped to provide continuity and institutional memory. A similar mechanism could be extended to other RMCs. Perhaps most importantly, with the fast economic growth and improving relations between its key regional member countries, there is now ample scope for them to demonstrate ownership of the Centre through an increase in their contributions, although support from the ICIMOD Support Group (ISG) will continue to be important for some time to come to foster this development.

A fundamental need is to increase ownership of ICIMOD's programmes by the regional member countries.

Left photo: Floating agriculture at Inlay Lake in Shan State, Myanmar

Align Programmes with Perceived Priorities and Innovative Solutions

ICIMOD has learned that many of its more successful efforts have come through identifying innovative solutions to problems identified by governments and organisations in the region. Where the perceived priority is high – e.g., deforestation of prime forest land, erosion of sloping agricultural land and rangelands, destructive and unpredicted floods, shifting cultivation, and marginalisation of women farmers – and where innovative solutions offer a promise to address these issues, the likelihood of high impact policy change and large scale uptake has been higher. This calls for more joint planning, and greater relevance of programmes that fit with the national and state/provincial planning priorities as has been advocated in the new strategy.

Choose Strategic Lead Partners and Champions

The new strategy advocates more joint planning and programmes that fit with national, state, and provincial priorities.

The time and effort spent in selecting and developing strategic lead partners has been recognised as the key to successful interventions and the sustainability of cooperation. Important lessons have been learned from the behaviour of the range of partner institutions, from grassroots community-based organisations to NGOs to government institutions. Most successful partnerships are established in those areas of work where sufficient trust and confidence building measures were developed and where there was mutual interest and sharing of programme objectives, e.g., partnerships developed by Mountain Environment and Natural Resources Information Systems (MENRIS), PARDYP, and the regional rangeland and beekeeping programmes. ICIMOD has learned that involving partners from the start of project

Zbigniew Mikolajuk

Presentation by a women's group in a project assessment meeting

planning rather than only at a later stage is much more effective, and hence resources and mindsets should focus on engaging partners in participatory planning of regional programmes.

Secure Long-term Commitments from Donors

One of ICIMOD's continuing challenges is taking interventions to a scale where national partners can take over the programme. In many cases, useful information was gathered and technologies identified, but they were not delivered to the beneficiaries for lack of continued funding support or adequate partner ownership. Documents and workshops are not enough to convince policy makers, planners, and practitioners to embrace new interventions, it is necessary to actually test and demonstrate the successful application. Some pertinent pro-poor technologies like water harvesting and greenhouse vegetable cultivation for income generation were not taken to scale because of lack of funding continuity. ICIMOD is now focusing on including plans for taking to scale in the initial project design itself. In many cases this means developing strategies to hand over successful technologies for scaling up to other interested parties, as for example in the Women, Water and Energy project, the results of which have been included in district level programmes in Nepal.

Working from both ends – policy makers and grassroots' communities – has proved equally important.

Use Different Approaches to Influence Change

ICIMOD has learned that using just one entry point to influence policy change or for adopting technological interventions is not adequate and that a multiple approach with long-term follow up needs to be taken. While meetings, workshops, conferences, and exposure visits are important venues for educating the public and creating awareness, they do not necessarily provide policy makers or practitioners with enough confidence to effect change. Working from both ends, with policy makers and researchers at one, and grassroots beneficiaries at the other, has proved to be equally important to bring about changes in policies and the adoption of technologies. In other words, sowing seeds of change and mobilising the support of different groups of stakeholders are necessary to bring about visible and rapid change.

Positive experiences from the approach used by working with the International Fund for Agricultural Development (IFAD) to link with its country projects in Bangladesh, Bhutan, India, Nepal, and Pakistan, in the scaling up of water harvesting, SALT, and medicinal plant cultivation and to influence policies on shifting cultivation and land use changes need to be replicated. Similarly, the approach used in training of trainers

from rural communities in Mustang, Humla, and Khumbu in Nepal on water harvesting, energy generation, and income generating technologies at the Godavari site has shown that the gap between research and application can be narrowed significantly and should be pursued further. Similarly, working to build the advocacy skills of NGOs and research organisations is showing promise for larger scale adoption of new policies and practices. ICIMOD's new strategy is to integrate these strategies in each of its programmes.

Achieve the Right Mix of Programme Activities

A range of policy and technology options must be available on demand in keeping with the diversity of the regional member countries and their needs.

Because of resource constraints and the feasibility of implementing on a regional scale, ICIMOD has to limit its active involvement in research and development to a few key issues of regional importance. However, in keeping with the diversity of the regional member countries as well as the diversity of needs within the countries, it is important for ICIMOD to maintain a range of policy and technology options that could be provided on demand. The Centre has learned that failing to respond to these needs can lead to disappointment and be a deterrent to further cooperation. This does not mean that the Centre has to have all the expertise in-house. It can meet such demands by linking requesting partners to sources of expertise available among its other partners. To this end, ICIMOD has started to maintain an inventory of appropriate technologies and sources of information and a roster of experts in various fields, including former employees of the Centre, so that it can link demand and supply of information and expertise.

Systematic Capacity Building

ICIMOD has seen that one of the most tangible benefits from its past work has been in the capacity building of partner institutions, be it in natural resources management and planning, local institutional governance, gender mainstreaming, mountain perspective analytic tools, GIS and RS technology applications, beekeeping, or planning and monitoring. Many of the alumni from the various training programmes have become champions for taking forward the agenda of integrated mountain development, whether in Tibet or Sichuan, Uttaranchal or Sikkim, Gilgit, the Chittagong Hill Tracts, Bhutan, or Nepal. ICIMOD has realise the need to strengthen its training services so that the capacity building of partner institutions can be taken up more systematically.

Appropriate Media for Outreach and Dissemination

ICIMOD has learned that publications do not directly reach their end group of users, the poor mountain people of the HKH, and that there is

a need to come up with innovative means of disseminating information and knowledge to this group together with partners. Furthermore, while electronic media like the Internet and websites are of growing use and importance in the RMCs, they still suffer from limited access by poor and marginalised mountain people. ICIMOD is learning to be more selective in the choice of media used to reach specific target groups, such as briefing papers for policy makers and alternative media for farmers and other grassroots stakeholders, and is developing a comprehensive information and knowledge management strategy to increase the effectiveness of its outreach. This will only be truly effective if it brings partners together in a capacity building programme while learning to focus more on the need for local languages and media.

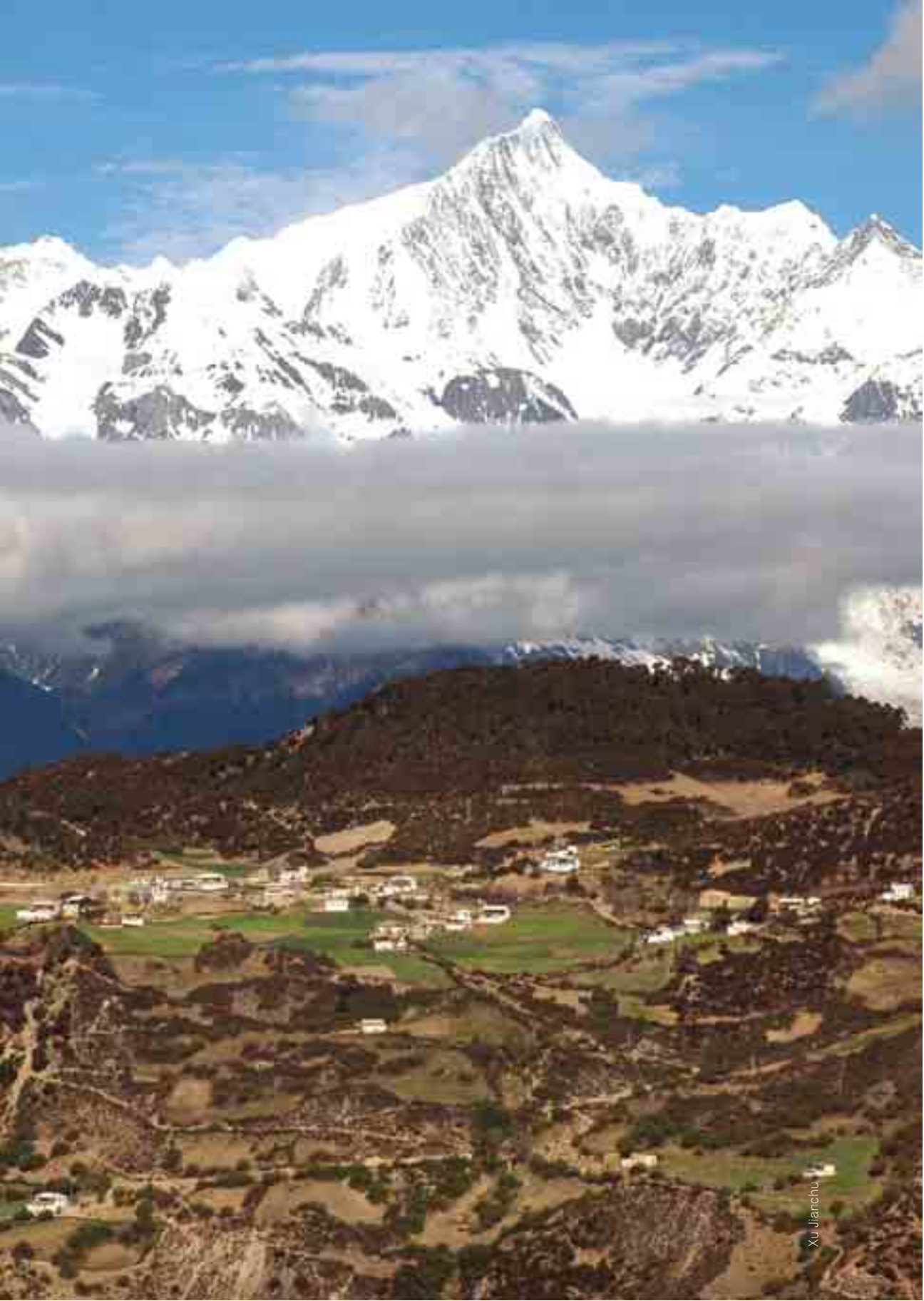
ICIMOD has much to learn from its partners, and much to share from its own knowledge and experience.

ICIMOD as a Learning Organisation

ICIMOD has recognised that it has much to learn from its partners, as well as much to share from its own knowledge and experience. There are several institutions and agencies of excellence in the region engaged in mountain development issues. The expertise and experience available within them remains largely untapped by ICIMOD. There is a need for ICIMOD to engage more actively in fostering stronger partnership arrangements with these centres. Increasingly, partnerships need to be built to ensure that concrete and scalable results are generated that can help the RMCs and other partners to develop appropriate polices, initiate good practices, and better address poverty and environmental problems on a continuous basis.

Cung Chin Thang

Myanmar Ministry of Forestry officials participating in a workshop on best practices in mountain development



Xu Jianchuan

7 ICIMOD
Strengths and Comparative Advantages

Over the two decades of its existence, ICIMOD has accumulated a range of professional expertise and functional competence giving it a comparative advantage in undertaking research and development work in mountain areas, particularly the HKH region. It has inherent strengths in a number of areas that could be used to steer the course of its future work more efficiently and effectively to assist the regional member countries to address current and emerging challenges of mountain development. It has also built credibility as a non-political regional centre for learning and knowledge by its regional member countries and has established lasting partnerships with relevant institutes in all the countries. Because of its location in the HKH region – a region of immense geological, ecological, biological, social, economic, and cultural diversity – there is no dearth of opportunities for applying its accumulated knowledge and experience to address a wide variety of issues.

ICIMOD has built credibility as a non-political regional centre for learning and knowledge sharing.

The Centre's comparative advantages include the following.

i) **Focal agency for developing a regional identity and solidarity** – The most visible and appreciated competency of ICIMOD lies in its ability to bring together representatives at various levels, from policy makers at the central government level to practitioners and beneficiaries at the grassroots, to discuss and build consensus around issues of common interest. At this stage, it is the only centre that engages the eight countries of the HKH region to come to the table to discuss non-political, but nevertheless sensitive, issues like transboundary biodiversity and water management. The understanding developed through this people-to-people contact may also have a significant bearing on the solution to some of the ongoing conflicts in the region. ICIMOD should build on this niche position and further strengthen its capacity as a nodal centre for building alliances among mountain development agencies and individuals and among the mountain people themselves.

Left photo: The Himalayas seen from a mountain village in Bhutan.

ii) **Information and knowledge management in mountain development** - This will continue to be ICIMOD's core area of competence as envisioned in its original Statutes. The Centre has researched, documented, and published a large body of literature on mountains, and mountain environment and livelihood issues. It has not only been a key source of reference materials on these subjects, but has also developed a chain of information and knowledge dissemination channels, including electronic and alternative media. This is an area where few other institutes can compete with ICIMOD either in scope or content because of its unique mandate and geographical area.

iii) **Research and development in natural resources and ecosystems** – One of the Centre's key competencies based on its past work is in the area of community-based management of common natural resources, such as forests, watersheds, rangelands, biodiversity, and water. The Centre has a rich data and information base on these natural resources and in developing innovative means of involving communities in managing them. Functional partnership arrangements already exist with reputed institutions in the host countries working with ICIMOD's programme staff, as do vibrant grassroots networks and organisations.

The Centre's ability to bring together both policy makers at central government levels and the grassroots to build consensus on issues of common interest is one of ICIMOD's valued competencies.

iv) **Training and advisory service centre** – ICIMOD's comparative advantage in this area lies in having accumulated a range of expertise in cutting edge technologies for improving the livelihood of poor mountain people, particularly marginal upland farm households, such as renewable energy and water harvesting technologies, vegetable and medicinal plant cultivation, high value fruit and nut production, fish farming, soil conservation, and farming on slopes. This is supported by the Centre's Demonstration and Training Centre at Godavari, and its premier GIS/RS facility, where hands-on training is provided for different categories of clients. ICIMOD can package several training modules by combining these technologies with social components like gender mainstreaming and equity elements, and economic components like marketing and quality control. Policy development support along with advisory services, on demand, can be provided in a range of these areas of its competence.

v) **Regional catalyst and facilitator for moving forward the global agenda on climate change and the Millennium Development Goals** – ICIMOD is ideally placed to assist the regional member countries to take a regional approach to

addressing the challenges as well as harnessing the potential benefits of global warming and climate change, the WTO and economic liberalisation, and to meet the Millennium Development Goals (MDG) on poverty reduction and environmental protection. It has a sufficient information, knowledge, and partnership base to embark on this route. Since many of the emerging issues transcend national boundaries, such as glacial melting and glacial lake outburst floods, flash floods and droughts, conservation of biodiversity, and development of ecotourism and hydropower, there is a growing awareness of the benefits of a regional approach and the interest and motivation to do so. The recent positive improvement in the relations between regional member countries augurs well for such a development.

ICIMOD Archive

ICIMOD Director General meets with Afghan officials

Women and Energy file photo

Women's group meeting in the Women and Energy Project

Sanjay Madnani

8 Courses of Action

Strengthen Ownership by the Regional Member Countries

Activating Country Focal Points – The focal points at both ICIMOD and the RMCs should be made more actively responsible for coordinating and facilitating collaboration between ICIMOD and the RMC concerned. ICIMOD should follow up with the Regional Board Member of each country to assign a focal person in a relevant organisation to coordinate the ICIMOD related activities as well as serve as the central point to assist the Board Member. The RMCs may also decide to establish a national committee to bring together the major national and provincial institutions working with ICIMOD

Developing Partnerships – ICIMOD's charter statutes provide for a broad mandate to '…establish appropriate relations with government, intergovernment, non-government, and other organisations whose activities are related to its objectives.' Memoranda of Understanding (MoU) have been used in order to specify better the scope of activities and mutual commitments. Three different categories of MoUs are being developed: Framework Agreements at the national/provincial level; Implementation Agreements at the institutional level; and Letters of Agreement (LoA) with development partners including donors. The Framework MoUs are to serve as strategic overall agreements to chart and facilitate ICIMOD's work in the countries concerned throughout the Medium Term Action Plan (2003-2007) period. Framework agreements have already been signed with relevant institutions in Bhutan, China, and Pakistan. Implementation agreements will serve as the basis of collaborations outlining roles and responsibilities as well as obligations between ICIMOD's programmes and collaborating regional partner institutions. Several such agreements are already in place. The Strategic Partnership agreements are intended to serve as the basis for cooperation between ICIMOD and other research and development institutes and agencies from both within and outside the HKH region. Concerted efforts will be made in the coming years to build and promote partnership arrangements at all levels for increased collaboration and success.

A variety of implementation agreements serve as the basis of collaboration.

Left photo: A puppet show in Bandarban, Bangladesh under ICIMOD's Alternative Media Project involves the community itself.

Enhancing Financial Contributions – Increased efforts and new strategies are being developed by the Board appointed Working Group on Financial Strategy, which includes the RMCs, to increase the RMC's core contributions and programme co-financing. Frequent visits by the ICIMOD Directorate to the RMCs and high-level delegations from the RMCs to ICIMOD are being organised to strengthen understanding and the level of cooperation. Joint programme planning with partners will enable them to raise co-financing within their own institutions and countries. The Regional Board Members have an important role to play in actively engaging their respective governments in order to increase their financial and political support to ICIMOD.

Align Programmes with Perceived Priorities and Innovative Solutions

Efforts should be made to satisfy the priorities and needs of individual regional member countries so that they scale up results.

Reviewing Programme Plans – In line with the Board directives, ICIMOD's integrated programmes should review and adjust their plans to enhance the programmes for (i) greater impacts through scaling up, (ii) increasing partner and country ownership and co-financing, (iii) stronger policy orientation, and (iv) impact monitoring.

Adding Value to ICIMOD Products – While ICIMOD programmes and projects need to have a regional focus, efforts should be geared towards ensuring that the deliverable products satisfy the priorities and needs of the individual RMCs so that they in turn allocate resources for scaling up the results and products.

Surendra R. Joshi

Honeybee products

Facilitating Country Partner Meetings/Visits – Annual meetings of country partner groups and regular exposure visits by the RMC partner institutions to ICIMOD and other regional member countries should be facilitated as a means of sharing learning and lessons and providing the basis for joint planning of activities in line with national and state/provincial priorities.

Choose Strategic Lead Partners and Champions

Applying Partnership Development Criteria – The ICIMOD partnership development strategy provides specific criteria for selecting programme and project partners. The selection of lead partners for different programmes, projects, and activities should be done to add value and create impacts based on mutual interests and objectives and demonstrated credibility.

Building Resources for Participatory Planning – All future programmes and projects should have built-in resources for applying participatory planning tools and multi-disciplinary project management methods through consultations with relevant stakeholders.

Secure Long-term Commitments from Donors

Responding to Donor Requirements – While the tangible outcomes of ongoing projects lead to greater and more secure long-term funding from donors, this has to be complemented by timely responses to other donor requirements, for example, addressing larger environment and poverty related problems. Proper attention should be given to ensuring that donors are provided with formal periodic progress reports as well as informal feedback on their respective projects and programmes.

Activating a Donor Tracking System – A donor database development and monitoring system should be put in place and actively used to identify potential donors, and their priority areas and needs, so that the proposals are as relevant as possible to donor interests. This would also help in broadening the donor base and enhancing the financial sustainability of ICIMOD.

ICIMOD depends on securing long-term donor support.

Facilitating Continuous Proposal Development – The directorate should encourage and support programme development and proposal writing on a continuous basis. Efforts should be multiplied in securing longer-term programme and project funding by responding promptly to published requests for proposals, responding to donors, informal requests, and submitting unsolicited letters of interest, concept notes, and/or proposals to existing and new donors to ensure funding for ongoing and/or new projects.

Use Different Approaches to Influence Change

Opening New Learning Channels – ICIMOD should continue to explore various learning opportunities to link field experiences with national and regional policy processes. It should undertake joint learning missions together with projects supported by common donors to related projects in other regional member countries. This should result in the experiences and lessons learned from these projects being used by governments, donors, and research and development agencies to scale up the results at national and regional levels.

The Centre should continue to explore learning opportunities that link field experience with national and regional policy processes.

Acting as a Regional Catalyst for Moving Forward the Global Agenda – ICIMOD should focus on the implications of climate change, and the needs of the MDGs and global conventions, regionally and nationally, when formulating programmes and projects, and portray these explicitly in project documents and activities, and discussions with partners and donors, including the RMC governments. Understanding and responding to the impacts of global processes, and moving forward the agenda on the MDGs, should be seen as among the basic aims of all ICIMOD activities. Referring to these explicitly and adding value to approaches towards them will help raise regional awareness both of the challenges and of potential solutions, and increase the focus on responding to global issues and achieving the MDGs.

Incorporating Policy and Advocacy Elements – Efforts should be consolidated to ensure that upcoming programmes and projects incorporate policy and advocacy dimensions. Grassroots organisations should be involved in incorporating policy issues in specific areas of natural resource management in their work through capacity building and awareness raising measures.

Moving Towards Results-based Participatory Monitoring and Evaluation – The results-based M&E system ensures transparency, accountability, and continuous feedback on performance. Appropriate participatory M&E approaches and tools should be developed and applied to ensure that programmes and projects actually influence and induce the desired change.

Ujol Sherchan

ICIMOD continues to seek innovative ways of gathering and disseminating information and knowledge to mountain people with limited access to media like the Internet.

Achieve the Right Mix of Programme Activities

Integrating Programmatic Interests – ICIMOD has started developing programmes and projects among multiple Integrated Programmes as one of the approaches to target donors in a sustained manner. This initiative should be supported through the issuance of clear-cut guidelines from the Directorate.

ICIMOD's alumni are an important resource for the Centre.

Counting on ICIMOD Alumni – Linking more closely with ICIMOD's alumni will help in assessing ICIMOD's contribution in the capacity building of its partner institutions in the RMCs, as well as in identifying the expertise available within partner institutions. It will facilitate the exchange of expertise among ICIMOD's partners as well as between them and ICIMOD.

Systematic Capacity Building

Creating a Training Support Unit – A training support unit should be established to plan, organise, and manage ICIMOD training facilities and coordinate training programmes in collaboration with the Integrated Programmes and key RMC and other international partners. The unit will develop training modules based on the available in-house resources, strengths, opportunities, knowledge base, professional capacity, and outputs from different programmes and projects. The training programmes will be disseminated to target audiences and publicised well in advance so that governments, institutions, projects, and donors active in the RMCs can sponsor participants.

Replicating the Godavari Demonstration and Training Centre Site – The Godavari site serves as a model where various community-based natural resource management and allied technologies are tested and demonstrated, and training provided. In order to promote the effective use

Participatory planning in the Tibet Autonomous Region

ICIMOD is reviving the use of indigenous media to reach out to communities bypassed by modern information and communication technologies.

and replication of the selected technologies in the RMCs, efforts should be made to establish similar test and demonstration sites in the RMCs in collaboration with national institutions.

Continuing Internship Programme – Internship opportunities are provided to young graduates from the RMCs and partners from all over the world. More efforts should be made towards strengthening and streamlining this programme. Attachment of graduates, particularly female candidates from minority and disadvantaged communities, should be given a special priority. The Internship Policy already in place should be followed as much as possible.

Appropriate Media for Outreach and Dissemination

Reviving Traditional Media – ICIMOD is working towards reviving and promoting indigenous traditional media through a pilot project on alternative media, e.g., street drama, puppetry, song, and dance, to deliver relevant development messages to the communities bypassed by modern information and communication technologies (ICT). The media used should be based on local needs, relevance, and effectiveness and wherever suitable be combined with other ICTs.

Sanjay Madnani

A street play is one form of alternative media

ICIMOD uses a wide range of media to share information (clockwise from top left) the ICIMOD website, reaching out globally; a CD-ROM, e-publication, interactive CD-ROM, and DVD; and some printed publications

Diversifying Media and Outreach Products – Selected media and outreach products should be used to reach target groups at different levels. For example, briefing papers for policy makers and 'how-to' materials for communities and extension agents. Key documents should be translated into local languages, through partners, and highly visual publications prepared for rural farmers.

Selected media and outreach products should reach target groups at different levels.

Evaluating ICIMOD Publications – Readership surveys should be conducted on a regular basis to evaluate the relevance and importance of the general and technical publications distributed to mailing list members and others. The ideas and suggestions received should be used to further improve the content and presentation of reports, books, and manuals.

PARDYP file

9 Future Outlook

ICIMOD has travelled far, but not yet far enough to accomplish its mission of supporting its regional member countries to achieve the twin goals of protecting the fragile environment and improving the livelihood of the poor mountain people of the greater Himalayan region. It is a commendable achievement to have reached as far as it has, given the magnitude of the obstacles placed in its path by the highly volatile geo-political situation in the region and the extreme physical conditions. ICIMOD has grown much, but needs further development to fulfil its role as an international body to which its stakeholders look for stewardship and guidance in sustainable mountain development and natural disaster reduction.

ICIMOD has reason to be optimistic about the future.

Yet, ICIMOD has made its presence felt at the national and regional levels as well as on the world stage and is increasingly having wide scale impacts. It has pioneered the Mountain Perspective Framework, contributed to charting the mountain development agenda in Rio, taken a lead role in the celebration of the International Year of Mountains 2002, has become a founding member of the Global Mountain Partnership, and is hosting the Global Mountain Forum Secretariat. It has firmly put down its roots as the leading learning and knowledge centre for the HKH region, firm enough to support its further growth by nurturing the accumulated wealth of experience and lessons it has learned from the past.

The Medium Term Action Plan (2003-07) has charted a more strategic course for ICIMOD to reach further, faster, deeper, and more effectively than before to meet the challenges and needs of its partners and member governments. ICIMOD has a reason to be optimistic about the future – a future where it is a leading player worldwide in the area of mountain development. It has the frontier knowledge of a mountain region that is confronted by increasing connectivity requiring an increasingly integrated approach to find innovative solutions. To conclude, there is wisdom in the key statement made in the 2nd Quinquennial Review conducted in 1995:

"If ICIMOD did not exist,
it would have to be invented."

Left photo: A system of rice intensification promoted by ICIMOD's PARDYP project has increased yields by 20% in watershed areas.

Pradeep Tulachan

Annex

Analysis of ICIMOD's level of success and reasons for selected innovations in the past twenty years

Innovation	Impact	Evidence	Approach and Reasons
Mountain Perspective Framework	High	• Globally, regionally, and nationally adopted for policy development, planning, and investments • High academic interest and practical application in RMCs	• Analysis of mounta in specific natural, physical, and socioeconomic conditions and needs • Representation at various fora for a continuous advocacy and use in mountain-specific learning • Continued involvement of responsible and trained staff
Community-based Natural Resources Management	High	• Adoption of more community-based approaches in forest and NR management in Nepal, Bhutan, and the region • Watershed management in India, Pakistan, Nepal, and China • Rangeland management in Bhutan, China, and Nepal • Proper shifting cultivatio n innovations adopted by policy makers in NE India and Nepal • Publications and outreach	• Involvement of other donors, partners, and existence of long -term donor interest • Relevance to the countries and local communities • Programme-based not project specific • Established institutional partnerships • Regional exchanges & networking • Formed grassroots associations • Shifting cultivation adopted multistakeholder consultation process
Biodiversity Conservation	High	• Transboundary management – Nepal and TAR, China • Biologi cal corridors in the Kanchenjunga landscape • Conservation and multiplication of indigenous honeybees • Established links to global conventions	• Conducive geo -political environment • Long-term commitment and sustained activities • Adequate information and knowledge generated for developing advocacy strategies • Focused area of intervention both discipline-wise and geographically • Strategic partnerships with the Convention on Biodiversity Secretariat
Mountain Tourism	High	• Adoption of community - based tourism in Nepal • Incorporation of eco - tourism policies and strategies in RMC's investment and development plans • Use of training manuals, policy briefs, and e -portals	• Adequate analysis of the tourism industry in the mountain perspective • High potential for income generation and benefits • Long-term engagement of relevant staff • Convergence with national and sub - national policies and programmes

Left photo: A woman-led mountain family

Innovation	Impact	Evidence	Approach and Reasons
Mountain Risk Engineering	High	• Wide-scale adoption by RMCs in road stabilisation • Training manuals used by RMCs • Curricula prepared and adopted by Tribhuvan University	• Relevance to the reduction of physical vulnerabilities particularly the green road concept, landslide stabilisation • Number of case studies conducted & results shared • Targeted capacity building of engineers • Application of multi -disciplinary tools consistently from research to application
Seabuckthorn Cultivation	High	• Large-scale plantations in India, Pakistan, and Nepal • Establishment of industries in Chitral, Pakistan; Ladakh, India; Mustang and Manang in Nepal • Private sector involvement in some RMCs	• Existence of a successful package of practices • High potential for benefit generation to rural people and the environment • Does not compete with agriculture for land & labour • Exposure of policy makers and practitioners to the wild plant and its industrial benefits • Adequate investment in advocacy and publicity
Beekeeping	High	• Adoption by large numbers of marginal farmers in Nepal and Pakistan • Demand for training and services from other countries • Global publicity through National Geographic magazine	• Long-term commitment by ICIMOD and donors • Phase by phase approach from research to demonstration to extension • High relevance to marginal farmers and not dependent on landholdings • More focus on pollination services • Good income generation from honey and other products
Fish Pond Farming	High	• Rapid adoption by poor and lower caste households in Uttaranchal	• Building on existing practices & interests • High potential for income generation • Simple technology and low capital requirements, good markets • Strong partner interest
Capacity Building in GIS/RS Applications	High	• GIS units functional in Bangladesh, Bhutan, Tibet, Nepal, Himachal Pradesh, and Pakistan • Application for land use planning in Bhutan, municipal planning in Nepal, GLOF in Bhutan, Nepal, and Pakistan • Socioeconomic indicator mapping • High demand for train ing and support services	• New and very useful technologies • Provision of hardware and software facilities • Long-term funding commitment and continuity of focus • Good convergence and synergy with donor focus in RMCs • Long-term engagement of key staff and continuous in-house capacity building • Public-private partnership

Innovation	Impact	Evidence	Approach and Reasons
Flood Disaster Mitigation	High	• High-level regional committee established and meetings held regularly • Flood warning and information shared among member countries, e.g., Kurichu, Bhutan; Parechu, Tibet, Chin a; rainfall forecasting in ICIMOD	• Focused objective • Convergence of RMC needs • Representation at high levels supported by technical experts • Continuous follow -up provided • General consensus in sharing hydro meteorological data and information • International partnerships
System for Rice Intensification	High	• On-farm trials in Nepal, Pakistan, and India (Uttaranchal)	• Stress of early planting significantly increases the number of tillers • Wide spacing increases weeding interval, key issue for medium & large far mers, higher yield important for small farmers
HKH-FRIEND	High	• Endorsed by six of the eight countries of the HKH • ICIMOD provides Secretariat for HKH-FRIEND • Regional hydro data centre located at ICIMOD • HYDRA software developed for small hydropower a ssessment • Initiation of climate change and flood control projects • Capacity building through training	• Instrumental in creating a platform bringing together researchers and academics from national and international fields • Hydrological research carried out contributing to poverty alleviation • Knowledge and skill sharing
Sloping Agricultural Land Technology (SALT)	Moderate	• Adopted for larger landscape management projects especially in China • Demonstration still ongoing with various levels of modification	• No long-term funding needed to fill gap between demonstration and extension • Technology applicable only to certain sites • Long gestation periods before benefits accrue
Gender Mainstreaming / HIMAWANTI	Moderate	• Strong in Nepal and India, weak in other coun tries • Some capacity building measures initiated and continuing in Bangladesh and Pakistan	• Differences in status and level of priorities among RMCs • No strong commitment from all the governments

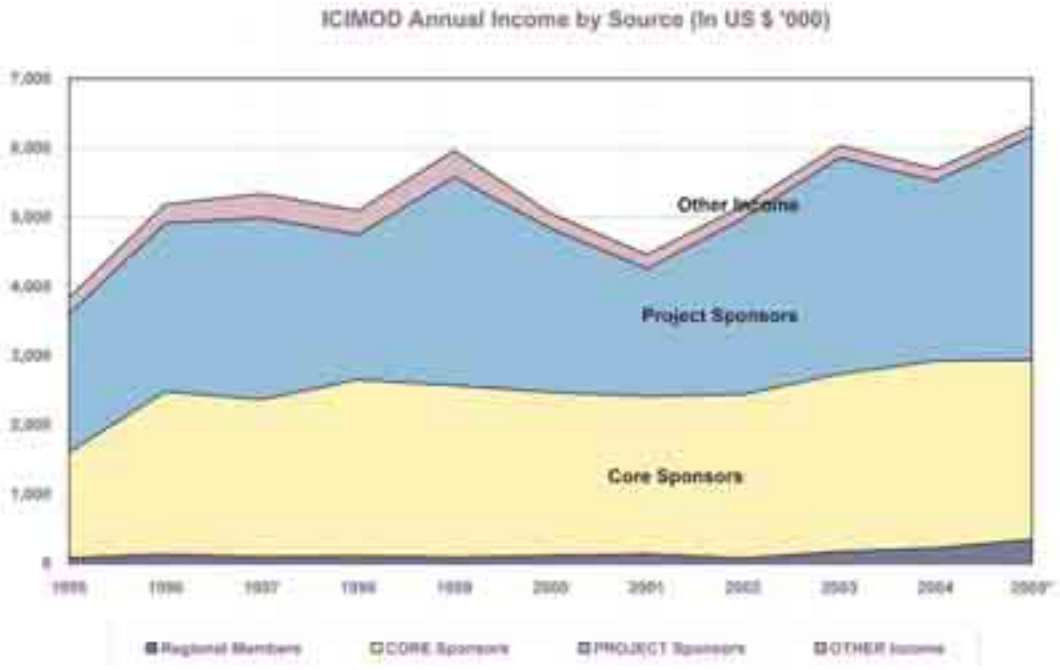
Innovation	Impact	Evidence	Approach and Reasons
Rural Energy Technologies	Moderate	• Menu of technologies available and manuals being adopted for training and setting up micro - hydels, solar panels, and bio-briquette production • Limited adoption in parts of Nepal and Bhutan • Methodologies and options adopted in pilot villages under the 'Women, Water, and Energy Project' • Approaches taken into policy and planning process at local and national levels in Nepal	• Good feasibility studies carried out • Limited funds for engagement of adequate staff and further promotion of the technologies • Adoption by some, but not all, RMCs in scaling up
Water Harvesting Technologies	Low	• Menu of technologies available and manuals being adopted • Limited adoption in parts of Nepal and Bhutan	• Good feasibility studies carried out • Limited funds for engagement of adequate staff and further promotion of the technologies • Adoption by some, but not all, RMCs in scaling up
Plastic Film Technology for Vegetable Cultivation	Low	• Technology perfected at Godavari but not extended to communities	• Lack of projects and funds to promote the technology
Gravity Ropeway Construction	Low	• Technology tested at two sites in Nepal and found highly useful	• Lack of projects/funds to support replication • Not part of strategic plan

ICIMOD Staff and Budget 1983 - 2005

Changes in Staff Strength

	1983	1993	2003	2005
Total Staff	17	107	138	131
Total Budget (in million US$)	0.33	3.28	6.03	6.31
Source: Administration				

Changes in Budget Flow



* The figures for 2005 are provisional subject to audit

Source: M.R. Tuladhar

Some Recent ICIMOD Publications

2005

Zurick, D.; Pacheco, J.; Shrestha, B.; Bajracharya, B. (eds.) **Atlas of the Himalaya.** ISBN 92-9115-224-2

Sharma, B.; Banskota, K. **Women, Energy and Water in the Himalayas – Project Learning**. UNEP/ICIMOD. 112p. ISBN 92-807-2596-3/92-9115-191-2

Sharma, B.; Banskota, K.;Luitel, S. **Women, Energy and Water in the Himalayas: Integration of Women in Planning and Management – Policy Guidelines**. UNEP/ICIMOD. 64p. ISBN 92-807-2597-1/ 92-9115-093-2

Sharma, B.; Luitel, S.; Banskota, K. **Women, Energy and Water in the Himalayas: Incorporating the Needs and Roles of Women in Water and Energy Management – Training of Trainers Manual**. UNEP/ICIMOD. 107p. ISBN 92-807-2598-X/ 92-9115-207-2

Women, Energy and Water in the Himalayas DVD Film (18 mins.)

Subedi, N.R. **Advocacy Strategies and Approaches: A Training of Trainers Manual on Advocacy Strategies for Community-Based Organisations in the Hindu Kush-Himalayas**. 171p. ISBN 92-9115-031-2

Subedi, N.R. **Advocacy Strategies and Approaches: A Resource Manual for Community Advocates and Trainers in Advocacy in the Hindu Kush-Himalayas**. 127p. ISBN 92-9115-045-2 (Also available in Bengali, Hindi, and Nepali)

Andersen, P.; Tuladhar, J.K.; Karki, K.B. **Micronutrients in South and South East Asia**: Proceedings of an International workshop held on 8-11 September 2004, Kathmandu, Nepal. 239p. ISBN 92-9115-210-2

White, R.; Bhuchar, S.K. (eds.) **Resource Constraints and Management Options in Mountain Watersheds of the Himalayas**. 204p. ISBN 92-9115-143-2

Stocking, M.; Helleman, H.; White, R. **Renewable Natural Resources Management for Mountain Communities**. ICIMOD/DFID. 312p. ISBN 92-9115-062-2

Wright, I.A.; Duncan, A.J. (eds.) **Livestock, Fodder, Pastures and People: An Integrated Study in the Northern Areas of Pakistan**. ICIMOD/The Macaulay Institute. 67p. ISBN 92-9115-059-2

Gyamtsho, P.; Tashi, N.; Kaiser, K.; Jürgen, R. (eds) **Sustainable Rural Development in Mountainous Regions with a Focus on Agriculture in the Tibet Autonomous Region**. Proceedings of the International Conference held from July 26-30, in Lhasa, TAR, China. Pg.?? ISBN 3-937235-07-1 (prepared by ICIMOD for InWEnt gGmbH, Germany)

Shrestha, M.; Shilpakar, R.L. (eds.) **Water Quality in South Asia: Issues and Status – Proceedings of the Regional Integrated Workshop on Water Quality**. Partnership Platforms 1/05. 46p. ISBN 92-9115-076-2

Xu Jianchu; Chun K. Lai; Bajracharya, S. (comp.) **Land Use History in Montane Mainland Southeast Asia: highlights and outcomes of a mobile workshop**. Partnership Platforms 2/05. 108p. ISBN 92-9115-112-2

ICIMOD Demonstration and Training Centre Godavari Interactive CD-ROM. ISBN 92-9115-109-2, and **Introductory Film** (DVD Film) 16 mins

Shrestha, B.; Bajracharya, B; Pradhan, S. **GIS for Beginners: Introductory GIS Concepts and Hands-on Exercises**. 102p. Lang: Nepali, ISBN 92-9115-238-2

Groverman, V.; Gurung, J.D. **Gender and Organisational Change**. ICIMOD/Yunnan: Yunnan Science and Technology Press. 134p. Lang: Chinese ISBN 7-5416-2118-8

2004

Stauffer, V.; Tokhmat, T.; Raftan, D; Razul, G. **Solar Greenhouses for the Trans-Himalayas: A Construction Manual** ICIMOD/Renewable Energy and Environment Group (GERES) 72p. ISBN 92-9115-832-1

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Jodha, N.S.; Bhadra, B.; Khanal, N. R.; Richter, J. eds. **Poverty Alleviation in Mountain Areas of China** ICIMOD / InWent Capacity Building International, Germany. 356p. ISBN 3-937235-25-6

Netherlands Development Organisation (SNV)/ICIMOD. **Developing Sustainable Communities: A Toolkit for Development Practitioners** (Book + CD-ROM) 211p. ISBN 92-9115-880-1

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Her Way Forward: A Resource Kit Based on Voices of Mountain Women... 55p. Lang: Tibetan

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Two Decades of the International Centre for Integrated Mountain Development, 1983/4 – 2003/4. 137p. ISBN 92-9115-992-1

2003

Nepal Central Bureau of Statistics/International Centre for Integrated Mountain Development. **Districts of Nepal: Indicators of Development 2001** 108p. ISBN 92-9115-796-1 (also available in Nepali)

International Centre for Integrated Mountain Development/Nepal Central Bureau of Statistics. **Mapping Nepal Census Indicators 2001 and Trends** (Book+CD-ROM) 320p. Lang: En ISBN 92-9115-782-1 (Book) ISBN 92-9115-829-1 (CD-ROM) (also available in Nepali)

Ahmad, F.; Joshi, S.R.; Gurung, M.B. **Indigenous Honeybees of the Himalayas, Vol. 1: the Himalayan Cliff Bee *Aps laboriosa* Smith and the Honey Hunters of Kaski** 52p. ISBN 92-9115-684-1

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