ANNUAL REPORT
ICIMOD
2000

ICIMOD

International Centre for Integrated Mountain Development

ISSN: 1019-1356

Please direct all enquiries and comments to:
International Centre for Integrated Mountain Development
GPO Box 3226, Kathmandu, Nepal

Telephone: (977-1) 525313
Fax: (977-1) 524509/536747

email: icimod@icimod.org.np
www.icimod.org

Annual Report 2000

.....providing upstream solutions for sustainable mountain development

International Centre for Integrated Mountain Development
Kathmandu, Nepal

Contents

Director General's Introduction

The year 2000 was one of both change and continuity. The change started as ICIMOD bid grateful farewell to the outgoing Director General, Mr. Egbert Pelinck, and Dr. Mahesh Banskota, Deputy Director and Director of Programmes, upon successfully completing their appointed terms. Dr. Binayak Bhadra, the new Director of Programmes, and myself assumed our responsibilities as the new management team along with Mr. Milan Tuladhar, Head of Finance and Administration, from March 2000.

Continuity was maintained through the programmes and projects ICIMOD is carrying out through its four-year Regional Collaborative Programme (RCP-II/1999-2002), Mountains 2000 and Beyond. This framework was approved by the Board of Directors in 1998 following extensive consultations with partners from regional member countries and donors, and built upon the strengths of ICIMOD's previous work. Its five thematic focal areas have broad goals for improving threatened mountain ecosystems and the livelihoods of the poor of the Hindu Kush-Himalaya:

- poverty reduction and sustainable livelihoods,
- gender balanced mountain development,
- sustainable management of mountain commons,
- capacity building for sustainable mountain development, and
- information and outreach.

Twenty-eight activities translate these larger goals into specific activities that were identified during a collaborative planning process. With modifications and additions, it is these activities that constitute ICIMOD's work programme and determine the extent to which the Centre has been making significant contributions to reach larger programmatic goals.

In an on-going effort to assess the effectiveness of these contributions, in 2000 ICIMOD introduced a process to define the nature of the results anticipated by each activity more clearly and to determine the means to assess their impact.

Nevertheless, the impact of ICIMOD's work in these activities is still difficult to measure. ICIMOD is a mountain knowledge generating, testing, documenting, and disseminating Centre that does not directly apply the knowledge generated through policy or field programmes on its own. In accordance with its mandate, ICIMOD works with its collaborating partners in the Hindu Kush-Himalayan (HKH) region to identify solutions that can be effectively applied in member countries. The Centre necessarily relies on these partners, as well as ICIMOD's own extensive dissemination efforts, to foster the changes it helps to identify. These changes are not usually monitored on a systematic basis and are, of course, also the result of many other forces at work in the dynamic HKH region. We are convinced that, despite these difficulties, ICIMOD can work towards greater clarity in identifying the value of its contributions and develop its future programmes on this basis. Notwithstanding, many contributions of our current work can only be documented indirectly.

This annual report thus presents highlights and accounts of a representative selection of ICIMOD's activities during 2000 that depict, to a certain extent, the nature and scope of the Centre's activities. While using quantitative measurements wherever available, it focuses on ICIMOD's regional mandate and comparative advantage in assembling and sharing knowledge on a regional basis through formal and informal networks of scientists, development workers, decision-makers, and leaders from the grass roots' level.

As these accounts of regional activities demonstrate, ICIMOD has played an important role in the advancement and spread of knowledge about the critical issues facing the people and ecosystems of the HKH.

Holi - the festival of colour

Examples from the report are cited here.

- ICIMOD's work with partners on sloping agricultural land hedgerow technologies has led to their adoption by thousands of farmers and a number of local governments in China and Bangladesh with the potential of even greater impact in future.
- The knowledge generated from the initial inventory of glacial lakes and their outburst floods has helped move policy-makers in Nepal and Bhutan to support measures to identify and mitigate mountain hazards that endanger the lives and investments of downstream farmers-and has encouraged other HKH countries to join the effort.
- Networks of communities managing forests, a regional network of grass roots' women involved in resource management, and a regional network of lawyers working on environmental rights are now working, with only minimal support, to develop and advocate their own agendas for policy change and capacity building.
- Intensive training of both women and men from key partner institutions and ICIMOD in gender issues has resulted in a number of action plans for each of the institutions involved.
- Action research with nomadic users and decision makers is introducing new participatory approaches to pasture and livestock management in the vast range-land areas of China and Pakistan, as well as in smaller areas in northern Nepal, India, and Bhutan.
- Capacity to use and apply and to train people in Geographical Information Systems (GIS) and related Remote Sensing (RS) technologies continued to be developed in research and educational institutions in almost all the countries of the region.
- Multidisciplinary, applied research in watershed sites in four HKH countries is exploring new standards for integrated natural and social sciences on field sites-while simultaneously searching for ways to make research results in hydrology, agriculture, and local institutions immediately relevant to the local populations.
- Participatory approaches are also being combined with rigorous scientific studies to document and develop the role of indigenous honeybees for income and the pollination of new mountain crops.
- Appreciable progress has been made in sharing information and technologies for simple, cost-effective water harvesting. These technologies can be modified for wide-scale use in the HKH region; all technologies can be used on different scales. Training on site in the construction of roof-top water-harvesting tanks and plastic lined ponds has been in demand, as they demonstrate the potentials for improved livelihoods and health as well as reducing the drudgery of women. This endeavour has facilitated formulation of national water-harvesting policies, for example, through the Water and Energy Commission Secretariat in Nepal. Partners in Pakistan and India are also interested in ICIMOD's training, research, and demonstration inputs.
- Participatory action research on community-based energy planning, management, and implementation in Nepal, India, and Bhutan has demonstrated that Renewable Energy Technologies (RETs) (micro-hydro, biogas, improved cooking stoves, photo-voltaic panels) can provide mountain communities the means to earn income (micro-hydro), reduce drudgery (improved cooking stoves), and improve the quality of life (electric lighting, telecommunications, and television). Communities are made aware of the potentials for food processing and rural industries, rural communications, and others.

In addition to these examples, regional research, documentation, and networking continued on marginal farms, livestock in farming systems, participatory forestry, macro policy options, sustainable tourism, hydrological research, mountain hazards, household and small-scale enterprises, mountain tourism, GIS applications, and eco-regional differences in agricultural systems.

All of these activities have led to a number of technical publications, manuals, and instructional CD ROMs. In fact, ICIMOD has continued to increase its dissemination and outreach through a variety of publications, including widely read newsletters and briefs on mountain issues. It has also worked to communicate results and build capacity in the region through a variety of training courses, workshops, and conferences, and on-site technical assistance. Radio programmes and a 'Mountains and Media Workshop' organised together with Panos South Asia, broadened the audience to the general public throughout the region.

As a result of its successful bid to host the global Mountain Forum Secretariat, ICIMOD has augmented its support for electronic networking and sharing knowledge, which was implemented through the Asia Pacific Mountain Network node run by ICIMOD. This augmentation, which brought the newly recruited Executive Secretary, Alejandro Camino, to Nepal from Peru, has given ICIMOD a global synergy. Access to these internet facilities was directly supported by strengthening internet skills and capacities in five Central Asian Republics along with those in Northern Pakistan and Bhutan.

In financial terms, the Centre has received the anticipated income committed by core and project donors. Unfortunately, the sharp decline in the value of donor country currencies vis-a-vis the US dollar, in which ICIMOD operates, has had a negative impact on income. Except for Switzerland, China and Myanmar, the remaining core programme donors maintained their contributions in their respective currencies - some of which have declined over 10 - 15 % in 2000. The result has been a significant decrease in revenues forecast for the year.

This decreased realisation of core and project funds has had some impact on the pace and scale of activities implemented. Some activities have had to be slowed down and others without separate project funding had to reduce their scale.

Although resources were constrained, ICIMOD also embarked on a process of internal organisational change to improve management and increase its effectiveness. An intensive retreat of all staff, renamed an 'Advance', was held to assess ICIMOD's strengths, weaknesses, future potential and institutional culture in order to initiate concrete action plans for organisational renewal and the ability to deliver meaningful results. As a result, task forces were mobilised to develop new initiatives in communication, planning and monitoring, teamwork, partner collaboration, and financial sustainability and plan for on-going organisational development.

With less funding than planned, this process also resulted in a reduction in staff whose contracts had been completed after serving multiple terms with the Centre at the end of the year. Although it was painful to bid farewell to these outstanding colleagues, most of them have successfully relocated into challenging positions outside ICIMOD which will allow them to continue their service to the region and beyond. New financing and new categories of exchange scientists are anticipated to enable ICIMOD to fill these gaps and inject a fresh interchange of knowledge and skills in the coming years.

As ICIMOD enters the new millennium, we face a number of old and new challenges. Foremost among these is the fact that mountain people need new solutions, new advocates, and increased ability to cope with the enormous barriers they face in finding a way out of poverty and marginalisation. As frustration with poverty and exclusion grow along with the pace of change, violent conflicts continue to simmer or expand explosively to the detriment of all. The answers lie not only in identifying and changing policies and programmes affecting mountain people, but in helping them find technological and institutional solutions that can make substantial differences in their livelihoods, their environment, and their confidence in the future.

The best source for the answers to these mountain challenges is other mountain people - mountain scientists, farmers, and development workers-who are dedicating their lives to help mountain people thrive. Many solutions, both institutional and technological, are already available for adaptation, if only they were known and trusted by those who seek them. Others have yet to be identified; and yet others require new forms of regional collaboration, including the crucial upstream-downstream cooperation in which the future of mountain peoples well being could be found.

ICIMOD is working with its partners to help find and foster these solutions. But given the scope of the challenges, it must seek to use its limited resources as a mountain knowledge centre more effectively, and selectively, to truly address the sustainable livelihood needs of this troubled and beautiful mountain region. We seek your collaboration and support in this crucial and urgent mission.

J. Gabriel Campbell
Director General

The Regional Collaborative Programme

In an attempt to address the issues highlighted by Chapter 13 (Fragile Ecosystems: Sustainable Mountain Development) of Agenda 21, in January 1995 ICIMOD embarked on an ambitious four-year (1995-1998) **Regional Collaborative Programme for the Sustainable Development of the Hindu Kush-Himalayas (RCP-I)**. The Programme was designed after extensive consultation with partner institutions in ICIMOD member countries, ICIMOD's Board of Governors and Support Group, and many others.

The experience gained during RCP-I was enormously valuable in helping the Centre move on to the next phase of programming for sustainable mountain development in the Hindu Kush-Himalayas (HKH). This next phase (1999-2002), called **Mountains 2000 and Beyond: Second Regional Collaborative Programme for Sustainable Development of the Hindu Kush-Himalayas (RCP-II)**.

RCP-II did not commence with a clean slate. Many of the important initiatives of RCP-I: soil conserving farming systems, gender, management of natural resources, preservation of biodiversity, risk and hazard management, development of high-value enterprises, GIS/RS applications, and information exchange were continued, as these have also been identified as priority areas by various local and national organisations in the member countries. RCP-II has introduced several new priority activities that have been identified by the Centre's various interactions and activities so far.

During the period from 1999 - 2002, ICIMOD is focusing its activities on five key programme areas. These reflect the three principal thematic concerns in sustainable development of the HKH and the two main mechanisms that ICIMOD uses to increase the capacities of local and national institutions to apply the knowledge generated by its thematic programmes.

Programme Areas

I. **Sustainable Livelihoods for Mountain Households** - The focus in this programme is on poverty reduction in mountain households by introducing appropriate technologies for sustainable farming systems, marketing farm products, promoting opportunities for income generation and enterprise development, and integrating environmental and socioeconomic concerns of mountain households in a sustainable manner.

II. **Gender Balanced Mountain Development** - The focus here is on ensuring that women will be equal partners in and beneficiaries of the development processes taking place in the HKH and on removing inequities. Although this is also an integral part of the main programme areas, it is presented separately because of the special emphasis needed in the early stages of development and integration.

III. **Sustainable Management of the Mountain Commons** - This programme focuses on the sustainable management of more than 60% of the HKH which consists of rangelands and forests, of the water resources that are so essential for maintaining and/or improving farming systems, livelihoods as a whole, and of the biodiversity of this unique ecosystem.

IV. **Capacity Building of Mountain Development Organisations** - This programme concentrates on strengthening the capacities of partner institutions and organisations in the HKH to implement their mandates in aspects of sustainable development with focused training programmes and tailor-made institutional strengthening activities. This is complementary to the training components of the activities undertaken under the first three thematic thrusts.

V. **Information and Outreach** - The collection of information and its distribution to as wide an audience as possible is continually being strengthened. While traditional publication methods continue to be used, innovative approaches and technologies for reaching out to the 140 million inhabitants or their representatives are also being explored.

Each of these five programmes consists of a number of activities with distinct objectives and outputs. While each of these activities is self-contained, there are close linkages between activities.

Organisational Structure

The Centre's activities are implemented through six divisions and a small institutional strengthening unit. The Centre's organogram is given on this page.

The **Mountain Farming Systems' Division** mainly focuses on farming households and their privately-owned lands for reducing poverty and increasing sustainability. Particular emphasis is given to increasing the productivity of marginal farmlands, improved agricultural technologies, and gender.

The **Mountain Natural Resources' Division** concentrates on those natural resources that are owned and/or managed by governments and/or communities as mountain 'commons'. Important among these resources are rangelands, forests, water, and biodiversity - and the people who must manage them at the local level.

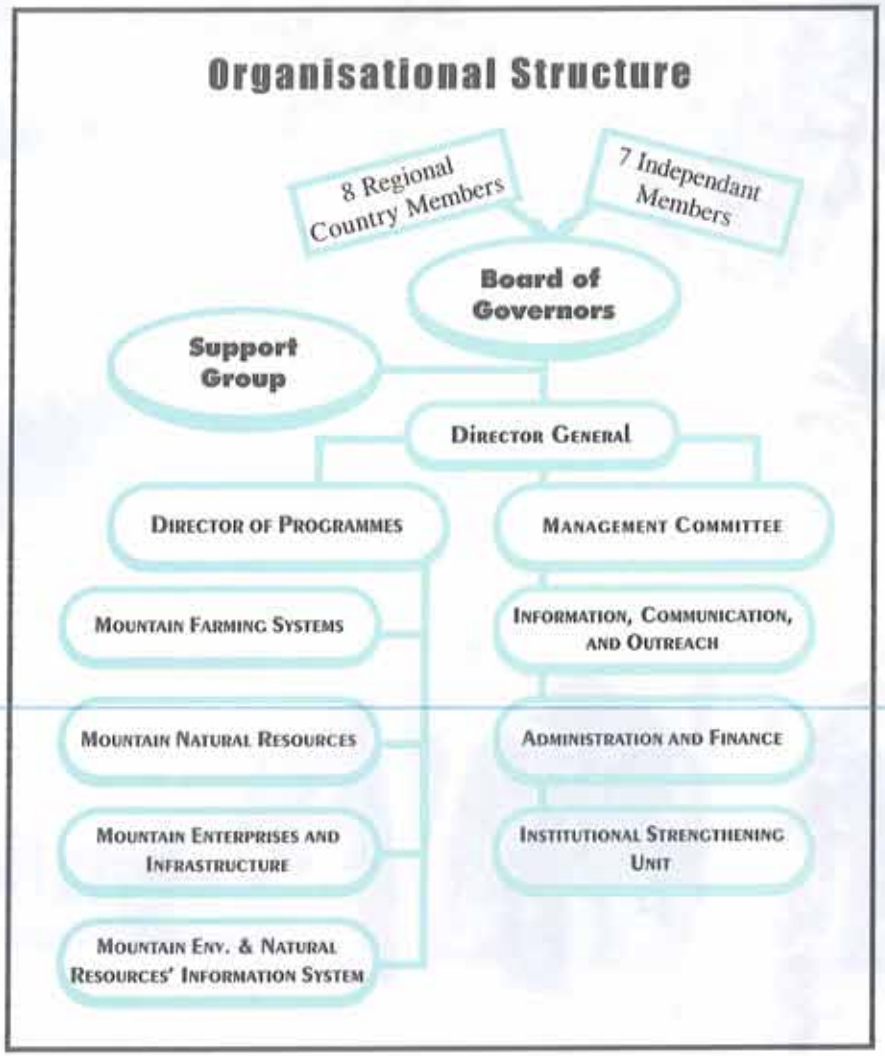
The **Mountain Enterprises and Infrastructure Division** focuses on ways and means to diversify mountain economies by identifying opportunities for products and services that have comparative advantages over those from the plains to increase income along with supporting physical infrastructure design improvements to increase access to markets and services.

The **Mountain Environment and Natural Resources' Information Systems' Division** provides services and training on the application of geoinformatics for sustainable development including applications related to forestry, glacial lakes, disaster prevention, and area and town planning.

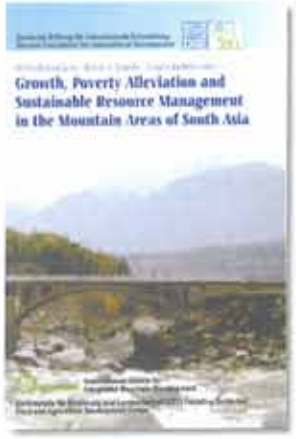
The **Information, Communications and Outreach Division** is the focal point for sharing documentation and information on development in the HKH in general and dissemination of mountain knowledge generated by ICIMOD and its partners.

The **Administration and Finance Division** ensures the effective and transparent functioning of the Centre.

The **Institutional Strengthening Unit** was established in 1999 to strengthen the partnerships of ICIMOD with institutions in the Hindu Kush-Himalayas and is being expanded to deal with cross-cutting planning and organisational issues.



Poverty Reduction and Sustainable Livelihoods



The full text of the recommendations of the Conference is published in Mountain Research and Development (Volume 20, Number 2, May 2000) and papers and proceedings have been brought out in a volume, (Mahesh Banskota, T.S. Papola and Jurgen Richter (eds): Growth, Poverty Alleviation and Sustainable Resource Management in the Mountain Areas of South Asia) published jointly by DSE and ICIMOD.

Growth, Poverty Alleviation and Resource Management in Mountain Areas of South Asia

'While mountain areas have emerged as a significant item on the discussion agenda at national and international levels, the problems and concerns of mountain people have by and large remained neglected by development and conservation efforts. Poverty and environmental degradation, therefore, have continued unabated and aspirations of mountain people, on the other hand, have risen as a result of improvement in accessibility and communication. A crisis that has been 'silent' so far is leading to 'violent action' in several areas. At the same time, there are instances of a successful fusion of environmental and development goals leading to economic transformation of mountain communities with sustainable use and regeneration of natural environmental resources; and of greater recognition and roles of mountain people in safeguarding and conserving of natural resources.'

These were the conclusions of five-day long deliberations of an International Conference on 'Growth, Poverty Alleviation and Sustainable Resource Management in the Mountain Areas of South Asia' that had nineteen well-researched and documented papers.

ICIMOD organised this conference in an effort to raise awareness about mountain development issues, facilitate sharing and exchange of experiences, and contribute towards development of appropriate strategies and policies. The Conference was organised in collaboration with and financial support from the German Foundation for International Development (DSE). The 70 participants included high-level policy-makers, academics, development workers from five South Asian countries (Bangladesh, Bhutan, India, Nepal, and Pakistan), resource persons from Europe and China, and representatives from international development agencies and donor organisations.

The major highlight of the Conference was an agreement on and the adoption of a set of recommendations for use by policy-makers, development workers, and international agencies for evolving a strategy for sustainable development of mountain areas as follows.

- Emphasise diversification of mountain economies in national and local development plans and policies based on comparative advantage
- Provide food security through improvements in accessibility and distribution systems based on fair trade
- Increase investments in physical infrastructure using environment-friendly technologies, and social infrastructure
- Introduce compensatory mechanisms for use of mountain resources primarily benefiting lowland areas
- Develop appropriate legal frameworks to provide fair access for mountain people to natural resources for their livelihoods
- Combine appropriate use and regeneration of natural resources of economic use, instead of a complete ban or the free license regimes that often prevail
- Promote gender balance in development strategies and programmes to provide space and scope for greater participation and empowerment of women who are the backbone of mountain economies and major stakeholders in mountain environment
- Adopt effective decentralised and participatory approaches for development and conservation, given, particularly, the inaccessibility and diversity of mountain areas
- Identify and develop mountain niches and R&D efforts to develop technologies and products with unique or comparative advantages in mountain areas
- Introduce mechanisms for technology transfer across mountain areas within and among countries
- Develop human resources specially for the use of opportunities offered by improved access and processes of globalisation

The Conference also identified roles of different actors: governments, NGOs, research and development, and training organisations and multilateral and bilateral donors, and called upon the participants representing these agencies to follow up on the recommendations of the Conference.

The Globalisation Process: Threats and Opportunities

Policies and practices promoting globalisation (advocated and implemented as an approach and means of promoting global growth and prosperity) have both negative and positive implications for different participants, depending on their capacities and preparedness for the implied change. This is all the more so in the case of mountain areas. To understand the threats and opportunities of globalisation and to design coping strategies for mountain areas, ICIMOD, with support from the MacArthur Foundation, carried out an exploratory exercise, as the basis for a comprehensive and systematic study in the HKH, with a clear operational policy and programme focus.

THE GLOBALISATION PROCESS
SOME FINDINGS

(i) Increased emphasis on market-driven norms and practices influencing decisions and choices about investment, technology, production, and trading. This means the rapid globalisation process is likely to disrupt/alter resource-use systems, production patterns, and practices in mountain areas, since the latter have evolved over time within specific mountain contexts. The expected changes will have serious consequences in terms of environment and security in most mountain regions. The trends emerging show the following.

- Profit and external demand pressures can promote narrow specialisation and intensified resource use ignoring the imperatives of mountain specificities such as fragility, diversity, and marginality. For instance, the focus on tea and floriculture in some mountain areas of Nepal, China, and India.
- Trade, technology, and investment policies promoted through globalisation can erode the nature-endowed comparative advantage of mountain areas in different activities and products. For instance, growth of massive greenhouse facilities to produce off-season vegetables in the plains of India, hitherto produced mainly in mountain areas
- Marginal areas/communities may be further marginalised as a result of 'exclusion processes' resulting from the mountain communities' inability to fulfill key requirements for participation in the globalisation process.For instance, inability of mountain people to undertake aggressive marketing of niche products such as organic products.
- The reduced role of public sector and changed resource allocation norms imposed/induced by market forces may reduce support systems (including R&D) for mountain areas/people. As illustrated by reduced development subsidies in mountain areas of China, Nepal, India, reduced budgets for agricultural research in different countries.
- External demands can accentuate the process of niche-extraction as well as aggravate the unfavourable terms of trade to mountains under highland lowland economic links. Expansion of mining activities, overextraction (uprooting) of valuable herbal roots in the Indian Himalayas illustrate this.

(ii) New opportunities related to specific production, processing, and trading activities, with potential benefits under global systems; associating local communities with the external agencies as ancillaries to participate in the process and benefit from new expanded opportunities are possible, however.

(iii) To minimise negative impacts and harness positive opportunities, it is essential to:

- increase capacities and skills
- regulate market forces, and
- ensure compensation for mountain areas/people for their role in protecting the global contributions of the mountains.

SPECIAL HAPPENINGS

In 2000, ICIMOD and the International Fund for Agricultural Development (IFAD) established a partnership to implement a programme on 'Securing Livelihoods in Uplands and Mountains of the Hindu Kush-Himalayas'. The overall goal of this partnership is to secure the sustainable livelihoods of poorer households, rural women, communities of indigenous people, and socially disadvantaged groups in the upland and mountain communities of the Hindu Kush-Himalayas so as to facilitate:

- better quality of life,
- improved capabilities,
- increased self-reliance,
- recognition of their self-worth and potential,
- increased security against risks,
- increased decision-making power,
- improved nutritional status, and
- improved and diversified incomes

The programme aims to cover upland and mountain communities of seven countries of the Hindu-Kush Himalayan region; Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan.

A start up workshop between IFAD and ICIMOD was held in September 2000; and during this the major themes were identified, a common vision was established, and the basis for the forthcoming partnership was discussed. It was decided that the selection criteria for programme activities would be 'strategic' interventions that have a ripple effect and region-wide relevance, with a view to addressing issues of poverty alleviation, gender balance, and marginalisation in the upland and mountain communities. An overview scenario for forthcoming activities (fact-finding missions, participatory diagnostic studies, action research, gender analysis, training, exchange visits, focused meetings) was discussed.

The strength of the programme lies in the fact that ICIMOD could help IFAD-funded projects increase awareness of upland development conditions and mountain specificities; promote change in policies and attitudes in favour of upland and mountain communities; and provide a menu of improved, tested, and demonstrated technologies and practices in cooperation with farmers, local organisations, partner institutions, and IFAD-funded projects.

The IFAD-funded projects provide a chance to field test the innovative technological, institutional, and policy options that ICIMOD has made available. The projects will provide feedback for measuring the impact of ICIMOD's research activities. It could also provide a database of lessons learned, 'best practices', and innovations for research and development partners, participating farmers, and community-based organisations.

A core team of professionals has been set up within ICIMOD for this programme. Professionals from different backgrounds will facilitate the integration of perspectives to provide a richer synopsis.

Participatory Action Research on Community-based Energy Planning, Management, and Implementation

Participatory action research on community-based energy planning, management, and implementation was carried out in three hill and mountain communities: a) Yarsha Khola Watershed, Dolakha District, Nepal; 2) Sirubari Village Development Committee, Syangja District, Nepal; and 3) Chamba Block, Tehri District, Uttaranchal, India. The specific approach adopted for carrying out participatory action research in communities included the following.

a) Entry into the Community
b) Community mobilisation and confidence building (interaction with key informants, group leaders, village leaders; dialogues/interaction with village-level institutions, interaction with district-level line agencies)
c) Understanding energy consumption patterns, technology employed and availability of energy resources
d) Balancing energy consumption and resource availability
e) Examining the suitability of Renewable Energy Technologies (RETs) by the villagers (visit to RET promoters and Manufacturers, motivation and awareness campaign on RETs
f) Preparation of as Energy Action Programme by the community and Implementation of Selected RETs

Community's perception of various renewable energy technologies (RETs)

The general impression of the community was that most RETs are out of reach of the poor and marginalised people in spite of government subsidies. Most of the RETs are suitable for households that are willing to save energy and reduce the drudgery of women and children, thus improving the quality of life. Most poor people were keen on RETs that can provide them with opportunities for earning income. They believe that it is only after they have a decent income that they can think of sparing some amount for improving their living conditions.

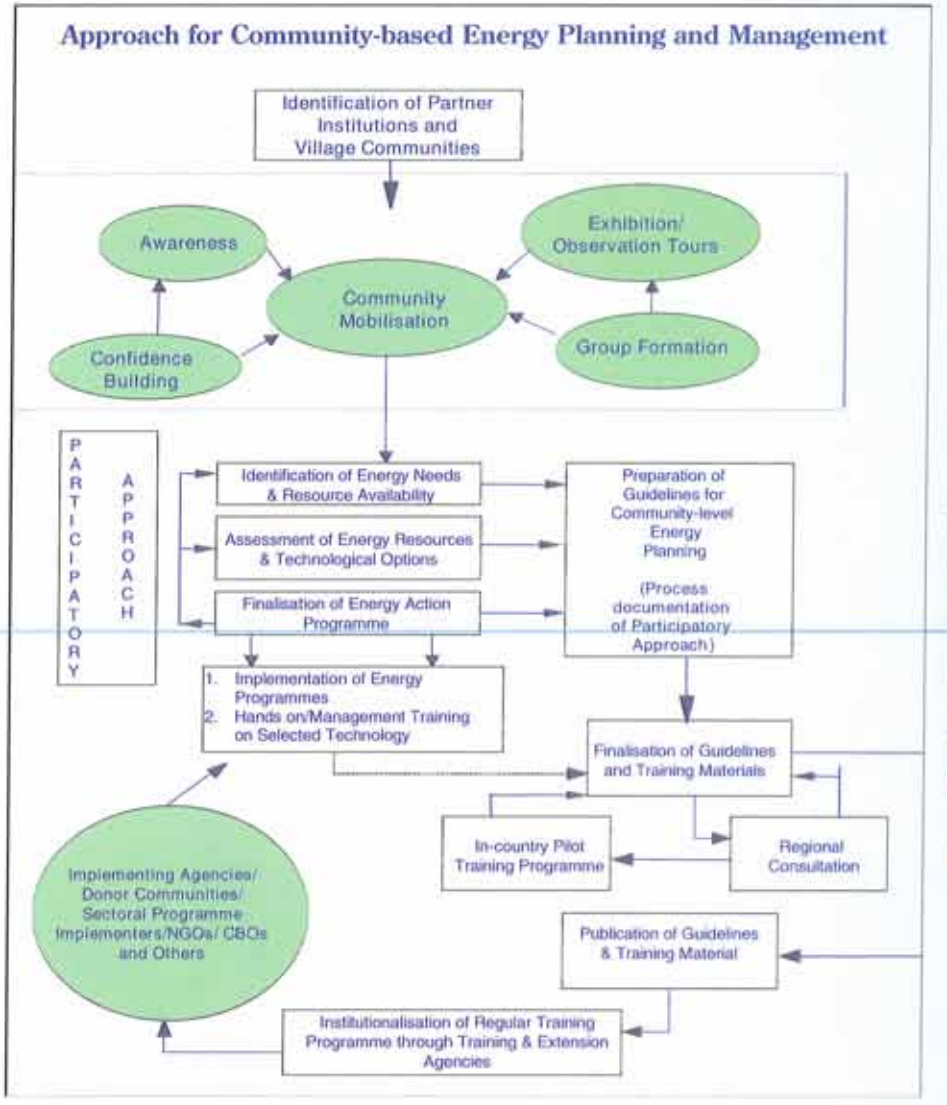
Concluding remarks

The planning and implementation of energy action programmes and projects that, although prepared with the active participation of the communities, will have to be undertaken as part of a national effort in which the institutional and administrative authorities at the community level are actively involved in the effective preparation and implementation of these programmes. For this purpose, institutional mechanisms and coordination arrangements need to be developed or organised at community level. The implementation of energy programmes and projects requires inputs from on-going development programmes such as those for agriculture, cottage industries, micro-enterprises, kitchen improvement, health and sanitation, and drinking water supply, besides energy supply programmes like those for fuelwood, rural electrification, renewable energy resources, and technologies. Further, credit schemes of development banks and subsidies available for various types of renewable energy technologies from the government and donor agencies will be instrumental in meeting the energy needs of mountain communities. What is lacking is the process of facilitation through awareness, participation, and human resource development specifically geared the energy sector.

LESSONS LEARNED

- Difficult to establish good rapport with the community.
- Slow at the beginning.
- Takes time to learn about the community dynamics.
- Takes time to win the confidence of the villagers.
- It is therefore very important for a facilitator to be calm, patient, persuasive, and result-oriented.
- No coordination at village level and too many user groups
- Drudgery of women and children (12-15 hours a day)
- It was difficult to convince women to participate in the programme which primarily focuses on improving the living standard and consumptive use of energy.
- People (women in particular) are interested in technologies that can help them to earn cash income.
- Provides ample opportunity for learning.
- It is an excellent tool for identifying the problems, priorities, needs and aspirations of communities and solving problems by themselves. Community-based energy planning and management approach is an effective tool to bring together different stakeholders

Community-based Energy Planning and Management
A Participatory Process



Improving the Living Standards of Mountain People by Using Clean Fuels: A Case of Ningnan County, China

In the case of Ningnan County, Sichuan, China, documentation on methods and approaches of disseminating various renewable energy technologies (RETs) during 1985-1990 was compiled. This provided an insight into the successful implementation of the renewable energy programme. The introduction of RETs (biogas plants, micro- and mini-hydropower plants, efficient cooking and heating appliances) resulted in a significant change in the energy-use pattern in five villages (Yuetang, Third Group - Houshan, Yongle, Dashuigou, Zhongping) in Ningnan County (See Table 1 for details). It is observed from the table that villagers consumed more energy supplied through electricity, biogas, and solar collectors, thereby substantially reducing the consumption of fuelwood and coal, which is a major concern in terms of environmental quality and health hazards, particularly for women and children. This example illustrates that the living conditions of the people can be improved without damaging the environment, if programmes are designed for the proper use of locally-available, renewable energy resources with the active participation of local people and decentralised government (county-level initiatives).

Table 1: Energy use pattern in villages households in Ningnan County, Sichuan, China before and after the implementation of RETs

Energy Sector	Quantity	Technology and its application
Electricity (kWh/hh/month) → 1988 → 1998 Change (-/+)	 70 132 + 2 times	Micro- and mini-hydropower projects primarily for lighting and to operate electrical appliances
Fuelwood (Kg/hh/month) → 1988 → 1998 Change (-/+)	 5,920 1,000 - 6 times	Energy efficient devices for cooking and space heating
Biogas (m3 /hh) → 1988 → 1998 Change (-/+)	 30 578 + 19 times	Dome type biogas plant for cooking and composting of dung and agricultural residue
Solar Collector (m2 /hh) → 1988 → 1998 Change (-/+)	 0.33 0.64 + 2 times	Hot water for household use
Coal (kg/hh/month) → 1988 → 1998 Change (-/+)	 894 204 - 4 times	Coal briquettes for cooking and heating

Note: Minus sign indicates approximate decrease; Plus sign indicates approximate increase; hh denotes household.
Source: Bao, Wei-Kai, Chen, Ke-Ming, Wang, Chun-Ming, Community-level Renewable Energy Programme Implementation and its Implications: A Case Example of Ningnan County, China, Report prepared for ICIMOD.

Methodologies for Assessing Agricultural Systems of the HKH: Characterisation, Delineation, and Planning for Sustainable Agricultural Development

In February 1999, ICIMOD and the International Service for National Agricultural Research (ISNAR) signed an agreement to implement a project under the Ecoregional Fund entitled; 'Methodologies for Assessing Sustainable Agricultural Systems in the Hindu Kush-Himalayan region: An Ecoregional Framework' funded by the Netherlands Government. Implementation of the project began on 12 February 1999 for a three-year period. ICIMOD's ecoregional programme is part of the second batch of ecoregional projects around the world to support methodological initiatives. More information about the Ecoregional Fund and other ecoregional projects can be found on the following website: www.cgiar.org/isnar/eco/index.htm.

The project was designed to explore, develop, and test a methodology for assessing mountain agricultural systems in an ecoregional framework. Focusing on the sustainability of mountain agricultural systems in the HKH region, ICIMOD's ecoregional programme tries to address aspects of sustainability in its work. Sustainability is not easy to assess, as in some agricultural systems it involves diverse perspectives, both economic and environmental. Data are not easy to come by and can be controversial in approach and use. The apparent temporal aspect of sustainable systems and their maintenance, over time, without depleting the natural resource base poses the question of what ideally should be sustained.

It was decided that the key entry into sustainability for mountain agricultural systems in the HKH should address basic needs. Many agricultural systems in the HKH have never provided for basic needs and have only partially provided people with a living. Secondly environmental sustainability, for the HKH-Region is mainly a question of gradual depletion or degradation of resources; not to mention destabilising factors such as droughts, floods, landslides, and heavy snowfall.

The third factor in sustainability and sustainable development involves the planning and decision processes at different levels, involving a wide spectrum of actors and stakeholders. Taking everything into consideration, it was decided that ICIMOD's ecoregional work is actually most relevant and applicable to planning and decision-making processes for sustainable agricultural development in the Hindu-Kush Himalayas. It was therefore decided that the study should *not attempt to assess the sustainability of mountain agriculture itself, but rather concentrate on the sustainability and strengthening of planning strategies and tools from the regional to the local level.*

The work has concentrated on developing a methodology to assess mountain agricultural systems in the HKH in a regional framework. Actual patterns of variable agricultural conditions are being described and trends and development over time incorporated in relation to the use of available resources. Procedures that can capture and discriminate regional patterns in mountain agricultural systems, in a sensible form, for a larger group of stakeholders are being developed by using multiple criteria to distinguish different aspects of agricultural systems and spatial techniques to identify natural break lines for delineation. The methodology, techniques, and procedures are imposed on existing regional structures, traditions, and activities in data collection and survey of the different countries; these are referred to as secondary data.

Using existing data collections, the aim is to incorporate the stake of the largest stakeholders: regional, national, and local planners, decision-makers, and scientists. Farmers are expected to benefit only indirectly and the work should be considered complementary to increasing trends in farmers' participation for formulation of agricultural policies. The work does not promote a classical top down approach, from agricultural research and planning agencies through extension officers to farmers, but tries to bridge the gap between agricultural planning and development activities on different scales. Assisting agricultural agencies to compare and understand regional agricultural conditions, by linking landscape-level planning and development activities within an ecoregional perspective, provides a stronger basis for improving the role of the stakeholders in setting priorities in planning for agriculture and formulating sustainable government policies for its development.

For ICIMOD's stakeholders the relevance is mostly not at the regional level, but rather at national and subnational levels. However, regional level is helpful for a different group of stakeholders. As such the ecoregional programme has two practical levels for execution and testing of methodologies to assess mountain agricultural systems. On a regional scale, the most general agricultural patterns in the HKH-region can be identified through secondary data, but with limited spatial and temporal resolutions. International, scientific, and decision-making professionals will find this useful but not national and subnational planners. On the subregional scale comparable procedures will be used with higher spatial and temporal resolutions, more advanced techniques, and details of agricultural systems; thereby useful for national, subnational, and local stakeholders. The subregional scale will be limited in spatial coverage and will be tested in three pilot areas in India, Nepal, and China. At the local level, two case studies of a different nature will be carried out in the selected pilot areas. These activities will be used as case studies to describe the experiences in terms of expectations, successes, failures, and problems encountered in scaling up from the local to the ecoregional context.

Where the project itself builds on the foundation for the ecoregional context on regional and subregional scales, its work is dependent on availability and use of reliable and sensible base data. There are two general problems in this context: they are 'Absolute' and 'Relative Data Scarcity'. Data are considered scarce if they cannot be used for applications. Absolute data scarcity means data do not exist, either because monitoring and survey are not carried out, or do not meet the resolution or quality requirements. Relative scarcity is common both in the HKH-Region and globally. It is one of the challenges to the use of data for decision support. ICIMOD's ecoregional approach tries to address the issue of data scarcity in the ecoregional context through its spatial and temporal Mountain Agricultural Systems Information Files (MASIF database). MASSIF facilitates the handling of large spatial, temporal, and multi-thematic data sets. A platform for sound integration of data from different disciplines is provided, stimulating direct use and application of data and bridging the gap in data sharing by creating an application driven process that activates from field data collection to planning and decision-making.

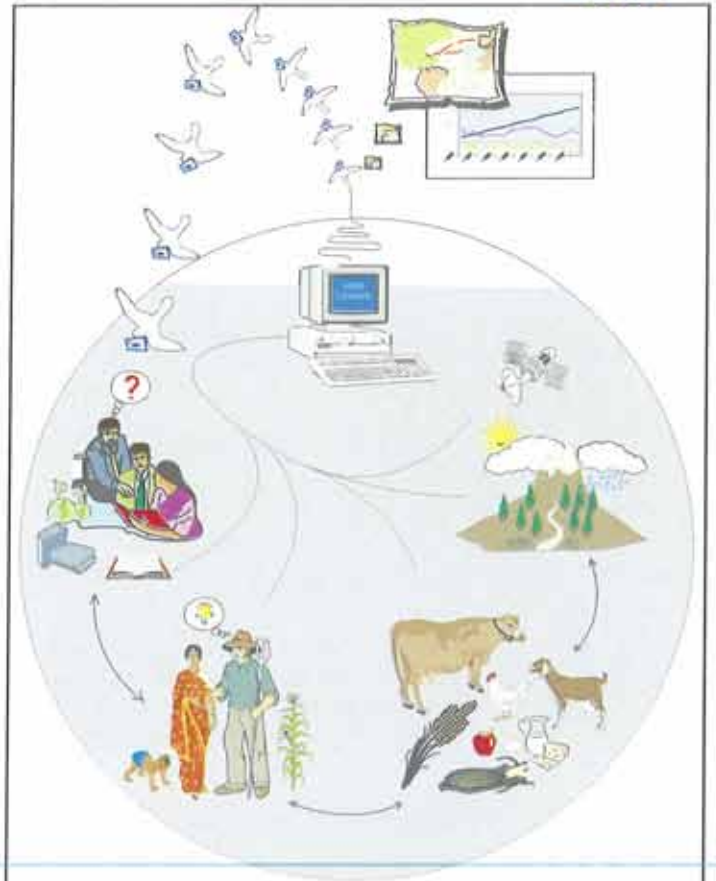


Fig 1: Schematic overview of the MASIF database context.

The concept of MASIF is given in Fig.1. It contains time series of crop, livestock, human population, and meteorological data, as well as digital maps of soil & terrain, land cover, drainage basins, and key administrative units for planning and execution of agricultural development policies.

Interactive software, called the 'Land Use Analyst', is being developed through ArcView to identify mountain agricultural resources, evaluation of resource conditions, characterisation and delineation of the agricultural systems, and assistance to planning for sustainable development.

Activities in 2000 include continuing development of the methodology, improvements, and completion of the MASIF database, (including a detailed digital Soil & Terrain database on a SOTER format basis for the whole of Nepal). Cooperation with ICIMOD's PARDYP and Rangeland Programmes on upscaling local-level activities for integrated watershed management of the Jhikhu Khola watershed in Kabhre District of Nepal and problems of rangeland degradation and grassland law in Naqu county, Tibet.

Income-generating Option: Beekeeping

ICIMOD is implementing a four-year Project on 'Indigenous Honeybees in the Himalayas: A Community-based Approach to Conserving Biodiversity and Increasing Farm Productivity'. It is funded by the Federal Chancellery of Austria through Austroprojekt. The overall objective of the Project is to promote sustainable management of *Apis cerana* and other indigenous honeybees in the Hindu Kush-Himalayan region that can be applied by mountain communities and contribute to the conservation of biodiversity in general and diversity of honeybees in particular, as well as farm productivity. The Project has two components - one part relates to regional activities in the HKH and the second part focuses on action research aspects in Nepal. Activities carried out in 2000 are highlighted below.

Studies on indigenous honeybees

Guidelines for the studies on indigenous honeybees, honey-hunting communities, market research, and micro-enterprise development were developed. On the basis of these guidelines, study formats were developed and a preliminary survey of *Apis laboriosa*, the spectacular cliff honeybee, was completed in selected areas of Nepal. Equipment required for conducting case studies was procured and a detailed plan for the *Apis dorsata* study was prepared.

Preliminary information on the status of indigenous honeybees in Bhutan has been collected and the Royal Government of Bhutan has nominated the local counterpart for furthering the activities.

Project review workshop & steering committee meeting

A project review workshop was organised from 8 to 10 November to report on progress, discuss the difficulties and their solutions, and develop a road map for the future. Participants were invited from collaborating institutions (GOs and NGOs) in India, Pakistan, and Nepal. In addition, all the Beekeeping Project staff, Ms. Heide Gockner-Mitsche of Austroprojekt and Dr. Nicola Bradbear, President, Bees for Development, also attended the workshop.

The steering committee meeting was held in the light of deliberations and discussions carried out during the project review workshop and the following decisions were made.

- It was decided that the *Apis cerana* selection programme will be concentrated on project managed and partner managed apiaries and multiplication training will be carried out with the help of Honey Bee Research Institute (HBRI), National Agricultural Research Centre (NARC) next spring.
- The project will focus more on issues related to Indigenous honeybees (IHB) in accordance with the recommendations of the external consultant's report.
- A Project staff member and one participant from DoA, Nepal, will be trained in queen rearing and multiplication by the appropriate regional institution.
- It was also decided that the project will carry out detailed internal assessment of the outputs of the former Jumla training programme.
- Austroprojekt and ICIMOD agreed on the budget-neutral extension of the Beekeeping Project up to 31 December 2001.
- It was decided that HBRI, NARC, will take care of the whole beekeeping programme in Northern Pakistan after 31st December 2000.
- Training in material development will be facilitated by Dr. Nicola Bradbear in the month of May or June 2001.

Apple Pollination Issues and Farmers' Management Approaches in the HKH Region

Issue

Agriculture in the HKH region is diversifying from traditional cereal crop farming to high-value cash crops, which poses new challenges for maintaining crop productivity and quality. Among these challenges are crop failure due to inadequate pollination. Evidence of this problem has been documented in a series of field studies carried out by ICIMOD across the HKH region.

Emerging Pollination Problems with Cash Crops in the HKH: Apples as an Example

Apples are a lead cash crop in several areas of the HKH region. They are cultivated in over 84 hilly and mountainous districts of India, China, Pakistan, Bhutan, and Nepal where they cover about 320,000 hectares (Fig. 1).

Annual production of apples totals about 2.5 million tonnes. It brings in an income of about 450 million US$ per year. However, in the past decade farmers have been complaining about declines in apple productivity and the majority of them feel it has declined by about fifty per cent.

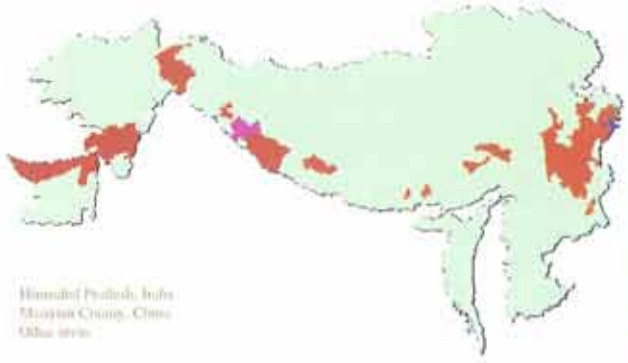


Fig. 1: Apple Farming Areas of the HKH Region

Polliniser and Pollinator Management in Himachal Pradesh, India

Pollinator Management: Using Honeybees for Pollination

Farmers in Himachal Pradesh, India, are using honeybees - both *Apis cerana* and *Apis mellifera* for apple pollination (Fig. 4). A system of hiring and renting is evolving in this state. It is the Department of Horticulture and a few private beekeepers that rent bee colonies for pollination. The current rate of renting bee colonies is US$ 20 per colony (US$ 12 as security and US$ 7.5 as rent).

Polliniser Management

Farmers in Himachal Pradesh, India, are planting polliniser trees in the orchards. Some are also grafting polliniser branches on commercially premium varieties (Fig. 2). As a short-term solution, many farmers are doing bouquet pollination (Fig. 3).

Factors Responsible for Inadequate Pollination of Apple Crop in HKH Region

- Scarcity of polliniser varieties in the orchards
- Inadequate populations of insect pollinators in the local environment
- Changes in weather conditions during flowering

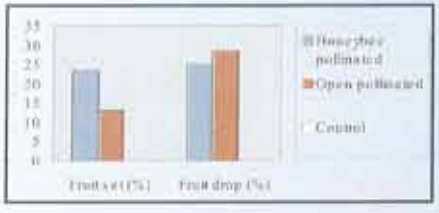
Hand Pollination of Apples in Maoxian, China

Farmers in Maoxian County, China have adopted hand pollination to make sure that each flower is properly pollinated (Figs. 5 and 6). Every member of the family - men, women and children are involved in hand pollination of apples. Labourers are employed for this purpose and can better be termed 'human bees' because they do the work that honeybees do.

ICIMOD Programme on Beekeeping for Pollination

- Assess pollination problems in the HKH region
- Study the state of pollinator diversity
- Farmers'-participatory action research to refine pollination methods
- Human resource development and institutional capacity building
- Raise awareness

Honeybee pollination increases fruit set and reduces fruit drop in apples (Fig. 7). It also increases the size and weight of apples (Fig. 8)



Gender Balanced Mountain Development

The GWG Retreats to Advance !

On 10 February 2000, the nine-member GWG (Gender Working Group) of ICIMOD gathered at Shaligram Apartment Hotel to participate in the one-day Retreat Workshop, facilitated by ODC. The main objective of the day was to reflect upon activities of the past on gender and organisational development in ICIMOD and to develop a Vision and Policy statement for the Centre. Brainstorming and small group discussions as well as plenary sessions were held. There was free and frank sharing of experiences and many issues were clarified. The achievements, concerns, and learning in relation to progress were discussed. The group felt that there was a good degree of gender awareness at the Centre owing to participation by several staff in the regional gender training courses and the sensitisation / orientation sessions held by trainees of the various courses. Despite the awareness, it was felt that "much effort is still required to integrate the gender issues and be applied by organisational members in an active manner." While discussing constraints the group expressed the existence at various levels of the Centre of the traditional thinking of social roles and culture and the tendency "to trivialise the issue of gender and find it difficult to accept that gender issues concern all and not only women." The GWG also felt that the focus of gender sensitisation has been most emphatic within ICIMOD itself, while there is an even greater need to incorporate the issue at programme level while working with partners in the region.

'A GENDER VISION FOR ICIMOD'

"As an international organisation for integrated mountain development, one of the main focuses of ICIMOD's activities shall be to champion the cause of mountain women. In order to further this cause, ICIMOD ensures a gender fair, egalitarian workplace: an organisation tolerant of differences, embracing change and diversity. ICIMOD will strive to ensure that human values in all their diversity are channelled into effective decision-making through participation and teamwork. ICIMOD will strive to be a learning organisation where the questioning of structured values and norms is encouraged. In line with this vision, a gender sensitive leadership, capable of challenging entrenched development orthodoxies, will promote gender-balanced development through horizontal integration across programmes. This approach will ensure that ICIMOD maintains itself as a centre of excellence at the cutting edge of change, where life within as well as outside the workplace is creative, fulfilling, and valued."

Source: The Gender Working Group of ICIMOD

The task of gender and organisational change and the need to sensibly pace activities in order to have purposeful outcomes and impact on the actual internalisation of the issue is an enormous task. Finally, the group carried out an active exercise on drawing up a comprehensive vision statement for gender in ICIMOD.

A structural recommendation proposed by the Retreat was for the Gender Unit to be merged and made "an integral component part of the Institutional Strengthening Unit (ISU)" from where it can extend the expertise and support to all programmes of the Centre and partners.

The outcome of the retreat was shared with the ICIMOD Gender and Development Committee which endorsed the report, and then fed it into the next step which was to develop a Gender Strategy for ICIMOD which was again done with the help of an external gender expert.

Shaping up ICIMOD's Gender Strategy

With the Gender programme running into its seventh year, it was time for a fresh look. A gender expert from outside was hired briefly to take a look at the situation and offer options for a revised strategy to assure consolidation of gains made and enable it to make progress in the years to come. So, in July 2000, the complete review and a framework of options for the gender strategy, covering both programmes and the organisation, was shared. The consultant put forth that *"ICIMOD is well on its way to becoming a gender equitable organization that contributes to and achieves equitable development results. The journey, however, is on-going. Although good progress has been made in creating gender awareness and capacity, developing women-focused programs and integrating gender concerns, gender equity is not yet fully integrated or even fully accepted within ICIMOD and its partner organisations."* It was highlighted that *'ICIMOD is now at an important juncture.....The next steps could follow one of two options."* The two options proposed were as follow.

- One which doesn't involve any overtly proactive nor controversial, organisational change. The Centre would continue to develop and strengthen the existing integration capacity, tools, and procedures, allowing the practice of gender integration to take hold where it will - where there is most support and most visible presence of women. Commitment and application would spread gradually

HIGHLIGHTS OF GENDER MAINSTREAMING 1995-2000

Programmatic

- Increase in number of women/gender-focused projects
- Increase in inclusion of women in events/projects
- Increase in gender sensitisation of partners
- Gender staff and work of PARDYP
- Gender in RCP II activities:
  - women entrepreneurs
  - labour-saving options for women
  - formation/strengthening of women's forest users' groups' network
- Briefs/guidelines for gender and NRM
- New projects proposed on 'Capacity Building and Communications for Empowerment', 'Celebrating Mountain Women in IYM'

Organisational

- Gender analysis and planning skills developed for 58 staff of 24 partner organisations plus 16 staff of ICIMOD
- Action Plans implemented in 25 organisations
- Training and Change agent skills developed for 13 staff of 8 partners plus 4 of ICIMOD
- Gender trainers conducting training for ICIMOD staff and staff of other organisations
- Monitoring indicators for gender and organisational change developed
- Manual on Gender and Organisational Change
- Active Gender Working Group (GWG) and Gender Task Force within ICIMOD
- 3 full-time gender staff at ICIMOD
- Gender awareness is widespread, attitudes have changed
- Gender vision statement and policy framework of GWG

Future Directions

Incorporating Gender in Research
Gender-sensitive Research
Gender Equality Policy and Procedures
Training
Gender Support Structure
Gender Balanced Staffing

Partner Institutions:

Bangladesh - 3 Bhutan - 1 China - 5 India - 4 Myanmar - 4 Nepal - 6 Pakistan - 2

throughout the organisation with growing familiarity, peer persuasion, and demonstrated successes.

- One in which gender equity mainstreaming is proactively promoted. This would call for changes in organisational culture and practice so that ICIMOD thinks, writes, acts, and allocates resources according to what it sees through its gender equity lenses!

Under gaps and issues, it was noted again that *'Attention, integration and perhaps commitment to increased gender equity in ICIMOD is not even or systematic; Gender equity is not integrated into all programmes, projects or divisions; there is no systematic process of incorporating gender concerns in planning and design of programs and projects, or of screening.*

Among the main elements highlighted as part of the Gender Strategy in order to significantly contribute to mainstreaming gender integration in ICIMOD were:

a) formulation of a Gender Equity/Equality Policy and Implementation Plan,
b) development of a gender-sensitive personnel policy, and
c) review of function, location, and effectiveness of existing gender integration support bodies, viz., the GAD Committee, GWG, Gender Specialists, Gender Resource Centre, etc.) and revise if needed.

Role playing: 8 March at ICIMOD

The list of recommendations had two options related to structure, for a more strategic location of the gender unit. The first being - the centralisation of the gender integration function by locating the gender unit under / in the ISU and second - a decentralised approach by having a gender officer in each division in each division.

Strengthening Women's Entrepreneurship Activities in Bhutan

As part of its capacity building efforts for women entrepreneurs of the HKH region, ICIMOD was able to launch a small project focusing only on women entrepreneurs of Bhutan in 2000, with financial assistance from Aus-Aid, the Australian Agency for International Development. This initiative was a national-level follow-up to recommendations made in the earlier regional workshop of 1999 when women entrepreneurs from the mountain areas of Bangladesh, Bhutan, China, India, Nepal, and Pakistan came together for a few days to discuss issues / constraints as well as to share success stories. It was at this regional gathering that, across the board, the group of women expressed a lack of gender sensitivity in the polices and programmes of support institutions such as the chambers of commerce and industry, financial institutions, sector specific line agencies, ministries of finance, trade, industry, and export promotion bureaus - and the need to coordinate in this area.

The initiative in Bhutan was to discuss the integration of women's entrepreneurship into the overall development processes. A one-year project with effect from May 2000,it was implemented jointly with the Entrepreneurship Promotion Centre(EPC) of the Ministry of Trade and Industry of Bhutan. Under the project, a participatory assessment of present polices, programmes, and institutions related to the assessment of women's enterprises and promotion of women's entrepreneurship in Bhutan was carried out. Partnerships were established with institutions that hold the relevant mandates and the assessment was carried out with their active participation.

The existence of an enabling environment in the host country was an important factor for the success of the small initiative. Directly or indirectly this also contributed to capacity building of participating institutions. The lead partner institution - the EPC - networked and identified the key collaborating institutions with whose help we could come up with a much broader based assessment of the situation. The four other institutions identified by EPC were (i) The National Women's Association of Bhutan, (ii) The Ministry of Agriculture - Agricultural Marketing Unit, (iii) The Bhutan Chamber of Commerce & Industry and

WORKING GROUP ON AGRICULTURE AND FORESTRY PRODUCTS

Present situation

- Active involvement by women in production and their lesser role in post production (e.g., marketing, processing)
- In forestry products participation varies depending on the product (i.e., almost the same in cane and bamboo products and more in mushroom and herb collection)
- Lack of information, awareness, motivation among women
- General move away from agriculture after education
- Usually training taken by men, though women play an important role
- Limited knowledge due to lack of concrete data

Problems and constraints

- Physical constraints and limited accessibility to market and market information
- Lack of confidence and awareness and sense of dependency/lack of initiative among women
- Most training taken by men as the timing and location of training may not be 'women sensitive'
- Complicated credit facilities
- Lack of continuity and follow-up on programmes
- Lack of post-harvest facilities like storage, preservation, and so on
- Linkages within the agricultural sector are weak (e.g., producers, exporters).

Suggestions/recommendations

1. Financing
   (i) Flexible financial packages
   (ii) More publicity to inform the public
2. Increased mechanisation
   (i) to do away with physical disadvantages and
   (ii) for labour and time saving.
3. Exposure/awareness
   (i) More literacy programmes for women
   (ii) Training and seminars/study tours to show women success stories to motivate them
   (iii) Training timing and locations to be made more accessible to women

(iv) The Bhutan Development Finance Cooperation. While the five major thematic areas of enterprises, where women are substantially participating, to be scouted and assessed were identified as the following.

i) Traditional crafts and handicrafts, including weaving and other religious crafts such as stone carving, wood carving, and so on
ii) Market-oriented agriculture (high-value vegetable and horticultural crops and livestock-based enterprise activities) and non-timber forest products
iii) Tourism-related enterprises such as hotels and lodges and travel / trade related activities
iv) Credit
v) Policy, programming, training, and capacity building

A national-level workshop was organised in Bhutan in late 2000 to provide a forum for the women entrepreneurs to meet, discuss, and express freely their constraints and needs. The workshop also provided them with an opportunity to share experiences and learn from each other as well as to learn about policies, credit, training, and other enabling support systems that are often not known of by most rural entrepreneurs under normal circumstances.

The final output of the project will be a strategy document for Bhutan which will suggest ways to address the needs and gaps identified by the women and will incorporate ways to promote and support enterprise development in general with a particular focus on women-run enterprises and women's entrepreneurship in Bhutan.

From the workshop floor !

Vision Statement
"Bhutan as the ultimate destination for tourists in the world"

Mission Statement
"A vibrant, qualitative, dynamic and sustainable tourism service by WOMEN Entrepreneurs in Bhutan".

The National Workshop in Thimphu: 29 Nov. - 1 Dec. 2000

HIGHLIGHTS FROM THE POLICY AND PROGRAMME ASSESSMENT

Under the Comprehensive Entrepreneurship Course women participants are especially encouraged to attend. They are given equal support in seeking loans under the special Entrepreneurship Promotion Programme(EDP) loan scheme and in the follow-up and extension services. Of the total of 42 concessional loans under the scheme provided by the financial institutions, 12 have been accessed by women entrepreneurs.
In vocational training courses conducted, over 30% of the trainees have been women.
In basic haircutting and advance haircutting courses, 70% of the participants have been women. Under the cottage industry support programme, women have been the primary beneficiaries. The easier access to huge loans and training provided a big boost to women and helped make many of them self-reliant.

Promoting Grassroots' Women's Empowerment in the Eastern Himalayas

Women in the mountain areas of the eastern Himalayas are the pivot of the family unit, bearing the major responsibility for agriculture, forests, and other natural resource management as well as for the well being of their families. The primary managers of agricultural and forest lands, with the sophisticated knowledge to manage a multiplicity of roles and small production systems to adapt and survive in a fragile environment, their opinions and suggestions nevertheless go unheard, undermining the development and implementation of appropriate management strategies. Women must therefore understand and acknowledge the benefits of collective action and learn to raise their voices on crucial issues such as saving and conserving existing forest resources.

A Workshop on 'Strategies for Grassroots' Women's Empowerment in Natural Resources Management' in North East India was therefore organised by the North East Network in Shillong, Meghalaya, in collaboration with ICIMOD, from the 26th - 30th April 2000. The North East Network is a women's activist network conceived with the conviction that women's collective action can pave the way for social progress. Its primary objective is to empower the women of N.E. India around the issues of livelihood, reproductive health, and environment, and to change the development perspectives of the region from 'needs' to 'rights'.

The Workshop provided a common platform for grass roots' 'women who share common struggles and constraints, giving them opportunities to arise as leaders. It aimed at empowering the women in natural resource management, building their perceptions and indigenous knowledge, and starting a network of grass roots' women in North East India under the auspices of HIMAWANTI, the Himalayan Grassroots' Women's Natural Resources' Management Network, which has been aiming to promote solidarity among grass roots' women of the region since 1995.

The objectives of the Workshop were as follow.

- To provide a forum for sharing experiences
- To coordinate and strengthen communication and alliances among rural women of North East India who are involved in the conservation and management of natural resources
- To increase the leadership and decision-making capacity of rural women in natural resource management, protection, and use
- To discuss policies, rules, and regulations regarding natural resource management in North East India
- To evolve strategies to enhance women's access to decision-making regarding natural resource management
- To develop a strategy and action plan for strengthening the North East Network's activities and reach in North East India

The Workshop brought together 81 participants from six states of N.E. India - Arunachal Pradesh, Assam, Manipur, Mizoram, Meghalaya, and Nagaland, as well as Sikkim and West Bengal. The participants were divided into eight groups state-wise, to discuss various issues. They were initially asked to identify the natural resources found in their areas, the type of work local women's groups were doing, and their awareness of government policies regarding natural resources. Next, they were urged to work together to identify the causes of their problems with natural resources and to chalk out plausible suggestions and strategies for solving them. They were also to consider and recommend the kind of forum they want to establish at the state and regional levels in order to improve their local situation. By the conclusion of the workshop, each state-based group had developed a specific action plan and recommendations.

ACTION PLAN AND RECOMMENDATIONS

State	Action Plan	Recommendations
Assam	Conduct awareness programmes at the village level on natural resource management and start a campaign against the timber mafia	Government policies should be made more transparent
Meghalaya	Retain private or community land rights' pattern and oppose take over by government forest departments	Finding alternative means of fuel for domestic uses
Arunachal Pradesh	Lobby with forest departments and circulate information about the natural resources from the village level to various women's groups	Wide circulation of the government forest policy draft
Manipur	Documentation of herbal medicines in consultation with village elders and networking with UNC, students, and human rights' activists.	Ensure that the government forest policy does not affect the traditional tribal land systems; inclusion of women in decision-making roles in land management issues
Mizoram	Safeguard traditional knowledge; circulate and disseminate information on natural resource management; conduct an awareness campaign in collaboration with the North East Network	Preserve knowledge about medicinal and herbal plants as far as possible
Nagaland	Create awareness on natural resources and saving traditional knowledge through the Village Development Board, Women's Organization, and the Church.	Women should be included in the decision-making body at the village/ district/state levels
North Bengal	Share information learned from the Workshop with other women's groups; acquire more knowledge about government policies and disseminate this knowledge in the village	Increase knowledge on natural resource management through training
Sikkim	This group decided that they would collaborate with HMAWANTI and did not think it necessary to present and plan at this juncture.	

Inauguration participants lighting 8 candles symbolic of 8 North East States in India

Sustainable Management of Mountain Commons

The People and Resource Dynamics Project (PARDYP)

This vibrant regional research network, funded by SDC and IDRC, looks for solutions to natural resource management problems with farmers. The five study areas are watersheds of between 30 and 110 sq. km in China, India, Pakistan, and Nepal (2 watersheds). The clients of the research are the watersheds' inhabitants. PARDYP draws on experiences of its many partner institutions and from other national research institutes to share the results of various research and technology testing activities to find out which innovations work, which do not, and why.

The first full year of PARDYP phase 2 was in 2000. The proceedings of the phase1, 1996-99, final workshop, held in Baoshan in 1999, were finalised and printed. The record of achievements to date provide time for reflection and refocusing to ensure that the activities for 2000 to 2002 could be planned in an integrated manner. Although a new regional coordinator, based at ICIMOD, was appointed in November 2000, overall the continuity of teams and partners was maintained reflecting the importance attached to this project by participating institutions.

Teams continue long-term, detailed monitoring of erosion plots and hydro-meteorological data. Several themes have emerged independently from the collaborating institutions. There is an increasing awareness of the importance of Non Timber Forest Products as sources of income for mountain inhabitants. There is also great interest in cultivating medicinal plants, and being able to source these as coming from organic and sustainable sources. Many commercial organisations are seeing the opportunity to develop a wide range of products from 'natural' sources. These cover from soft drink ingredients to shampoos. There are opportunities for farmers living in different agro-ecological zones. In future, further intensification of agricultural production in areas with potential through improved crop varieties, bio-fertilisers, and polythene film technology are likely. In the longer term it is likely that certification of organic products, from sustainable sources and /or equitably produced, will become important in terms of value addition.

The wide range of expertise available through PARDYP and the flexibility offered by PARDYP's donors have facilitated a broad range of activities from beekeeping to rural energy needs in Pakistan, structure and functioning of community institutions and livelihood potentials in India, watershed governance in China, and common property resource rehabilitation to soil conservation in Nepal. PARDYP's strength is that it is able to call upon local expertise in a whole range of fields.

The benefits of this network can be put to the best use by sharing results and experiences across the network and with collaborating institutions and their partners in all the countries. The comparative advantages of mountain environments and their unique agro-ecology have to be taken into account and solutions have to be tailored to match the inherently complex natural resource management problems.

Sustainable Water Harvesting

There has been substantial progress in achieving the objectives of the Sustainable Local Water Harvesting Project during the year 2000.

Twelve rooftop water-harvesting systems were built with the participation of nine households, including two temples and a school, in Kabhre Palanchowk district of Nepal during the hands-on training of technicians from Nepal and Bhutan. They resulted in saving a day's labour at one person per day per household during the monsoon period. As a consequence, women got more leisure time and contributed to transplanting of rice nurseries and were averted from the risks in fetching water from far away water springs during the rainy season.

The National Task Force on Water Harvesting, constituted in June 2000 by the Water and Energy Commission Secretariat, Ministry of Water Resources, HMG/Nepal, is giving final touches to the policy draft which will be widely circulated for discussion before finalisation.

Partnerships with other organisations in Pakistan and India were strengthened through mutual visits. The Environment Rehabilitation Project in NWFP and the Punjab, Pakistan; and the Watershed Management Project in the lesser Garhwal Himalayas of Danda, Chandrabadni and Garhkot, Uttaranchal, India, have shown keen interest in promoting local water management practices with technical assistance from ICIMOD in training, research, and demonstration.

Flow Regimes and Network Data

The Hindu Kush-Himalayan Flow Regimes from International Experimental and Network Data (HKH-FRIEND) Project is one of the eight groups of UNESCO's International FRIEND Project. It is a regional network for hydrological research which has official and unofficial members from eight countries - Afghanistan, Bangladesh, Bhutan, China,

ACTIVITIES CARRIED OUT BY PARDYP IN FIVE WATERSHEDS

Nepal: Access to water of adequate quality and quantity is the primary concern of farmers living in the two PARDYP watersheds in Nepal, the Jhikhu Khola and the Yarsha Khola. Most farmers cite shortage of irrigation water in the dry season, the long walking distances to collect domestic water, and deteriorating quality of water for both household use and for irrigation. In 2000 PARDYP supported the construction of 8 ferro-cement water jars in Yarsha Khola and 13 in Jhikhu Khola. The jars, each of 2,000l capacity, are filled by collecting rainfall from a house roof. The jars are robust, durable, and can be made by local masons using materials readily available in the village. Where jars are installed, the households can use water for domestic needs harvested from their house roofs for the duration of the monsoon with a carry over of approximately 2 months use. Other trials are underway to construct underground cisterns to collect runoff to be used for irrigation in the dry season. When linked to locally manufactured drip irrigation systems, water use efficiency can be significantly improved.

India: In the Garur Ganga watershed of Uttaranchal State, the PARDYP team of scientists from the **GB Pant Institute of Himalayan Environments** used bio-fertilisers in on-farm trials with 17 farmers; this covered a range of vegetable and grain crops. A number of *Rhizobium* and VAM (vesicular arbuscular mycorrhiza) strains were used. Early indications are that farmers can expect their yields to increase by 10 - 20 % when using good strains of *Rhizobium* and VAM. The bacteria are improved strains that occur naturally and therefore are non-damaging and non-toxic to the soil and to the plant. It is thought that crop yields can be increased by coupling these soil supplements with polythene tunnels and polythene pits. Further farm trials will be carried out in 2001.

China: The PARDYP team has been consolidating its innovative work on Participatory Technology Development. The team from the **Kunming Institute of Botany** has supported a number of farmer-led initiatives that should help village-level development activities flourish and provide extra income. These include walnut grafting, farmer-run, vegetatively propagated tea nurseries (one has 40,000 plants this year), improved livestock housing, and the introduction of improved livestock breeds. Part of the programme includes participatory monitoring and evaluation that should lead to further improvements in the process. A manual is being produced so that the techniques and methods developed so far can be shared by other teams within the PARDYP research network.

Pakistan: A team from the **Pakistan Forestry Institute** has carried out an ethnobotanical study in the Hilkot-Sharkul watershed. This study has identified plants that have an economic value that can be collected from the wild and medicinal plants that can be grown commercially on common or agricultural land. Several species are no longer found in the watershed, including *Taxus baccata*, the source of the anti-cancer agent Taxol. There is potential for cultivating medicinal plants as an income-generating activity. Further work will be carried out on the floristic composition of the watershed and the present status of medicinal cum economic plants, including their market potential outside the watershed. The study will also look at the prospects for conserving endemic medicinal and economic species for sustainable use through community participation.

India, Myanmar, Nepal, and Pakistan. The project includes the Regional Hydrological Data Centre (RHDC) and six research groups, viz., Database, Flood, Low-Flow, Rainfall-Runoff, River Water Quality, and Snow & Glacier Groups. The Secretariat of HKH-FRIEND is at ICIMOD.

During 2000 the Secretariat was engaged in preparation and organisation of the Second Steering Meeting of HKH-FRIEND. The Meeting was held at ICIMOD from April 11 - 13, 2000. It was attended by 36 participants including official nominees and observers from the countries of the HKH region as well as representatives from UNESCO's International Hydrological Programme (UNESCO/IHP), the World Meteorological Organisation (WMO), the German IHP/OHP (International Hydrological Programme/Operational Hydrological Programme) National Committee, Federal Institute of Hydrology, Koblenz, the Centre for Ecology and Hydrology - Wallingford (CEH-W), UK, and ICIMOD.

The major decisions taken during the Meeting are as follow.

- The Chairperson of PCRWR was elected as the Chairperson of HKH-FRIEND for two years, effective May 11, 2000.
- The term of office of the present Executive Secretary was extended for two years, till the next Steering Committee Meeting (March 2002)
- The project document of HKH-FRIEND was finalised.
- The Data Protocol of RHDC Guidelines for Acquisition and Dissemination of Data for HKH-region was approved by the member countries.
- The organisation of the following meetings/training was discussed/planned
  - HKH-FRIEND/ICSI Workshop on Snow and Glacier Mass Balance Manual Development to be held from 20-24 March, 2001 at ICIMOD
- HKH-FRIEND Surface/River Water Quality Training Workshop to be held from 21-26 May, 2001 in Islamabad, Pakistan
- Consultative Meeting on Developing a Framework for Flood Forecasting in the Hindu Kush-Himalayan Region (using WMO's WHYCOS in HKH region) to be held from 15-18 May, 2001, Kathmandu

As per the Resource Mobilisation Strategy discussed during the meeting, financial support for the following activities was solicited.

- From UNESCO, New Delhi, and German IHP/OHP National Committee, Federal Institute of Hydrology, Koblenz, Germany for

the HKH-FRIEND Surface/River Water Quality Training Workshop
- From UNESCO, New Delhi, and UNESCO, Paris, and ICIMOD for HKH-FRIEND/ICSI Workshop on Snow and Glacier Mass Balance Manual Development
- From DFID through CEH-W, UK, for HKH-FRIEND activities for the period from 2001-2002

An Inception Workshop of the Rainfall-Runoff Group was held on April 10, 2000, at ICIMOD. It was attended by 5 participants from China, Nepal, and ICIMOD. The Workshop basically discussed the organisation of Regional Workshop/Training on Rainfall-Runoff Modelling in the HKH Region.

Exploring Strategies for Participatory Forest Management in the Mountain Areas of Myanmar

Myanmar's mountain areas contribute significantly to the country's national development. Home to important watersheds, the mountains influence many sectors downstream, including agricultural productivity, hydropower generation, and tourism, among others. Locally, mountain areas and their natural resources are an important source of livelihood, cultural and ethnic diversity, and rich biodiversity. Certain mountain areas of Myanmar currently suffer from unsustainable natural resource management practices, shifting cultivation and subsistence agriculture, degradation, population pressure, and limited education and health facilities. As in other mountain areas throughout the HKH, community forestry (CF) has emerged as a promising strategy for sustainable development.

Traditional dancer of Myanmar

Myanmar's revised Forest Law 1992, and its Community Forestry Instructions (CFI) 1995, have the objectives of attaining environmental stability and meeting the basic needs of rural communities. Approximately 15,000 ha of community-owned forest plantations have been established since 1995 and the Ministry and Department of Forests remain committed to strengthening the implementation of CF throughout the country. Recognising the efforts being made, as well as the need to adopt new strategies to increase awareness among all stakeholders, the Department of Forests, Yangon; the Institute of Forestry, Yezin; and ICIMOD organised the 'First National Workshop on Participatory Forest Management: Implications

POLICY ISSUES ACTION POINTS (FOR PARTICIPATORY FORESTRY IN MYANMAR)

1. Prioritise basic needs of mountain communities.
2. Prepare community forestry projects targeting mountain areas.
3. Seek assistance and mobilise financial & other support from government organisations, non-government organisations, and international organisations for developing multi-sectoral approaches - including livelihood development to promote community forestry in the mountain areas.
4. Increase awareness, through information, education, and communication, of all forestry staff and communities about the environmental consequences of unsustainable forest uses
5. Promote the concept of Trust and Confidence within both forest department and communities.
6. Decentralise decision-making as per the recommendations of the Community Forestry Instructions 1995.
7. Mitigate and/or remove barriers and constraints that hinder implementation of community forestry in mountain areas.
8. Create a Community Forestry Unit within the Ministry of Forests to provide impetus to different aspects of community forestry in the mountain areas.
9. Seek support of other government agencies to implement community forestry where the Forest Department cannot undertake it on its own.
10. Recognise the crucial role of cooperation, coordination, and cross-sectoral linkages.
11. Recognise the urgent need for a comprehensive national land-use policy to resolve land-use conflicts, e.g., forestry, agriculture, and so on.
12. Review, clarify and modify forest law and rules to improve the Community Forest Instructions 1995.
13. Rationalise workloads at field level to facilitate introduction of community forestry.
14. Initiate discussion about evolving a Human Resource Development policy especially for community forestry in the mountain areas of Myanmar.
15. Explore the possibility of a diversified, eco-region specific community forestry in Myanmar.

In addition, the external resource persons recommended and prioritised the following action points.

- Create a Community Forestry unit within the ministry.
- Mitigate and/or remove barriers and constraints that hinder implementation of community forestry.
- Decentralise as per the recommendations of the Community Forestry Instructions 1995.

for Policy and Human Resource Development in the Mountain Areas of Myanmar'.

Held on the campus of the Institute of Forestry from 1 to 4 December 2000, the Workshop's 57 participants included the Deputy Director General, Advisors and Directors of the Forest Department; field staff from many divisions, such as Mandalay, Magway, Sagaing, and Ayarwady; and mountain states, including Rakhine, Shan, Chin, Kachin, and Kayah. Also attending were the rectors of the Institute of Forestry and the Forest Research Institute, representatives of UNDP, Care/Myanmar, the NGOs FREDA and MIRDA, and representatives of community forestry user groups. In addition there were resource persons from China, India, Nepal, and ICIMOD.

During the Workshop a variety of case studies and presentations rounded out participants' understanding of the situation of community forestry establishment and management in Myanmar. In addition, broad-based and focused group discussions were a major aspect of the Workshop activities. Participants worked in mixed groups to consider various factors in Myanmar's implementation of participatory forest management, including key elements of policy to be addressed, the current attitude of Forest Department staff, capacity and training issues, and the working environment in general. Concerns raised during the deliberations were then synthesised and clustered into sets of issues for focus group deliberations.

The workshop endorsed its findings (box text) on various aspects of Community Forestry for Myanmar, bringing the workshop to a conclusion.

HEDGEROW TECHNOLOGY GAINS GROUNDS IN CHINA

Hedgerow technology is recognised by the Chinese Government as an important technology for environmental conservation and it is adopted by a large number of farmers. The hedgerow technology has been recognized by the Ministry of Sciences and Technology, Government of China, and by the Sichuan Provincial Bureau of Science and Technology as one of the prime technologies for extension for environmental conservation and improving agricultural productivity. The Ministry requests this technology to be extended widely. The national collaborating institution of ICIMOD's Appropriate Technologies for Soil Conserving Farming Systems' Project in China, **Chengdu Institute of Botany** of the Chinese Academy of Sciences, has been recognised by the Ministry and the Sichuan Bureau as the sole institution to provide technical support for extension of this technology.

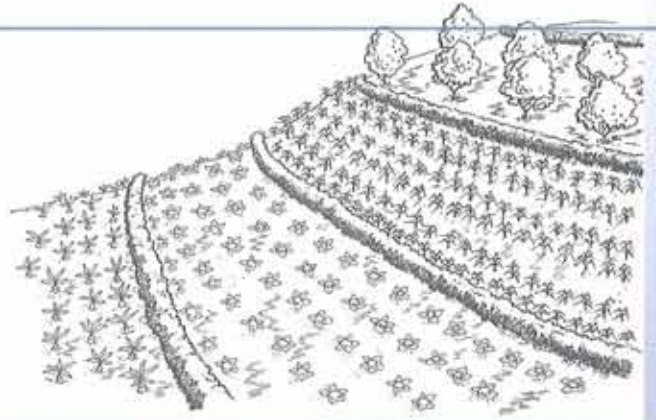
With support from local governments, hedgerow technology has been adopted by a large number of farmers in China. Up to the end of 2000, this technology was extended to around 30 counties in China, and more counties have contacted Chengdu Institute of Botany and ICIMOD for technical support for extension.

The Ministry of Science and Technology, Government of China, has recognised SALT as an important technology and recommended widespread adoption throughout China. The government of Sichuan Province has accepted Sloping Agricultural Land Technology (SALT) as an important technology for extension and requested its wide extension in Sichuan Province. To recognise the achievements of the Appropriate Technologies for Soil Conserving Farming Systems' Project in Liangshan Prefecture, the Government of the Liangshan Yi Autonomous Prefecture of Sichuan Province has awarded CIB and the Government of Ningnan County first prize for scientific and technology development.

The Forestry Bureau of the Liangshan Yi Autonomous Prefecture has made it a policy that hedgerow technology should be applied in the project entitled "slopping farming to reforest steep sloping agricultural land" in 17 counties. This project, which started this year, is one of the most important ones in relation to improving the overall environment of China.

The Provincial Planning Commission of Yunnan Province plans to use SALT in all counties where the bench-terracing project is being implemented. In this respect, it has been decided that a demonstration site will be established in four counties.

CONTOUR HEDGEROW INTERCROPPING SYSTEM



The contour hedgerow intercropping system involves planting double hedgerows of nitrogen-fixing plants along the contour lines on the slope at a distance of from (two) four to six metres. The Space between the contour hedgerows, the alley, is used for agricultural and cash crops.

Capacity Building for Mountain Development

One of ICIMOD's greatest challenges to help national and local partners to improve the well-being of the mountain people and their economies and environment is the strengthening of local institutions to support the vision of integrated mountain development. To realise this vision, ICIMOD has been striving to build governance frameworks that allocate rights and enforce responsibilities for integrated mountain development at the appropriate level: local, national, or regional. In the process, ICIMOD's capacity building activities are based on enabling the participation of all stakeholders, including government, non-government, and private institutions, in sound institutions, investments, and environmental sustainability of the Hindu Kush-Himalayas.

The issue of capacity building for sustainable mountain development is very complex. ICIMOD alone can neither claim the full understanding nor find the resources to undertake sustainable mountain development activities the diverse stakeholder groups. The Centre supports multisectoral/stakeholders' coordination, as capacity building encompasses the region's human, scientific, technological, organisational, institutional, and resource capabilities. ICIMOD carries this out through partnership development. Such partnerships have given the national institutions access to knowledge and skills; innovative and proven methodologies; networking and funding opportunities; and replicable models for addressing community needs and managing resources. It has also equipped them, to a reasonable extent, with options for organisational management and governance; gender equity and organisational development; technologies for farm productivity and sloping land management; hazard mitigation and risk engineering, GIS and Remote Sensing applications and information management systems; and strategies for advocacy, government relations, and public outreach in integrated area development and institutional strengthening.

In spite of the above activities, the Centre has experienced drawbacks in capacity building. The first one is the Centre's own approach, which requires more integration within and amongst thematic areas. As the activities of ICIMOD are presented as segregated project activities, the partner institutions and, hence, their professionals tend to identify only with these. This means that the whole process of information sharing and dissemination can remain in tunnels. One solution is to present ICIMOD activities as integrated work and adapt a one-door policy, at both the centre and with partner institutions, for appreciation of policies and programmes (implementation).

Capacity Building in Policy Analysis and Planning

The strengthening of capacities for planning sustainable mountain agriculture on using Geographic Information Systems (GIS) and Remote Sensing (RS) help to reduce the costs of data collection and analysis. The transition from a centralised planned economy to a decentralised market-oriented economy creates a series of problems and opportunities that produce effects on all aspects of life; most importantly on the land use and tenure changes and, consequently, agricultural production. The integration of modern GIS/RS methodologies with planning offers a convenient and effective solution to policy analysis if these tools are made available to end users as well.

There is a growing realisation that, in terms of sustainable mountain agriculture, a strong link between agricultural and population policies is needed. Demographic conditions influence agricultural development goals, e.g., improvement in land productivity, establishment of secure cultivation rights, and redistribution of land. On the other hand, rural conditions such as land/tenure arrangements, shape demographic behaviour and demographic trends. The most important element in the land-fertility/mortality interface is gender. As such, institutional arrangements and socioeconomic and sociocultural norms can contribute differently to the experiences of men and women in relation to land use and fertility. Female-headed households are especially affected. ICIMOD's programme to build gender and organisational development capabilities for sustainable mountain agriculture stimulates discussion among land tenure, gender, and population specialists at the interface between gender, rural fertility/mortality, and land/tenure in order to identify key policy issues and related research needs.

In mountain areas, which have diverse biological and physical conditions, planning needs to be integrated even more than in the plains. Mountain areas contain thousands of watersheds. ICIMOD has recognised the importance of an integrated development approach to sustainable development of these mountain areas. The objective of capacity building activities is to proliferate the knowledge and experience of analytical methods, tools, and approaches for optimum area-based land use and economic development to improve the living standards of mountain people.

RS/GIS technology is becoming an indispensable tool in accomplishing activities. The spatial framework provides new

approaches to revitalising the region's planning, implementation, assessment, and monitoring performance. Widely used as a decision-making tool for the 21st Century, RS/GIS can empower the region's policy-makers and implementing agencies as well as representatives of user communities. As there is a paucity of both historical and current spatial and temporal information from mountain areas, RS/GIS generated decision-making processes are making inroads into national and regional planning exercises. ICIMOD's programme on RS/GIS capacity building is to increase the use of these technologies and methodologies among regional institutions.

Capacity Building for Hazard Mitigation and Disaster Management

The livelihoods of mountain people depend on marginal farmlands that have provided them with a meagre living despite all adversities. There is the continuing threat of land degradation due to extreme weather conditions, slope failures, GLOF events, or deforestation. The young terrain of the Himalayas poses severe threats to infrastructure such as roads, canals, tunnels, dams, and bridges. ICIMOD's emphasis on building capabilities in mountain hazard mitigation and risk engineering is to stimulate awareness of mountain hazards amongst infrastructural planners and implementing agencies and to provide new design solutions that can lead to reduction of adverse effects on mountain people and government investments.

Among the activities carried out are geo-technical engineering and GLOF mapping.

Three volumes of workshop papers entitled 'Landslide hazard management and control in the Hindu Kush-Himalayan Region' have been sent for publication next year. A study on methodologies for hazard vulnerability assessment and community-based hazard management has begun with assistance from the Japanese Government through UNDP/Nepal.

Capacity Building through Focused Training

In terms of agricultural technology, two training courses (summer schools) were organised in the Tibet Autonomous Region of China, several Farm Technology Kits were published in the Tibetan language, and a resource book and CD on Sustainable Mountain Agriculture for research and education were prepared in the Chinese language. Another positive indication of the value placed on ICIMOD's training capacity is the growing number of visitors to ICIMOD's site in Godawari to orient themselves to the tests and demonstrations being carried out.

The participants at the third and final regional training course on Gender and Organisational Development for Sustainable Mountain Land Use came back in the second part of April after doing field exercises assigned during the first part of the course in January. They are now carrying out the action plans developed during the course to promote gender equity in their institutions. This activity has contributed towards capacity building for sustainable mountain development by imparting knowledge and skills for undertaking gender mainstreaming activities to over 55 participants from 18 institutions in 7 member countries in the region.

Together with the Bhutanese Government, ICIMOD organised a training course on geo-technical engineering in Bhutan, the first of its kind in Bhutan. The training course imparted practical knowledge and skills with illustrations of appropriate designs and various considerations for irrigation canal construction. The course generated a lot of interest and commitment among the government officers and the Ministry of Agriculture intends to organise similar training courses in collaboration with ICIMOD in western Bhutan next year.

Altogether eight regional training courses on the Application of Geo-informatics to sustainable mountain development were held at ICIMOD for over 120 professionals from Bangladesh, Bhutan, China, India, Nepal, Pakistan, and ICIMOD. Through these training courses, ICIMOD has transferred state-of-the-art technology in GIS and Remote Sensing applications and research in almost 50 institutions of the HKH region. In addition, academic-level curricula have been developed in all these courses and four training manuals have been developed. A CD-ROM is also being prepared to help impact GIS/RS through Computer Based Training (CBT).

Capacity Building through Facilitation

ICIMOD, as the main facilitator, launched GIS/RS technologies in member countries with its partner institutions as intermediaries. The participants in regional training courses have been actively engaged in designing and implementing GIS/RS education and training programmes in their respective institutions and countries. There was substantial progress towards the eventual goal of strengthening GIS/RS capacities in government planning and line agencies, research and educational institutions, and NGOs; and the participating academic institutions are also planning to launch university-level GIS through their regular curricula.

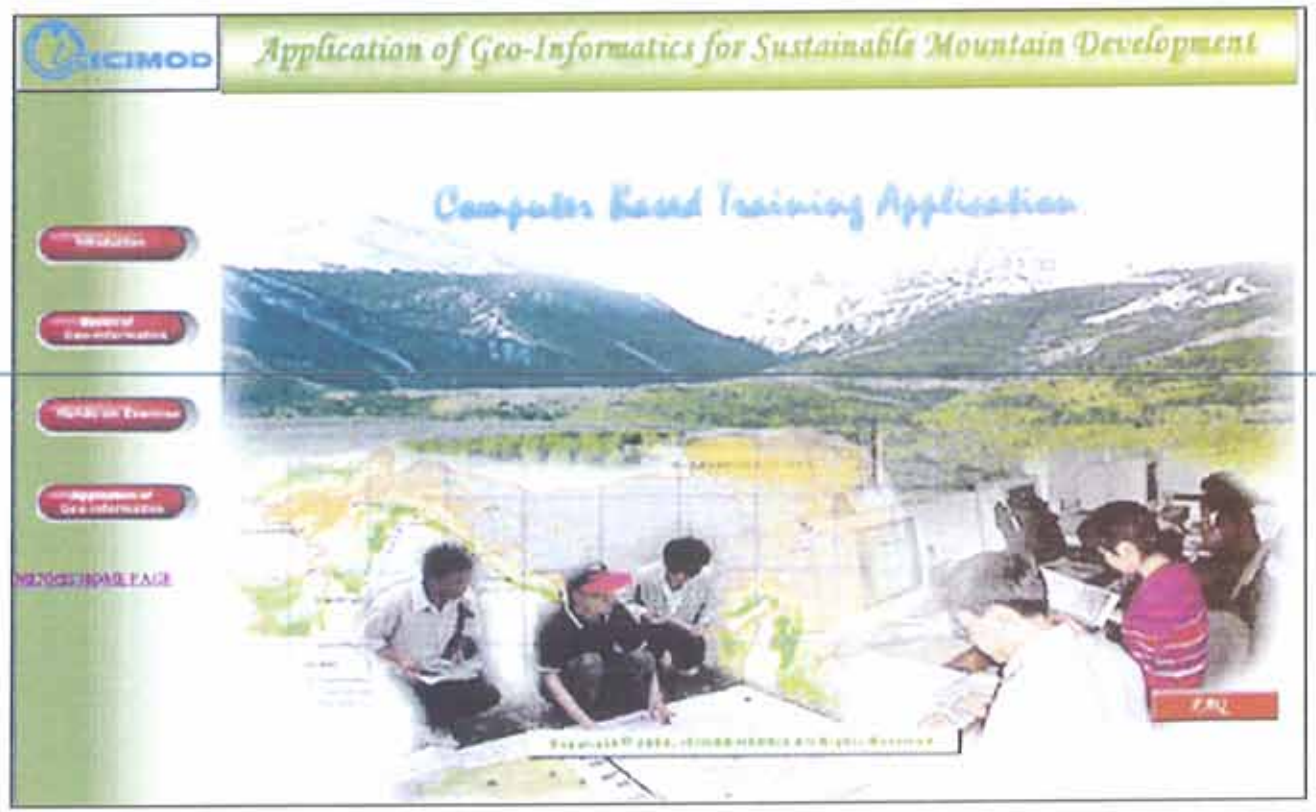
With assistance from IDRC-Canada, ICIMOD, was able to strengthen electronic information management systems in several of its

Regional Member Countries. In Nepal, the handing over of NepalNet to the Nepal Internet Users' Group is complete. Technical assistance and administrative support were provided to the National Planning Commission for the development of a National Information, Communications and Technology Policy. In Pakistan, ICIMOD facilitated the installation of a wireless Internet POP in Gilgit. Two training courses on Internet and Website development were conducted in Himachal Pradesh (Palampur) and N.E. India (Shillong). Two interns were received from Tibet and a two-week course on internet technologies was offered for participants from Tibet. In Bhutan, with the assistance of the Government of Austria, a series of three training of trainers courses and three workshops on Internet Technologies were conducted. In addition eight new Internet Training Manuals were prepared and some have been translated into Chinese by the Tibet Academy of Agriculture and Animal Sciences and in Russian by the International University of Kyrgystan.

GIS Day 2000

As a part of its networking activities, MENRIS, jointly with the Institute of Engineering, TU, Department of Geography, TU, and the Nepal GIS Society, organised for the first time-ever, GIS Day 2000 in Nepal to promote the use of GIS technology and applications among the public at large. On the occasion, ICIMOD trained more than 120 participants were trained in 'GIS for Beginners' course and a pilot issue of the book 'GIS for Beginners' with a test CD-ROM were released.

An exhibition on various themes of mapping and applications of GIS/RS was held and a quiz contest for school children was organised. More than 2500 people, mostly school children, visited the exhibition which raised awareness regarding GIS technology and its potential applications.



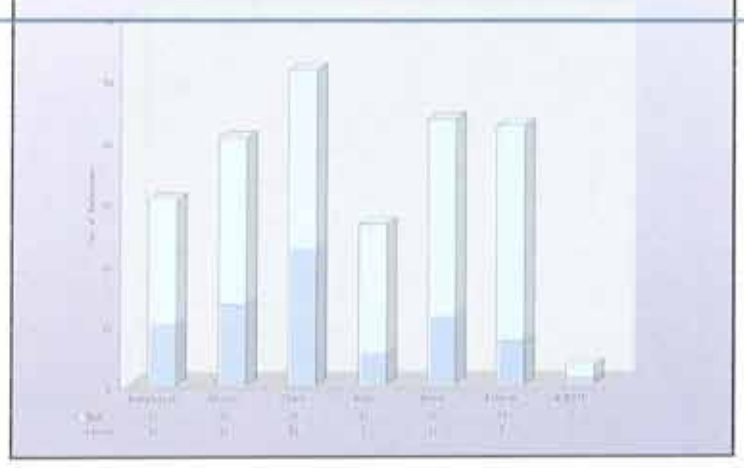
'Strengthening of Training Capabilities for GIS Applications in Integrated Development in the Hindu Kush-Himalayan Region'

Under the capacity building programme of ICIMOD, MENRIS is primarily focusing on disseminating GIS/Remote Sensing technology and its applications. The four-year project for 'Strengthening of Training Capabilities for GIS Applications in Integrated Development in the Hindu Kush-Himalayan Region', funded by the Netherlands, was completed this year.

Altogether four national courses, one each in Nepal, Bhutan, Pakistan, and China, and one regional course were conducted during the year. With the completion of the full cycle of 16 training courses (8 each at regional and national levels), MENRIS trained altogether 235 people (68% more than the original target of 140) from 106 organisations representing diverse fields in the RMCs. Women accused for 29% of the participants.

Training courses were designed to address the applications of GIS/RS in four important areas of sustainable mountain development

Course I:	'Hands-on' Training for Application of GIS and RS to Mountain Agricultural Planning and Land Use Management
Course II:	'Hands-on' Training for Application of GIS and RS to Mountain Natural Resources' Assessment, Monitoring and Management
Course III:	'Hands-on' Training for Application of GIS and RS to Locational Planning of Basic Infrastructure and Services
Course IV:	'Hands-on' Training for Application of GIS and RS to Slope Instability Analysis and Hazard Mapping



GIS Day 2000: ICIMOD Stall at the Exhibition

Case studies undertaken with collaborating national partner institutions on application of GIS/RS

CHINA
- Planning for agriculture and land use management in Duilang country, Tibet (with the Tibet Academy of Agriculture and Animal Sciences)
- Establishing a GIS Database of Natural Resources and Monitoring the Change of Land Use and Forests in Lijiang County (with Southwest Forestry College, Kunming).

INDIA
- Mountain agricultural management and land-use planning in Hawalbag development block of Almora district
- Study of land-use/land-cover dynamics of Dagroh Watershed (Dr. YS Parmer University of Horticulture and Forestry, Solan)
- Study on biodiversity conservation and assessment in the Eastern Indian Himalayas

NEPAL
- Inventory of biodiversity of the Langtang National Park
- Slope instability and hazard mapping of Syangja district (Central Department of Geography, T.U)
- Municipal level GIS in Kirtipur

PAKISTAN
- Mass movement and landslide hazards in sub-Himalayan ranges, Muree, North Pakistan (with the Department of Geology, University of Peshawar)
- Integration of natural resource management planning of Siran Forest Division (with Pakistan Forest Institute, Peshawar)
- Slope instability analysis and hazard mapping in the Muree hills

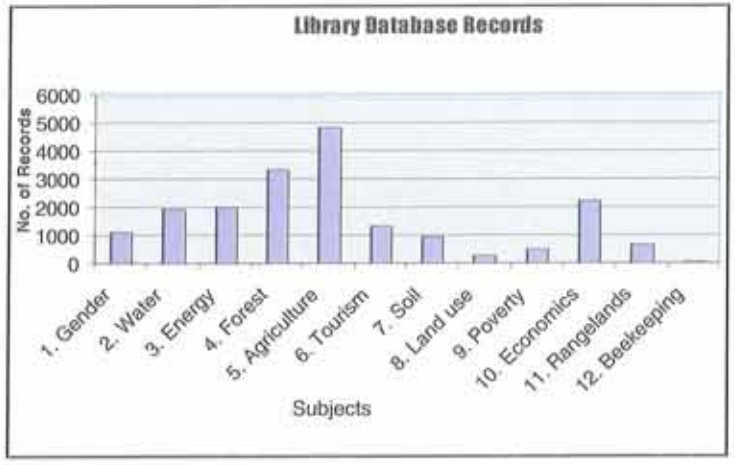
Information and Outreach

Library

In 2000, altogether 1,992 new titles were added to the Library database, making a total of 22,843 records. These include 12,355 documents from or on the Hindu Kush-Himalayas. Forty-five ICIMOD publications were added to the FAO AGRIS database. Fortnightly lists of New Documents in the library and monthly issues of New Serials were published electronically on the ICIMOD Intranet.

The Library database is now available for ICIMOD staff through the Intranet. The Library has an Internet Drop-in Centre for external users for access to international databases through the Internet.

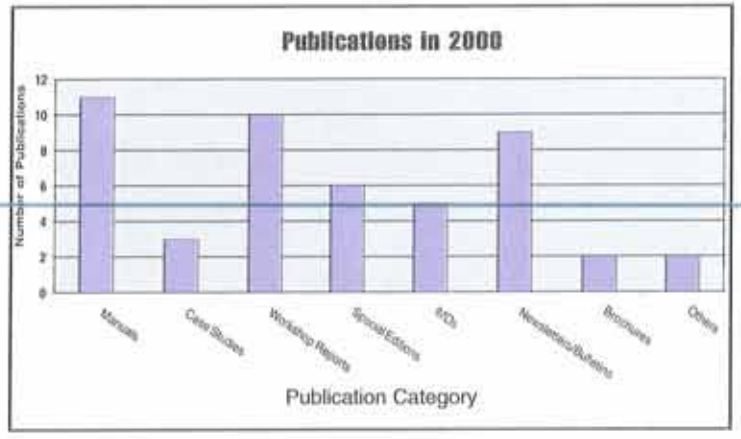
Twenty-three retrospective searches were made in 2000 resulting in 3,578 references and 2,203 people used the library.



Publications

In 2000, one of the central focuses of the publications produced was on the issue of poverty itself, as in a joint publication of ICIMOD with the German Foundation for International Development (DSE), based on seminar papers on 'Growth, Poverty Alleviation and Sustainable Resource Management in the Mountain Areas of South Asia'. Throughout the year, the problems of land used who owns it? is it sufficient? do governments have equitable laws? and who are the marginalised (landless groups)? recurred and culminated in a publication by Piers Blaikie and S. Z. Sadeque - 'Policy in High Places'. Land resources and soil degradation were also directly tackled in the collected papers of the People and Resource Dynamics Project's Baoshan workshop papers edited by Allen et al. Along with these came other publications on the associated problems of marginalisation of the poor, access to water and forests, the handling of both in a participatory manner, do user groups work or don't they? and if they don't what are the conflicts that prevent them from working?

Not that ICIMOD concentrated only on problems. Opportunities were also a focus of attention and research. In this respect beekeeping profited from a joint publication with Asian Apiculture Association on the progress of research into Asian bees and beekeeping - leading the way for a number of manuals on beekeeping techniques, pollination, and best practices. On the bright side, 'Profiting from Sunshine' discussed passive solar building in mountain areas of China, India, Nepal and Pakistan. The green hope of the special editions on grassland ecology, edited by Richard et al., was, significantly, a popular series. It is heartening to note the awakening of interest on the grasslands/rangelands that account for a significant proportion of the territory of the region and which are often ignored.



Distribution

The Centre organised and took part in at least six major book fairs and exhibitions, notable being the Publishers and Booksellers Guild / South Asia Book Fair (Calcutta Book Fair), Calcutta, India, 26 January - 2 February 2000, and the 14th New Delhi World Book Fair, New Delhi, India, 3-15 February, 2000. The ICIMOD Annual Book Fair, from 29-31 August, 2000 was a special one because the IUCN - The World Conservation Union - Kathmandu, was invited to participate.

The Centre has ventured into the field of electronic commerce by becoming a member of the Pan Asia Networking E-Commerce Mall, hosted by Pan Asia IDRC and based in Singapore, and Earthprint.com, an on-line environmental bookshop of the United Nations Environment Progamme (UNEP), managed by SMI (Distribution Services) Ltd, United Kingdom. Both sites are alternative avenues for promoting and showcasing our products on fully automated e-commerce systems. Selected titles are listed and both can be accessed at http://www.panasia.org.sg

SEARCHING FOR WOMEN'S VOICES IN THE HINDU KUSH-HIMALAYAS, by Jeannette D Gurung
The Reviewer, Issue: 1.24, January 16, 2000, Reviewed by Subir Ghosh

"This visually appealing compilation is a far-cry from the dour-looking books about case studies of women. Processes of historical, economic, and social development are, more often than not, told exclusively by men. Here is a book that provokes a discussion of gender relations from the neglected perspective of women."

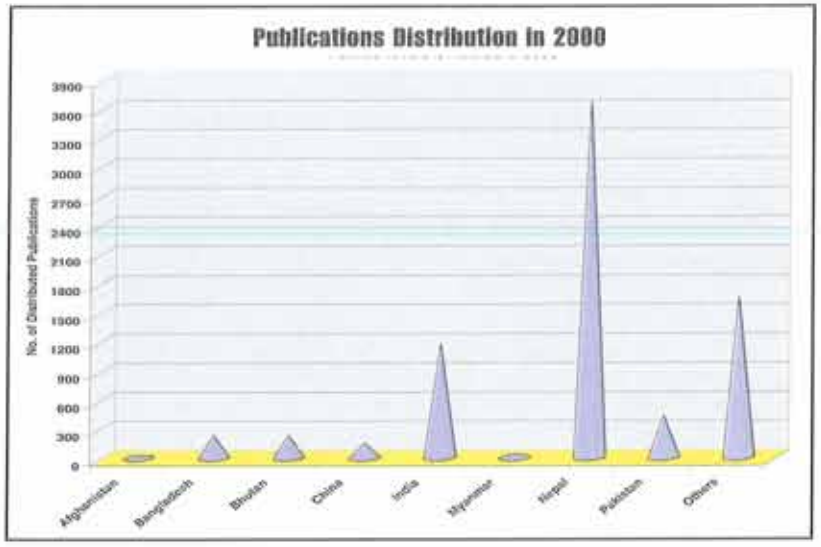
MOUNTAINS OF ASIA: REGIONAL INVENTORY
By Harka B. Gurung
The Reviewer, Issue No. 1.26, 30 JANUARY 2000
Reviewed by Subir Ghosh

"... Gurung's compilation does provide an overview and insight into the principal mountain ranges 'as dynamic entities in themselves'. As his results indicate researching mountains can be as daunting as mountaineering. ..."

Outreach

In the year 2000, in addition to the regular outreach publications such as the Newsletter, Issues in Mountain Development Series, MENRIS Bulletin, the Mountain Forum and the Asia Pacific Mountain Network Bulletins, ICIMOD undertook several other initiatives in order to reach out to its diverse clientele.

In the first quarter of the year, ICIMOD sponsored and coordinated five radio programmes on topics of interest and concern to the Centre. Five one-hourly programmes (some interactive) were broadcast on five



executive Saturdays on FM 100, which goes beyond the Kathmandu Valley to Charikot, Dolakha, Sinduli, Pokhara, Jomsom, and Gorkha. The programme was well received and ICIMOD will undertake more of these in the years to come, including some in other HKH countries. ICIMOD held several seminars/talk programmes on issues ranging from hybrid energy systems to high altitude herding. In order to provide the Kathmandu-based research and development community with a platform for exchange of information, for sharing experiences, and for exploring the potential for collaboration,

In addition to participating in exhibitions on mountain environments and livelihoods organised on various occasions in Kathmandu, ICIMOD also put up a stall at the IUCN World Congress in Amman, Jordan in October. This provided an opportunity for ICIMOD to make the issues of the HKH known to a wider global audience.

A highlight in terms of outreach was the 'Mountains and Media Workshop' organised together with Panos South Asia in November. The workshop brought together 14 journalists from South and South-East Asia (Bangladesh, Bhutan, China, India, Indonesia, Malaysia, Nepal, Pakistan and Thailand) together with 7 resource persons. The objective of the workshop was to sensitise journalists to issues relating to mountain regions and mountain peoples and to provide them with the necessary tools, information, and contacts to report effectively about these matters. This was achieved through a combination of briefing sessions, tutorials, practical sessions, and a field trip, and has encouraged more publicity in the HKH countries.

ICIMOD Homepage

The ICIMOD Website received a total of 878,752 hits in 2000, an average of 73,229 hits per month. The site had more hits in months when there were vacancy announcements. Visitors were mainly from educational institutions (edu), organisations (org). Hits originated mostly from North America, UK, Nepal, India, Australia, and Singapore. Partnership Oneworld helped bring more visitors to the website. Other key referring sites were those of the Mountain Forum, PanAsia, and Mercantile Communications' south-asia.com site.

A new feature was introduced in 2000 - a feedback form for visitors. While there has been only limited response so far, most have indicated that the information was useful and that the download time for the website was faster than that of other websites. Half of the respondents found the website through a search engine (yahoo and google seemed the popular choices) and others were either informed about it by friends and colleagues or found a link to the website from another related site. The respondents included students, researchers, agriculturists, agronomists, engineers, and medical scientists. Many liked the presentation, the amount of information, and the fact that it relates to some of the issues they come across in their own work.

The APMN

The Asia Pacific Mountain Network (APMN) elected Dr. Tej Partap (the then Head of ICIMOD's Mountain Farming Systems) as the Asia/Pacific representative on the Mountain Forum Board of Directors for 2000-2003. It also organised, with PANOS South Asia, a 'Mountain and Media Workshop' for journalists from all over Asia/Pacific to highlight mountain issues in regional media. It funded six project proposals received from India, Tajikistan, Sri Lanka, Indonesia, and Iran under its Small Grants' Programme, 2000-2001. Under the Central Asia Project on 'Web Publishing and Internet Technologies', it held a workshop in Bishkek, Kyrgyzstan, in September for participants from all over Central Asia, to strengthen the IT capabilities of the institutions they represented. In April and September, 2000 issues of the APMN Bulletin were published and distributed.

Currently, the APMN has some 900 members worldwide, about half of whom reside in Asia/Pacific. The APMN provides electronic and publication services. Membership in the APMN is free and open to all. To register, please visit:
<http://www.mtnforum.org/survey/survey.htm> or write to the APMN Administrator at <apmn@mtnforum.org>.

The Mountain Forum

Early in the year, ICIMOD was awarded the hosting of the Mountain Forum's global Secretariat through a global, competitive process. The appointed Executive Secretary of global network, Mr. Alejandro Camino, from Peru, started at ICIMOD in October.

The Mountain Forum Secretariat coordinates and supports the work of the associated mountain networks: the Asia-Pacific Mountain Network, coordinated by ICIMOD, the African node hosted by ICRAF in Kenya, the European Mountain Forum, working out of IUCN in Switzerland, and the Latin American node operating from the CONDESAN Consortium at the International Potato Center in Peru. A Global Information Server node, hosted at The Mountain Institute in the United States of America, operates as the interim node for North America.

The Mountain Forum has as its mission the promotion of global action towards equitable and sustainable mountain development. This is achieved through sharing information, mutual support, and advocacy. In order to achieve these objectives, the Mountain Forum uses modern and traditional communications, supports networking and capacity building, and encourages its nearly 2,500 members from over 100 countries to be proactive in advocating sustainable development of mountain areas.

Thanks to the generous support from the Swiss Agency for Development and Cooperation (SDC), the Mountain Forum Secretariat has initiated the legal process of incorporation as an international organisation in Switzerland, with global headquarters in Kathmandu.

A meeting of the node managers was held in Catalunya, Spain (23-27 Oct.) with the support of Fundacio Territori y Paisatge. The Executive Secretary attended the 7th Inter-Agency meeting of FAO where a consolidated plan for the International Year of Mountains 2002 was presented.

The Mountain Forum has an independant Board of Directors with members from each region.

On 16-17 Nov. the Mountain Forum Board Meeting was held in Geneva, Switzerland. Dr. Hubert Zandstra, Director General of the International Potato Center, was elected as the new Chair of the Board.

Providing a Platform - Talk Programmes

ICIMOD has been holding seminars/talk programmes on topics related to integrated mountain development to provide the Kathmandu-based research and development community with a platform for exchange of information, for sharing experiences, and for exploring the potential for collaboration,

The seminars/talk programmes are intended for anyone interested in the sustainable development of mountain regions. They cover topics such as mountain farming systems, mountain hazards, horticulture, market towns, agroforestry, soil conservation, land use, water resources' management, common property resources' management, enterprise development, renewable energy, tourism, GIS, remote sensing, appropriate technology, macro-micro-hydropower, indigenous knowledge systems, environmental assessment, ethnobotany, income generation, rural sociology, and gender and development.

In 2000, ten seminars/talk programmes were held. The establishment of a Gender Resource Centre facilitated the organisation of the talk programmes and the majority of the talk programmes held over the year were related to Gender. They were attended by relevant professional staff from government organisations as well as by people from national and international non-government organisations. A list of the programmes held in 2000 is provided below.

Title Off-Grid Solar Power and Biomass Power Plants: The Indian Experience.
Speaker Mr. S. P. Gan Chaudhuri, Director of West Bengal Renewable Energy Development Agency, India
Date 15 March 2000

Title Findings of the Second Study on Mountain-related Handicrafts
Speaker Ms. Katja, Intern from Finland
Date 18 April 2000

Title Tourism-Induced Environmental Changes in the Khumbu Region of Nepal
Speaker Dr. Sanjay Nepal
Date 19 May 2000

Title The Andean Mountains
Speaker Dr. Mario Tapia, International Potato Center (CIP) Peru
Date 10 July 2000

Title Numerical Weather Prediction in the Himalayan Region
Speaker Professor Dr. U. C. Mohanty, Institute of Technology, New Delhi
Date 4 September 2000

Title Honey Hunters of the Blue Mountains (video film shown) and brief introduction to the mountain development efforts of the Keystone Foundation in the Blue Mountains
Speaker Mr. Pratim Roy, Director, Keystone Foundation, India
Date 13 September 2000

Title Case study on 'Geomorphologic Processes in Yarsha Khola, Nepal
Speaker Mr. Berndt Tschanz, University of Bern
Date 20 September 2000

Title Economics of Ground Water Scarcity in Hard Rock Areas of Karnataka, India
Speaker Mr. G. Basavaraj, University of Agricultural Science, Bangalore, India
Date 25 September 2000

Title Gender and Development
Speaker Ms. Sandra Brown, University of British Columbia
Date 8 November 2000

Title Environmental Rehabilitation in NWFP and Punjab Programme (ERNP)
Speaker Mahmood Akhtar Cheema, Acting Director/Coordinator Training, Resources Unit ERNP, IUCN, Islamabad Office, Pakistan
Date 2 October 2000

Documents Published in 2000

Technical Publications

Manuals

Beekeeping Trainers' Resource Book "Mauri Palan Prashishkhak Srot Pustika" (in Nepali) - Aniruddha N. Shukla. MFS Manual

Manual on Contour Hedgerow Inter-cropping Technology (in Nepali) - Tang Ya. MFS Manual

The ITrain Collective: Web Site Creation Training Course (Instructor's Manual). ENP, ICOD Manual

The ITrain Collective: Web Site Creation Training Course (Student Manual). ENP, ICOD Manual

The ITrain Collective: Effective Internet Searching (Instructor's Manual). ENP, ICOD Manual

The ITrain Collective: Effective Internet Searching (Student Manual). ENP, ICOD Manual

The ITrain Collective: Mailing List Facilitation (Instructor's Manual). ENP, ICOD Manual

The ITrain Collective: Mailing List Facilitation (Student Manual). ENP, ICOD Manual

The ITrain Collective: Web Site Creation Training Course. ENP, ICOD Manual

The ITrain Collective: Building and Manipulating Graphics and Images. ENP, ICOD Manual

Pollination Management of Mountain Crops through Beekeeping: Trainers' Resource Book (in Nepali) - Uma Partap - translated by B. K. Gyawali. MFS Manual

Case Study Series

Land Policies, Land Management and Land Degradation in the Hindu Kush-Himalayas: India Study Report - T. N. Dhar. MFS Case Study Series No. 00/1

Land Policies, Land Management and Land Degradation in the Hindu Kush-Himalayas: Nepal Study Report – SEEPORT Consultancy (Socio-economic and Ethno-Political Research and Training Consultancy (P) Ltd. MFS Case Study Series No. 00/2

Land Policies, Land Management and Land Degradation in the Hindu Kush-Himalayas: China Study Report - Cai Yunlong, - Zhang Jian-ling, Zhu Xia. MFS Case Study Series No. 00/3

Proceedings and Workshop Report

Waters of Life: Perspectives of Water Harvesting in the Hindu Kush-Himalayas - Editors: Mahesh Banskota and Suresh Raj Chalise. MNR, Workshop Proceedings

Grassland Ecology and Management in Protected Areas of Nepal (Volume I: Action Summary) - Editors: C. Richard, J. P. Sah, K. Basnet, J. Karki, B. Subba, Y. Raut. MNR, Workshop Proceedings

Waters of Life: Perspectives of Water Harvesting in the Hindu Kush-Himalayas, Volume II - Editors: Mahesh Banskota and Suresh Raj Chalise. MNR, Workshop Proceedings

Grassland Ecology and Management in Protected Areas of Nepal (Volume II). Editors: C. Richard, K. Basnet, J. P. Sah, Y. Raut. MNR, Workshop Report

Grassland Ecology and Management in Protected Areas of Nepal (Volume III) Editors: C. Richard, K. Basnet, J. Prakash, Y. Raut. MNR, Workshop Report

Widening Horizons (Nepali). MNR, Workshop Report

The People and Resource Dynamics Project: The First Three Years (1996 to 1999) - Editors: Richard Allen, Hans Schreier, Sandra Brown, P. B. Shah. MNR, Workshop Proceedings

Women Entrepreneurs in Mountain Areas - Editor: T. S. Papola. MEI, Workshop Proceedings

Growth, Poverty Alleviation and Sustainable Resource Management in the Mountain Areas of South Asia: Papers and Proceedings of an International Conference - Editors: Mahesh Banskota, T. S. Papola, and Jurgen Richter. MEI, Papers and Proceedings

Contribution of Livestock to Mountain livelihoods: Research and Development Issues – Editors: Pradeep Tulachan, Mohamed Saleem, Juhani Maki-Hokkonen and Tej Partap. MFS, Proceedings

Special Editions

Participatory Forest Management: Implications for Policy and Human Resources' Development in the Hindu Kush-Himalayas, Volume III (Eastern Himalayas) - Editor: Anupam Bhatia
MEI, SE

Profiting from Sunshine - Passive Solar Building in the Mountains - Editors: N. K. Bansal and Kamal Rijal. MNR, SE

Kathmandu Valley GIS Database: Bridging the Data Gap - Basanta Shrestha, Sushil Pradhan. MENRIS, SE

Participatory Forest Management: Implications for Policy and Human Resources' Development in the Hindu Kush-Himalayas, Volume VI Pakistan - Editor: Anupam Bhatia. MNR, SE

Participatory Forest Management: Implications for Policy and Human Resources' Development in the HKH, Vol. IV India - Editor: Anupam Bhatia. MNR, SE

Policy in High Places: Environment and Development in the Himalayan Region - Piers M. Blaikie and Syed Zahir Sadeque. MFS, SE

General Publications

Annual Report 1999

Issues in Mountain Development Series

Poverty and Social Exclusion in the South Asian Highlands – S. Z. Sadeque. IMD 2000/1

Issues in Mountain Development 1996 to 1999: Collected Abstracts – ICOD. IMD 96-99

Development of Geo-Information Infrastructure: Issues in the Hindu Kush-Himalayas - Birendra Bajracharya. IMD 2000/2

Rangeland Policies in the Eastern Tibetan Plateau: Impact of China's Grassland Law on Pastoralism and the Landscape - Camille Richard. IMD 2000/4

Poverty Assessment, Poverty Reduction, and Sustainable Livelihoods: How Poverty Mapping, Institutional Analysis, and Participatory Governance Can Make a Difference – S. Z. Sadeque. IMD 2000/5

Newsletters/ Bulletins

Road to be or not to be in Mustang ? (in English). Mountain Voices (2000/1)

Road to be or not to be in Mustang ? (in Nepali). Mountain Voices (2000/1)

APMN Bulletin, Vol-5, No. 1, ICOD
APMN Bulletin, Vol-5, No. 2, ICOD

Local Water Harvesting in Mountain Areas. Newsletter 36

Livestock in Mixed Mountain Farming Systems. Newsletter 37

Rangeland Management and Livestock Feeding Strategies: Karakoram Region, Pakistan. Bulletin

Mountain Forum Bulletin, No. 5, MF, ICOD
Mountain Forum Bulletin, No. 6, MF, ICOD

Brochures

PARDYP Brochure, MNR
ICIMOD Brochure

Others

Waters of Life: Leaflet
Catalogue of Publications (1995-1999)

Additional Contributions

The multidisciplinary staff of ICIMOD present many papers at ICIMOD-sponsored conferences and workshops. These are documented in the reports of these workshops or in other ICIMOD publications. In addition, ICIMOD staff contribute to other journals and are invited to present papers at conferences for which ICIMOD does not have the primary responsibility. The papers in this category published/presented during 2000, are listed below.

Akhtar, S.; Gregson, J. **Internet technologies in the Himalayas: lessons learned during the 1990s. 2000.** 16p. Accepted for publication by the Journal of Information Science

Akhtar, S.; Malla, M. B.; Gregson, J. **Transparency, accountability and good governance: Role of new information and communication technologies and the mass media. 2000.** 15p. Accepted for publication by the International Journal of Media Management, Switzerland

Gregson, J.; Upadhaya, G. R. **Breathing the thin air of cyberspace: Global knowledge and the Nepal context. 2000.** 12p. Journal of Information Technology for Development, Holland

Gurung, J. D. **Women's management of mountain forests. 2000.** pp.112-117 Paper published in Price, M. F. and Butt, N., eds. Forests in sustainable mountain development: a state of knowledge report for 2000 - task force on forests in sustainable mountain development. Oxon: CABI Publishing

Jodha, N. S. **Policy challenges in mountain agriculture. 2000.** 12p. Paper published in Environment and agriculture: at the crossroad of the new millennium P. K. Jha, S. B. Karmacharya, S. R. Baral and P. Lacoul (eds.), pp. 104 - 105 Kathmandu, Ecological Society

Jodha, N. S. **Globalization and fragile mountains: policy challenges and choices. 2000.** 4p. Paper published in Mountain research and development, pp. 296-299. vol. 20, No. 4, 2000

Pandey, S. **Information and communication systems for sustainable mountain forestry: A brief guide to available mechanisms and resources. 2000.** 508-520p. Paper published in Price, M. F. and Butt, N., ed. Forests in sustainable mountain development: a state of knowledge report for 2000 - task force on forests in sustainable mountain development. pp. 508-520 Oxon, CABI Publishing, 2000

Papola, T. S. **Contradictions in development of Uttarakhand: Need for a region-specific and autonomous planning framework. 2000.** 11p. Paper published in Uttarakhand statehood: dimensions of development pp. 56-66. ed by M. C. Sati & S. P. Sati, New Delhi, Indus Pub Co 2000

Papola, T. S. **Micro-enterprises in mountain areas: Some experiences from the Hindu Kush-Himalayan region. 2000.** 20p. Paper prepared for Global Conference on Micro Enterprises to be held on 12-15 November 2000 at New Delhi, India

Rijal, K. **Energy from the Hindu Kush-Himalayan mountain forests.** pp.247-255. 2000 Paper published in Price, M. F. and Butt, N., ed. Forests in sustainable mountain development: a state of knowledge report for 2000 - task force on forests in sustainable mountain development. Oxon, CABI Publishing, 2000. pp. 247-255

Rijal, K. **Renewable energy technologies: Policy options for the Hindu Kush-Himalayan region. 2000.** 4p. Paper published in Renewable Energy newsletter, vol. 1, no. 2 2000, pp2-5

Rijal, K. **Participatory action research on community-based energy planning and management: a case example of Yarsha Khola watershed, Nepal. 2000.** 28p. Paper presented in Workshop on Off-Grid Renewable Energy Options in Himalayas, 17-19 November 2000, at Darjeeling, India

Sharma, P. **Environmental implications on mountain tourism, the Annapurna experience and the relevance of ecolabelling in Nepal. 2000.** 10p. Paper presented to the National Seminar on Green Hotels and Ecolabelling in Tourism Industry, May 11 2000, Kathmandu, Nepal

Sharma, P. **Mountain environment and tourism: The Nepal experience. 2000.** 22p. Paper presented to the International Symposium on Himalayan Environments: Mountain Sciences and Ecotourism/Biodiversity, November 24-26 2000, Kathmandu, Nepal

Sharma, P. **Regional economic and environmental development planning for the Bagmati zone: An exercise in interdisciplinary research. 2000.** 16p. Paper presented at the Workshop on Interdisciplinary Research on Development and Environment, June 29-31 2000, University of Oslo

Tang Ya. **Agroforestry in sustainable mountain development. 2000.** pp. 270-284 Paper published in Price, M. F. and Butt, N., ed. Forests in sustainable mountain development: a state of knowledge report for 2000 - task force on forests in sustainable mountain development. Oxon, CABI Publishing.

Richard, C.E. 2000. **The Potential for Rangeland Management in Yak Rearing Areas of the Tibetan Plateau.** Invited paper presented at the Third International Congress on Yak. Lhasa, September 4-9, 2000

Richard, C.E. 2000. **Rangeland Policies in the Eastern Tibetan Plateau: Impacts of China's Grassland Law on Pastoralism and the Landscape.** In Xu Jianchu (ed.) Links Between Culture and Biodiversity: Proceedings of the Cultures and Biodiversity Congress 2000. Kunming: Yunnan Science and Technology Press.

Richard, C.E. 2000. **Indigenous natural resource management in the highlands of the Himalayas: Integrated assessments for protected area design.** In: Watson, Alan E.; Aplet, Greg. 2000. Personal, Societal, and Ecological Values of Wilderness: Sixth World Wilderness Congress Symposium on Research, Management, and Allocation, Vol. II, Proc. RMRS-P-000. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station

Sial, S.A. **Making efficient use of harvested water for irrigation in Pakistan**. 2000. 8p. Paper published in Environment and agriculture: at the crossroad of the new millennium pp. 435-442. Edited by P. K. Jha, S. B. Karmacharya, S. R. Baral and P. Lacoul. Kathmandu, Ecological Society.

Chalise, S.R and Sial, S.A. **Water for mountain households in the Hindu Kush-Himalayas**. 2000. 9p. Paper published in Integrated water resources management for sustainable development. Vol. I. edited by R. Mehlotra, B. Soni, K.K.S. Bhatia. Roorkee, National Institute of Hydrology, 2000 pp. 602-610

Richard, C.E. 2000. **The Potential for Rangeland Management in Yak Rearing Areas of the Tibetan Plateau**. Invited paper presented at the Third International Congress on Yak. Lhasa, September 4-9, 2000

Richard, C.E. 2000. **Rangeland Policies in the Eastern Tibetan Plateau: Impacts of China's Grassland Law on Pastoralism and the Landscape**. In Xu Jianchu (ed.) Links Between Culture and Biodiversity: Proceedings of the Cultures and Biodiversity Congress 2000. Kunming: Yunnan Science and Technology Press

Richard, C.E. 2000. **Indigenous natural resource management in the highlands of the Himalayas: Integrated assessments for protected area design.** In: Watson, Alan E.; Aplet, Greg. 2000. Personal, Societal, and Ecological Values of Wilderness: Sixth World Wilderness Congress Symposium on Research, Management, and Allocation, Vol. II, Proc. RMRS-P-000. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station

Partap, U. and Verma, L.R. 2000. **Honey Plants.** In L.R. Verma (ed) Natural Resources and Development in Himalaya. New Delhi: Malhotra Publishing House. Pp 386-401.

Partap, U. and Partap, T. 2000. **Pollination of Apples in China.** In Beekeeping and Development 54: 6-7.

Partap, U., Partap, T. and He Yongua 2000. **Pollination Failure in Apple Crop and Farmers Management Strategies in Hengduan Mountains, China.** Paper presented in the Eighth International Pollination Symposium Organised by International Commission of Bee-Plant Relationships and International Society for Horticulture Science. Mosonmagyarovar, Hungary; July 10-14, 2000 (Abstract published; p 47)

Partap, U. and Partap, T. 2000. **Farmers' Strategies to Manage Declining Crop Productivity of Apples due to Pollination Failures.** Paper Presented in Seventh International Bee Research Association / Fifth Asian Apicultural Association Conference held in Chiang Mai, Thailand. March 19-26, 2000. (Abstract No. S6-3)

Partap, U., Partap, T. and He Yonghua 2000. **Himalayan Farmers Feel the Need to Manage Crop Pollination: An Example of Hand Pollination of Apples in Maoxian County China.** Paper Presented in Seventh International Bee Research Association / Fifth Asian Apicultural Association Conference held in Chiang Mai, Thailand. March 19-26, 2000. (Abstract No. S6-4)

Building Together: The First ICIMOD Advance

Under the new leadership of Dr. J. Gabriel Campbell and Dr. Binayak Bhadra, ICIMOD commenced a series of 'ICIMOD Advances' on 10 May 2000 to chart out a concrete course of action towards building a more effective institution. About 60 ICIMOD staff gathered in the hills of Godavari - of ICIMOD's new training centre. Facilitated by Mr. Ravi Pradhan and Mr. Anil Chitrakar, the group reflected over a three-day period on many aspects of taking ICIMOD forward.

On the third day, the group was joined by all other staff for the final presentation, sharing, and tree plantation. A one-day follow-up programme for those who could not attend the first group Advance and a further one-day programme in Nepali for auxiliary staff was organised on 5 and 6 July respectively. The participants at the one-day programme had a more condensed programme and the results from this were incorporated into the action plans.

The entire proceedings can be found in a report and steps have already been taken to implement and/or analyse the suggested action plans.

The Launch

The main part of the launch was a session of appreciative inquiry into personal best or personal achievements. First, the entire group worked in pairs by meeting and introducing their partners and discovering their personal best and future aspirations. The groups then identified collective patterns in the personal best stories.

Second, they met in smaller groups to inquire into the best achievements of ICIMOD, the key turning points, and the factors and practices that helped create these achievements. Each group presented the results of their appreciative inquiry in a 'marketplace' format, where people walked around to share, learn, and engage in dialogue.

Looking Forward

Small groups examined ICIMOD from the perspectives of key stakeholder groups such as governments, NGO, donors, mountain people, and partners/researchers. What did these groups value about ICIMOD, and what are they seeking from ICIMOD (as seen through the eyes of the staff)? The results were presented and discussed in the plenary. See box text for highlights.

The same groups engaged in a process to envision the future for ICIMOD by focusing on the following ideas:

HIGHLIGHTS OF STAKEHOLDER VALUES/WISHES

- Platform for the voice of mountain people
- Knowledge bank/Source of innovations
- Forum for debating and planning mountain development
- Capacity building/training
- Respond to specific needs and problems
- Advocate particular policy positions
- Active input into ICIMOD planning
- More attention to social issues affecting mountain communities
- Results to be disseminated using local languages/medium

- the kind of institution ICIMOD will have become by 2015;
- the kind of programmes and activities it is doing or will have done; and
- the kind of impact and difference it will have made in the mountain region.

The groups imagined that the BBC was doing a story on a very successful ICIMOD in the year 2015 and wrote/drew/sketched their presentations. These results were also presented in a 'marketplace'. A plenary session was then devoted to a short discussion in which participants tried to identify the critical factors for success in the future in terms of programme management, internal work processes, and organisational culture.

Critical Programme and Process Areas

This part of the Advance was dedicated to discussing and reflecting on the critical programme and process areas for ICIMOD. The exercise assessed current reality, i.e., what is working well and what is not working well, and also what must be addressed in the coming 12 months.

This was followed by discussion on changes and improvements that were needed in the next 12 months as well as ways to move forward. The degree of consensus was evaluated for each of the seven areas identified: gender, communication/ information, reaching the poor, fund raising and cost recovery, collaborations/ planning/ monitoring, administrative processes, and personnel. There was an overall consensus to move ahead with speed on most of these themes.

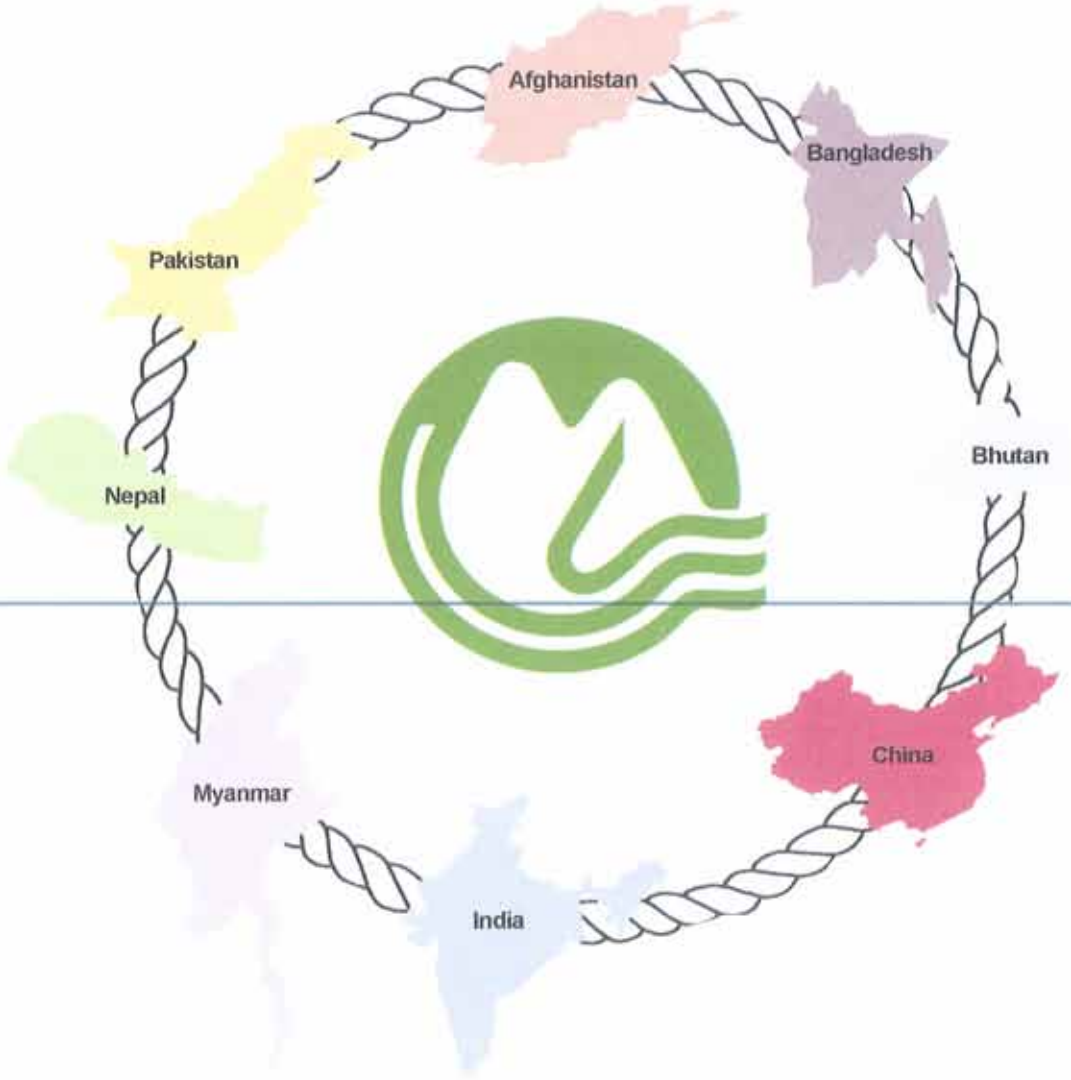
Action Plans/Next Steps

Each functional group identified five things that could be done to improve the quality and effectiveness of their team work as well as inter-departmental cooperation within ICIMOD. The remainder of the time was dedicated to action planning and determining the next steps by specifying who, what, and by when.

Several working committees have been established as a follow up to the action plans that were recommended to look into aspects such as

- communications/information/knowledge;
- reaching the poor; gender and organisational development;
- cost recovery, savings, and budgeting including funding from the private sector; planning and programme monitoring; and
- collaboration and database monitoring.

Collaboration with Member Countries



Collaborating Institutions in 2000

Afghanistan

Currently inactive

Bangladesh

- Bangladesh Agricultural Research Institute
- Bangladesh Rice Research Institute
- Centre for Development Research Bangladesh
- Chittagong Hill Tracts Development Board, Rangamati
- Chittagong University
- Department of Environment
- Green Hills' NGO, Chittagong
- Hill Development Forum
- Local Government Engineering Department, Dhaka
- **Ministry of Chittagong Hill Tracts Affairs**
- Ministry of Planning
- Management Consultant Group
- University of Dhaka

Bhutan

- Bhutan Chamber of Commerce and Industry, Thimphu
- Bhutan Development Finance Corporation
- Crop/Livestock Services Division, Thimphu
- Department of Mines and Geology
- Entrepreneurship Promotion Centre
- Geological Survey of Bhutan
- **Ministry of Agriculture, Thimphu**
- Ministry of Trade, Industry and Power, Thimphu
- National Jersey Breeding Centre
- Natural Resources Training Institute, Lobeysa
- National Women's Association of Bhutan
- National Environment Commission
- Planning and Policy Division, Thimphu
- Renewable Natural Resources' Research Centre
- Research, Extension and Irrigation Division, Thimphu
- Royal Institute of Management, Thimphu
- Tourism Development Board

China

- **Agricultural Research Institute of Tibet**
- Chengdu Institute for Mountain Hazards and Environment, Chengdu, Sichuan
- Chengdu Institute of Biology, Chengdu, Sichuan
- **Chinese Academy of Sciences, Beijing**
- Haibei Alpine Meadow Ecosystem Research Station
- Kunming Institute of Botany, Kunming, Yunnan
- Ningnan County Government
- Northwest Plateau Institute of Biology, Xining, Qinghai
- People's University of China
- Qinghai Academy of Animal and Veterinary Sciences, Xinning, Qinghai
- State Key Lab of Arid Agroecology, Lanzhou, Gansu
- Tibet Academy of Social Sciences
- Tibet Academy of Agriculture and Animal Husbandry Sciences, Lhasa, Tibet
- Tibet College of Agriculture and Animal Husbandry
- Tibet University
- Yangtze Water Resources' Commission, Wuhan
- Southwest Forestry College, Kunming

India

- Council for Advancement of People's Action and Rural Technology
- Centre for Himalayan Development and Policy Studies
- GB Pant Institute for Himalayan Environment and Development, Almora
- Himachal Pradesh University, Shimla
- Indian Council for Agricultural Research, New Delhi
- Institute for Himalayan Bio-Resources Technology
- Jawahar Lal Nehru University
- Ladakh Hill Development Council, Leh

- Ladakh Ecological Development Group
- Ladakh Environment and Health Organization
- **Ministry of Environment & Forests**
- North East Network
- Nagaland Environment Protection and Economic Development Project
- North Eastern Hill University
- National Centre for Agricultural Economics and Policy Research
- Peoples Association for Himalayan Areas Research
- Rural Technology
- Uttar Pradesh Academy of Administration, Nainital
- Uttarankhand Paryavaran Shiksha Kendra
- Sardar Patel Institute of Economic & Social Research
- Shree Bhubaneswori Mahila Ashram
- YS Parmar University of Horticulture and Forestry, Solan

Myanmar

- Forest Department, Yangon
- Institute of Agriculture, Yezin
- Institute of Forestry, Yezin

Nepal

- Annapurna Beekeeping and Environment Promotion Energy Systems
- Centre for Resource and Environmental Studies, Kathmandu
- Centre for Rural Technology, Kathmandu
- Federation of Nepalese Chamber of Commerce and Industries
- Department of Forest, Kathmandu
- Department of Hydrology and Meteorology, Kathmandu
- Department of Soil Conservation, Kathmandu
- Department of Agriculture
- Himalayan Grassroots Women's Natural Resource Management Association, Lalitpur
- Institute for Integrated Development Studies
- Kathmandu University
- King Mahendra Trust for Nature Conservation, Kathmandu
- **Ministry of Population and Environment, Kathmandu**
- National Planning Commission, Kathmandu
- Nepal Agricultural Research Council, Lalitpur
- Nepal Internet User Group, Kathmandu
- Nepalese Society for Systematic Collection, Kathmandu
- PANOS South Asia
- Rural Women's Development and Unity Centre
- Surya Social Service Society, Jumla
- Tribhuvan University, Kathmandu

Pakistan

- Aga Khan Rural Support Programme, Gilgit
- Commission for Science and Technology for the South, Gilgit
- Development Research Group
- Honey Bee Research Institute
- Khush Hali Associates, Quetta
- **Ministry of Agriculture, Islamabad**
- National Arid-land Development and Research Institute, Islamabad
- National Rural Support Programme
- NWFP Agricultural University, Peshawar
- Pakistan Agricultural Research Council, Islamabad
- Pakistan Forestry Institute, Peshawar
- Pakistan Institute of Development Economics, Islamabad
- Pakistan Academy of Rural Development
- Rangeland Research Institute
- Sarhad Rural Development Support Programme
- Sustainable Development Policy Institute
- Worldwide Fund for Nature Conservation, Pakistan
- UNDP Area Development Programme
- Honey Bee Research Institute, Islamabad

Research and Demonstration Sites

Technologies for and approaches to sustainable mountain development that are of interest to people and partner institutions in the HKH are being tested and demonstrated at certain sites in ICIMOD's Regional Member Countries. Research is also being carried out on some of these sites. A list of the projects being implemented in the field is given below and the relevant numbers indicated in parentheses along with the location of the site.

1. The Eastern Himalayan Programme for Collaboration on Biodiversity Management - documentation of indigenous knowledge, buffer zone management, village development, and training of local farmers to support conservation
2. Appropriate Technology for Soil Conserving Farming Systems' Project - monitoring the effect of nitrogen-fixing hedgerows on soil fertility improvement and screening technologies for water harvesting and soil conservation
3. People and Resource Dynamics in Mountain Watersheds' Project - generating and exchanging information on water as a resource; improving the productivity and sustainable management of common property resources, and using participatory on-farm research methods
4. Regional Rangeland Programme - experimenting in techniques for rehabilitation of degraded rangeland ecosystems and improving the productivity of rangeland ecosystems; and promoting forage trials and experiments
5. Beekeeping: Selection and Management of *Apis cerana*

Bangladesh

- Alutila, Khagrachari District,Chittagong Hill Tracts, 20 ha, 600 masl (2)

Bhutan

- King Jingme Dorje National Park (4)

China

- Zixishan Nature Reserve and Hongqiong Administrative Village,Chuxiong District, Yunnan Province, 67 sq. km, 800 - 2,200 masl (1)
- Tanguanyao, Peisha Town, Ningnan County, Sichuan Province, 8 ha, 1,100-1,200 masl (2)
- Masangping, Lutie Township, Ningnan County, Sichuan Province, 10 ha, 1,400-1,500 masl (2)
- Xi Zhuang Watershed, Baoshan County, Yunnan Province, 3,456 ha, 1,700 - 3,075 masl (3)
- Haibei County, Qinghai/Dari County, Qinghai /Maqu County, Gansu/Hongyuan County, Sichuan/Zhongdian County, Yunnan/Changtang, Tibet Autonomous Region (4)
- Eastern Bee Research Institute, Kunming, China (5)

India

- Chimmi, Papum Pare District, Arunachal Pradesh, 5 ha, 400 - 550 masl (2)
- Suongjang, Mokokchung District, Nagaland, approx. 7 ha 340 - 370 masl (2),
- Bheta Gad - Garur Ganga Watershed, Almora District, UP, 8,481 ha, 1,090 - 2,520 masl (3)
- Changtang, Eastern Ladakh (4)
- Dr YS Parmar University of Horticulture and Forestry, H. P. India (5)

Nepal

- Godawari Test & Demonstration Site, Lalitpur, 30 ha, 1,550 - 1,900 masl (2)
- Paireni, Mugling, Chitwan District, 3.5 ha, 288 - 360 masl (2)
- Langtang National Park & the Syabru Besi Village, Rasuwa District, 1,710 sq. km. (of Langtang National Park), 1,600 - 2,400 masl (1)
- Jikhu Khola Watershed, Kabhre Palanchowk District, 11,141 ha, 800 - 2,200 masl (3)
- Yarsha Khola Watershed, Dolakha District, 5,338 ha , 1,000 - 3,030 masl (3)
- Upper Mustang (4)
- Bohara Gaun, Jumla Bazar , and Chere Chaur in Jumla (5)
- Alital VDC and Samaji Village, Dadeldhura (5)
- Gham Tara Village, Ghachowk, Kaski (5)
- Bee Development Section (BDS), HMG, Godawari (5)
- Dadhikot - Bhaktapur, Thecho - Lalitpur, Thankot (5)

Myanmar

- Piduang Wildlife Sanctuary, Kachin State, 170.017 acres, 80 masl (1)

Pakistan

- Maira, Begowal, Islamabad, 2.5 ha, 600 masl (2)
- Pari, (Quaid-I-Azam University campus), Islamabad, 3 ha, 575 masl (2)
- Hilkot Sharkul Watershed, District, NWFP, 5,230 ha, 1,450 - 2,900 masl (3)
- Northern Balochistan Province Gilgit, Northern Areas (4)
- Honeybee Research Institute, Islamabad, Pakistan (5)

Ongoing Projects - 2000

With the adoption of the Regional Collaborative Programme (RCP- II), ICIMOD has shifted its emphasis from a project mode to a programme mode, and most of its focus has been encompassed by the RCP. However, a number of special projects supported by specific donors are still continuing. These are listed below by title, duration, donor, and participating countries.

Appropriate Technologies for Soil Conserving Farming Systems (Phase II)
(May 1998 - May 2001) *Asian Development Bank*, Bangladesh, China, India, Nepal, and Pakistan

Coordination and Convenorship of the Mountain Forum
(January 1998 - December 2000) *Swiss Agency for Development and Cooperation*

GLOF Monitoring and Early Warning System
(June 2000 - June 2001) *United Nations Environment Programme*, Bhutan, India, and Nepal

GMP: Investigating Issues and Options for Improving Livelihoods of Marginal Mountain Farmers
(July 1999 - June 2002) *Australian Centre for International Agricultural Research*, Bhutan, India, Nepal, and Pakistan

Indigenous Honeybees in the Himalayas: A Community-based Approach to Conserving Biodiversity and Increasing Farm Productivity
(January 1999 - December 2002) *Austroprojekt (Austria)*, Bhutan, China, India, Nepal, and Pakistan

Internet Technologies in Central Asia
(January 2000 - June 2001) *Swiss Agency for Development and Co-operation*

Methodologies for Assessing Sustainable Agricultural Systems in the HKH Region
(February 1999 - February 2002) *International Service for National Agricultural Research (Netherlands)*, Bangladesh, China, India, and Nepal

PAR on Equity and Poverty in Community Forestry
(May 2000 - April 2002) *Swiss Agency for Development and Cooperation*

Participatory Disaster Management Programme in Nepal
(July 2000 - June 2003) *Japan Government through UNDP*

People and Resource Dynamics in Mountain Watersheds of the HKH
3.25 years (October 1999 - December 2002)
Swiss Agency for Development and Cooperation and International Development Research Centre (Canada), China, India, Nepal, and Pakistan

Pilot Project for Providing Internet Services in Northern Areas of Pakistan
(January 1999 - December 2000) *International Development Research Centre (Canada)*, Pakistan

Policies, Governance, Participation and Practices for the Sustainable Management of Mountain Commons of the HKH
(May 1999 - April 2002) *The Ford Foundation*, Bangladesh, Bhutan, India, and Nepal

Regional Collaboration for Biodiversity Management in the Eastern Himalayas
(January 1998 - December 2000) *The MacArthur Foundation*, China, Myanmar and Nepal

Regional Rangeland Programme in the HKH Region
January 1999 - December 2001) *The Austrian Government*, Bhutan, China, India, Nepal, and Pakistan

Rapid Globalisation Process and Fragile Mountains
(July 2000 - June 2001), *MacArthur Foundation*

Securing Livelihoods in Uplands and Mountains of the HKH
(September 2000 - September 2004), *International Fund for Agricultural Development*

The Asia Pacific Mountain Network (Phase II)
3 years(May 1999 - April 2002), *Swiss Agency for Development and Cooperation*

Water Quality Assessment in Jhikhu Khola, Nepal
(March 2000 - February 2001), *Australian Agency for International Development*

Women's Entrepreneurship Activities in Bhutan
(May 2000 - April 2001), *Australian Agency for International Development*

Regional Flow Regimes Estimation for Small-scale Hydropower Assessment (REFRESHA)
April 1998 - June 2001, *Centre for Ecology and Hydrology - Wallingford, UK / DFID*, Nepal

Hindu-Kush Himalayan Flow Regimes from International Experimental and Network Data (HKH-FRIEND) Project
(1996 - 2003) *UNESCO/IHP, ICIMOD, WMO, German IHP/OHP National Committee, Centre for Ecology and Hydrology - Wallingford, UK / DFID*. Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, Pakistan

Analysis and Promotion of Sustainable Water Harvesting Technologies and Management Systems in Hindu Kush Himalayas (Phase I)
(July 1997 - March 1999) *Ford Foundation*. Bhutan, China, India, Nepal, Pakistan

Small Holer Dairy Farming in Mixed Mountain Farming Systems in the HKH
(1999 - 2001) *International Livestock Research Institute*, Bhutan, India, Nepal

Livestock Resource Database in the Hindu Kush-Himalayan Region
1999 - 2001) *International Livestock Research Institute*, Bhutan, China, India, Nepal

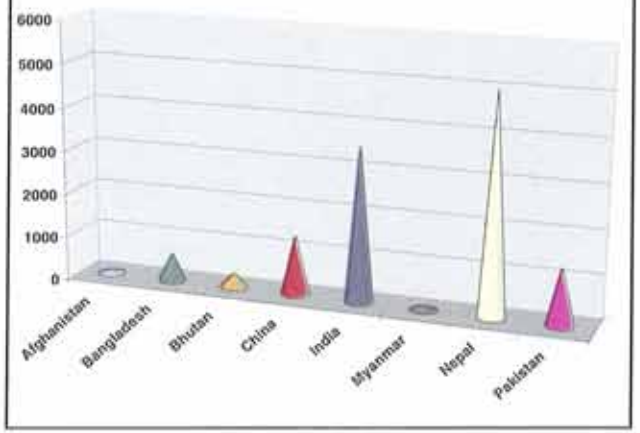
Local Livestock Resource Planning in the HKH
(2000 - 2002) FAO (Rome), India, Nepal

Implementation of the Male Declaration on Control and Prevention of Air pollution and its Likely Transboundary Effects on South Asia.
1999 - 2001 (Phase 1), *United Nations Environment Programme and the Stockholm Environment Institute*, Nepal

Strengthening Environment Assessment and Monitoring Capabilities in Nepal - State of the Environment Report.
(1999 - 2002) *United Nations Environment Programme, South Asia Cooperative Environment Programme, and the Norwegian Agency for Cooperation and Development*, Nepal

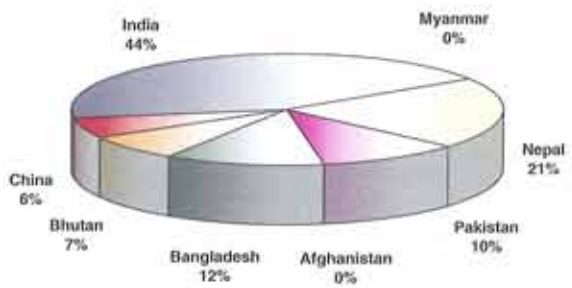
Statistical Profile of HKH Country Participation

Number of Documents in the Library as of 2000



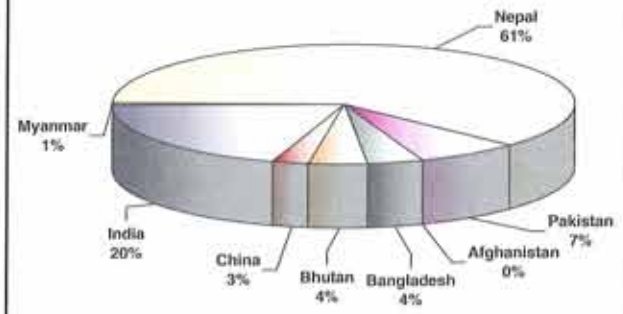
Country	No
Afghanistan	53
Bangladesh	635
Bhutan	341
China	1,362
India	3,544
Myanmar	97
Nepal	5,025
Pakistan	1,298

Publications' Exchange Programmes as of 2000



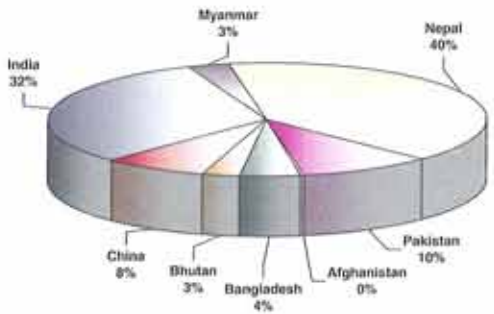
Country	No
Afghanistan	0
Bangladesh	8
Bhutan	5
China	4
India	29
Myanmar	0
Nepal	14
Pakistan	7

Publications' Distributed in 2000



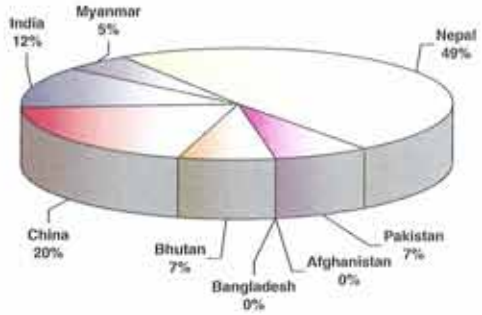
Country	No
Afghanistan	4
Bangladesh	234
Bhutan	237
China	159
India	1179
Myanmar	47
Nepal	3665
Pakistan	429

Mailing List as of December 2000



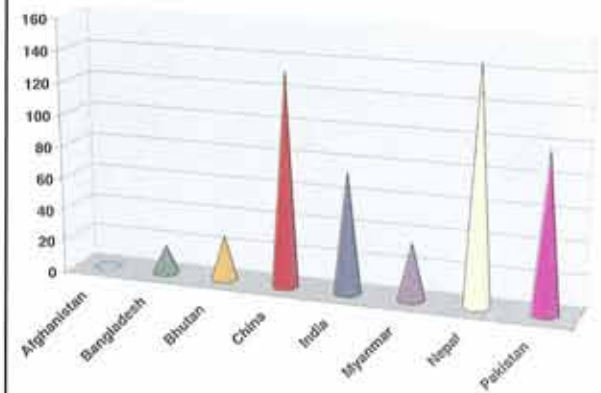
Country	No
Afghanistan	7
Bangladesh	147
Bhutan	101
China	254
India	1061
Myanmar	96
Nepal	1347
Pakistan	326

Number of Workshops and Training Courses Held in 2000



Country	No
Afghanistan	0
Bangladesh	0
Bhutan	3
China	8
India	5
Myanmar	2
Nepal	20
Pakistan	3

Number of Participants in Workshops and Training Courses in 2000



Country	No
Afghanistan	0
Bangladesh	0
Bhutan	17
China	28
India	133
Myanmar	35
Nepal	146
Pakistan	98

ICIMOD Board of Governors

As of the Twenty-eighth Board Meeting, November 2000

Regional Board Members

Dasho Sangay Thinley
CHAIRMAN
Secretary
Ministry of Agriculture, Bhutan

Mr. Mahfuzul Islam
Secretary
Ministry of Chittagong Hill Tracts' Affairs
Bangladesh

Afghanistan
Currently Vacant

Prof. Sun Honglie
Academician, The Chinese
Academy of Sciences
China

Mr. Vishwanath Anand
Secretary, Ministry of
Environment and Forests, India

U. Shwe Kyaw
Deputy Director General
Forest Department, Myanmar

Dr. Govinda Raj Bhatta
Secretary
Ministry of Population and Environment
Nepal

Dr. Zafar Altaf
Secretary
Ministry of Food and Agriculture
Islamabad, Pakistan

Independent Board Members

Dr. Hans Gsaenger
VICE CHAIRMAN
German Development Institute
Berlin, Germany

Mr. Jan Willem F. Cools
First Secretary
Forests and Environment
Royal Netherlands' Embassy
Manila, The Philippines

Dr. Karin Inmann
Salzberg, Austria

Prof. Shunji Murai
Institute of Industrial Science
University of Tokyo
Japan

Prof Zhao Qiquo
Institute of Soil Sciences,
Chinese Academy of Sciences
Nanjing, China

Mr. R. Rajamani
Hyderabad, India

Dr. Anne Whyte
Mestor Associates
Ontario, Canada

Dr. J. Gabriel Campbell
(Ex-officio Member)
Director General
ICIMOD

Staff Members of ICIMOD

As of 31st December 2000

DIRECTORATE
Dr. J. Gabriel Campbell, Director General
Dr. Binayak P. Bhadra, Director of Programmes
Mr. Milan Raj Tuladhar, Head, Administration & Finance
Support Staff: Ms. Tika Laxmi Gurung, Ms. Anjali Shrestha, Ms. Prerna Thapa, Mr. Man Bahadur Katwal

INSTITUTIONAL STRENGTHENING UNIT
Mr. Prem Krishna Manandhar, Programme Officer

MOUNTAIN FARMING SYSTEMS DIVISION (MFS)
Dr. Tej Partap, Division Head / Agroecologist
Ms. Jeannette Denholm Gurung, Gender Specialist
Dr. Pradeep Man Tulachan, Farm Economist
Dr. Tang Ya, Agroforestry/Soil Conservation Specialist
Mr. Arjen Rotmans, Associate Prof. Officer (FAO seconded)
Mr. Suraj Bahadur Thapa, Farm Manager/Horticulturist, Godavari
Dr. Farooq Ahmad, Project Coordinator, Beekeeping Project
Dr. (Mrs.) Uma Partap, Research Officer, Beekeeping
Dr. Surendra Raj Joshi, Action Research Officer, Beekeeping
Mr. Min Bahadur Gurung, Institutional Development Officer, Beekeeping
Support Staff: Ms. Sami Joshi, Ms. Neetu Ghale, Ms. Beryl Rajbhandari, Mr. Anirudha Nath Shukla, Ms. Shova Bhandari

MOUNTAIN NATURAL RESOURCES DIVISION (MNR)
Prof. Chen Guang Wei, Division Head/Natural Resources' Specialist
Prof. Suresh Raj Chalise, Water Resources' Specialist
Mr. Anupam Bhatia, Common Property Resource Mngt. Specialist
Ms. Camille Richard, Rangeland Management Specialist
Mr. Roger White, Regional Programme Coordinator (PARDYP)
Mr. Yogendra Raut, Research Assistant, Rangeland Mngt.
Prof. Li Tianchi, Hazard Mitigation Specialist
Mr. Saleem Akhtar Sial, Assistant Coordinator, Water Harvesting
Mr. Pravakar Bickram Shah,Country Coordinator/PARDYP
Mr. Gopal Nakarmi, Geomorphologist, PARDYP
Mr. Bhubaneswor Shrestha, GIS Specialist, PARDYP
Ms. Megh Ranjani Rai, Sociologist & Gender Specialist, PARDYP
Support Staff: Ms. Reeta Rana, Ms. Sarita Joshi, Mr. Govinda Shrestha, Ms. Archana Shrestha, Research Associate
Mr. Pradeep Man Dangol, Mr. Madhav Prasad Dhakal, Mr. Bhawani Shankar Dangol, Ms. Bandana Prajapati, Mr. Bal Gopal Shrestha, Mr. Giri Bahadur Shrestha, Ms. Samma Shakya (PARDYP)

MOUNTAIN ENTERPRISES & INFRASTRUCTURE DIVISION (MEI)
Dr. Trilok. S. Papola, Division Head / Marketing Economist
Dr. Narpat Singh Jodha, Policy Analyst
Dr. Pitamber Sharma, Regional Planner
Dr. Kamal Rijal, Energy Specialist
Dr. Syed Zahir Sadeque, Social Scientist
Ms. Phuntshok Chhoden Tshering, Gender Specialist
Ms. Atsuko Toda, Assistant Coordinator, IFAD-ICIMOD Project
Support Staff: Mr. Rajendra Shah, Ms. Samjhana Thapa

MOUNTAIN ENVIRONMENT & NATURAL RESOURCES INFORMATION SYSTEMS (MENRIS)
Mr. Pramod Pradhan, Head MENRIS/GIS Specialist
Mr. Basanta Shrestha, Systems' Specialist
Mr. Peter Bitter, Remote Sensing Specialist
Mr. Pradeep P. Mool, Remote Sensing Analyst
Mr. Sushil Man Pradhan, GIS Analyst
Mr. Sushil Panday, Systems' Officer
Mr. Birendra Bajracharya, GIS Analyst
Ms. Lila Devkota _ Assistant Data Analyst, Mr. Ashish Karmacharya - Multimedia Programmer, Mr. Kiran Shakya - Multimedia Programmer, Mr. Sudip Pradhan Statistician, Dr. Bandana Kayastha - SEAMCAP Officer, Ms. Bidya Banmali - Male Declaration Implementation Officer, Mr. Samjwal Bajracharya - GIS/RS Analyst & Geomorphologist, Mr. Sharad Prasad Joshi - GIS Data Analyst
Support Staff: Mr. Saisab Pradhan, Mr. Govinda Joshi, Mr. Anirudra Man Shrestha, Ms. Monica Moktan, Mr. Rajesh Thapa, Meghna Shrestha, Mr. Mohan Man Banepali

INFORMATION, COMMUNICATION & OUTREACH DIVISION (ICOD)
Mr. Shahid Akhtar, Head, ICOD/Information & Communication Specialist
Ms. Greta Rana, Senior Editor
Dr. Anne Beatrice Murray Shrestha - Editor (Part time)
Ms. Archana Singh Karki, Communications' Officer
Mr. Raj Bahadur Shrestha, Librarian
Ms. Nira Gurung-Burathoki, Distribution Officer
Ms. Sangeeta Pandey, Documentation Officer
Mr. Ujol Sherchan, Asia Pacific Mountain Network Project
Mr. Mahesh Bahadur Malla, National ITC Policy and Strategy Policy Project
Mr. Deependra Tandukar & Mr. Mahesh Kumar Malla, Capacity Building in Internet Technologies in Central Asia Project
Support Staff: Mr. Asha Kaji Thaku, Ms. Shanti Prabha Bajracharya, Mr. Ram Sharan Thapa, Mr. Dharma Maharjan, Mr. Sushil Man Joshi, Ms. Punam Pradhan, Mr. Bishwanath (Sudas) Sharma, Ms. Anju Rana, Mr. Shiva Hari Khatri

MOUNTAIN FORUM SECRETARIAT
Mr. Alejandro Camino, Executive Secretary
Ms. C. P. Jayalakshmi, Assistant Coordinator

ADMINISTRATION & FINANCE
Budget & Finance Section
Mr. Rajendra Prakash Mali, Mr. Kiran Man Shrestha, Ms. Prabha Raj Shrestha, Mr. Nabindra Raj Shrestha, Ms. Pramila Shrestha
Store Unit
Ms. Jenny Vaidya, Mr. Rabindra Ranjit
Personnel Section
Mr. Chandra Bir Singh Kansakar, Personnel Officer
Ms. Shree Mani Amatya, Ms. Nani Keshari Bajracharya
Communications' Unit
Ms. Sharda Gurung, Ms. Geeta Pant, Mr. Pashupati Sadasankar, Mr. Akil Nepal
Staff Canteen Unit
Mr. Gujeswori B. Pradhan, Mr. Prakash Nepal, Mr. Kumar Thapa, Mr. Sukra Tamang, Mr. Pramod Aryal, Mrs. Chanchal Rajak
Photocopy Cell
Mr. Shyam Shrestha, Mr. Ganga Rana
Security and Maintenance Unit
Mr. Jeet Bahadur Rai, Mr. Prem Dhoj Malla, Mr. Krishna Tamang, Mr. Sher Bahadur Gurung, Mr. Ram Bahadur K. C., Mr. Ram Singh Rai, Mr. Birkha Jirel, Mr. Kishore Maharjan, Mr. Babukaji Thapa, Mr. Mohan Bhuju, Mr. Hari Govinda Maharjan, Mr. Shambhu Thapa
Procurement and Equipment Maintenance Section
Mr. Niranjan Khanal, Mr. Narendra Bajracharya
Travel & Hospitality Section
Mr. Rajen Upreti, Travel Officer
Mr. Rishi Ram K. C., Ms. Prativa Chhetri, Mr. Manoj Rajak, Ms. Sheela (Kausheela) Lama
Motorpool Unit
Mr. Mohan Krishna Shrestha, Mr. Kishore Shrestha, Mr. Ram Lal Maharjan, Mr. Bishnu Magar, Mr. Krishna Maharjan, Mr. Pancha Narayan Maharjan, Mr. Jai Bahadur Subedi, Mr. Sabak Singh, Mr. Dhurba K. C., Mr. Sudama K. C., Mr. Chinikaji Maharjan, Mr. Ram Maharjan

New Faces at the Centre: From Them to You

J. Gabriel Campbell, Director General (March 2000)

" It gives me great pleasure to greet you from ICIMOD as the new Director General. The opportunities to make use of ICIMOD's unique mission and comparative advantages are great as well as humbling. We are a regional knowledge institution. We can and must work across national and disciplinary boundaries to share research results, application skills, and tools for information management. We can make sure that these shared solutions translate into real policy advice and real grass roots' results. We must ensure that we respect the diversity of ecological, administrative, and cultural conditions in which we need to adapt solutions to our own mountain problems. We have to listen carefully to our mountain clients, build on their knowledge and innovations, and continue our own learning so that we can continue to offer them our best assessments - combining their knowledge with scientific advances across the world. We will strive to communicate these solutions in languages that are readily understood; and this means using our regional languages for grass roots' transmission and coming up with clear policy options for state and national decision-makers.

I am confident that, with the help of all our partners, we can move to a better mountain world that nurtures both mountain people and our downstream neighbours."

Binayak Bhadra, Director of Programmes (April 2000)

"As a professional involved in the Himalayan mountain development process for the last few decades, I feel honoured to be able to serve the Hindu Kush-Himalayan region once again through ICIMOD.

Mountain people do not simply eke out an existence. The environment in which they live challenges them regularly and they have to respond creatively. Through their ingenuity and creativity, mountain people have given us many things: maize, potatoes, yaks, to name but a few; and they have also provided us spirituality through their diverse cultures.

ICIMOD, as a regional knowledge centre, cannot stand by and watch events pass by the mountain communities. It will take the initiatives needed to bring mountain people together so that regional collaborations and partnerships can be fostered to enhance the contributions of the mountain areas, and will ensure that mountain communities are well accounted for in the decisions made by downstream and other areas of the world.

Mountains can show the world that it cares and vise-versa."

Atsuko Toda, Assistant Coordinator for IFAD Project (November 2000)

"I am working in a partnership programme between ICIMOD and the International Fund for Agricultural Development (IFAD). It is challenging to link ongoing IFAD projects implemented in the field with ICIMOD but I have realised how much we have to learn from each other. The IFAD projects provide ICIMOD with a chance to work with people and find out their needs and get feedback, and ICIMOD gives the projects an opportunity to absorb and upscale experiences and innovations found throughout the region. My whole heart is in making this partnership work."

Roger White, Regional Project Coordinator, PARDYP (November 2000)

"Sharing experiences of watershed management problems and solutions from different countries can be rewarding and valuable. If we are to be effective, networking is essential for testing and learning more about natural resource management practices. I have found working as Regional Coordinator for the People and Resource Dynamics Project (PARDYP) gives me the great opportunity to visit farmers in different countries and to see how they have developed interventions to deal with natural resource management problems. Some things work in some places and not in others but the exciting aspect of this work is being able to act as an intermediary explaining how other farmers have overcome the same problems. It is very rewarding - and challenging.

The recent debate and interest in climate change has clearly shown the need for long-term detailed information on climate - particularly hydrometeorology and its impact on natural resource management. The painstaking work carried out by all the PARDYP partners over the five years will be of great value in this regard."

Chakra Budhathoki, Database Operator, Eco-regional Project (November 2000)

"The eco-regional project at ICIMOD in collaboration with International Service for National Agricultural Research (ISNAR) aims to develop methodologies for assessing mountain agricultural systems in the HKH region to facilitate agricultural planning and development. As a core activity of the project, initiative has been taken to develop a regional agricultural systems database using relational and interactive database design by combining tools of GIS and database software. My responsibilities include compilation, management and application of the database dealing with various data-types to account agricultural systems of the region. With my previous experience as a Research Agronomist as well as a Lecturer of Biometrics, I have found the present work to be interesting, challenging and rewarding, which has also provided an opportunity to learn new skills. ICIMOD is a centre of excellence, which provides a fascinating working environment to people from different disciplines and socio-cultural background."

Alehandro Camino, Executive Secretary of the Mountain Forum Secretariat, (October 2000)

"Working in launching a global initiative linked to the natural and cultural world of mountains from Kathmandu is a most exciting challenge. The Mountain Forum Secretariat, hosted at ICIMOD and coordinating with five regional electronic communication nodes from an equal number of continents is a most innovative construction for the mountain societies of the future. In a globalised planet, mountain people and organisations from around the world seem to be constructing the first virtual community of peoples with parallel experiences, potentials, and problems. ICIMOD offers a most valuable home for this unique development. MF is a membership driven organisation, with members from over a hundred countries. In my case, a native of the Andes, this challenge in Nepal also becomes a most enriching personal and professional experience."

Nyima Tashi, Researcher, Mountain Agricultural Systems, Eco-regional Fund Project (December 2000)

"The Hindu-Kush Himalayan region is a unique ecoregion on our earth. ICIMOD has advanced an Ecoregional Approach and endeavoured to develop tools and methodologies for assessing complex, diverse and unique agricultural systems in the region under an ecoregional framework, by which it can promote priority setting and ecoregional benchmarks for searching cost-effective measures for disseminating information, knowledge, principles, and technologies in the entire HKH region. This is what I have been working on and it is very challenging and interesting. As I was professionally trained by ICIMOD through a fellowship provided for Tibetans, it has been encouraging working at ICIMOD, particularly on the Ecoregional Fund Project, which is focusing on developing tools and a 'toolbox' for assessing agricultural systems and assisting agricultural development and planning in the HKH region."

ICIMOD Income and Expenditure Accounts, 1991-2000

The financial management of the Centre is implemented through the establishment of Core Funds and Project Funds. All unrestricted contributions made by sponsors and member countries are credited to the Core Programme Funds. All restricted contributions, made by sponsors, governments, and non-government sources for specific projects, are credited to Project Funds.

Income and Expenditure Account
Core Programme Funds
In US Dollars

SOURCE OF FUND	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
A. Regional	**140,540**	**108,404**	**98,572**	**86,640**	**83,525**	**134,265**	**98,333**	**111,011**	**90,597**	**115,667**
01. Bangladesh	--	10,000	10,000	9,905	10,000	--	10,000	9,670	1,000	9,710
02. Bhutan	3,873	--	--	--	--	2,870	5,000	5,000	5,000	7,500
03. China	14,836	20,000	20,000	20,000	20,000	20,000	30,000	30,000	30,000	30,000
04. India	92,958	46,479	39,184	--	34,532	79,861	44,522	37,870	37,427	44,889
05. Myanmar	--	--	--	20,000	10,000	10,000	--	10,000	--	10,000
06. Nepal	11,737	11,737	10,204	20,408	8,993	9,023	8,811	7,601	7,396	13,568
07. Pakistan	17,136	20,188	19,184	16,327	--	12,511	--	10,870	9,774	--
B. Non-Regional	**1,031,789**	**1,207,205**	**1,161,966**	**1,140,698**	**1,522,843**	**2,344,680**	**2,267,440**	**2,538,437**	**2,478,183**	**2,354,315**
08. Austria	222,000	222,965	215,827	229,620	234,336	259,272	--	217,675	108,837	88,821
09. Denmark	--	--	--	--	200,000	200,000	300,000	300,000	--	--
10. Finland	--	--	--	--	--	--	157,285	157,285	133,554	133,554
11. Germany	555,212	635,040	596,939	561,878	728,507	780,264	651,742	682,379	648,078	568,336
12. Netherlands	--	--	--	--	--	605,144	487,600	515,350	471,700	513,943
13. Norway	--	--	--	--	--	--	--	--	450,837	394,047
14. Sweden	--	--	--	--	--	--	170,813	165,748	165,177	155,614
15. Switzerland	254,577	349,200	349,200	349,200	360,000	500,000	500,000	500,000	500,000	500,000
C. Other Income	**158,052**	**214,539**	**137,446**	**309,060**	**232,946**	**269,328**	**346,277**	**346,739**	**377,691**	**215,741**
Total Core	**1,330,381**	**1,530,148**	**1,397,984**	**1,536,398**	**1,839,314**	**2,748,273**	**2,712,050**	**2,996,187**	**2,946,471**	**2,685,723**
Projects Income	**1,143,764**	**1,362,357**	**1,886,886**	**1,745,057**	**1,995,749**	**2,433,696**	**2,623,893**	**2,095,088**	**3,011,391**	**2,367,552**
GRAND TOTAL	**2,474,145**	**2,892,505**	**3,284,870**	**3,281,455**	**3,835,063**	**5,181,969**	**5,335,943**	**5,091,275**	**5,957,862**	**5,053,275**

EXPENDITURES	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Programme Cost	462,839	523,959	615,910	624,197	711,922	1,982,734	1,880,088	1,851,917	1,908,356	1,670,389
Projects Cost	1,291,438	1,043,221	1,285,857	1,758,173	2,062,290	1,863,210	2,875,476	2,581,775	2,440,590	2,513,433
Support Cost	305,214	424,965	418,729	408,786	439,674	562,708	611,501	627,543	617,522	613,343
Directorate Cost	260,565	521,813	415,412	410,427	334,436	454,255	415,843	382,067	445,591	472,263
Total Expenditures	**2,320,056**	**2,513,958**	**2,735,908**	**3,201,583**	**3,548,322**	**4,862,907**	**5,782,908**	**5,443,302**	**5,412,059**	**5,269,428**

International Centre for Integrated Mountain Development

Income and Expenditure Account

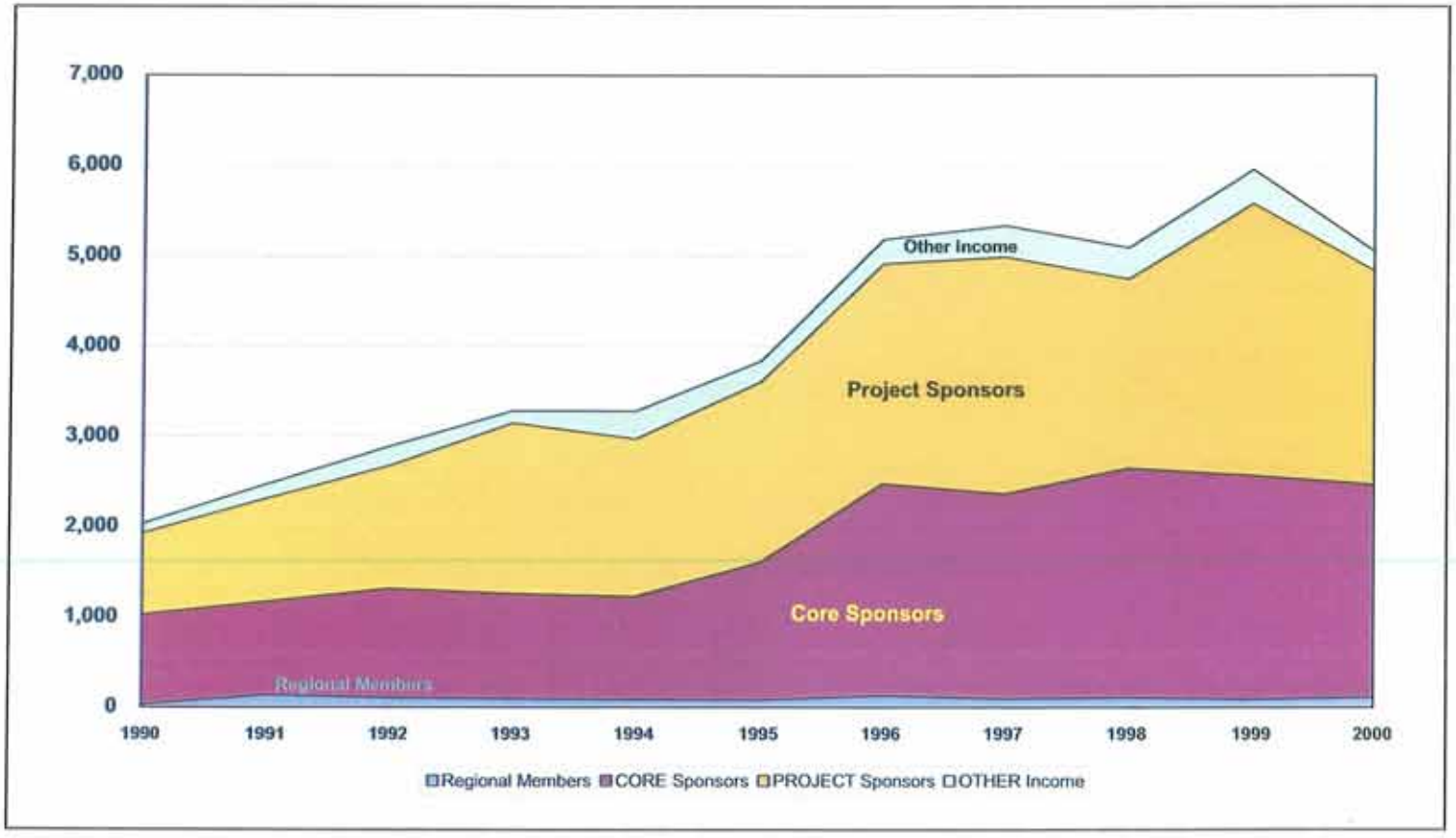
Project Funds

In US Dollars

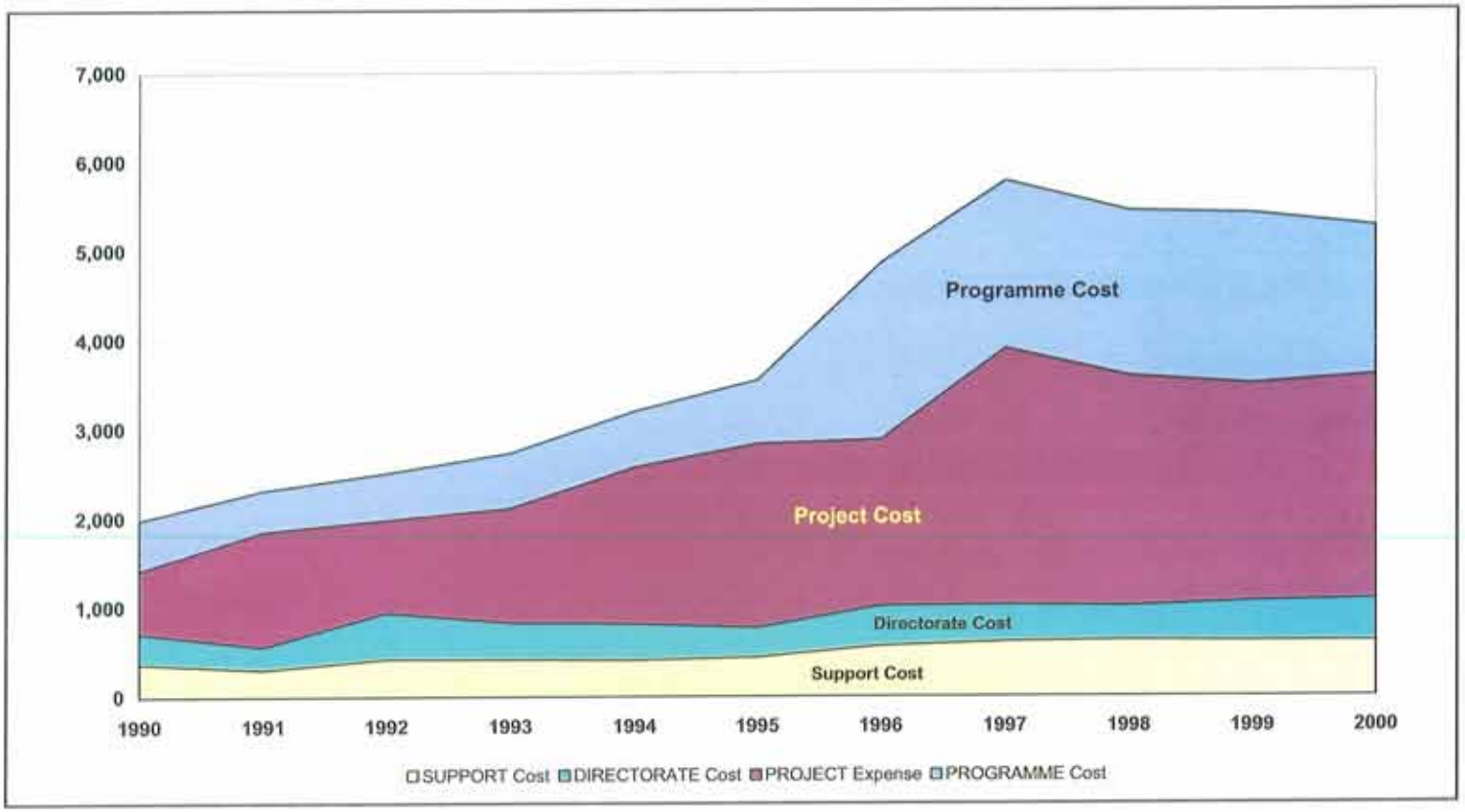
SOURCE OF FUND	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
01. Australia	-	-	-	-	-	88,000	175,610	-	95,941	127,818
02. Austria	-	-	71,386	125,658	-	151,584	100,000	170,000	388,722	341,518
03. Canada	-	-	-	-	-	-	68,165	3,760	-	-
04. Germany	59,725	6,052	118,098	214,334	210,342	15,000	-	-	-	-
05. Japan	-	-	100,000	-	100,000	100,000	100,000	100,000	-	-
06. Netherlands	-	313,262	-	454,241	633,862	437,470	558,000	305,424	428,134	202,266
07. Norway	-	-	450,749	114,808	181,762	281,264	140,449	146,637	-	-
08. Sweden	-	-	-	-	-	-	-	-	50,000	-
09. Switzerland	109,281	27,726	65,000	50,000	122,235	454,214	342,616	561,704	450,000	472,701
10. USA	22,961	49,156	69,571	26,664	5,988	13,298	1,702	30,000	-	44,850
11. ADB	682,554	428,188	453,000	315,000	-	282,992	84,008	200,000	160,990	110,000
12. CEC	--	64,768	-	-	192,645	92,976	339,318	70,412	-	-
13. CIP	-	-	-	-	-	-	-	-	100,000	-
14. FAO	8,856	5,000	-	20,550	10,000	17,000	15,000	29,000	21,900	22,000
15. ILRI	-	-	-	-	-	-	-	-	63,000	26,000
16. ISNAR	-	-	-	-	-	-	-	-	100,000	50,000
17. UNEP	-	-	113,000	126,250	212,250	97,520	10,000	27,617	179,063	161,737
18. UNESCO	2,519	7,000	-	-	27,033	66,480	118,087	51,000	39,000	-
19. WWF	-	-	-	-	-	-	-	-	28,500	1,500
20. IFAD	-	-	-	-	-	-	-	-	-	250,000
21. FORD	153,382	167,000	215,000	39,600	225,000	200,000	275,000	175,000	380,000	300,000
22. IDRC	69,001	179,722	122,544	176,935	40,632	105,898	214,765	132,336	374,447	93,874
23. MacArthur	-	65,000	85,000	36,000	24,000	30,000	60,000	35,000	30,000	100,000
24. Others	35,485	49,483	23,538	45,017	10,000	-	21,173	57,198	121,694	63,288
TOTAL	1,143,764	1,362,357	1,886,886	1,745,057	1,995,749	2,433,696	2,623,893	2,095,088	3,011,391	2,367,552

EXPENDITURES	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total Expenditure	1,291,438	1,043,221	1,285,857	1,758,173	2,062,290	1,863,210	2,875,476	2,581,775	2,440,590	2,513,433

Consolidated Annual Income
(In US $ '000)



Consolidated Annual Expenditure
(In US $ '000)



B 3/1, Gillander House
Netaji Subhas Road
Calcutta-700 001
PO Box 2238

Telephone : 220 9001/2/3/4/5
221 0285/6
Telecopier : (33) 2202420

Price Waterhouse

Auditors' Report to the Board of Governors of
International Centre for Integrated Mountain Development

1. We have examined the accompanying financial statements of the International Centre for Integrated Mountain Development comprising Statement of Assets, Liabilities and Fund Balances as of 31st December, 2000 and Operating Statement for the year ended on that date, which have been signed by us under reference to this report and which are in agreement with the books of account of the Centre. We have obtained all the information and explanations which we required for the purpose of this audit.

2. Our examination was made in accordance with Generally Accepted Auditing Standards, and accordingly, included such tests of accounting records and such other auditing procedures as we considered necessary in the circumstances.

3. The aforesaid financial statements have been prepared on the basis of accounting policies described in Schedule 10 to the financial statements. On such basis, in our opinion, the financial statements give a true and fair view of state of affairs of the Centre as at 31st December, 2000 and the results of its operation for the year ended on that date.

Price Waterhouse

CHARTERED ACCOUNTANTS

Kathmandu
26th February, 2001

For a full version of the audit report complete with Schedules, Accounting Policies and Notes on Financial Statements, please contact ICIMOD at: milan@icimod.org.np.

Established in 1983, ICIMOD aims to promote sustainable development in the Hindu Kush-Himalayan Range of Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan through the identification, testing, and exchange of mountain knowledge. With a multidisclipinary staff of over 40 professionals, ICIMOD is a focal point for documentation and information, training and applied research, and demonstration on a wide range of issues that the governments and peoples of this 3,500 km mountain range face. Most activities are carried out by or through over 120 collaborating institutions and organisations in its member countries. ICIMOD provides for regional perspectives and exchange of information and experiences along with access to knowledge on mountain subjects. Additional information can be obtained from:

ICIMOD, P. O. Box 3226
Kathmandu, Nepal

Tel. (977-1)-525313
Fax. (977-1)-524509
(977-1)-536747
www.icimod.org
email: icimod@icimod.org.np

Participating countries of the Hindu Kush-Hamalayan Region

Afghanistan
Bangladesh
Bhutan
China
India
Myanmar
Nepal
Pakistan

International Centre for Integrated Mountain Development
4/80 Jawalakhel, G.P.O Box 3226
Kathmandu, Nepal

Tel; (977-1) 525313
Fax: (977-1) 524509, 536747
e-mail: icimod@icimod.org.np
www.icimod.org