

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.

With a multidisciplinary staff of 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 3,500km mountain range face.

Most activities are carried out by or through collaborating institutions and organizations in its member countries, with ICIMOD providing for a regional perspective and exchange of information and experiences. Additional information can be obtained from:

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Annual Report 1998

**.....towards improved livelihoods through
the sustainable management of natural resources
in the Hindu Kush-Himalayas**

International Centre for Integrated Mountain Development
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Director General's Overview



Nineteen ninety-eight was a special year for ICIMOD as the **First Regional Collaborative Programme for the Sustainable Development of the Hindu Kush-Himalayas (RCP-I)** was successfully completed and the Board approved **Mountains 2000 and Beyond: The**

Second Regional Collaborative Programme for the Sustainable Development of the Hindu Kush-Himalayas (RCP-II). Together these two documents/ programmes cover a period of eight years. Looking back over the past four years, I feel proud and grateful that ICIMOD and its partner organizations have been able to achieve much of what we aimed for on 1st January 1995, when we started this most ambitious approach to implementing our mandate with the active support of more than 20 donor organizations. Looking four years ahead, I am confident that the implementation of RCP-II will be even more responsive to the felt needs of institutions, individuals, and the population at large of the largest and most populous mountain range in the world.

Highlights of the achievements during RCP-I have been published in **Partnerships in Sustainable Mountain Development** which has been distributed to all addresses on our mailing list. In addition, a detailed final report is available on request. The current 'Annual Report - 1998' is not as detailed as the earlier ones in terms of thematic coverage because it is complementary to the above-mentioned reports.

In 1998, ICIMOD increased its presence and influence throughout the Hindu Kush-Himalayan (HKH) Region and beyond. At the global level, this is reflected by ICIMOD taking on the convenorship of the Secretariat of the Mountain Forum (1998 to 1999). During October, the importance of this position was augmented by the decision of the UN

General Assembly to declare 2002 the International Year of the Mountains. With generous support from the SDC, ICIMOD is able to play an important role in preparing the international mountain community for this important event. The Centre also continued to build up the Asia Pacific Mountain Network - the regional component of the Mountain Forum. In Central Asia, ICIMOD facilitated and supported organization of a conference on *Strategic Considerations in the Development of Central Asia*, held in Urumqi, China, in September 1998. In Kathmandu, ICIMOD co-hosted the *Fourth International Conference of the Asian Apiculture Association* which took place in March 1998. Participants came from all over Asia and beyond.

The main focus of ICIMOD's core programme and project activities remained, however, its concern for the well being of the 140 million inhabitants of the HKH and their environment. Many analytical studies, workshops, seminars, and other capacity-building events were undertaken and documentation and information were shared with nearly 4,000 institutions and individuals in the Centre's Regional Member Countries. Identifying the key intermediary institutions that can reach out to the grass roots remains a continuing challenge for the Centre, but there is increasing evidence that we are moving in the right direction. For example, many countries have adopted the mountain perspective framework as a basic starting point for policies and planning for mountain development, and the services of ICIMOD staff are sought increasingly by HKH institutions. An important development over the last few years, but particularly in 1998, has been the emergence of strong mountain-based and mountain-focussed institutions that organize conferences, workshops, and training events in the HKH and for which ICIMOD staff provide professional inputs as resource persons.

In June 1998, on the occasion of 15 years of support by the Governments of Germany and Switzerland to ICIMOD, a conference on 'Mountains 2000 and Beyond' was held in Wildbad-Kreuth, Germany, with a follow-up study tour to Switzerland. The conference was opened by H.E. Carl-Dieter Spranger, Federal Minister for Economic Cooperation and Development of

Prof. Liu Dongsheng, former ICIMOD Board Member, and the Director General at Hebei Alpine Meadows Research Station, Qinghai Province, China.

Germany. It brought together ICIMOD's Board Members, ICIMOD staff, scientists from Europe and North America, and representatives of donor organizations. The meeting provided a unique opportunity for reflecting on the bigger issues of sustainable mountain development, in general, and on ICIMOD's role, in particular. It was also the first time that RCP-II was discussed by a wider audience of European and North American scientists, who expressed a keen interest in being more closely associated with ICIMOD's work.

Some Programmatic Highlights

- The **Participatory Natural Resources' Management Programme** successfully organized a number of meetings that initiated/strengthened ongoing discussions and institutional mechanisms for improved management of common property resources. A regional workshop, held in Kunming, China, emphasised the importance of policies and human resource development for participatory forest management, and a regional workshop, held in Kathmandu, added a new dimension to the PNRM programme by introducing a process of linking governance and natural resource management in the HKH.
- The **Ethnobotany Project**, which was highly successful in developing methodologies and skills in studying ethnobotany among a large group of young scientists from research institutions and NGOs, was rounded up in 1998. Fifteen case studies were carried out in different countries on community-based conservation and plant resource management (medicinal plants, non-timber forest products, agroforestry, home gardens, etc). Workshops-cum-training courses were held in five countries. Ethnobotany was introduced as a subject for higher education in China, Nepal, and India; and the Ethnobotanical Society of Nepal was established, following a national training course.
- The project on **'Integrated Training in Mountain Risk Engineering'** was completed successfully. In addition to the training of trainers in three key institutions and of practitioners in MRE, one important outcome of this project was the adoption of MRE as a post-graduate diploma course by Tribhuvan University, Nepal. The Project contributed to designing the curriculum for the course.
- Three regional training courses on **GIS applications** for three important aspects of sustainable mountain development, i.e., i) landslide hazard mapping, ii) natural resource assessment, monitoring, and management, and iii) agroecological zonation and land-use planning, were successfully implemented.

- In the context of introducing **Electronic Networking** in the HKH, one highlight was the facilitation and launching of NepalNet on 15 September 1998. A network of 30 organizations in Nepal contribute to NepalNet and have their own home page within NepalNet.
- A training programme on **'Tourism for Local Community Development'** was designed and implemented. Three training manuals (for policy planners, programme designers and implementors, and local community groups and organizations) were prepared and published.
- Under the **Mini- and Micro-Hydropower Project**, which ended in 1998, ICIMOD worked at various levels to generate support for MMHP, e.g., at the planning and policy level through interaction with government and international agencies; at the implementation level through improving the capabilities of implementing agencies; and at the field level through training programmes, training materials, and other publications and networking.
- Under the **People and Resource Dynamics' Project**, ICIMOD has further consolidated research in five-medium scale watersheds in four of its regional member countries. The long-term objective is to generate data in support of identifying management options to reduce the socioeconomic pressure on both natural and human resources in these watersheds.
- Through **field testing, desk studies, and workshops**, the Centre has been engaged in assessing numerous technologies that can contribute to improved land-use systems, in particular in the agricultural sector. In some cases, e.g., soil conserving farm technologies, training courses and extension programmes have also been conducted. A complete list of the documents published in 1998 can be found in Chapter Three and a list of all Workshops, Seminars, and Training Courses is provided in the report of each Division. Research and Demonstration sites as of 1998 are provided in Chapter Four which gives a statistical profile of ICIMOD's collaboration with its Regional Member Countries.

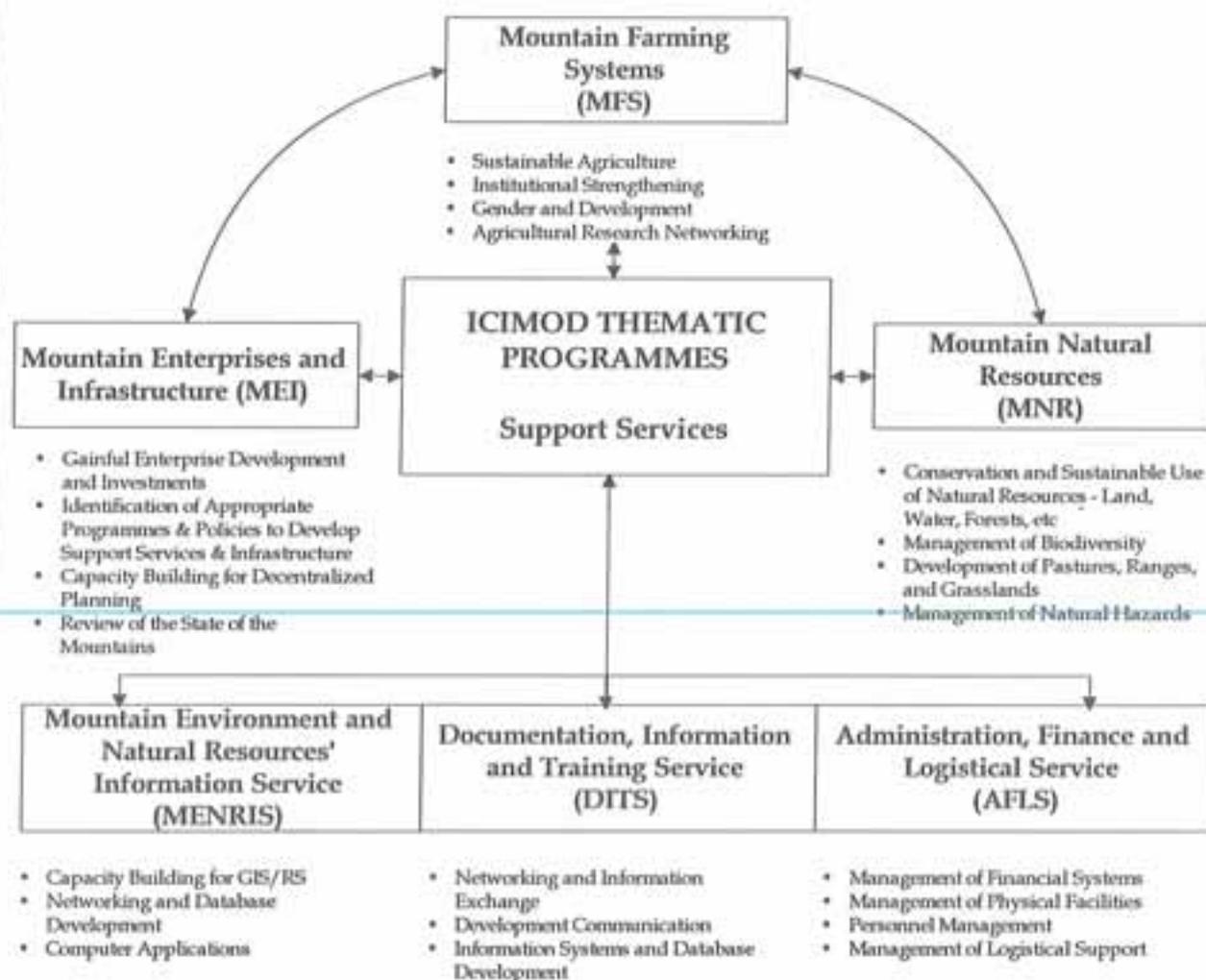
I very much hope that the present Annual Report will lead to a better understanding of ICIMOD's mandate and the scope of its work and will promote closer interaction with institutions and individuals engaged in sustainable development of ICIMOD's ecoregion - the HKH.

Egbert Pelinck
 Director General

Programme Framework and Priorities

As an international centre with a geographic focus and mandate in integrated mountain development, ICIMOD faces the challenge of balancing specialisation with diversification in its programme activities. This balance is important for determining the types of priority as well as their number. With adoption of the Regional Collaborative Programme, and taking into account the overall context of an integrated approach towards sustainable mountain development, three thematic programmes have been established.

ICIMOD also has three strategic supporting programmes to promote information exchange, carry out communication and networking, and provide administrative support.



Programme Activities

Within the overall framework of the 'Regional Collaborative Programme (RCP) for the Sustainable Development of the Hindu Kush-Himalayas' considerable progress took place in the implementation of the three main thematic programmes: Mountain Farming Systems, Mountain Natural Resources, and Mountain Enterprises and Infrastructure.

The activities were wide ranging in scope and covered all ICIMOD's mandatory activities, i.e., documentation and information exchange, research, training, and advisory services. With a rapid increase in the number of individual activities being undertaken under the RCP, it is no longer possible to report on each of them. The following section describes, in brief, the highlights of the past year that reflect the diverse nature of the problems ICIMOD tries to address and the responses undertaken or recommended.

Mountain Farming Systems

The Mountain Farming Systems Division (MFS) mainly focusses on farm households and their privately-owned land. Particular emphasis is given to increasing the productivity of marginal farmlands, improved technologies, and gender.



Sustainable development of mountain agriculture is a major concern of the governments of the Hindu Kush-Himalayas. Experiences from different HKH countries provide a rich mix of alternative approaches, technologies, and policies. The main challenges in sustainable agriculture are to make modern technology and practices environmentally-friendly and traditional practices and technology economically productive.

ICIMOD's work on this front has moved into a crucial phase of demonstrating the effective use of potential options identified by past work and in institutional capacity building. The accomplishments in 1998 in the context of promoting appropriate technologies, integrating gender concerns, institutional strengthening, capacity building, building databases, and forming alliances are reported briefly below.

Towards Improved Mountain Agricultural Technologies

At the various testing and demonstration sites for **Appropriate Technologies for Soil Conserving Farming Systems (ATSCFS)**, several member countries on data collection on soil water and nutrient management (SWNM) continued. Hedgerows and low-cost water harvesting technologies were maintained and alternative crop options were tried in the alleys. Modifications have been made at the site in Ningnan, China, by incorporating mulberry plants in the hedges so that farmers can harvest these for sericulture. Other technologies, such as plastic film technology, beekeeping, bio-engineering control of gullies, and compost making with effective micro-organisms (EM), were also tried out at these demonstration sites. The approval of the second phase of the ATSCFS

project for another three years by the ADB in May ensured the continuation of these activities. Subsequently, a three-day annual meeting of the country coordinators was held from May 25-27 to review and evaluate the accomplishments of the past three years and to carry out programme planning for the next three years. It was agreed that emphasis will be given to data collection of on-farm research; extension of the technologies to farmers' lands; and training of relevant GOs and NGOs. Work started on two new testing and demonstration facilities, one in Arunachal Pradesh, India, and another near Islamabad, Pakistan. Training programmes were organized in China and Nepal for government agricultural extension staff, NGOs, and farmers from localities close to pilot testing and demonstration sites. In total, 132 persons (both male and female) participated in these training courses. Many farmers in Ningnan County, China, have started using contour hedgerow technology on their own farms.

In **Beekeeping**, the main event of the year was the hosting of the international conference of the Asian Apiculture Association (see box) in March.

A series of training activities was organized in Jumla, Bhaktapur, and Dodeledhura (all in Nepal) to strengthen the institutional capacities of local institutions in the application of modern beekeeping methods with *Apis cerana* as a household enterprise. Research studies were commissioned on crop pollination problems and farmers' management strategies, particularly in the case of apple crops in Himachal Pradesh, India, and in Maoxian County, China.

A Document on **Appropriate Farm Technologies** for the cold and dry zones of the Hindu Kush-Himalayan region was completed and published during the year. The document is a compilation of promising indigenous as well as introduced but successfully tested technologies in the fields of conservation and harnessing of water, land and soil management, enhancement of crop production, and agro-enterprise technologies. The publication also includes a special section on pro-women technologies.

Towards A Better Understanding of Agricultural Systems

Establishment of a **database** on mountain agricultural systems continued. This year special efforts were made to add data on livestock and related systems in the HKH region. A field study-cum-review was carried out to improve understanding about mixed crop-livestock farming in sustaining livelihoods in the high pressure mid-hill areas of Nepal and India.

Several key issues affecting **land use** were selected for applied research. It is hoped the research will lead to a better understanding of their potentials and limitations in the context of contributing to the sustainability of mountain agriculture. The research included work on land policies, land management, and land degradation. A workshop was organized to share the perspective and framework of the study, which was later used in the study areas in respective countries by the country teams. A final workshop to share findings and revise draft reports was held in November (see box). An extensive field study was carried out in Nepal to identify the dynamics of population pressure and land degradation at the household and local levels.

The International Board for Soil Research and Management (IBSRAM) together with a team of

The **Fourth International Conference of the Asian Apicultural Association (AAA)**, jointly organized by AAA and ICIMOD and sponsored by the Ministry of Agriculture, HMG/ Nepal, was held from 23-27 March in Kathmandu. The objectives of the conference were to exchange scientific information on Asian bees, highlight beekeeping practices and science that are unique to Asia, help define the importance of bee products in Asia (including marketing aspects and strategy), and determine the importance of beekeeping to a diversified environment. The themes covered aspects such as biology of Asian bees, beekeeping development and extension programmes, beekeeping with *Apis mellifera*, beekeeping management and economics, bee products and marketing, diseases and pests of bees, melliferous flora and pollination, and agroforestry and the environment.

The programme included two workshops on pests and diseases of bees and beekeeping extension, held on 23 and 24 March respectively. An exhibition was also organized from 25-27 March. Both the exhibition and the conference were opened by Dr. Prakash Chandra Lohani, Minister of Agriculture, HMG/Nepal.

The participants, numbering over 150 and, coming from 24 countries of Asia, Europe, and Australasia, presented about 100 papers and posters. Several resolutions were passed at the end of the conference.

Two Planning Workshops on the Beekeeping Project entitled '**Indigenous Honeybees in the Himalayas: A Community-based Approach to Biodiversity and Productivity**' were organized jointly by ICIMOD and Austroprojekt from November 21 - 25 at ICIMOD. The main objectives of these workshops were to discuss and finalise the Project Document developed by the Project Formulation Mission during October 1998. Resource persons and a facilitator were invited from the U. K., The Netherlands, and India. The MFS Division Head and the Beekeeping Project Staff also attended the workshop.

The Regional Workshop delineated the activities and their implementation in different countries of the HKH region. A total of 12 participants, which included experts from India, Pakistan, and Nepal, attended the Regional Workshop. China was represented by Dr. Tang Ya of ICIMOD. Bhutan sent a letter indicating its interest in the different research activities of the project. The National Workshop discussed the action research activities to be carried out at different field sites in Nepal. A total of 16 participants, including resource persons, the facilitator, the project staff, and representatives from different field sites and from the Government of Nepal attended the Workshop. The project proposal was finalised and has been submitted to the Government of Austria.

professionals from MFS carried out research to refine the generic model of the IBSRAM-designed **decision support system for sustainable land management** in order to make it applicable to mountain conditions. It is an interactive, 'what if' model useful for planning projects on hill agricultural development and for use by local-level planners. The outcome of the work is being processed by IBSRAM as a joint publication with ICIMOD.

ICIMOD co-sponsored the **International Symposium on Sustainable Agriculture in Hilly Areas** in Palampur, India, organized by the Himachal Pradesh Agriculture University. The symposium provided a forum in which over 300 participants shared research findings and experiences on various aspects of hill agriculture, primarily sustainability and research needs. It was realised that a vast amount of knowledge had already been generated but had suffered from lack of dissemination. The participants resolved to work on this front first and foremost by organizing more frequent meetings to share information.

The Final Workshop of the Project **'Land Policies, Land Management, and Land Degradation in the HKH Region'**, being undertaken by ICIMOD, under the aegis of the Global Mountain Initiative (GMI), was held from 3-4 November in Kathmandu. The project is carrying out studies on subjects related to the overall theme of the project, namely, agriculture, forestry, land tenure, and protected areas.

Participants included researchers carrying out studies in Bangladesh, Bhutan, China, India (North east and North West), Nepal, and Pakistan, ICIMOD staff, and the Chief Project Advisor, Prof. Piers Blaikie of the University of East Anglia, U.K. The workshop discussed the draft reports of the studies and finalised the outline of the final report which will include an overview of the trends and conclusions as well as the revised versions of the country studies.

The first meeting of the Indian Council of Agricultural Research (ICAR) and ICIMOD Steering Committee and a brain storming session on **Mountain Agriculture and Resource Management** took place in Dehradun from 30 Nov. to 1 Dec. The meeting drew up a workplan for joint programme activities to be implemented in the Indian Himalayas in 1999. It is planned to jointly organize a Regional Experts' Workshop on Apple Farming.

Gender and Organizational Development Training for Sustainable Mountain Land Use. Beginning in 1997, ICIMOD has been imparting training on the above to build up a critical number of trained women and men in key positions within selected partner institutions in the HKH region and at the Centre itself. This training package is part of a wider project for 'Capacity Building for Incorporating Gender into Sustainable Development Policies, Strategies, and Programmes in the HKH Region'.

The course attempts to ensure gender-balanced development and, in particular, to create opportunities for women to participate in and benefit from decision-making on policies and technologies for sustainable mountain development, with particular emphasis on incorporating gender concerns into the work of the Centre and that of partner institutions. The second training programme was again conducted in two parts, the first in September and the second in December. This year there were altogether nineteen participants, among whom five were from ICIMOD.

The role of Draught Animal Power in Mountain Agriculture is one of the less understood factors determining sustainability of mountain agriculture. It is the basic source of

renewable energy so vital to the sustainability of mountain agriculture. A Senior Research Fellowship on this subject was completed and the results published during the year. The paper includes an overview of the issues and of an in-depth field study carried out in the densely-populated Central Himalayas of India.

Women in Mountain Farming

The second round of training in **Gender in Organizational Development and Sustainable Land Use** (see box) was organized for twenty persons from fourteen partner organizations in the HKH countries and ICIMOD. To date, 36 people have been trained. Follow-up visits were made to eight of our partner organizations in China, India, Nepal, Myanmar, and Pakistan. During each visit, ICIMOD staff made presentations on gender and mountain development to staff of the organizations. They also met with senior personnel of departments and ministries. Significant progress by partners was noted in each organization visited. Further visits to Bangladesh, Bhutan, and institutions in Nepal were undertaken later in the year. Continued support to the Mountain Women's Development Centre in the YS Parmar University of Horticulture and Forestry in Himachal Pradesh, India, enabled the production of publications on gender dimensions of extension work, farmers' decision-making, *Mahila Mandals*, and the University itself.

With the support of ICIMOD, an NGO of Women Professionals was established in Nepal - the Association of Women Professionals in Land Use Sectors (WPLUS). ICIMOD facilitated a General Meeting in September.

Strengthening Agricultural Development Organizations

As a follow-up to the recommendations of the regional consultation on mountain agricultural research and education, a meeting of the Vice Chancellors of Hill Universities located in the Indian Himalayas was held in October through the joint sponsorship of Himachal Agriculture University, the Indian Council of Agricultural Research, and ICIMOD. The participants discussed the formation of a network and forum to undertake a joint initiative on mountain/hill agricultural research and education.

The institutional capacity building activities in Tibet carried out jointly with the Tibet Academy

for Agriculture and Animal Sciences (TAAAS), included translation of literature related to agricultural technologies into the local language and organizing the annual discussion forum - Dialogue 5/98 on Food Security Perspectives in Tibet.

GIS-based information was generated for agro-ecological zoning and land use in the HKH region, thus strengthening the database for agricultural research. It was used also as training material in two training programmes organized by MENRIS, one on land use and the other on mountain agriculture. An expert meeting was scheduled on the subject in late November.

Alliances

In order to build a strategic alliance with the International Livestock Research Institute (ILRI), ICIMOD signed an MOU early this year. Following this, two staff from the division visited ILRI in Addis Ababa to familiarise themselves with the programme activities of ILRI and prepare a concept note on the joint project with the Highland Programme of ILRI.

A strategic alliance with the International Potato Institute, CIP, as convenor of the Global Mountain Programme (GMP) became active this year when CIP provided US \$ 100,000 for Land Policy studies.

Mountain Natural Resources

The Mountain Natural Resources' Division (MNR) concentrates on those natural resources that are owned and/or managed by governments and/or communities. Such resources include, in particular, rangelands, forests, water, and biodiversity.

Unlike privately-owned and managed farm resources, rapidly degrading natural resources, such as forests, water, pastures, wildlife, and biodiversity, are common property resources and managing them is both complex and difficult. Improving the management of these resources is essentially an endeavour to respond to the challenges of ecologically sustainable development of mountain environments in the Hindu Kush-Himalayan region.

In addressing the above challenges, the Mountain Natural Resources' Division focusses on strengthening skills, basic knowledge about, and awareness of the problems of environmental degradation as well as on opportunities for rehabilitation and conservation. Workshops and seminars have been the main vehicles for reaching out to its audiences. Activities that took place in 1998 are reported briefly below.

Improved Policies and Programmes

Participatory Natural Resources' Management Programme

Considerable consolidation of ongoing activities in Nepal and India was achieved during this period. Several of the institutional mechanisms initiated by the programme have begun to emerge as sustainable entities, while others have entered the stages of formal registration and institutionalisation. Overall, the objective of expanding the programme to other member countries has also been achieved.

Training Programme on Advocacy Strategies for Community-based Organizations

Before operationalising this component, a needs' assessment was commissioned and field visits, consultations, and meetings in Nepal and India were completed. The report of this assessment formed the basis of design and implementation

for the training programme. Preliminary discussions indicate that there will be a great demand for capacity building in advocacy strategies. We expect to begin the training programme in 1999.

The two principle workshops held by this programme are highlighted in the box.

People and Resource Dynamics in the Watersheds of the HKH Region (PARDYP)

The Mid-term PARDYP Workshop was held in Almora, India, to review the first year's progress and finalise work programmes for the monsoon season of 1998 (see box text). The PARDYP team also contributed to the Regional Training on 'Recent Concepts, Knowledge, Practices and New Skills in Participatory Integrated Watershed Management' organized by ICIMOD in collaboration with Participatory Watershed Management Training in Asia (PWMTA), FAO/Netherlands.

The existing research networks in four watersheds, which include erosion plots, rehabilitation sites, and hydrometeorological stations, have been expanded and upgraded. All sites are being monitored. Field monitors have been trained to ensure good quality data collection. Following a recommendation of the Steering Committee, PRA training for staff members is being undertaken, or is planned for the near future, in all watersheds of the project.

(i) China

In the Xi Zhuang watershed, baseline surveys in the fields of geology, hydro-geology, land use, gender, and PRA have been undertaken. A variety of agronomic interventions commenced in 1998 and included introduction of pear and walnut seedlings and a SALT system of hedgerows. Training in various fields to both project staff and local residents has been taking place.

(ii) India

A farming system survey is being undertaken and, following the results of this survey, appropriate agronomic interventions will be planned for 1999. A GIS database and biophysical resources' inventory are being developed to illustrate the changes in resource use and management.

(iii) Pakistan

A research network of four erosion plots and five hydrological and six meteorological stations has been established. Communications with the team have improved after the installation of an e-mail system paid for by project funds.

(iv) Nepal

Major inputs were given to gully rehabilitation and stabilisation of degraded red soil sites in both watersheds of Nepal. A programme to introduce water harvesting demonstration sites has been introduced. The data collected in the field of hydrometeorology were published in two Yearbooks for 1997.

In Yarsha Khola several surveys in socioeconomics, energy requirements and supply, geology, geomorphology, and soil fertility have been completed or are being undertaken. The introduction of vegetables and horticultural crops to over 40 farmers is continuing.

In Jhikhu Khola a two-day workshop at district level, in collaboration with the District Development Committee and UNDP/Nepal, was held to explain the objectives of PARDYP and inform participants about results of the eight years of work carried out by ICIMOD in the watershed.

The Regional Workshop on Participatory Forest Management: Implications for Policy and Human Resources' Development

was held in Kunming, Yunnan, the People's Republic of China in May 1998 and for the first time brought senior policy-makers from the forestry sector from seven of eight ICIMOD member countries. As a pre-workshop process, eleven national and sub-national studies were commissioned, and these were presented at the workshop. The workshop also achieved its objective of widening the concept of HIFCOM, the foresters' network. This was endorsed by all seven countries present at the workshop. This forum was organized in close collaboration with the South West Forestry College, Kunming, Yunnan, the People's Republic of China.



The forum Widening Horizons: Regional Workshop on the Role of Self-Governing Institutions in Community Forestry Management in The Hindu Kush-Himalayas

added a new dimension to the programme by introducing a process of linking governance and natural resource management in the Hindu Kush-Himalayas. This workshop brought together 80 women and men from the countries of the HKH. Participants included two key stakeholders of locally elected representatives and those belonging to formal and informal community-based organizations involved in community forestry management. Fourteen papers were commissioned from four countries and were presented at the workshop.

The following are the foremost areas of concern identified by participants. These are issues to be acted upon at the local, state, country, and Hindu-Kush Himalayan levels.

- Lack of complementarity, coordination, and consistency between laws, rules, and regulations related to decentralization and the governance of the forestry sector
- Poor participation of women and disadvantaged groups in politics and in community forestry management / user groups
- Failure to empower community institutions, preventing them from fulfilling their responsibilities
- Lack of accountability and transparency of locally-elected institutions, state forest administration(s), development organizations (both inside and outside government), and community forest management / user groups
- Non-existent or low levels of involvement of community forest management institutions / user groups in planning, budgeting, implementation, and monitoring of development programmes undertaken by locally-elected institutions and other development agencies
- Escalating conflicts and mutual distrust between locally-elected institutions and community forestry institutions/user groups, especially in implementing programmes, schemes, and plans
- Duplication of efforts by different institutions and levels of institution, leading to poor use of resources
- Low allocation of resources for local development by locally-elected institutions
- The need to influence locally elected institutions so that they can advocate on behalf of community forestry institutions / user groups and vice versa
- The need to strengthen community institutions at various levels, so that the political system can be influenced
- Neglect of issues relating to forest tenure and ownership, depriving current forest user group members of assurance that they and their descendants will in the long run continue to benefit from their investment in forest management

The District-Level Workshop on Local Governance and Natural Resources' Management is one of the several follow-up activities that have emerged out of Widening Horizons. The workshop was held in Lalitpur District of Nepal. It brought together elected representatives and community forestry groups for the purpose of evolving collaborative strategies for sustainable forest management, engendering trust and confidence between these two key constituents, and exploring strategies for optimising returns from forest products.



The **Mid-Term Workshop of the People and Resource Dynamics' (PARDYP) Project** was held from March 2nd to 7th in Almora, Uttar Pradesh, India. It was attended by senior representatives of the three donor organizations (SDC, IDRC, and ICIMOD), by members of the Hydrology Group at the University of Bern, by the PARDYP Country Coordinator and his deputy from China, and by large teams from India and Nepal. Two days were spent in the Indian watershed near Kausani, and the Nepal team spent two days after the workshop collaborating with their Indian counterparts.

Main Recommendations of the PARDYP Workshop

- The technical and finance/budget reports for 1997 should be approved.
- PRA and gender awareness training for all teams needs to be organized in 1998. Research priorities should emphasise applied or adaptive research that will build upon indigenous and local knowledge.
- The hydromet and soil teams have done an excellent job in 1997, but more emphasis needs to be placed on the identification of indigenous, current, and improved management practices for both water and soil fertility management.
- A senior social scientist should be hired by the project to advise and guide all the PARDYP teams in terms of meeting Output 3.
- Identification of policies related to local institutions and resource tenures and their alternatives, formal and non-formal organizational set-ups, and assessing the impact of interventions on productivity, income output, soil erosion, labour arrangements, and gender aspects should be carried out.
- The field teams should continue to build up good working relationships with the communities involved and strengthen this aspect of the project.
- More attention should be given to the conceptual aspects of the project, so that the physical and socioeconomic research components of the project are unified.
- 'Research for development' is the motto of the project, and more emphasis needs to be placed on on-farm participatory research, the agenda for which has to be derived from the communities through PRA activities.



A special session on **Himalayan Medicinal Plants** was organized during the International Conference on 'Medicinal Plants' Conservation, Utilisation, Trade and Cultural Traditions' which was held in Bangalore, India, from February 16-22, 1998. The session was organized in close collaboration with WWF and 11 papers were presented by scientists working in the regional member countries. They have been provided to the organizers for publication in the proceedings.

An entomological survey into the use of pesticides and to establish trials demonstrating appropriate alternatives is taking place. Collaboration with the Engineering Campus of Tribhuvan University is planned in the fields of irrigation and water management.

Regional Collaboration on Biodiversity Management

Biodiversity Management in the Eastern Himalayas

A workshop on **Promotion and Regional Collaboration on Biodiversity Conservation and Management in the Eastern Himalayas** was organized from March 12-15, 1998, in Kunming, China. Country project team members from China, Myanmar, and Nepal reviewed the project implementation and progress made from 1995-1997 and plans for the new phase from 1998-2000.

A training course-cum-workshop on **Bamboo** was organized jointly by IPGRI/ICIMOD/INBAR in collaboration with the Kunming Institute of Botany, CAS, and Southwest Forest College in Yunnan, China, from 10-17 May 1998. There were 25 participants from 13 countries in Asia - five Himalayan countries were represented.

From June 16 to 28, 1998, a training workshop on **Transboundary Biodiversity Conservation and Ecotourism** was organized jointly by ICIMOD, The Mountain Institute (TMI), Department of National Parks and Wildlife Conservation (DNPWC), Nepal, and the Qomolangma Nature Preserve (QNP), Tibet, China. The workshop was held in Kathmandu and a Field Trip took place to Langtang National Park in Nepal.

The case study reveals that, like other villages in the area, the Natkanle villagers are still relying on traditional medicine for health care. Secondly, more than 40 medicinal plants from mountain forests are being used in the local herbal systems. Thirdly, village monasteries are regarded as sanctuaries and all plants and wildlife species are protected, including medicinal plants; all of these are highly valued. This case study was carried out from October 1997 to March 1998.

Another important meeting to develop international collaboration in biodiversity conservation in the Himalayan region was organized jointly by the United Nations Development Programme and the World Wildlife

Fund. The Himalayan Ecoregional Cooperation Meeting held at Kathmandu in February 1998 had delegates from regional countries such as China, India, Nepal, Pakistan, Bhutan, and Myanmar. ICIMOD contributed two papers.

The Application of Ethnobotany

The three-year programme was completed in 1998. It had been implemented in close partnership with UNESCO, WWF, and the Royal Botanical Garden at Kew with financial assistance from DANIDA. The programme developed methods for the application of ethnobotany to the management and conservation of plant resources through capacity building, supporting research, and promoting action oriented field projects. Five field training workshops were organized at the national and subregional levels and 15 case studies encompassing various themes were supported. Many young ethnobotanists from the region participated in these meetings.

These training workshops were oriented to country/subregion-specific themes to provide a greater focus on methods for applied ethnobotany. For example, the country workshop for Pakistan dealt in detail on traditional medical and health care practices while the workshop in India focussed on home gardens. Proceedings of all the five workshops are available. In addition, three synthesis volumes, one each dealing with traditional resource management systems; traditional medicine and health; and an overview of methods in Applied Ethnobotany have been compiled based on the experience generated in the case studies carried out with the study grants.

Management of Pastures and Grasslands

In April, 1998, a new Rangeland Management Specialist was recruited. Since then, the main task has been to develop a **long-term regional rangeland programme**; the proposal for which was prepared by the previous range specialist. This initiative will bring much of ICIMOD's rangeland activities into a 'programme' approach, and the Austrian government is considering funding for this activity. Communications have begun with key institutions and resource people who are potential partners for the programme.

During 1998, a review of the rangeland management curriculum at the Institute of Forestry, Pokhara, Nepal, was carried out. Research on pasture and livestock (initial reconnaissance trip) in Yarsha Khola watershed in collaboration with PARDYP was undertaken. This forms the basis

for research in 'Pasture/Forest Land Dynamics and Animal Husbandry in the Sub-tropical and Temperate Forest Belts' (in PARDYP watersheds) as part of RCP-II.

The Rangeland specialist participated, as part of an Advisory Team, in the preparation of a 'Policy Framework for the Development of Agriculture and Related Sectors in Ladakh'. She also participated in an inception workshop for the INCO-DC project on 'Opportunities for Increased Production from Sustainable Improvements to Natural Resource Management in Transhumant Pastoral Systems of the Hindu-Kush/Karakoram Himalayan Region' in Gilgit, Pakistan.

Training was imparted in the application of remote sensing and GIS in sustainable rangeland management as part of the MENRIS training course on the 'Application of RS/GIS in Assessment, Monitoring, and Management of Mountain Natural Resources'. A one-month consultancy was carried out on 'Biodiversity of Alpine Pastures', Greater Himalayan National Park, Wildlife Institute of India/Winrock International.

Papers were presented on 'Grazing Commons: Constraint or Opportunity?' at the Conference on Strategic Considerations on the Development of Central Asia', Urumqi, Xinjiang Province, P.R. China, and on 'Indigenous Natural Resource Management in the Highlands of Nepal: Integrated Needs' Assessments for Protected Area Design' at the World Wilderness Congress, Bangalore, India, Oct 24-29, 1998.

Improved Management of Forest Resources

Within the present programme more emphasis was given to better information on the bio-physical aspects of forest resource management with initial priority being given to the assessment of coverage and quality of forest resources in the HKH.

Studies on the forest resources of the HKH were undertaken by the Forestry Specialist and/or commissioned, e.g., on Sichuan and Yunnan in China and on Pakistan. Close collaboration was established with FAO's **Forest Resources' Assessment** for the Year 2000.

A study on **Forestry and Key Asian Watersheds** was completed and published early in 1998. Since then it has received considerable attention, in particular in view of the widespread floods in several of the major river basins covered by the study.

The **First Meeting of the Steering Committee** of the Hindu Kush-Himalayan Flow Regimes from International Experimental and Network Data (HKH-FRIEND) Group was organized jointly by UNESCO/IHP and ICIMOD in cooperation with the German IHP/OHP and was held at the ICIMOD Conference Hall, Kathmandu, Nepal from May 11-12, 1998. It was attended by official nominees and observers from participating countries of the HKH region as well as by representatives from UNESCO/IHP, WMO, and the German National IHP/OHP Committee, Global Runoff Data Centre (GRDC), Germany, the Institute of Hydrology, UK, and ICIMOD.

The Steering Committee decided on the composition of its Members and Observers and unanimously elected Mr. Kiran Shankar Yogacharya (Nepal) as Chairman of the HKH-FRIEND for the next two years and Prof. S. R. Chalise as its Executive Secretary for a term of three years.

The Meeting identified the following six project activities for the HKH-FRIEND: Database, Floods, Low Flow, Rainfall-Runoff, River Water Quality, and Snow and Glaciers.

The collaborating institutions, viz, the German IHP/OHP Committee, GRDC, and the Institute of Hydrology, UK, expressed their willingness to provide financial and/or technical support for various project activities and also to assist in realising funding support from donor agencies. It was decided that the Secretariat for the HKH-FRIEND will be provided by ICIMOD and the Regional Database Centre will also be located at ICIMOD for the time being. A report on the Steering Committee Meeting was prepared and circulated.

Regional Training on 'Introduction to Database Management' was organized at ICIMOD from 13-22 May, 1998, with technical and financial support from GRDC, the German IHP/OHP Committee of the Federal Institute of Hydrology, Germany, UNESCO/IHP, and ICIMOD. It was the first technical activity of the HKH-FRIEND and 12 participants from relevant institutions in Bangladesh, China, India, Nepal, and Pakistan took part in the training. Dr. W. Grabs, Head, GRDC, and Mr. J. Pauer from GRDC were the principal instructors.

Management of Environmental Risks, Hazards, and Natural Disasters

A draft on the establishment of a **National Landslide Data and Information Centre in Nepal** was prepared and has been finalised after receiving comments from relevant national agencies. The draft was prepared by a National Task Force constituted by the National Working Group on Landslides for Nepal. The revised draft was discussed and finalised during a workshop at the end of 1998 to initiate the establishment of such a Centre in Nepal. This work is being implemented in collaboration with the national partner institution, viz., the Disaster Prevention Technical Centre, in Nepal. Support from relevant national agencies and institutions has been extremely encouraging so far. Collaborating institutions in

China, India, and Pakistan have also indicated their interest in establishing similar working groups and National Landslide Data and Information Centres.

A study is being carried out on **Recent Landslide Disasters in Nepal** (Syangja District) and a study of the disaster in Garhwal, India, is being discussed jointly with collaborating institutions and the MEI Division.

Sustainable Water Harvesting Technologies and Management Systems

Considerable progress has been made with the implementation of the **Water Harvesting Programme**. Following the 'Regional Consultative Meeting on Water Harvesting for Mountain Households in the HKH' in Chengdu, China, in April 1997, a project entitled 'Analysis and Promotion of Sustainable Water Harvesting Technologies and Management Systems in the Hindu Kush-Himalayas' became operational for the period from July 1997 to March 1999. Under this project the following activities were undertaken.

- i. A Regional Advisory Committee was formed and the first meeting was held in April 16, 1998, which also finalised:
 - outlines for six Case Studies in Arid Areas and the Midhills of India, Nepal, and Pakistan, and
 - outlines for Country Reviews on Policy, Programmes, and Institutions for Bhutan, China, India, Nepal, and Pakistan.
- ii. All the Case Studies and Country Reviews for Bhutan, China, India, Nepal, and Pakistan have been commissioned and sub-watersheds for Case Studies have been selected. Follow up on these studies is in progress.

To disseminate the findings of the studies, a Regional Workshop on Sustainable Water Harvesting and Management in the Hindu Kush-Himalayas is planned for March 1999. The authors of all the studies and other experts on water harvesting will be invited to participate to further refine the Programme activities for the following Phase.

Preparations are underway to launch National Working Groups of institutions and experts in the participating countries. The purpose is to exchange ideas and to develop close dialogue and a complementary programme on water harvesting work in order to avoid working in isolation.

The first phase of the project on **Regional Flow Regimes and Estimation of Small Hydropower**

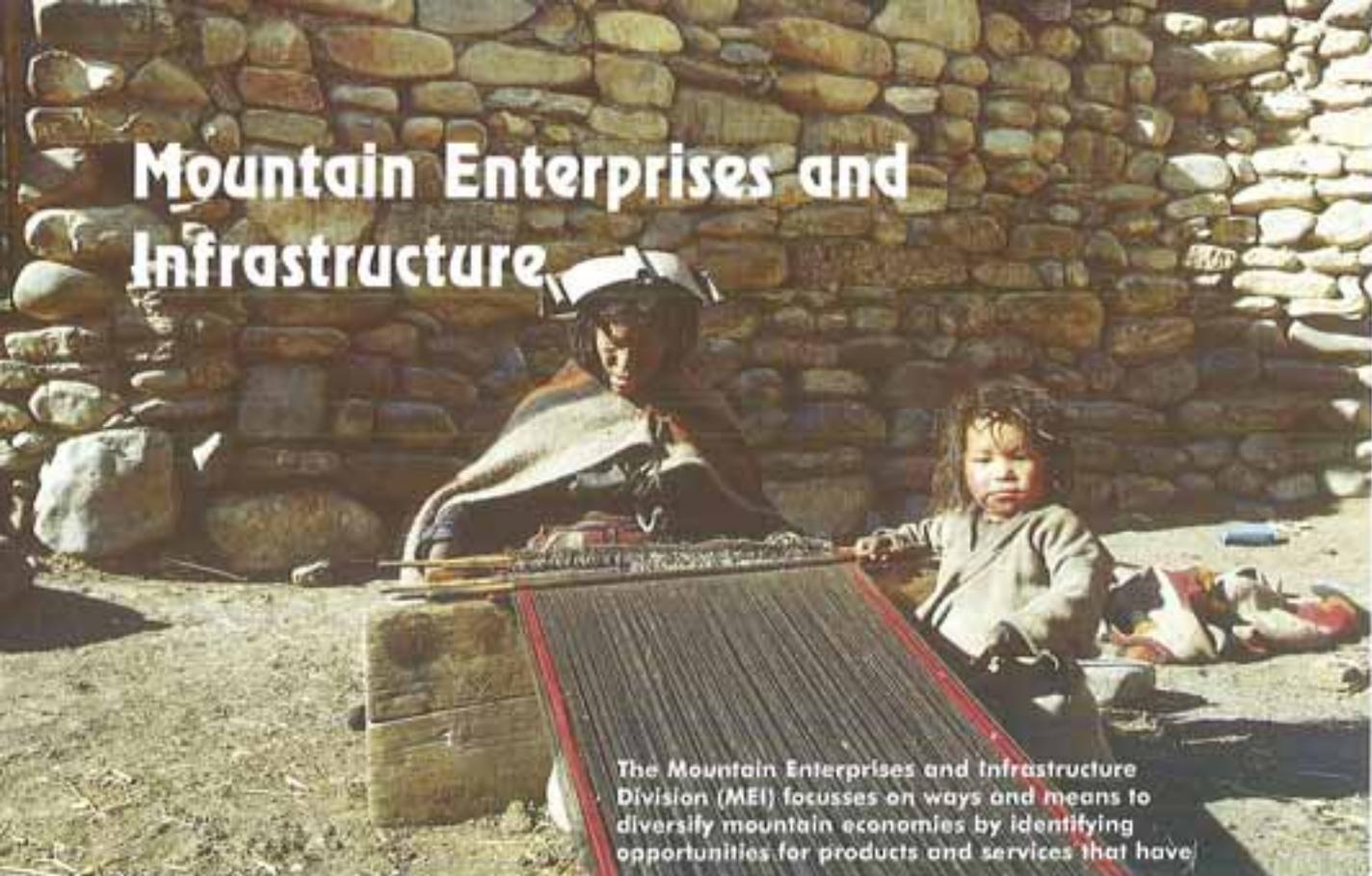
Assessment, in which ICIMOD is collaborating on the Nepal Study with the Institute of Hydrology, Wallingford, U.K., was completed in early 1998 and the second phase started in October with funds provided by DFID, U.K. This project is being implemented in collaboration with the Department of Hydrology and Meteorology of HMG, Nepal.

The **Proceedings of the International Conference on Ecohydrology of High Mountain Areas**, which was held in Kathmandu from 24-28 March 1996, were published in April 1998 as an ICIMOD publication in collaboration with UNESCO. Financial support was given by the German IHP/OHP Committee. Prof. S. R. Chalise is the Chief Editor of this 680-page publication which has been appreciated by scientists from different parts of the world as an important contribution to the knowledge of ecohydrology of high mountain areas in the world.

A **Regional Training on 'Recent Concepts, Knowledge, Practices, and New Skills in Participatory Watershed Management'** was organized by ICIMOD from April 3-10, 1998, for the Participatory Watershed Management Training in Asia (PWMTA) Programme of FAO/Netherlands. Thirty-one professionals (12 women and 19 men from institutions dealing with Watershed Management (WM) and Natural Resource Management (NRM) from 9 countries (7 ICIMOD countries, apart from Sri Lanka and Thailand) participated in the training. Twenty-two resource persons from ICIMOD, HMG/Nepal, NGOs, and PWMTA/FAO were involved as resource persons for this training.

The subjects covered included overviews of recent concepts and participatory processes, economies of big vs. small self-help WM projects, bio-engineering methods for gully and landslide stabilisation, water harvesting and land rehabilitation, integrated nutrient management and bio-technologies for WM, conflict resolution in forestry/WM programmes, environmental impact/strategic environmental assessment, GPS/GIS/Remote Sensing (3 S) techniques, and so on. These subjects were divided into three modules in the draft training manual prepared by ICIMOD which was distributed to the trainees in advance. The manual was reviewed by participants and is now ready to be processed for publication.

Mountain Enterprises and Infrastructure



The Mountain Enterprises and Infrastructure Division (MEI) focusses on ways and means to diversify mountain economies by identifying opportunities for products and services that have

The growing labour force in mountain areas cannot be gainfully employed by agriculture alone. Efforts are needed to diversify the mountain economy and improve the living standards of mountain populations. In order for mountain economies to develop in a sustainable manner, development decisions concerned with the diversification of mountain economies must be based on sound assessment of past experience, existing constraints, and available opportunities.

The Mountain Enterprises and Infrastructure Division is geared to meet these challenges. Undertakings that took place in 1998 are reported briefly below.

Mountain Tourism

The project on **Mountain Tourism for Local Community Development** was completed in 1997. Evaluation of the Project was carried out by a donor-NORAD mission during the first quarter of 1998. The mission was very positive about the accomplishments of the Project and also recommended continuation of tourism-related activities by ICIMOD.

The following post-project activities were undertaken during 1998.

- (i) Facilitation of institutionalisation of Training Manuals for Mountain Tourism for Local Development in the programme of the Hotel Management and Tourism Training Centre, Kathmandu, and in the training programmes of Sarhad Rural Support Corporation (SRSC), Pakistan
- (ii) Preparation and publication of an issue paper in the ICIMOD series 'Issues in Mountain Development' (IMD 98/3)
- (iii) Use of project findings and outcomes to contribute to various seminars/conferences, e.g., ICIMOD consultation, workshop for policy planners, Kathmandu (February 1998), national seminar on Environmental Changes and Sustainable Development in the 21st Century: Uttarakhand Himalayan Perspective, Srinagar-Garhwal, India (June 1998), and International Conference on Strategic Considerations on the Development of Central Asia, Urumqi, China (September 1998)
- (iv) Contributions to and guest moderation of an electronic conference on 'Community-based Mountain Tourism', organized by the Mountain Forum/The Mountain Institute (April-May, 1998).

- (v) Preparatory work for the establishment of the Mountain Tourism Resource Centre at ICIMOD.
- (vi) Publication of case studies on the following tourism areas completed under the Mountain Tourism for Local Community Development Project
 - Upper Mustang, Nepal,
 - Phewa Lake, Pokhara, Nepal
 - Syabru Besi, Langtang National Park, Nepal
- (vii) Publication of the following training manuals
 - Rural Technology with Implications for Mountain Tourism
 - Manual for Local Community Groups and Organizations,
 - Manual for Programme Designers and Implementors
 - Manual for Policy Planners.

management techniques related to infrastructural development in fragile mountain areas. The project was carried out in three countries: China, India, and Nepal. The project, which was to end in 1997, was extended until July 1998. Most of the extended period was used to support establishment of an MRE training unit at the G.B. Pant Institute for Himalayan Environment and Development, India, and to publish training materials for the China and Nepal Projects. The following are the main activities undertaken by the project during 1998.

- (i) Establishment of an MRE Training Unit in the G.B. Pant Institute - the core team members of the MRE Training Unit were trained on MRE methodology at the selected training sites in the Almora area (March-July, 1998)
- (ii) Proceedings of the MRE India Workshop were published and circulated.
- (iii) A study tour took place in Nepal for five professionals (3 from China and 2 from India) to study bio-engineering methods of controlling roadside slope instabilities (April-May, 1998)
- (iv) Publication of an MRE Nepal Project Workbook
- (v) Publication of a booklet on 'Landslides and Their Control' for farmers (in Nepali)
- (vi) Incorporation of a Postgraduate Course in Mountain Risk Engineering at Tribhuvan University
- (vii) Publication of an extended brochure on the MRE China Project (in Chinese and English)
- (viii) A handbook on Mountain Hazard Investigation and Control in China was prepared based on training materials from the MRE China Project

Micro-enterprises

Activities envisaged under **Development of Micro-enterprises in Mountain Areas** include diagnostic studies on products, areas, policies, and programmes; development of a policy and programme package; preparation of training materials; and support for training of micro-entrepreneurs. In the current phase, several studies are being carried out in different countries. During 1998 the following work was undertaken.

- (i) Final reports of seven studies were received (in addition to four already received during 1997).
- (ii) Reports of three studies were published; four were prepared and are in the process of publication and others were under review and finalisation for publication.
- (iii) Findings of the studies were used for presentations in strategy and policy-related conferences/seminars, e.g., International Conference on 'Mountains 2000 and Beyond', Germany (June 1998), SAARC-level seminar on Poverty Alleviation through Entrepreneurship Development; Kathmandu (September 1998), and Governance and Economic Diversification of Uttarakhand, India (October 1998).

Mountain Risk Engineering

The main activity under this heading consisted of implementation of a Project on Mountain Risk Engineering (MRE) to strengthen institutional capabilities and impart training in risk

Social Infrastructure

Under the new initiative on **social infrastructure**, two studies were commissioned in Bangladesh and Pakistan. These studies (a) prepare a situation analysis of existing conditions in the social sectors, viz, education, health, water-sanitation, housing, social development programmes, and other related interventions; (b) provide a focussed field study based on participatory methods in a few communities in mountain areas of the countries; (c) assess existing policies in these sectors and provide leads about policy failures and better policy formulation for achieving greater success in the social sectors; and (d) have a component on communication and information flow, whereby the studies will take stock of existing media channels, their effectiveness in reaching the

mountain population, and strategies to improve their functioning. The report of the Pakistan study has been finalised.

In addition, the ICIMOD Social Scientist provided inputs to several ICIMOD Programmes and Projects during 1998. The important ones among them are as follow.

- (i) Participation in and leading of group sessions on socioeconomic issues in the 10-day PARDYP, mid-term review programme at ICIMOD (February 1998)
- (ii) Preparation and presentation of a training module on generating new and appropriate knowledge for Participatory Watershed Management in Asia for FAO, as part of an ICIMOD commitment (May 1998)
- (iii) Preparation and presentation of a training module on application of social science techniques in natural resource assessment, monitoring, and management for regional participants to a MENRIS training programme (June 1998) and a social science approach to data collection for **Mountain Agriculture and Land Use Management** (November 1998)
- (iv) Participation and contribution to an international workshop on 'Poverty in Nepal' sponsored by several organizations
- (v) Preparation of Draft Guidelines for Incorporating Social and Cultural Issues into a Mountain Development Programme Cycle
- (vi) Coordination of the Project on 'Land Policies, Land Management and Degradation in the HKH Countries' being undertaken by ICIMOD under the aegis of the Global Mountain Initiative (GMI)
- (vii) Provided specialised inputs as a Resource Person in the Regional Gender Training Workshop and monitored the activities of trained individuals and organizations in Nepal.

Strengthening Institutional Capacities for Integrated Planning

Following the conclusions and recommendations of the Regional Meeting of Planners and Experts held in 1996, a programme of studies reviewing the experiences in integrating environmental and economic development in national, regional, and local-level planning was initiated. Two studies, one in China and another in Nepal, were initiated, and their draft reports were received in 1997. During 1998 the following work was achieved.

- (i) Studies in China and Nepal were completed.

- (ii) A study in India was initiated and completed. On the invitation of the Ladakh Autonomous Council, a mission of ICIMOD staff visited Ladakh, India (August-September), and prepared a plan for Integrated Agricultural Development of the Region.

State of Mountain Reviews

In the programme on the **State of the Environment and Development** the following activities were completed during 1998.

- (i) Finalisation of reports on China, India, and Nepal
- (ii) Initiation of a study in Pakistan
- (iii) Preparation of a document on the comparative state of the environment and development in different areas in the HKH region

Sustainable Energy Use

Renewable Energy Development Programme

The following activities were completed during 1998.

- (i) A study of the Energy Use Pattern in Chittagong Hill Tracts' Region of Bangladesh
- (ii) Impact Assessment of Improved Water Mills in the Hills and Mountains of Nepal: A Case Study in Sindhupalchowk District
- (iii) A study of the Potential for Upgrading Traditional Water Mills in Uttarakhand, India
- (iv) Publication of the Report of the Regional Experts' Consultation on Implications of National Policies on Renewable Energy Technologies
- (v) Publication of a document on 'Renewable Energy Technologies: Policy Options for Mountain Communities in the HKH and Agenda for Action in Nepal'.
- (viii) Participation in and contribution to World Renewable Energy Congress-V held in Florence, Italy (19-25 Sept. 1998)

Mini-and Micro-hydropower

The second and final phase of the **Mini- and Micro-hydropower Project** ended on 31st December 1998. During 1998, the following activities were carried out.

- (i) Training Programmes:
 - for operators and managers in Nepal (1), Pakistan (2), and India (1),
 - for site surveyors and layout designers- Nepal (1), India (1), and
 - for installers of private MHP plants-Nepal (1)

- (ii) A Consultative Meeting (February 1998) to review the training programmes and the first drafts of five Information Manuals on various implementation aspects (survey and layout design, manufacture, installation, management, and operation and repairs)
- (iii) Revision and finalisation of English versions of all five Information Manuals and their distribution to the collaborating agencies in Nepal, India, and Pakistan for modification, translation, printing, and distribution to the relevant persons and institutions
- (iv) A study tour for implementers and decision-makers from Nepal, India, and Pakistan to Zhejiang Province, China, to see the MMHP installations and some manufacturing establishments (31st August to 3rd September 1998)
- (v) Completion of the following studies/reports:
 - report of a Random Sample Survey to Determine the Actual Status of Private MHP plants in Nepal, and
 - in-depth studies of Private MHPs in Nepal and Pakistan
- (vi) Preparation of a video (in English and in Nepali) showing the operation, maintenance, and repair of MHP plants
- (vii) The supply of training support equipment to two collaborating agencies in India and Pakistan

Sustainable Development of Settlements, Market Towns, and Urban Areas

The following activities were undertaken during 1998.

- (i) Training material for locational planning for integrated mountain development as a module in the MENRIS training programme on 'Strengthening of Training Capabilities for GIS Applications in Integrated Development in the HKH Region' were prepared and presented.
- (ii) A regional consultation meeting to review the state of and policies and programmes relating to market towns in the HKH region was organized (see box)

Policy Analysis and Policy Orientation of ICIMOD Programmes and Projects

Under this programme, initiated in 1997, the following activities were undertaken by December 1998. These included policy studies in different countries, policy-makers and practitioners'

A **Regional Consultation Meeting on Market and Small Towns** was organized from 8 to 10 December in Dhulikhel, Nepal. The meeting reviewed the state of and policies regarding market and small towns in the mountainous areas of the Hindu Kush-Himalayan countries and identified constraints to their promotion. The need to look at market and small towns from the perspective of integrated area planning was also emphasised.

There were altogether 22 participants from Bangladesh, Bhutan, China, India, Nepal, and Pakistan as well as other professionals from ICIMOD.

ICIMOD supported a **Mountain Development Policy Practitioners' Workshop**, which was organized by the Centre for Development Studies (U.P. Academy of Administration) in Nainital, India, from 29-31 October. Nearly 70 persons, including relevant government officials, workers from NGO/community organizations, and academic institutions from different hill states and regions of India participated in the meeting. The thematic focus of the discussion was on (a) policies and strategies for mountain development, (b) policies and programmes for Natural Resource Management with special focus on units of management (e.g., watershed), and (c) micro-enterprises as a means of promoting employment and income. The workshop proved a useful forum for exchange of varied experiences from different mountain areas in India. One concrete outcome of the meeting was the decision to strengthen and make wide use of the existing network on information and experience sharing from different hill states and hill areas in the country on the above subjects.

On November 27, the Institute of Integrated Development Studies (IIDS) and ICIMOD jointly organized a **One Day Round Table Meeting on Mountain Development Policies in Nepal**. Over 30 experts with first-hand experience in dealing with development planning and programmes in Nepal during the last three decades shared their experiences on different aspects of mountain development in Nepal. The discussion was largely focussed on three specifically identified issues; namely,

- (i) are mountain development policies/strategies fully responsive to mountain conditions (i.e., bio-physical and social circumstances) of mountain (including hill) areas in Nepal?
- (ii) is mountain development in Nepal a donor-driven process? and
- (iii) do projects lead mountain development policies or vice versa?

While discussing different aspects of these issues, participants emphasised the need for learning from the past gaps in policies and their implementation. Some concrete steps were suggested to facilitate the same to involve political decision-makers, in the exercise. There was a consensus that politicians were the ultimate decision-makers and it was agreed that the think tanks of different political parties should be involved in these types of discussion to increase interaction between experts and political leaders.

meetings, and a synthesis of learning on policy processes for dissemination to policy groups.

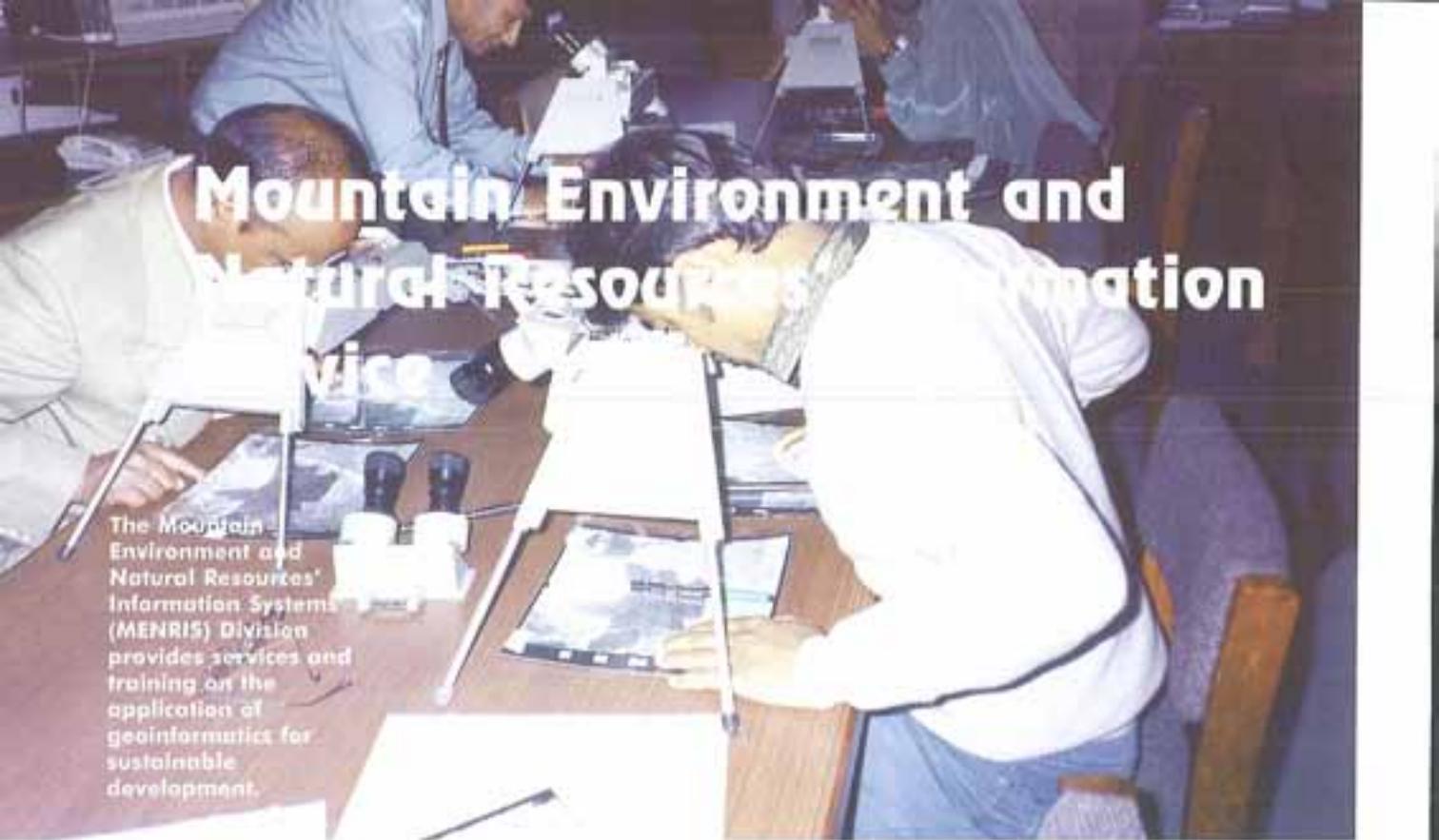
- (i) Two studies, one on water development policies and management in Balochistan and another on highland-lowland linkages in Nepal were initiated and completed.

- (ii) Three studies initiated in 1997 on highland-lowland linkages in China, agricultural diversification policies in Nepal, and shifting cultivation in NE India were completed.
- (iii) To have a comprehensive account of policy processes in mountain areas, a synthesis of the findings of these studies is being made.
- (iv) A regional policy-makers' and practitioners' workshop was held in January 1998. This provided an inter-country comparative perspective on various policy issues in the region; it also helped secondary approaches to policy dialogue through small country-based meetings.
- (v) A national policy practitioners' workshop was held in Nainital, India, during October 1998 (see box).
- (vi) A one-day round table meeting on Mountain Development Policies in Nepal was organized in collaboration with IIDS in November 1998 (See Box)
- (vii) Quarterly meetings of the Policy Group at the Centre focussed on policy orientation of ICIMOD programmes and future programmes under the Policy Project.
- (viii) An issue paper on links between Poverty and Environmental Degradation was published as IMD 98/1.
- (ix) Papers on participatory natural resource management, resource degradation and management, and on the issue of devolution were presented in different seminars/conferences.
- (x) To harness the synergies between different projects, frequent advisory inputs were shared with different projects.

Capacity Building and Outreach

ICIMOD's ultimate target groups are the over 140 million people residing in the Hindu Kush-Himalayas, a rugged and difficult part of the world's surface, covering 3,500 kilometres from west to east. With ICIMOD's limited human and financial resources, it is not possible to reach out to these mountain people directly. Therefore, ICIMOD believes in and follows the principle of working with partners and intermediaries.

Outreach in the form of capacity building and documentation and information exchange have been major focusses of ICIMOD ever since its inception. ICIMOD has three support services: Mountain Environment and Natural Resources' Information Service (MENRIS); Documentation, Information, and Training Service (DITS); and Administration, Finance and Logistics' Service (AFLS). Achievements related to these functions are reported in the following pages.



Mountain Environment and Natural Resources Information Systems

The Mountain Environment and Natural Resources Information Systems (MENRIS) Division provides services and training on the application of geoinformatics for sustainable development.

An integrated approach to solving problems should have a strong database. Advances in satellite image processing and computer analysis have made it possible to evolve realistic, accurate, and uniform databases. Geographic Information Systems (GIS) that integrate bio-physical and socioeconomic data and indicate alternative strategies for decision-makers have become essential in order to address problems in a scientific manner.

Towards this end, MENRIS focusses on improving the mountain focus of GIS and Remote Sensing, on strengthening national and sub-national capacities for their application, and on building databases. In addition, it also provides institutions in the region with assistance in establishing GIS facilities and even provides the hardware and software support. MENRIS has currently prepared training material and introduced regular training programmes for capacity building of national and subnational institutions. The activities undertaken in the context of GIS and Remote Sensing training, applications, and development in 1998 are reported below in brief.

Developing Training Material

Training materials for 'Hands-on' training courses on the following topics were prepared and two among them were also updated with case studies from Bangladesh and China.

- Application of GIS/RS to Slope Instability and Landslide Hazard Mapping
- Application of GIS/RS Planning of Mountain Agriculture and Land-use Management
- Application of GIS/RS to Natural Resources' Assessment, Planning, and Management
- Application of GIS/RS to Locational Planning of Basic Infrastructure and Services

Training materials for professional-level GIS/RS were improved by incorporating the latest developments in GIS/RS technology and applications.

The curriculum developed by ICIMOD for the university level course on 'Principles of GIS and Remote Sensing' was promoted in the regional universities of Bangladesh, India, Myanmar, Nepal, and Pakistan.

Initial designing of computer-based training materials for GIS and RS applications was carried out for wider dissemination.

Strengthening National and Sub-national Capacities

Regional 'Hands-on' training courses on (a) Application of GIS/RS to Slope Instability and Landslide Hazard Mapping (February); (b) Application of GIS/RS to Natural Resources' Assessment, Planning, and Management (June-July); and (c) Application of GIS/RS to Agro-ecological Zonation and Land Use Planning (November) were carried out during the year.

A National 'Hands-on' training course on the Application of GIS/RS to Locational Planning of Basic Infrastructure and Services was held in August in Bangladesh.

Support was provided to a four-week Professional-level GIS training Course in Pakistan in September.

One-day policy workshops were held in Bangladesh, China, India, Myanmar, Nepal, and Pakistan. In addition three-day Manager-level training courses were conducted in Bangladesh, China, India, and Myanmar.

Scholarships were provided to develop mountain focus research/case studies for CSSTE-AP participants from Bangladesh, China, India, Myanmar, and Nepal. Support was provided to professionals from India, Nepal, and Pakistan to develop mountain focus applications.

Assistance was provided to UNEP-EAP/AP in order to facilitate its workplan related to dissemination of GIS/RS and reporting on the environment in the HKH region.

To facilitate better communications between UNEPnet users and Nepal, support was provided to improve the MERCURE earth station installed in the National Planning Commission of HMG

MENRIS-compatible GIS/RS Hardware/Software

All the nodal institutions are using or requesting to use MENRIS-compatible software: ARC/INFO, IDRISI, ERDAS, ARCVIEW and ILWIS. Regional centres in Bangladesh, China, and Nepal have been upgraded to impart national/regional training.

Collaborative Case Studies

Collaborative case studies were carried out with partner institutions in Bangladesh, China, India, Nepal, and Pakistan. In this regard, technical

The Y.S. Parmar University of Horticulture and Forestry, Solan, is a close partner of ICIMOD and also a focal node of ICIMOD's Mountain Environment and Natural Resources' Information Services' (MENRIS) programme in India. The University is well equipped to carry out GIS/RS programmes as part of its capacity-building activities. A three-day **Managerial-level Training Course on Remote Sensing and Geographic Information Systems** was conducted from 22-24 January. The Training Course was inaugurated by the Vice Chancellor, Prof. L. R. Verma. At the closing ceremony, Mr. Egbert Pelinck inaugurated the Natural Resources' Information Centre (NARIC) - a lab that incorporates GIS/RS and information management activities.

Altogether 35, mostly senior-ranking, persons from various forest and agricultural institutions in Delhi, Chandigarh, Jammu and Kashmir, H.P., and U.P. participated in this training. ICIMOD resource persons, Mr. Pramod Pradhan, Dr. Moe Myint, Mr. Peter Bitter, and Mr. Sushil Pandey, were available to impart the training; and the training was coordinated by Dr. Sudhir Mahajan, Coordinator of NARIC.

A one-day seminar on the **Application of GIS & RS for Policy-Makers** was conducted at the Forest Research Institute, Yezin. Altogether 33 persons, mostly senior lecturers and researchers from the three Yezin-based centres of forestry, agriculture, and veterinary science, attended the seminar. A similar workshop, attended by 31 professionals based in various institutions in Yangon, was conducted at the Forest Department in Yangon. Mr. Pramod Pradhan, Dr. Moe Myint, and Mr. Peter Bitter went as resource persons. Discussions on support and collaboration were also undertaken.

During the month of February, the second Regional **'Hands-on' Training for Application of GIS and Remote Sensing to Slope Instability and Hazard Mapping'** was organized by MENRIS/ICIMOD in Kathmandu. Sixteen geo-science professionals, including four female professionals, participated from six countries of the HKH region (Bangladesh, Bhutan, China, India, Nepal, and Pakistan) in this 4-week training course. Dr. C.J. van Westen from ITC, The Netherlands, and Mr. Pradeep Mool of ICIMOD were the leading resource persons.

The training mainly focussed on the use of GIS/RS tools for integrating bio-physical and socioeconomic information on a spatial basis for mapping slope instability and hazard zones. The training has successfully brought about awareness amongst the participants about the use of technologies such as GIS/RS in addressing the common problems of slope instability and hazard mitigation in the HKH Region where the mountains are still young and numerous landslides and natural calamities occur every year.

assistance and advisory services have been provided to various nodal agencies in these countries.

Under UNEP support, a Kathmandu Valley GIS case study has been initiated in collaboration with the MoPE - Nepal.

Data and information were collected for publishing in the MENRIS case study series for Bangladesh.

A four-week training course on the 'Application of GIS & RS in Planning for Mountain Agriculture and Land Use Management' was held at MENRIS from November 2 - 27. Altogether, 15 Government officers and academic professionals participated. After a general introduction to research and current thinking on mountain agriculture at ICIMOD, the training consisted of theoretical lectures on the various Geo-information technologies (GIS, RS, GPS), together with a number of practical 'hands-on' exercises on the computer. This was followed by a module on application issues, e.g., how is GIS being used in resource-/people-/problem-oriented approaches to land-use planning; how to link participatory information collection and planning with GIS; gender-sensitivity of geographic data, etc. The training concluded with an eight day practical project on integrated land-use planning in the Jhikhu Khola watershed. The participants formed four groups assigned to analyse data on different issues (environmental sustainability, potentials for general intensification and specific niche products, balance between crop and support lands). Two field visits to cross-check the findings with the ground realities for farmers in the study area were made.

The first National Training on the 'Application of GIS and Remote Sensing in Slope Instability Analysis and Hazard Mapping' took place from 14th November - 10th December in Chengdu, Sichuan Province, China. The training was jointly organized by Chengdu Institute of Mountain Hazards and Management (CIMHE) and ICIMOD under a Dutch-funded project. Of the total ten participants from Lhasa, Kunming, and Chengdu, five were female professionals working in the field of geological and geomorphological sciences. The training was mostly conducted in Chinese, but innovative use of visuals through power point presentations enabled the course coordinator to contribute considerably throughout the course.

HKH Database

Support was provided to partner institutions in technological innovations, GIS/RS data products, and research methodologies' applications and development.

A District Review Database of Nepal was completed and similar data sets were collected for Bangladesh on a scale of 1:250,000. Possibilities for developing CD-ROMs for disseminating public domain data on environment and natural resources from Nepal were explored. Internet Mapping tools for sharing the GIS database were also explored.

Information was collected for a district database of Bangladesh. The possibility of packaging the database of Nepal into a CD-ROM was explored.

Open access to public domain data on a network through the information highway was promoted.

Computer Applications and Development

The capacity of nodal agencies to use the latest software packages and internet was improved. Training courses on basic networking, latest software packages, and Internet were given.

The design of Computer-based Training on Application of GIS and RS and Internet Mapping to share public domain data on the Internet was completed.

Networking and Information Exchange

Exchange and dissemination of the GIS/RS database for Nepal were facilitated and GIS/RS data sets on Nepal were provided to various individuals, institutions, and educational bodies within and beyond the region.

The results of the Environment Information and Assessment Unit in the Ministry of Population and Environment, Kathmandu, Nepal, were published.

In addition to the above, the following tasks were also undertaken.

- Strengthened collaboration with the UN-sponsored CSSTE-AP centre in Dehra Dun, India
- Improved the information highway and new communication networks to establish closer links and contacts
- Enhanced collaboration with leading institutions : UNEP, Clark University, ESRI, ERDAS Inc., ITC, AIT, NRSA, IIRS
- Strengthened activities of UNEP in the region as a focal point for UNEP/EAP-AP in the ICIMOD region
- Completed Land Cover data sets for Bhutan and Bangladesh
- Published MENRIS Bulletin, workshop papers, training materials for the Dutch-funded regional/national training in GIS Applications for Sustainable Mountain Development
- Upgraded the MERCURE system for full internet connectivity and explored the video conferencing capacity
- Explored development and readjustment of the geodetic control network of Indian Datum for the HKH region
- Explored regional geoid model by incorporating latest GPS technology
- Provided **internships** to five professionals (one professional from Pakistan, two professionals from Bangladesh, and two professionals from Nepal)

In-house Services

MENRIS provided full regular systems' management and support services within ICIMOD. Most PCs in the centre below Pentium standard were replaced with the latest Pentium machines. Additional units at ICIMOD have been computerised. Many routine administrative tasks have been computerised.

Internet has been strengthened with value-added information and Intranet connectivity has been boosted with a 64K BPS line with a service provider.

All the units of ICIMOD have been assisted in developing and maintaining their Intranet facilities.

A new financial system using multiple currency denominations has been installed and is operational.

Assist national/subnational institutions

The following partner institutions in Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan were supported with GIS systems

- Jahangirnagar University, Bangladesh
- Local Government Engineering Department, Bangladesh
- GB Pant Institute of Himalayan Environment and Development, India
- Kumaon University, India
- Wadia Institute of Himalayan Geology, India
- Institute of Forestry, Myanmar
- Department of Urban and Housing Planning, Nepal
- Department of Water Supply and Sewerage, Nepal
- Pakistan Forest Institute, Pakistan
- Department of Geography, Peshawar University, Pakistan
- Department of Geology, Peshawar University, Pakistan
- Provided GIS/RS software (ARC/INFO, ERDAS, ARCVIEW, ILWIS) to various partner institutions in the region

FIRST REGIONAL COLLABORATIVE PROGRAMME



Documentation Training Service

The Documentation Information and Training Service (DITS) is the focal point for documentation and information sharing on development in the HKH in general and dissemination of ICIMOD knowledge in particular.

SECOND REGIONAL COLLABORATIVE PROGRAMME



Information and

Documentation and information exchange have been major focusses of ICIMOD since its inception. With the introduction of effective modern tools and techniques, these have assumed an even greater role than previously. Therefore, in this Division, there have been manifold increases in all its functions - library, publications, public relations, distribution, training support, and electronic networking.

Highlights of the activities that took place in 1998 are presented below in brief.

The Library

In 1998, altogether 3,795 new titles were added to the Library database, making a total of 19,430 records. These include 10,265 documents from or on the Hindu Kush-Himalayas.

Quarterly lists of New Documents in the Library were published and circulated to over 100 recipients. Monthly issues of New Serials in the Library were published and circulated to the Centre's professional staff. Fortnightly lists of New Documents in the Library and monthly issues of New Serials in the Library have been published electronically on the ICIMOD Intranet.

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

Twenty-three retrospective searches were carried out in 1998. These resulted in 4,294 references being provided to clients. The number of users has increased in comparison to previous years - there were 1,445 external users in comparison to 845 in 1996 and 1,089 in 1997.

The Chief Librarian trained a resource person from the Ministry of Agriculture of Bhutan at ICIMOD

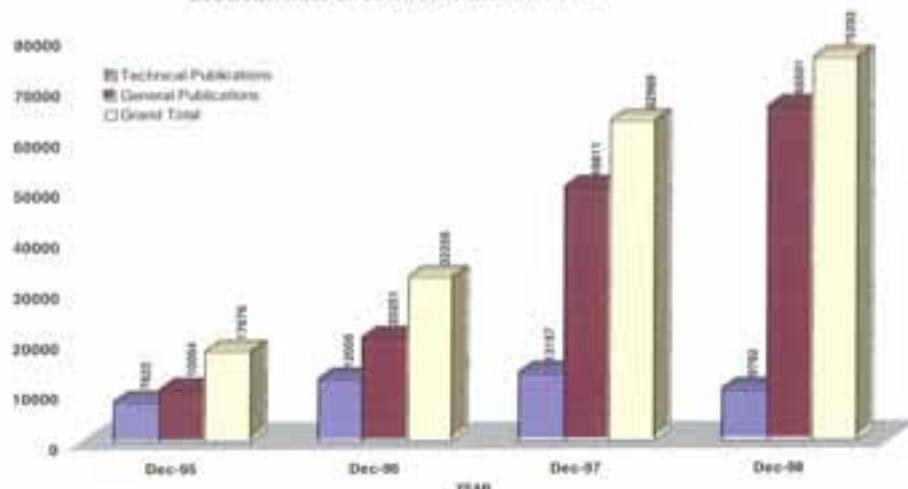
on CDS/ISIS from 24 August to 5 September and in Bhutan in October.

Publications

The number of documents published is a basic indicator of publications' activities. The quality in terms of content, language, and finish is another. Whereas the latter is subjective and cannot be quantified, the former can be quantified.

distributed in the HKH and elsewhere in 1998, mostly in response to specific requests. In addition, 65,501 copies of general publications, such as the ICIMOD Newsletter, Issues in Mountain Development, the MENRIS Bulletin, the Asia Pacific Mountain Network Bulletin, the Annual Report, ICIMOD pamphlets and brochures, and publications' catalogues, were sent to all Mailing List members in 1998.

Distribution of ICIMOD Publications



In 1998, 52 documents were processed for publication. Thirty-seven of these documents were technical and fifteen general. In addition, 14 documents were reprinted.

In addition to the usual publications' processing, during this period publications' staff members trained 12 of ICIMOD's secretarial staff for a total of 260 hours in applications of various software programmes to document preparation.

Information Dissemination

ICIMOD's Mailing List has increased to 5,640 as of 31st December 1998; 70 per cent of the entries are from the HKH Region.

Questionnaires to update ICIMOD's Mailing List and a Publications' Readership Survey were sent to all Mailing List members (5,500) and the list updated based on the results of the mailing list survey. All the completed and returned Publications' Readership Survey questionnaires were entered into a database (SPSS package), analysed, and a report prepared.

The total number of publications distributed annually has increased tremendously from 17,676 in 1995 to 75,293, by the December 1998. Altogether 9,792 technical publications were

In order to market the Centre's publications widely, various avenues are being explored and a set of guidelines for marketing ICIMOD publications through booksellers/distributors has been finalised. A contract was drawn up and signed by one bookseller in Kathmandu, the Mandala Book Point, in April 1998. Various Internet booksellers are also being contacted.

ICIMOD sponsored a 'Himalayan Quiz' Contest among middle school children in Jhapa, Nepal. The questions and audio-visual display used for the contest were jointly prepared by ICIMOD and Gomendra Higher Secondary School: the latter organized the Contest.

Under the Publications' Exchange Programme (PEP), a total of 78 agreements has been undertaken, seven of them in 1998.

Introducing Modern Communications' Technology

ICIMOD Home Page

A revised version of ICIMOD's Home Page containing more information on ICIMOD's activities and sustainable mountain development in general was posted on the Internet in late 1998.

ICIMOD Homepage Changes Look and Location



Point to the navigation menu, No. 4 & 7 on the left to learn about the following links:

- About ICIMOD
- The Hindu Kush-Himalayas
- ICIMOD's Work Programme
- Mountain Focus
 - Mountain Assessment
 - Forest Resource Development
 - Sustainable Mountain Development Issues
- Sustainability
- Publications
- Issues in Mountain Development
- What's New
- Annual Reports



"Mountains are generally eroding into the sea, as evidenced by the lost topographical line. And so the products of the earth... the mountains."

ICIMOD is the first international organization to make a commitment to improve the living conditions of mountain communities in a sustainable way, including their health and not allowing to stand upon the highest mountains on earth. The Centre is multi-disciplinary, area-oriented and mountain focused. It focuses mainly on the Hindu Kush-Himalayan Region (HKH). ICIMOD has much to offer to the HKH as well as to other mountain regions facing similar problems.

The Home Page has been shifted from the south-asia.com website managed by Mercantile Communications Pvt Ltd. in Kathmandu to IDRC's Pan Asia Network web server in Singapore. The address has changed from <http://www.south-asia.com/icimod> to <http://www.icimod.org.sg>.

Electronic Networking in the Hindu Kush-Himalayas

As of 31st December 1998, 34 organizations were connected to the Internet and became partners of NepalNet, a network of organizations working on sustainable development in Nepal. Capacities in electronic networking have been established in the partner organizations of NepalNet. The NepalNet website on sustainable development issues in Nepal was officially launched on 15th September 1998 on the Pan Asia server in Singapore <http://www.Pan-Asia.org.sg/nepalnet>. The original ICIMOD server is also being maintained for rapid access for users in Nepal.

In April 1998, ICIMOD hosted a PanAsia R&D Committee meeting in Kathmandu, during which it was instrumental in approving a number of R&D projects in Asia, including that of the Nepali Fonts Standardisation Committee for the receipt of PanAsia R&D Grants.

A manual on using the Internet, HTML and Web Publishing for the NepalNet (Electronic Networking Project) Partners has been finalised. DITS is also participating in IDRC's I-TRAIN initiative, a global strategic alliance among institutions world-wide to prepare and publish global training material

for trainers. This involves practical, hands' on methods and also links the training to the needs of target users.

A feasibility study on providing on-line Internet services in northern areas of Pakistan has been prepared by the Commission on Science and Technology for Sustainable Development in the South (COMSATS). The study recommends wireless technology which will be implemented in a pilot project.

The Urganisha grant from IDRC, which supported four organizations in this project, ended in September 1998. The four organizations are sustaining the project with their own resources with back-up support from ICIMOD.

Audio-visual Services

All audio-visual resources have been systematically compiled in one place, facilitating an inventory of ICIMOD's audio-visual collection and also making it more easily accessible. Computer hardware was significantly upgraded to capture all information relevant to the collection. The Centre's growing collection of slides is being organized and catalogued using Image AXS Pro software. The collection of photographs and slides, used in the Centre's publications, has been categorised into 16 and 32 subject areas and sub-categories, respectively. In 1998, there were 1,163 slides in the audio-visual database and the process is continuing.

In addition to the audio-visual materials being used for exhibitions and to make presentations at various meetings and conferences, several posters depicting ICIMOD's vision and mission and some depicting its programmatic themes are being prepared.

Training Facilities and Support Services

The Training Officer, in close collaboration with ICIMOD professional staff, coordinated and supervised all administrative and logistical arrangements for all Kathmandu-based ICIMOD training programmes, meetings, and workshops.

In 1998, evaluations of training on the Application of GIS/RS in Locational Planning for Basic Infrastructure and Services, Application of GIS/RS to Slope Instability Analysis and Hazard Mapping, Participatory Watershed Management in Asia, and Introduction to Database Management have been conducted. The evaluation reports have been posted in the section on DITS on the Intranet and are thus available to all ICIMOD staff.

Nine Seminar/Talk Programmes were hosted in 1998.

The Training Officer was also responsible, in close collaboration with the Personnel Officer, for the human resources' development of ICIMOD staff. From 1995 to 1998 (June 30), 37 in-service training courses were organized for ICIMOD staff.

In May 1998, DITS initiated a study to review the training (capacity building and human

resource development) programmes organized and supported by ICIMOD, training being a key activity of the Centre, over the past four years (RCP1). The outcome of the study will help all ICIMOD staff, divisions, and units responsible for Training and Human Resources' Development, and particularly the new Institutional Strengthening Unit which will come into being during RCP-II, in the formulation and implementation of their training, institutional development, and HRD programmes.

Documents Published in 1998

Technical Publications

1. *Forestry and Key Asian Watersheds*, A.K. Myint & T. Hofer, Feb.
2. *NTFPs, Institutions, and Income Generation in Nepal*, D. Chandrasekharan, Feb.
3. *Mountain Tourism for Local Community Development in Nepal: A Case Study of Upper Mustang*, K. Banskota & B. Sharma, Feb.
4. *Mountain Tourism for Local Community Development in Nepal: A Case Study of Phewa Lakeside, Pokhara*, K. Banskota, B. Sharma, Feb.
5. *Mountain Tourism for Local Community Development in Nepal: A Case Study of Syaprubesi, Langtang National Park*, K. Banskota, B. Sharma, Feb.
6. *Samudayik Vansiki - Jeevan Ki Bhasa*, MNR Workshop Report, March
7. *Fourth Asian Apicultural Association International Conference, Conference Programme Summary*, MFS, March
8. *International Conference on Ecohydrology of High Mountain Areas*, MNR WS Report, April
9. *Community Forestry: The Language of Life (Chinese Version)*, MNR WS Report, May
10. *Regional Course on Gender & Organisational Development for Sustainable Mountain Land Use in the HKH Region*, MFS, April
11. *Regional Collaborative Programme for the Sustainable Development of the Hindu Kush-Himalayas (1999-2002) RCP II*, May
12. *Renewable Energy Technologies: A Brighter Future*, Editor, Kamal Rijal, June
13. *Integrating Geomatics and Participatory Techniques for Community Forest Management: Case Studies from the Yarsha Khola Watershed, Dolakha District, Nepal*, Gavin H. Jordan and Bhuvan Shrestha, July
14. *Capacity-Building in Participatory Upland Watershed Planning, Monitoring and Evaluation, A Resource Kit*, A. Bhatia, C. K. Sen, G. Pandey, J. Amstis, July
15. *Implications of National Policies on Renewable Energy Technologies: Report of the Regional Experts' Consultation*, Kamal Rijal, Aug.
16. *Draught Animal Power in Mountain Agriculture: A Study of Perspectives and Issues in the Central Himalayas, India*, Vir Singh, Sept.
17. *Applied Ethnobotany in Natural Resource Management: Traditional Home Gardens*, Ajay Rastogi, A. Godbole, Pei Shengli, Sept.
18. *Fields of Grass*, Daniel J. Miller, Sept.
19. *Appropriate Farm Technologies for Cold and Dry Zones of the Hindu Kush-Himalayas*, Shahena Haleez, Sept.
20. *Mountain Tourism for Local Development: Training Manual for Policy Planners in Tourism and Related Areas*, Kamal Banskota and Bikash Sharma, Oct.
21. *Mountain Tourism for Local Development: Training Manual for Programme Designers and Implementers*, Kamal Banskota and Bikash Sharma, Oct.
22. *Mountain Tourism for Local Development: Training Manual for Local Community Groups and Organizations*, Kamal Banskota and Bikash Sharma, Oct.
24. *Hydrometeorological Measurements and Analysis in Interdiscipli-*

25. *Development of Micro-enterprises Ilam and Bhojpur District*, Udaya Sharma, Nov.
26. *Enterprise-based Transformation of Hill Agriculture*, K.N. Badhari, Dec.
27. *Managing Agrobiodiversity in the HKH Region: Farmers' Changing Perspectives and Institutional Responses*, T. Partap & B. Sthapit, Dec.
28. *Recent Concepts, Knowledge, Practices, and New Skills in Participatory Integrated Watershed Management: Trainers' Resource Book*, B.R. Bhatta, S.R. Chalise, A.K. Myint, P.N. Sharma, Dec.
33. *Management and Operational Manual for Private Micro-Hydropower Plants*, Prepared by DCS-Technology Development
34. *Access Improvement and Sustainable Development: Rural Road Development in Nepal*, Durga P. Paudyal, Dec.
36. *Enterprises in Mountain-specific Products in Western Sichuan, China*, Lu Rongsen, Dec.

Issues in Mountain Development

1. *Poverty-Environmental Resource Degradation Links: Questioning the Basic Premises*, N. S. Jhoda, IMD 98/1
2. *Intellectual, Biological, and Cultural Property Rights in the HKH*, Ajay Rastogi, IMD 98/2
3. *Environment, Culture, Economy, and Tourism: Dilemmas in the Hindu Kush-Himalayas*, Pitamber Sharma, IMD 98/3
4. *Sustainable Energy Use for Mountain Areas: Community-level Energy Planning and Management*, Kamal Rijal, IMD 98/4
5. *Livestock Development in Mixed Crop Farming Systems: Lessons and Research Priorities*, Pradeep Tulachan, IMD 98/5
6. *Mountain Women of the Hindu Kush-Himalayas: The Hidden Perspective*, Jeannette D. Gurung, IMD 98/6
7. *Bioterracing & Soil Conservation: Experience with Contour Hedgerow Planting in Parts of the Hindu Kush-Himalayan Region*, Tang Yu, Both English and Chinese Version, IMD 98/7
8. *Market and Small Towns in the Hindu Kush-Himalayas: Alternative Modes of Urbanisation*, Pitamber Sharma, IMD 98/8

General Publication

1. Annual Report '97
2. People and Resource Dynamics Project - Introductory Brochure.
3. MENISS Bulletin, Vol. 6 Summer '98
4. RET: Opportunities for Mountain Communities, (Newsletter 30)
5. Biodiversity Management in the Hindu Kush-Himalayas (Newsletter 31)
6. Soil Fertility Issues in the Hindu Kush-Himalayas (Newsletter 32)
7. Mountain Forum Bulletin Vol. 1, No. 1 + APMN Bulletin Vol 3, No. 1 and others
8. APMN bulletin, Vol 3, No 2
9. Mountain Forum Bulletin, Vol 1, No. 2
10. Mountain Forum Membership Directory Addendum September 1998
11. Catalogue of Publications, DITS, Dec.

Linkages beyond the Hindu Kash-Himalayan Region



Participants to the 'Mountains 2000 and Beyond Conference' on a field visit in Switzerland.

The Mountain Forum (MF)

Commencing in January, ICIMOD became the Convenor of the Mountain Forum for a two-year period. This is the first time that ICIMOD has taken on global responsibility for a sustainable mountain development network. Most of the information sharing on mountain development is managed by the Global Information Server Node based at the Mountain Institute, USA, but ICIMOD has actively contributed to the following.

- A global electronic conference in May 1998 on 'Community-based Mountain Tourism' was moderated by ICIMOD for a week.
- The first two issues of the Mountain Forum Bulletin were published in 1998. ICIMOD assisted in the design, selection of content, printing, and dissemination of these bulletins.

Asia Pacific Mountain Network (APMN)

- Two issues of the biannual APMN Bulletin were published and distributed electronically and in hard copy in 1998.
- A Forum on Sustainable Mountain Ecosystems was held at the APMN Southeast Asia Focal Point, the University of the Philippines-Los Banos, Institute of Forest Conservation, College of Forestry, 19-20 March, resulting in a research and development agenda for sustainable mountain development in the Philippines. Also, from May 25-27, in line with the Memorandum of Understanding signed by the International University of Kyrgyzstan (IUK) and the APMN Secretariat at ICIMOD, a seminar on 'Mountains of Central Asia: Problems, Experiences and Perspectives' was held in May at IUK, Bishkek, Kyrgyzstan.

- As of December 1998 over 250 members from Asia and the Pacific had registered with the MF.
- In order to reach out to a wider community, APMN initiated a 'Mountain Issues in the Media' project in collaboration with PANOS South Asia to publish feature articles on mountain issues.
- APMN under its Australia Sub-region supported a subregional workshop entitled 'Big Business in the Mountains' in September 1998.
- Three professionals from the Asia-Pacific region were sponsored to participate in the APMN 'Exchange Visits' activity in the CODOCA conference in Urumiqi in September 1998.
- A letter of agreement was signed between APMN/ICIMOD and the Ministry of Agriculture, Thimphu, Bhutan to facilitate the 'BhutanNet' initiative. This Agreement contains activities such as automating the library and resource centre of the Ministry of Agriculture and human resource development.
- A 5-minute audio-visual spot on 'Reviving Traditions: Impacts of Tourism on Environment and Culture' was prepared.

Mountains 2000 and Beyond

On the occasion of 15 years of support by the Governments of Germany and Switzerland to ICIMOD, an 'International Conference on Sustainable Development of the HKH Region: Mountains 2000 and Beyond,' was organized in Wildbad Kreuth, Germany, in June. The Conference was hosted by the German Foundation for Development and funded by the Governments of Germany and Switzerland. Mr. Carl - Dieter Spranger, Federal Minister for Economic

Cooperation and Development of Germany, inaugurated the Conference and Dr. Hans Peter Maag read out a message from Ambassador Walter Fust, Head of SDC. The ICIMOD Board Members, representing the Governments of the HKH countries, delivered statements.

Experts from ICIMOD presented papers on key thematic issues. Highlights of ICIMOD's programme for the next four years were presented by the Director General. The presentations were chaired by prominent mountain development scholars, namely, Prof. Winfried von Urff, Prof. Skidmore, Dr. Klaus Lampe, Mr. T. Wachs, Dr. Lynn Bennett, and Dr. Hans Peter Maag. Inputs were provided by scientists from Europe and the Members of the Board of Governors.

Discussions on the themes cited, and specifically the highlights of ICIMOD's Second Regional Collaborative Programme (1999 - 2002), took place both in plenary and in smaller working groups. Issues were raised on topics such as: *a comprehensive vision for mountain areas; a framework for examining poverty and sustainable livelihoods; interaction with different stakeholders; emphasis on communications with policy-makers; ICIMOD's global responsibility; links with industry; standardisation and reliability of data.*

The meeting provided a unique opportunity to reflect on the broader issues of sustainable mountain development and particularly on ICIMOD's role.

- a. *RCP-II* - The planning, monitoring, and evaluation (PME) process needs strengthening within the Centre and both qualitative and quantitative indicators for monitoring and evaluation are needed.
- b. *Strategic Alliances* - Many of the research and teaching institutions present expressed a keen interest in continuing interaction with ICIMOD. The Centre could develop more effective networks with institutions outside the region and benefit from their knowledge/expertise for specific contributions not available in the HKH.
- c. *Financial support to RCP-II* - The representatives of the governments of Germany, The Netherlands, and Switzerland indicated their organizations' interest to continue their support to ICIMOD.

Following the meeting in Germany, a field trip to Switzerland was organized by the Swiss Government. The excursion provided the group with first-hand knowledge about the mountain development challenges and successes encountered by the Swiss through on-site visits, presentations, and discussions.

Second Conference on Sustainable Development of Central Asia

This conference took place in Urumqi, China, from September 13-18. The Conference was a joint initiative of the Council for Sustainable Development of Central Asia (CoDoCA) and the Xinjiang Environmental Science Research Institute. It was organized in association with the Chinese Academy of Sciences (CAS), ICIMOD, and the WorldWide Fund for Nature, among others. The conference received financial support from the Ford Foundation, the Kingdom of the Netherlands, and the Swiss Agency for Development and Cooperation.

The conference continued the debate started in 1994 (CoDoCA-I) in Ulaan Bataar, Mongolia, at which a wide range of important issues affecting the ecology of the region were discussed by experts from the Central Asian region and the West.

The CoDoCA-II conference focussed on key issues affecting Central Asia, in particular the relationship between economic and social development and the protection of Central Asia's fragile resources. It addressed specialised topics such as sustainable land use, erosion control, protection of water resources, pastoral economics, and so on. The number of 'technical' presentations however was limited. The Conference fuelled a debate on how the various elements interact in order to identify properly what causes the region's common environmental and development problems, and, subsequently, what measures are required to solve these problems. Equal emphasis was placed on the implementation of these measures, by presenting examples of appropriate technologies, community-managed irrigation and renewable energy systems, and innovative mechanisms for financing resource conservation and sustainable development initiatives.

The conference brought together organizations and individuals with an interest in the sustainable development of the region. The audiences were policy-makers from economic planning, finance, environment, foreign ministries, researchers, and representatives from other than state bodies committed to building an economically prosperous, socially harmonious, and environmentally secure Central Asia.

The countries of Central Asia made a strong commitment to work together to promote sustainable development in the region through careful balancing of environment and development activities at all levels. This is reflected in the main outputs of the Conference: the '**Urumqi Declaration**' and the '**Altai Declaration**'.

Providing a Platform: Talk Programmes

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, ICIMOD has been holding a series of monthly seminars.

The seminars are intended for anyone interested in 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 1998, nine seminars were held altogether. They were attended by relevant professional staff from government organizations as well as people from national and international non-government organizations. A list of the monthly seminars held throughout 1998 with the title, date, and the name and designation (as of that date) of the speakers is provided in the box below.

Title:	Development Dimensions of Agricultural Terracing: Introducing Important Issues and Highlighting the High Potential
Speaker:	Ek Raj Ojha, Development Finance Department, Nepal Rastra Bank
Date:	January 23, 1998
Title:	Poverty Alleviating Strategy: Is it Access to Credit or Institution Building
Speaker:	Prof. M.A. Baqui Khalily, Department of Rural Finance, University of Dhaka
Date:	March 13, 1998
Title:	Acute Mountain Sickness in the Himalayas: A Cross-Sectional Epidemiological Study
Speaker:	Dr. Buddha Basnyet, Director, Nepal International Clinic
Date:	March 6, 1998
Title:	Glacier Lake Outburst Flood Modelling in the Nepal Himalaya; A Case Study of DiG CHO Glacier Lake
Speaker:	Mr. P. R. Maskey, Engineer, Department of Irrigation
Date:	28 May, 1998
Title:	Integrating Quantitative and Participatory Techniques for Enhanced Community Forest Management
Speaker:	Mr. Gavin Jordan, Manchester Metropolitan University and Forest Research Centre, Berks University, UK
Date:	May 15, 1998
Title:	Appropriate Farm Technologies for Cold and Dry Zones of Hindu Kush-Himalayan Region
Speaker:	Dr. Shaheena Hafeez Malik
Date:	Tuesday, 9 June 1998
Title:	Women of Bhutan - followed by a Comparative Assessment of Nepalese and Bhutanese Women
Speaker:	Mrs. Prabha Thaker
Date:	23 September 1998
Title:	Sustainable Soil Management in Intensified Farming Systems
Speaker:	Mr. George Weber
Date:	22 December 1988
Title:	Property Rights for Women in South Asia
Speaker:	Dr. Bina Agarwal
Date:	Monday, 7 December 1998

Contributions Beyond

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 are contributing to various 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 1998, are listed below.

Akhtar, Shahid

Akhtar, S. 1998. **Global Network for Sustainable Mountain Development**. Published in 'Sustainable Mountain Ecosystems: Philippines' Challenge for the 21st Century' edited by Juan M. Pulhin, Lucrecio L. Rebugio and Florencia B. Pulhin, College of Forestry and Natural Resources, Laguna, Philippines, p147-150.

Akhtar, S.; Song, S. 1998. **The Internet in Africa: Global Forces, African Challenges**. Published in 'African Development Review', Vol 1, No. 1, p162-172.

Chalise, Suresh Raj

Karki, S.; Chalise, S. R. 1998. **Improving People's Participation in Soil Conservation and Sustainable Land Use through Community Forestry in Nepal**. Published in H. P. Blume et al. 'Towards Sustainable Land Use: Furthering Cooperation between People and Institutions', Vol. 2 (Advances in Geocology 31), Wageningen, International Society for Soil Science (JSSS), p1151-1159.

Jodha, N. S.

Jodha, N. S.; Bhatia, A. 1998. **Community Management of Commons: Re-empowerment Process and the Gaps**. 1998. 17pp. Paper presented at the 7th IASCP Conference: Panel on Structuring Devolution, 10-14 June 1998, Vancouver, Canada.

Jodha, N. S. 1998. **Poverty and Environmental Resource Degradation: An Alternative Explanation and Possible Solutions**. 1998. Paper published in 'Economic and Political Weekly', Vol. XXXIII, no. 36/37, p2384-2390.

Jodha, N. S. 1998. **Social Dimension of Biodiversity Management in Agricultural Landscapes**. 19pp. Paper prepared for International Institute for Environment and Development (IIED) Gatekeeper series.

Junejo, A. A.

Junejo, A. A. 1998. **Minimum Requirements for Hydrological Data to Install a Micro-hydropower Plant on an Ungauged Stream**. Paper published in 'International Symposium on Hydrology of Ungauged Streams in Hilly Regions for Small Hydro Power Development', New Delhi, India, p.55-58.

Junejo, A. A. 1998. **Applicability, Achievements and Future Prospects of Private Mini- and Micro Hydropower for the Under-developed areas of the Himalayan Region**. Paper published in 'Medium/small Hydropower & Equipment', no. 3, p52-59.

Myint, Aung Kyaw

Myint, A. K. 1998. **Bamboo and Rattan of Myanmar**. Paper presented at the 'Regional Workshop on Bamboo and Rattan of the Himalayas, 11-16 May, Kunming, China.

Myint, A. K. 1998. **Forest Resources of Hindu Kush-Himalayas**. 1998. 16pp. Paper presented at the FAO/Government of India (GOI) workshop on 'Status of Forest Resources Assessment in the South Asia Sub-Region and Country Capacity Building Needs, 8-12 June, Dehradun, India.

Myint, A. K. 1998. **Global Forest Depletion and Sustainable Forest Management with Reference to Hindu Kush-Himalayan Region and Myanmar**. 41pp. Paper presented at the 'International Seminar on Sustainable Forest Management', August 31-September 2, Pokhara, Nepal.

Papola, T. S.

Papola, T. S. 1998. **Women in Enterprises: Some Evidence from the Hindu Kush-Himalayan Region**. 12pp. Paper presented at 'SAARC Level Seminar on Poverty Alleviation through Women Entrepreneurship Development', 6-7 September 1998, Kathmandu, Nepal.

Partap, Tej

Partap, T.; Joshi, B. D.; Gateway, N. W. 1998. **Chenopods (*Chenopodium spp.*)** 67pp. Published in T. Partap, B. D. Joshi and N. W. Gateway. 'Chenopods (*Chenopodium spp.*)'. Rome and Gatersleben, Germany, International Plant Genetic Resources Inst. (IPGRI) and *Institut für Pflanzengenetik und Kulturpflanzenforschung (IPK)*.

Partap, T. 1998. **Mountain Agriculture, Cash Cropping and Sustainability Prospects**. Published in V. L. Chopra, R. B. Singh and Anupam Varma (eds). 'Crop Productivity and Sustainability: Shaping the Future' - Proceedings of the 2nd International Crop Science Congress. New Delhi, Oxford & IBH Publishing Co. p561-572.

Pei Shengji

Pei Shengji; Long Chun-lin. eds. 1998. **Applied Ethnobotany: Proceedings of the National Training Workshop on Applied Ethnobotany in China**. Published in Pei Shengji and Long Chun-lin. 'Applied Ethnobotany: Proceedings of the National Training Workshop on Applied Ethnobotany in China'. Yunnan (China), Yunnan Nationality Press, 1998.

Pei Shengji. 1998. **Biodiversity conservation in the mountain development of Hindu Kush-Himalayas**. Paper published in C. H. Chou and K. T. Shan (eds), 'Frontiers in Biology: the Challenges of Biodiversity, Biotechnology and Sustainable Agriculture'. Taipei, Academia Sinica, p223-p234.

Rastogi, Ajay

Rastogi, A. 1998. **The Hindu Kush-Himalayan Ethnobotany Programme: Focus on Medicinal Plants**. 5pp. Paper presented at the

International Conference on Medicinal Plants Conservation, Utilisation, Trade and Cultural Traditions, Bangalore, India February 16-20 1998.

Rijal, Kamal

Rijal, K. 1998. **Promotion of Renewable Energy Technologies in the Mountains: Towards a Framework for Policy Recommendations**. 8pp. Paper presented at the 'International Conference on Role of Renewable Energy Technologies for Rural Development', 12-14 October, Kathmandu, Nepal.

Rijal, K. 1998. **Renewable Energy Policy Options for Mountain Communities: Experiences from China, India, Nepal and Pakistan**. 7pp. Paper presented at the '5th World Renewable Energy Congress', 20-25 September 1998, Florence, Italy.

Sharma, Pitamber

Sharma, P. 1998. **Experiences in Promoting Mountain Tourism for Local Development: Lessons from Nepal**. 24pp. Paper presented at the Conference on Strategic Considerations on the Development of Central Asia, 13-18 1998, Urumqi, Xinjiang, China.

Sharma, P. 1998. **Sustainable Tourism in the Hindu Hush-Himalayas: Issues and Approaches**. Paper published in P. East, K. Luger and K. Inmann (eds). Sustainability in mountain tourism. Delhi: Book Faith India and Studien Verlag Austria, 1998, pp. 47-71.

Tang Ya

Tang Ya; Macior, L. W.; Zhang Jian-cheng. 1998. **A New Variety of *Pedicularis longiflora* (*Scrophulariaceae*) from Northwest Sichuan, China**. 2pp. Paper published in *Novon*, No. 8, 1998.

Collaboration with Member Countries



Collaborating Ins



Afghanistan

- Kabul University
- Hydrology and Water Management Department Ministry of Water and Power, Kabul



Bangladesh

- Bangladesh Forest Research Institute
- Ministry of Chittagong Hill Tracts' Affairs
- Soil Research Development Institute
- Local Government Engineering Department
- Jahangirnagar University
- Department of Forests, Dhaka
- Other Government and Development Institutions at Rangamat Khagrachari, Chittagong, Sylhet, Coxes Bazaar
- District Local Government Engineering Department Offices
- Bangladesh Institute of Development Studies, Dhaka
- Institute of Appropriate Technology, Bangladesh University of Engineering & Technology (BUET), Dhaka



Bhutan

- Forestry Services' Division, Bhutan
- WWF Bhutan Programme
- Department of Survey
- Ministry of Agriculture
- Ministry of Environment
- (NRTI) Natural Resources' Training Institute, Labeysa
- Ministry of Works and Transport
- Department of Mines & Geology



China

- Office of Agriculture, Chinese Academy of Sciences, Beijing
- Kunming Institute of Botany, Chinese Academy of Sciences
- Bureau of Forestry, Beijing
- Bureau of Forestry, Yunnan
- Bureau of Hydrology, Yangtze
- Chengdu Institute of Mountain Hazards and Environment, CAS, Chengdu, Sichuan
- Institute of Geography, CAS
- Commission for Water and Irrigation
- Chengdu Institute of Water Conservation
- Chengdu Institute of Biology, Chinese Academy of Science
- Chinese Academy of Agricultural Engineering, Research & Planning (CAAERP), Beijing
- Institute of Energy and Environment, CAAERP, Beijing
- International Centre for Small Hydropower, Hangzhou
- Line agencies under the provincial governments in the Chinese HKH
- Chinese Association of Agricultural Science Societies
- Sichuan Association for Science and Technology
- Government of Xizang Autonomous Region (Tibet)
- Yunnan Provincial Institute of Geography, Kunming
- Bureau of City Planning, Lhasa
- Chengdu Energy Environment International Corporation, Chengdu
- Social Science Academy of Yunnan, Kunming
- South West Forestry College, Kunming
- Water Resources Commission, Wuhan
- Ningnian Country Government, Sichuan



India

- G.B. Pant Institute of Himalayan Env. & Development
- Academy for Mountain Environments
- HNB Garhwal University, Srinagar,
- Wadia Institute of Himalayan Geology, Roorkee University
- Y.S. Parmar University of Horticulture and Forestry, H.P.
- TATA Energy Research Institute, New Delhi
- Indian Institute of Remote Sensing - Dehradun
- State Council for Science, Technology & Environment, HP
- Arunachal Pradesh Energy Development Agency, Itanagar
- Indian Institute of Technology, Delhi
- Ministry of Environment and Forests, New Delhi
- Centre for Science and Environment, New Delhi
- Department of Forests, J & K
- Department of Forest Farming and Conservation, HP
- Department of Forests, Nainital, UP
- Jawaharlal Nehru University, School of Env., New Delhi
- UP Academy of Administration Nainital
- Ladakh Ecological Development Group
- Centre for Soil and Water Conservation Research and Training Institute, Dehradun
- NEPED (Nagaland Environmental Protection and Economic Development Project (Govt. of Nagaland)
- Council for Science, Technology and Environment, Himachal Pradesh
- Alternate Hydro Energy Centre, University of Roorkee
- Line agencies under the provincial governments in the Indian HKH (Assam, Sikkim, UP, HP, West Bengal)
- Indian Council of Agricultural Research
- Wadia Institute of Himalayan Geology
- Kumaon University, Nainital
- Entrepreneurship Development Institute of India, Ahmedabad
- Tata Energy Research Institute, NE Centre, Guwahati
- Council for Advancement of People's Action and Rural Technology (CAPART), Guwahati-781028, India
- SBMK Shree Bhuvaneshwari Mahila Ashram, NGO, Tehri Garhwal, Uttar Pradesh (U. P.)

Institutions in 1998

MYANMAR

- Myanmar Agricultural Services
- Progress of Border Areas and National Races' Department,
- Department of Meteorology and Hydrology, Yangon
- Forest Department, Ministry of Forests
- Institute of Forestry (Yezin)
- Institute of Agriculture (Yezin)
- Institute of Livestock (Yezin)



NEPAL

- National Planning Commission
- King Mahendra Trust for Nature Conservation
- Nepal Agricultural Research Council
- Department of Forests
- Department of Hydrology and Meteorology
- Department of Soil Conservation
- Water Induced Disaster Prevention Technical Training Centre
- Dept. of National Parks and Wildlife Conservation
- CTEVT - Kamali Technical School, Jumla
- *Krishi Nirantarta Sanstha Nepal (KNSN)*, Bhaktapur
- Rural Women's Dev. and Unity Centre (RUWDUC), Dadeldhura
- Department of Agriculture
- Himalayan Bee Concern, Kirtipur
- HMG Nepal/FAO Vegetable Seed Production Project, Khumaltar
- National Herbarium & Plant Laboratories, Godavari
- Environment and Forest Enterprise Project (EFEP)
- Water Induced Disaster Prevention Technical Centre (DPTC)
- Central Department of Botany, TU
- Department of Irrigation
- Institute of Integrated Development Studies
- Market Access for Rural Development Project
- Centre for Resource & Environmental Studies (CREST)
- Centre for Applied Research and Development
- DCS, Butwal
- *Balaju Yantra Shala*
- Tribhuvan University and its institutes and centres
- Silk Association of Nepal
- Kathmandu University
- Kathmandu Metropolitan City Office
- Department of Water Supply and Sanitation
- Department of Housing and Physical Planning
- Department of Roads
- Centre for Rural Technology, Kathmandu
- DECORE Consultancy Group, Kathmandu
- No Frills Consultancy, Kathmandu
- Women's Forums' Development Division of the Ministry of Agriculture
- Fair Trade Group, Nepal



PAKISTAN

- Pakistan Forest Research Council, Peshawar
- WWF Pakistan
- Pakistan Agricultural Support Programme
- Aga Khan Rural Support Programme
- University of Punjab, Lahore, Department of Geology
- Pakistan Agricultural Research Council
- Ministry of Local Government & Environment, Islamabad
- Sarhad Tourism Corporation NWFP, Pakistan
- National Arid Lands' Development and Research Institute, Islamabad, PARC
- Pakistan Forest Institute, Peshawar
- Rangeland Research Institute, National Agricultural Research Centre, PARC, Islamabad
- Pakistan Council of Research in Water Resources, Islamabad
- Centre of Excellence in Water Resources University of Engineering and Technology, Lahore
- Aga Khan Housing Board for Pakistan
- University of Engineering and Technology, Peshawar
- Pakistan Council of Appropriate Technology, Islamabad
- Line agencies under the provincial governments in the Pakistan: HKH (Balochistan, AJK, NWFP)
- Federal Ministry of Agriculture
- Department of Agriculture and Livestock, Balochistan
- Agricultural Universities
- University of Peshawar
- Balochistan Rural Support Programme
- Sharad Rural Support Corporation, Peshawar
- Extension Services' Management Academy, Garhi Dopata, Azad Jammu and Kashmir



Research and De

Various 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 at some of these sites. A list of the projects being implemented in the field is given below and the relevant numbers indicated in parentheses under the sites where they are being carried out.

1. Gender, Environment, and Sustainable Livelihoods' Project — research focussing on gender, food, and community-based resource management
2. 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

Bangladesh

Location: Alutila, Khagrachari District, Chittagong Hill Tracts
Area: 20ha
Altitude: 600masl (3)

China

Location: Guan Village, Shigatse Prefecture, Tibet
Altitude: approx. 2,500masl (1)

Location: Zixishan Nature Reserve and Hongqiong Administrative Village, Chuxiong District, Yunnan Province
Area: 67 sq. km.
Altitude: 800 - 2,200masl (2)

Location: Damai Village, Baoshan, Yunnan Province
Area: 45 ha
Altitude: 1,370 - 1,750masl (4.1)

Location: Tanguanyan, Peisha Town, Ningnan County, Sichuan Province
Area: 8ha
Altitude: 1,100 - 1,200masl (3)

Location: Masangping, Lutie Township, Ningnan County, Sichuan Province

Location: Xi Zhuang Watershed, Baoshan County, Yunnan Province
Area: 3,456 ha
Altitude: 1,700 - 3,075 masl

India

Location: Arah Village, Kosi, Katarni Almora District, Uttar Pradesh
Area: approx. 8ha
Altitude: 2,157masl (4.1)

Location: Simour District, Himachal Pradesh
Area: 11,606ha
Altitude: approx. 2,500masl (1,500 ft in the foothills to 11,999ft) (1)

Location: Nagaland State in NE India
Area: 16,579 sq. km.
Altitude: 1,620 masl (1)

Location: Almora, Uttar Pradesh
Altitude: 640 - 680masl (3)

Location: Suangjans, Nagaland
Area: Approx. 7ha

Location: Bheti Gad- Garus Gang Watershed, Almora District, UP
Area: 8,481 ha
Altitude: 1,090 - 2,520 masl(4)



Nonstration Sites

3. 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
4. People and Resource Dynamics' Project
 - 4.1 Rehabilitation of Degraded Lands in Mountain Ecosystems in the HKH Region Project — identifying and testing appropriate species and technologies for revegetation of degraded land
 - 4.2 Mountain Resources' Management Project — establishing linkages, processes, and dynamics among people, resource use, and degradation

Nepal

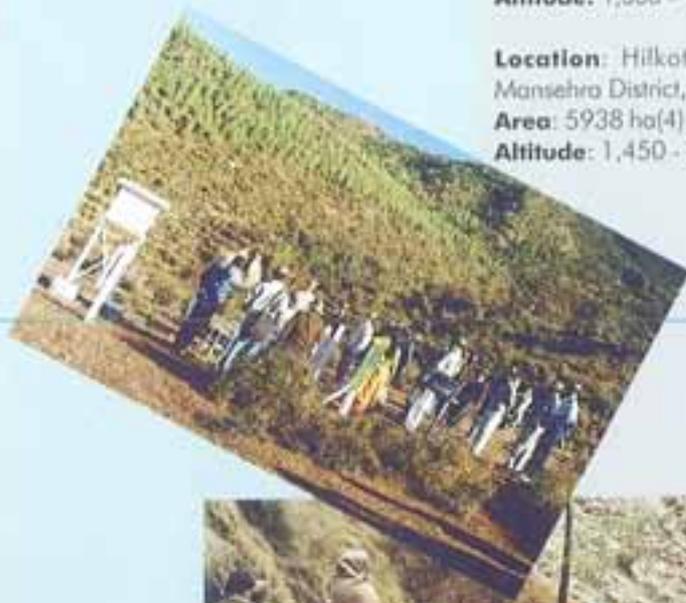
- Location:** Godawari
Area: 6ha
Altitude: 1,550 - 1,900 masl (3)
- Location:** Tistung
Area: 5ha
Altitude: 200masl (3)
- Location:** Parcho Village, Sikles, Annapurna Conservation Area, Kaski District
Altitude: 1,975masl (1)
- Location:** Langtang National Park & the Nyabru Besi Village, Rasuwa Dist.
Area: 1,710 sq. km. (of Langtang National Park)
Altitude: 1,600 - 2,400 masl. (2)
- Location:** Bajrapareko Danda & Dhaireni Pakha, Kabhre Palanchowk
Area: 6.76 and 15.93 ha respectively
Altitude: 925 - 1,150masl and 900 to 1,000masl respectively (4.1)
- Location:** ICIMOD Headquarters' Complex Site, Godavari
Area: 30ha
Altitude: 1,550 - 1,800 masl (4.1)
- Location:** Jhikhu Khola Watershed, Kabhre Palanchowk District, 40km east of Kathmandu
Area: 11,141 ha
Altitude: 800 - 2,200 masl (4.2)
- Location:** Yarsha Khola Watershed, Dolakha District, eastern Nepal
Area: 5,338 hectares
Altitude: 1,000 - 3,030 masl (4.2)

Myanmar

- Location:** Pidaung Wildlife Sanctuary, Kachin State
Area: 170,017 acres
Altitude: 80 masl (2)
- Location:** Hosantan Lashio, Shan State
Area: 3.7ha(4)

Pakistan

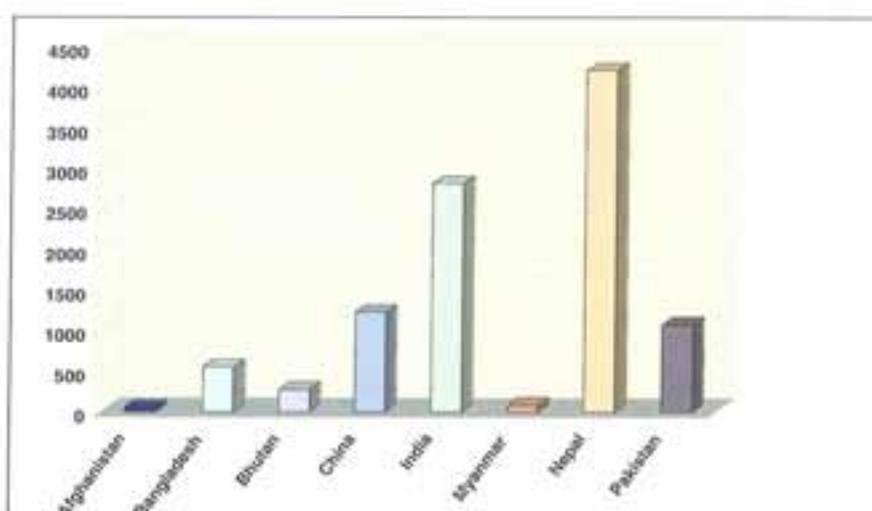
- Location:** Begawal, Islamabad
Area: 2.5ha
Altitude: 600masl (3)
- Location:** Tarbela and Mangla catchment areas, Mansehra District
Area: 15ha respectively (4.1)
Altitude: 1,300 - 1,600masl
- Location:** Hilkot Sharkhul Watershed, Mansehra District, NWFP
Area: 5938 ha(4)
Altitude: 1,450 - 2,900(4)



Statistical Profile

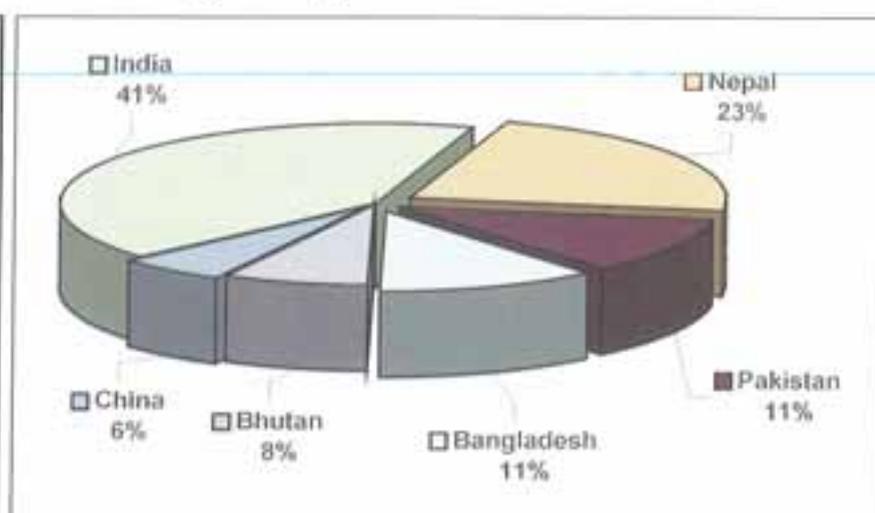
Number of Documents in the Library as of 1998

Country	No.
Afghanistan	52
Bangladesh	545
Bhutan	268
China	1222
India	2815
Myanmar	76
Nepal	4215
Pakistan	1072

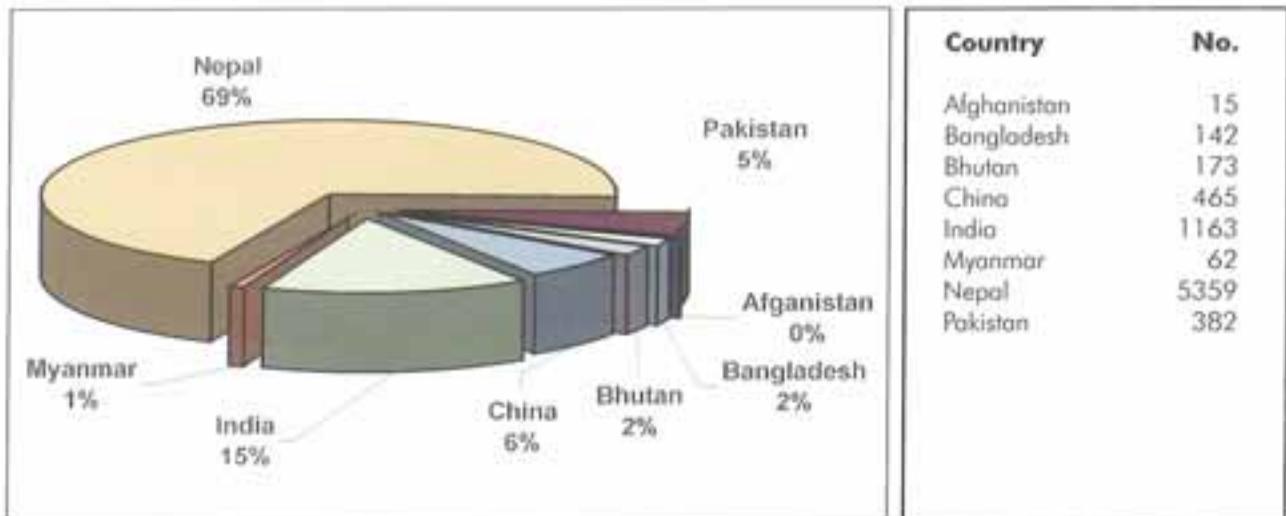


Publications' Exchange Programmes as of 1998

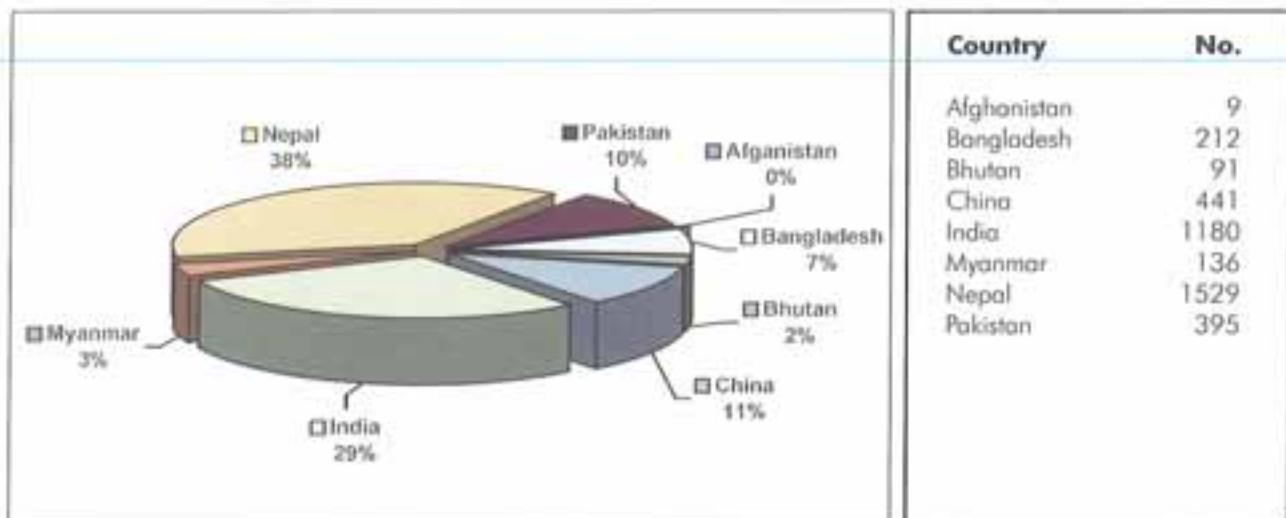
Country	No.
Bangladesh	6
Bhutan	4
China	3
India	22
Nepal	12
Pakistan	6



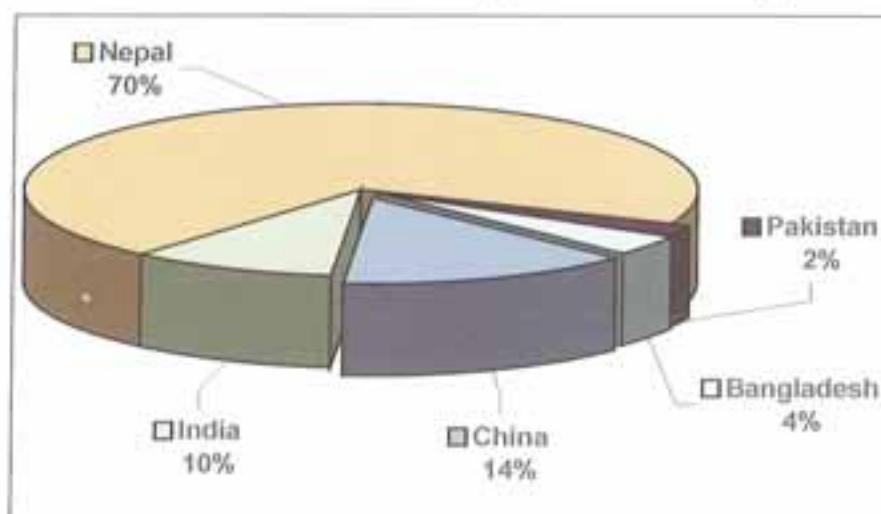
Publications Distributed in 1998



Mailing List as of December 1998

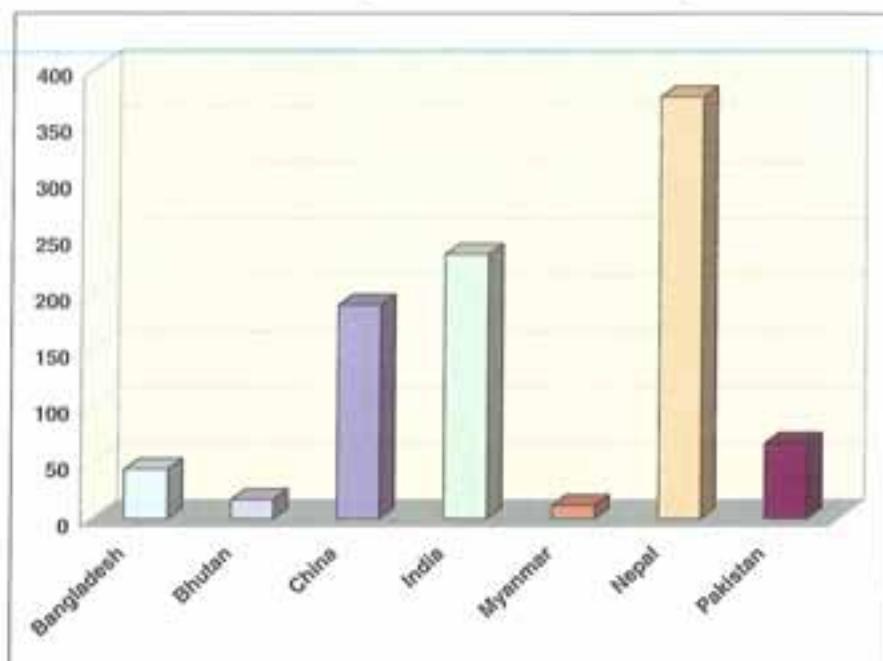


Number of Workshops and Training Courses Held in 1998



Country	No.
Bangladesh	2
China	7
India	5
Nepal	35
Pakistan	1

Number of Participants in Workshops and Training Courses in 1998



Country	No.
Bangladesh	44
Bhutan	17
China	180
India	235
Myanmar	12
Nepal	375
Pakistan	67

Ongoing Projects - 1998

With the adoption of the Regional Collaborative Programme, ICIMOD has shifted its emphasis from a project mode to a programme mode, and most of its focus area 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.

Analysis and Promotion of Sustainable Water Harvesting Technologies & Management Systems in the Hindu Kush-Himalayas

20 months (May 1997 - Dec. 1998)
Ford Foundation, USA
India, Nepal, Pakistan

The Asia Pacific Mountain Network (APMN)

2 years (Nov. 1995 - Oct. 1998)
Swiss Agency for Development and Cooperation (SDC)
HKH, North Central Asia, North East Asia, South East Asia, West Asia, Australasia Pacific

Capacity Building for Incorporating Gender in Sustainable Development Policies, Strategies, and Programmes in the HKH Region

3 years (October 1996 - Dec. 1999)
The Netherlands Government
The Regional Member Countries, Ministry of Foreign Affairs (DGISAF)
Bangladesh, Bhutan, China, Myanmar, Nepal, Pakistan, India

Capacity Building for Mini-and Micro-Hydropower Development in the HKH Region

24 months (July 1996 to December 1998)
Norwegian Agency for Development Cooperation (NORAD)
India, Nepal, and Pakistan

Establishing a Network on Sustainable Mountain Development

1 year (October 1997 - September 1998)
International Development Research Centre (IDRC), Canada
Nepal

Electronic Networking for Sustainable Mountain Development

2 years (April 1997 - April 1999)
International Development Research Centre
Currently in Nepal

Gender, Environment and Sustainable Livelihoods

April 1996 - Sept. 1997
ENGENDER
China, India, Nepal, and Bhutan

Hindu Kush-Himalayan - Flow Regions from International Experimental and Network Data (HKH-Friend)

March 1995 onwards
UNESCO, German IHP/OHP Committee
Afghanistan, Bangladesh, China, Myanmar, Nepal and Pakistan

Global Mountain Programme on Sustainable Mountain Agriculture and Natural Resources' Management

2 years (October 1996 - October 1998)
Australian Centre for International Agricultural Research (ACIAR)
Bhutan, India, Nepal & Pakistan

Global Mountain Programme on Land Policies, Degradation and Resource Management

3 Years (1998 - 2000)
International Potato Centre (CIP)

Implementation of the Environmental Assessment Programme in the Hindu Kush-Himalayan (HKH) Region

18 months (July 1996 - June 1998)
UNEP-EAP-AP
Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan

Integrated Training for Mountain Risk Engineering in the Himalayas

26 months (September 1995 - June 1998)
The Commission of the European Communities
China, India, and Nepal
Landslide Hazard Management and Control in the HKH Region
1994 to December 1998
Japanese Government
China, India, Nepal, and Pakistan

Mountain Development Policies and Programmes

2 years (March 1997 - March 2000)
The Ford Foundation
China, India, Nepal, Pakistan, Bhutan

Participatory Natural Resources' Management

3 years (March 1996 - February 1999)
Ford Foundation
Bhutan, India, and Nepal

Promotion and Development of Beekeeping through the Preservation of Indigenous *Apis cerana* in the HKH Region

5 years (July 1993 - July 1998)
Austroprojekt
Nepal, Limited coverage in other Regional Member Countries

People and Resource Dynamics in Mountain Watersheds of the Hindu Kush-Himalayas

3 years (October 1996 - October 1999)
IDRC & SDC
China, India, Nepal, and Pakistan

Promotion of Sustainable and Equitable Use of Plant Resources in the HKH Region through the Application of Ethnobotany

3 years (1995 - 1998)
UNESCO with DANIDA fund-in-trust
Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan

Regional Collaboration for Biodiversity Management in the Eastern Himalayas

3 years (1995-2000)
MacArthur Foundation
China, Myanmar, and Nepal

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

4 years (November 1996 - September 2000)
The Netherlands' Government
Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan

Regional Flow Regimes Estimation for Small Hydropower Assessment (REFRESHA)

3 Years (October 1997-October 2000)
Department for International Development Institute for Hydrology, UK

Appropriate Technologies for Soil Conserving Farming Systems (Phase II)

3 Years (May 1998 - May 2001)
Asian Development Bank
Nepal, Bangladesh, China, India and Pakistan

Models for Integrated Management of Himalayan Ecosystem

2 Years (Feb 1998-Dec. 1999)
UNEP
China and Nepal

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Lyonpo (Dr.) Kinzang Dorji
Minister
Ministry of Agriculture
Bhutan

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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

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Act. Secretary
Ministry of Population and Environment
Nepal

Zafar Altaf
Islamabad
Pakistan

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Mr. Milan R. Tuladhar

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Head, Administration, Finance and Logistical Service

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Ms. Jeannette Gurung
Dr. Tang Ya

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Gender and Development Specialist
Coordinator, Appra. Tech. for Soil Conserving Farming Systems
Farm Economist
Beekeeping - Apiculture Specialist
Assistant Coordinator, Gender and Development Project

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Dr. Pitamber Sharma
Dr. Kamal Rijal
Dr. Syed Z. Sadeque
Dr. Anwar A. Junejo
Prof. Li Tianchi
Dr. Narpal Singh Jodha

Division Head/Market Economist
Regional Planner
Energy Specialist
Social Scientist
Coordinator, Mini- and Micro-Hydropower Project
Coordinator, Mountain Risk Engineering
Coordinator, Policy Analysis Project

Mountain Natural Resources

Prof. Pei Shengji
Prof. Suresh Raj Chalise
Mr. Anupam Bhatia
Ms. Camille Richard
Mr. Richard Allen
Mr. Ajay Rastogi
Mr. Aung Kyaw Mint
Mr. Saleem Sial

Division Head/Biodiversity Specialist
Water Resources' Specialist
Common Property Resource Management Specialist
Range Management Specialist
Land Use Planner/Soil Scientist
Coordinator, Ethnobotany Project
Forest Resources
Assistant Coordinator, Water Harvesting

Mountain Environment and Natural Resources' Information Service

Mr. Pramod Pradhan
Mr. Basanta Shrestha
Dr. Moe Myint
Mr. Peter Bitter

Head of Service
Systems' Specialist
GIS Specialist
Remote Sensing Specialist

Documentation, Information & Training Service

Mr. Shahid Akhtar
Ms. Greta Rana
Ms. C. P. Jayalakshmi

Head of Service
Senior Editor
Assistant Coordinator, Mountain Forum

New Faces at the Centre

In planning the Regional Collaborative Programme, the human resources, in terms of specialists in key areas to implement the programme, were also identified. To fill in these positions, seven staff were recruited internationally in 1995, three in 1996, seven in 1997, and three in 1998. We now have almost a full complement of staff as envisaged by the RCP and these bring to the Centre a multidisciplinary base, enabling ICIMOD to address sustainable mountain development in an integrated manner. Details of the three staff members who joined us in 1998 are given below.

Ms. Camille Richard



DESIGNATION : Rangeland Management Specialist, MNR
SPECIALISATION : Rangeland Management, especially Range Rehabilitation

Ms. Camille Richard has an M.Sc. in Rangeland Management from Colorado State University, USA, with a particular focus on range rehabilitation. She has a B.A. in Environmental Biology with a minor in Asian Studies from Trinity University, USA. She has years of experience in land reclamation, wetland and riparian ecology, ecological evaluation and delineation of natural areas, and range conservation and development, focussing primarily on high elevation alpine and desert steppe environments in both the USA and Nepal. She worked as a Research Associate/Project Manager at Colorado State University where she was responsible for developing the reclamation

plan for a large defunct gold mine operation in the Rocky Mountains. She has also worked as an ecologist for The Nature Conservancy/Colorado Natural Heritage Programme, conducting ecological evaluations and identifying potential natural areas within high elevation desert and alpine environments. She has also taught Range Management, Watershed Management and Geology at the Institute of Forestry, Nepal, and served as Natural Resource Management Specialist for the Annapurna Conservation Area Project, conducting research on indigenous natural resource management systems in high elevation agro-pastoral communities. Ms. Richard joined ICIMOD on April 22, 1998. Her primary interests at ICIMOD are conservation of rangeland biodiversity, propagation of native forage species, and incorporation of indigenous livestock and range management strategies into the pastoral development process.

Mr. Salim Akhtar Sial



DESIGNATION : Assistant Coordinator, Sustainable Water Harvesting in HH
SPECIALISATION : Irrigation, Drainage, Water Supply, Project Development

Mr. Sial has Bachelor's and Master's degrees in Agricultural Engineering from the University of Agriculture, Faisalabad, Pakistan, and the University of Alberta, Canada, degree respectively. He has also attended several courses on Project Formulation, Monitoring, Sustainability, and People's Participation. He worked as Junior Agricultural Engineer for the Pakistan Water and Power Development Authority and as Scientific Officer, for the Pakistan Agricultural Research Council (PARC), Islamabad from 1981 to

1984. He designed and installed Drip and Micro Sprinkler Irrigation Systems in Pakistan. In 1988, he became the Project Director of the Pakistan Council of Research in Water Resources. Prior to joining ICIMOD in March 1998, he was working as Director-in-Charge of the Water Resources' Research Centre, Peshawar. Some of Mr. Sial's accomplishments include the conducting of training courses; conducting of courses on Irrigation and Drainage, Basic Hydrology, and Basic Hydraulics; and organizing international workshops. Mr. Sial is also Founder President of a rural community-based organization (CBO) and has formulated and supervised several projects. He has contributed technical papers to Research Journals and at Conferences on Hydrology and related topics.

Ms. Jayalakshmi



DESIGNATION : Assistant Coordinator, Mountain Forum Secretariat
SPECIALISATION : Information, Media and Development Communications

Ms. Jayalakshmi has a Master's Degree in Botany from Delhi University and an M.Phil from Jawaharlal Nehru University, Delhi, India. She has worked with the Ministry of Science and Technology, Government of India, as a Scientist, and was also a Consultant to a project of the Ministry to design an online information system for Technology Information Forecasting and Assessment Council of Government of India. She is a founder member of the Energy

Environment Group, an NGO working in 15 villages at the grass roots' level in the foothills of Himachal Pradesh. She was involved in initiating an effort to introduce drudgery-reducing technology options for women, conserving energy, and look at sustainable agricultural practices. She worked as an Information, Documentation and Media specialist in the National Coordination Unit for the Beijing Women's Conference - to facilitate NGO preparations for the UN Conference (1993-95). Prior to joining ICIMOD in August 1998, Ms. Jayalakshmi was developing a Programme on Development Communications with the National Foundation for India.

ICIMOD Income and Expenditure Accounts, 1989-98

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 Funds. All restricted contributions, made by sponsors, governments, and non-government sources, for specific projects are credited to Project Funds.

International Centre for Integrated Mountain Development Income and Expenditure Account Core Funds

(in US Dollars)

SOURCE OF FUND	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Regional										
People's Republic of BANGLADESH	9,614	--	--	10,000	10,000	9,905	10,000	--	10,000	9,670
Royal Government of BHUTAN	5,895	--	3,873	--	--	--	--	2,870	5,000	5,000
People's Republic of CHINA	19,158	18,380	14,836	20,000	20,000	20,000	20,000	20,000	30,000	30,000
Government of INDIA	--	--	92,958	46,479	39,154	--	34,532	79,861	44,522	37,870
Union of MYANMAR	--	--	--	--	--	20,000	10,000	10,000	--	10,000
His Majesty's Government, NEPAL	17,523	10,987	11,737	11,737	10,204	20,408	8,993	9,023	8,811	7,601
Government of PAKISTAN	23,771	--	17,136	20,188	18,184	16,327	--	12,511	--	10,870
Non-Regional										
Federal Chancellery of AUSTRIA	--	--	222,000	222,965	215,627	229,620	234,336	259,272	--	217,675
Government of DENMARK	--	--	--	--	--	--	200,000	200,000	300,000	300,000
Government of FINLAND	--	--	--	--	--	--	--	--	157,285	157,285
Federal Republic of GERMANY	568,967	629,186	555,212	635,040	596,939	561,878	728,507	780,264	651,742	682,379
Government of NETHERLANDS	--	--	--	--	--	--	--	605,144	487,000	515,350
Government of SWEDEN	--	--	--	--	--	--	--	--	170,813	165,748
Government of SWITZERLAND	424,210	367,403	254,577	349,200	349,200	349,200	360,000	500,000	500,000	500,000
Sale of Assets	22,280	--	--	--	--	--	--	--	--	--
Other Income	88,169	105,605	158,052	214,539	137,448	309,000	232,946	269,328	346,277	346,739
TOTAL	1,179,587	1,131,561	1,338,381	1,838,148	1,397,984	1,536,398	1,839,314	2,748,273	2,712,050	2,996,187
Opening Balance	12,276	(47,306)	(140,915)	160,847	191,489	139,422	204,822	546,794	159,716	(35,666)
GRAND TOTAL	1,191,863	1,084,256	1,198,466	1,699,995	1,589,473	1,675,820	2,044,136	3,295,067	2,871,766	2,960,521
EXPENDITURES										
Programme Cost	628,817	563,368	462,839	523,959	615,910	624,197	711,022	1,082,734	1,800,088	1,851,917
Support Cost	311,370	372,957	305,214	424,965	418,729	408,786	439,674	562,708	611,501	627,543
Directorate Cost	302,035	345,397	260,565	333,828	415,412	410,427	334,436	454,255	415,843	382,067
Termination cost	--	--	--	187,985	--	--	--	--	--	--
Total Expenditures	1,242,322	1,281,722	1,028,618	1,478,737	1,450,051	1,443,410	1,486,032	2,999,697	2,907,432	2,861,527
Closing Balance	(50,459)	(197,466)	160,848	220,258	139,422	232,410	558,104	295,370	(35,666)	88,994
GRAND TOTAL	1,191,863	1,084,256	1,189,466	1,699,995	1,589,473	1,675,820	2,044,136	3,295,067	2,871,766	2,960,521

Note: Opening and closing balances may vary because of the different exchange rates being used.

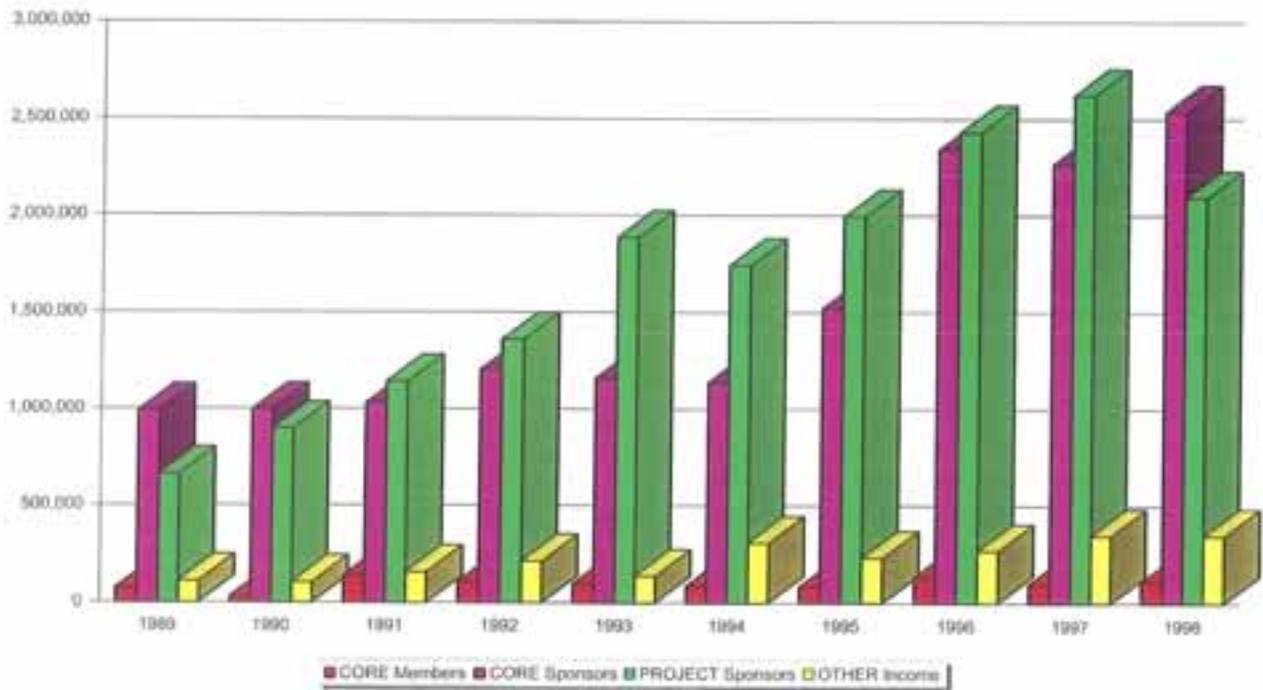
International Centre for Integrated Mountain Development
Income and Expenditure Account
Project Fund

(in US Dollars)

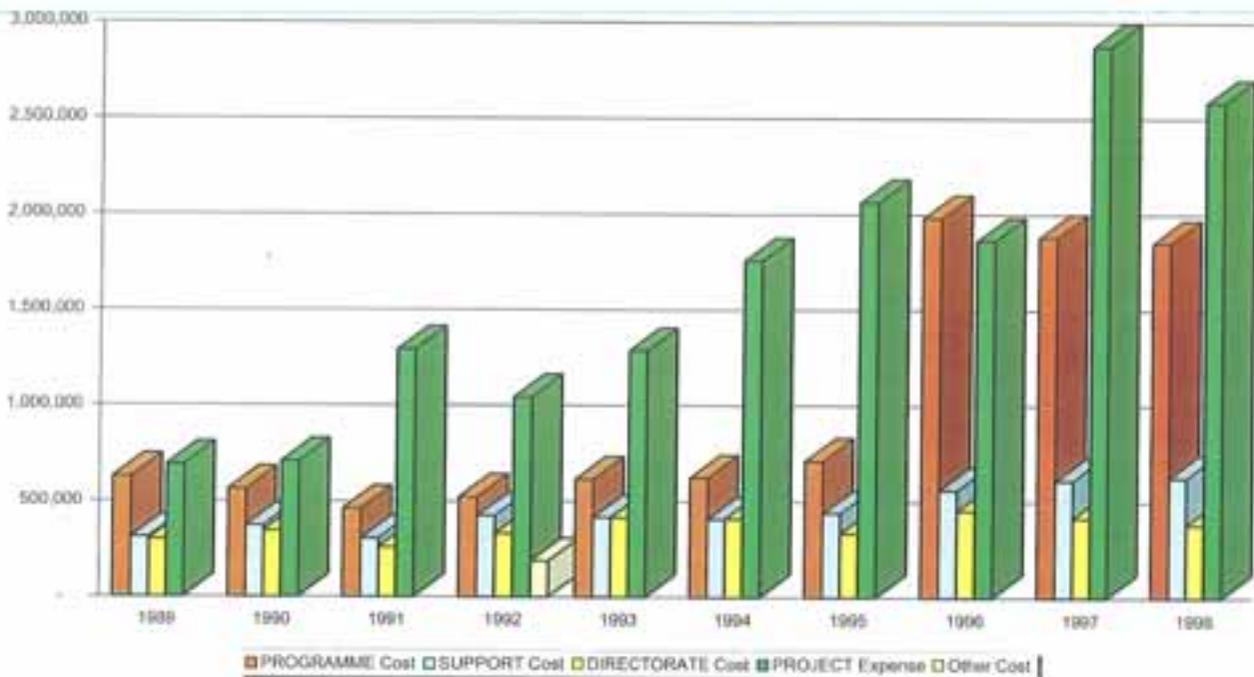
SOURCE OF FUND	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Australia	--	--	--	--	--	--	--	88,000	175,010	0
Austria	--	--	--	--	71,386	125,658	--	151,584	100,000	170,000
Canada	--	--	--	--	--	--	--	--	68,165	3,760
Germany	--	--	59,725	6,052	118,098	214,334	210,342	15,000	--	0
Japan	--	--	--	--	100,000	--	100,000	100,000	100,000	100,000
Netherlands	--	--	--	313,262	--	454,241	633,862	437,470	550,000	305,424
Norway	--	--	--	--	450,749	114,808	181,762	281,264	140,449	146,637
Switzerland	--	--	109,281	27,726	65,000	50,000	122,235	454,214	342,616	561,704
USA	--	--	22,961	49,156	69,571	26,664	5,988	13,298	1,702	30,000
ADB	468,011	443,777	662,554	428,188	453,000	315,000	--	282,992	84,008	200,000
CEC	135,765	169,484	--	64,708	--	--	192,645	92,976	339,318	70,412
FAO	--	2,401	8,856	5,000	--	20,550	10,000	17,000	15,000	29,000
UNEP	--	--	--	--	113,000	126,250	212,250	97,520	10,000	27,617
UNESCO	194	7,069	2,519	7,000	--	--	27,033	66,480	118,087	51,000
FORD	--	114,869	153,382	167,000	215,000	39,600	225,000	200,000	275,000	175,000
IDRC	6,600	129,327	69,001	179,722	122,544	176,935	40,632	105,898	214,765	132,336
MacArthur	--	--	--	65,000	85,000	36,000	24,000	30,000	60,000	35,000
Others	52,830	32,276	35,485	49,483	23,538	45,017	10,000	--	21,173	57,196
TOTAL	863,400	899,203	1,143,764	1,362,357	1,886,886	1,745,057	1,995,749	2,433,696	2,623,893	2,095,088
Opening Balance	241,130	221,322	265,853	138,179	397,585	998,614	690,834	611,643	1,095,279	843,696
Grand Total	904,530	1,120,525	1,429,618	1,500,536	2,284,471	2,743,671	2,686,583	3,045,339	3,719,172	2,938,784
EXPENDITURES	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Total Expenditure	691,712	707,663	1,291,438	1,043,221	1,285,857	1,758,173	2,062,290	1,863,210	2,875,476	2,581,775
Closing Balance	212,818	412,862	138,180	457,315	998,614	985,498	624,293	1,182,129	843,696	357,009
TOTAL	904,530	1,120,525	1,429,618	1,500,536	2,284,471	2,743,671	2,686,583	3,045,339	3,719,172	2,938,784

Note: Opening and closing balances may vary because of the different exchange rates being used and adjustments for the closed projects.

CONSOLIDATED ANNUAL INCOME
(In US Dollars)



CONSOLIDATED ANNUAL EXPENDITURE
(In US Dollars)

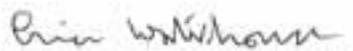


Price Waterhouse

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 1998 and Operating Statement for the year ended on that date, which have been signed by us under reference to this report. 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.
2. In the opinion of the management, the problem of Year 2000 will not vitiate the assumption of Going Concern in view of its plans to make the Centre Year 2000 compliant. We would like to reiterate that, in keeping with Generally Accepted Auditing Standards, our audit was not intended, designed or performed to identify or detect problems resulting from computer hardware, software or other automated processes' inability to process data, including issues related to Year 2000, except as they affected the maintenance of proper accounting records for the period subject to this audit. Further, we have no responsibility with regard to the Centre's efforts to make its systems or any other systems, such as those of the Centre's vendors, service providers or any other third parties, capable of properly processing dates including the Year 2000 or provide assurance on whether the Centre has addressed or will be able to address all of the affected systems on a timely basis. These are responsibilities of the Centre's management.
3. The financial statements have been prepared on the basis of accounting policies described in Schedule 8 to the financial statements. On such basis, and except for the observation set out in paragraph 2 above, in our opinion, the financial statements give a true and fair view of the state of affairs of the Centre as at 31st December 1998, and the results of its operation for the year ended on that date.

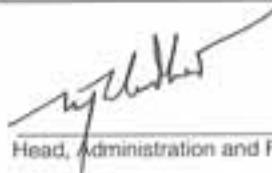
Kathmandu
March 1, 1999


CHARTERED ACCOUNTANTS

International Centre for Integrated Mountain Development
Statement of Assets, Liabilities and Fund Balances
as of 31st December, 1998

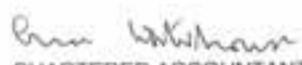
	Schedule Reference	Amount US\$
Fund Balances		
General Reserve		
Opening Balance		(35,666)
Project Cost Recovery for Institutional Support		85,832
Surplus transferred from Operating Statement		30,000
Balance Carried Forward		80,166
Operational Reserve		
Surplus Transferred from Operating Statement		17,994
Transfer from Exchange Equalisation Reserve		81,000
Balance Carried Forward		98,994
Other Reserves	1	990,127
Special Support Project Balances (Net)	2	357,009
TOTAL		1,526,296
Current Assets		
Cash in Hand		965
Cash at Bank		
Current and Savings Accounts		109,326
Time Deposits		2,650,000
Advances and Deposits		20,538
Fund Receivable from Government of the Union of Myanmar for 1998		10,000
		2,790,829
Less Current Liabilities and Provision		
Accounts Payable		197,463
Remittances received in advance for 1999		
From Federal Republic of Austria		108,837
From Swiss Development Cooperation		500,000
From His Majesty's Government of Nepal		7,396
From Norwegian Agency for Development Cooperation		450,837
		1,264,533
TOTAL		1,526,296
Significant Accounting Policies	8	
Notes on Financial Statements	9	


 Budget and Finance Officer


 Head, Administration and Finance


 Director General

This is the Statement of Assets, Liabilities, and Fund Balances referred to in our report of even date.


 CHARTERED ACCOUNTANTS

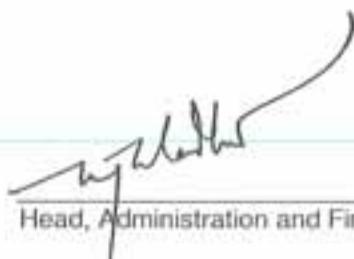
Kathmandu
 1st March, 1999

International Centre for Integrated Mountain Development
Operating Statement for the Year ended 31st December, 1998

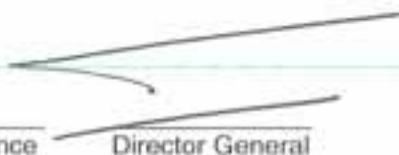
	<u>Schedule Reference</u>	<u>Amount US\$</u>
Income		
Remittances from Donors	3	2,649,448
Other Income	4	243,348
Surplus Transferred from Completed Projects		16,725
		<u>2,909,521</u>
Expenditure		
Programme Cost	5	1,851,917
Support Cost	6	627,543
Directorate Cost	7	382,067
		<u>2,861,527</u>
Surplus for the year being excess of Income Over Expenditure		<u>47,994</u>
Less Transferred to General Reserve		30,000
Transferred to Operational Reserve		<u>17,994</u>
		<u>-</u>
Significant Accounting Policies	8	
Notes on Financial Statements	9	



 Budget and Finance Officer



 Head, Administration and Finance



 Director General

This is the Operating Statement referred to in our Report of even date.

Erin Wickham
 CHARTERED ACCOUNTANTS

Kathmandu
 1st March 1999

International Centre for Integrated Mountain Development
Schedules forming part of Financial Statements
for the Year ended 31st December, 1998

	Amount US\$			
1. Other Reserves				
	Opening Balance 1 st January 1998	Additions	Withdrawals	Closing Balance 31 st December 1998
Exchange Equalisation	559,638	18,914	81,000	497,552
Building	16,135	-	-	16,135
Personnel	201,361	18,776	-	220,137
Fixed Asset	109,152	38,563	-	147,715
Publication	53,589	14,563	12,955	55,177
MENRIS	61,392	11,860	19,841	53,411
	<u>1,001,247</u>	<u>102,676</u>	<u>113,796</u>	<u>990,127</u>

2. Special Support Project Balances (Net)

Projects	Donors	
Global Mountain Initiative	ACIAR	(22,302)
Soil-Conserving Farming System II	ADB	64,487
Preservation of Apis Cerana	Austria	(44,339)
Mountain Risk Engineering	CEC	(31,328)
Global Mountain Initiative	CIF	36,040
Mixed Crop-Livestock System	FAO	4,609
Management of Forest Lands	Ford Foundation	(11,830)
Mountain Development Policy	Ford Foundation	(9,039)
Water Harvesting	Ford Foundation	38,582
Electronic Networking	IDRC	66,510
Gender, Env & Sust Livelihood	IDRC	(10,941)
Internet Activities	IDRC	(5,085)
People and Resource Dynamics	IDRC	(4,843)
Workshop on Participatory Forestry	IDRC	(1,129)
Landslide Hazard Management	Japan	50,212
Biodiversity in Eastern Himalaya II	MacArthur Found	17,146
Gender in Sustainable Development	Netherlands	180,130
GIS Applications in HKH	Netherlands	1,276
Convenorship of Mountain Forum	SDC	30,140
People and Resource Dynamics	SDC	48,005
Workshop on Participatory Forestry	SDC	(5,000)
Grassroots Women's Workshop	SIDA	(1,489)
Himalayan Ecosystem	UNEP	133
Application of Ethnobotany	UNESCO	(32,936)
		<u>357,009</u>

Note: Figures in brackets represent carried forward expenses recoverable from donors.

PRICE WATERHOUSE

International Centre for Integrated Mountain Development
Schedules forming part of Financial Statements
for the Year ended 31st December, 1998 (Continued)

(Continued)

Amount
US\$

3. Remittances from Donors
(For Unrestricted Core Support)

Government of Bangladesh	9,670
Royal Government of Bhutan	5,000
People's Republic of China	30,000
Government of India	37,870
Government of The Union of Myanmar	10,000
His Majesty's Government of Nepal	7,601
Islamic Republic of Pakistan	10,870
Federal Republic of Austria	217,675
Government of Finland	157,285
Deutsche Gesellschaft fur Technische Zusammenarbeit (GTZ)	682,379
Swedish International Development Cooperation Agency	165,748
Swiss Development Cooperation	500,000
Government of Denmark	300,000
Government of Netherlands	515,350
	<u>2,649,448</u>

4. Other Income

Interest from Time Deposits	120,621
Professional Services	13,036
Vehicle Use	32,781
Communication Facilities	7,555
Reprographics	22,216
Liabilities no longer required written back	3,906
Miscellaneous Income	43,233
	<u>243,348</u>

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PRICE WATERHOUSE

International Centre for Integrated Mountain Development
Schedules forming part of Financial Statements
for the Year ended 31st December, 1998 (Continued)

(Continued)	<u>Amount US\$</u>
5. Programme Cost	
Professional Staff	1,438,193
Travel	54,682
Meetings	55,927
Field Study	159,483
Supply and Services	112,790
Communications	30,842
	<u>1,851,917</u>
6. Support Cost	
Administrative Staff	334,804
Operational	202,059
Building Rent and Utilities	90,680
	<u>627,543</u>
7. Directorate Cost	
Remuneration	257,725
Board of Governors Meeting	55,509
Travel	17,017
Communication	9,885
Programme Development	41,931
	<u>382,067</u>

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PRICE WATERHOUSE

International Centre for Integrated Mountain Development
Schedules forming part of Financial Statements
for the Year ended 31st December, 1998 (Continued)

8. **Significant Accounting Policies**

General:

The Centre operates as a non-profit making, autonomous institution.

Basis of accounting:

All income pertaining to the year are generally accounted for on cash basis and all expenditure are accounted for on accrual basis. Reference is drawn to Note (a)(i) on Schedule 9 in this regard.

Functional and Reporting Currencies:

The contributions are received in functional currencies of the donor's country or in US Dollars. The reporting currency is the US Dollars and the financial statements are expressed in US Dollars. Reference is drawn to Note (a)(ii) on Schedule 9 in this regard.

Foreign currency translations:

Assets and liabilities (other than non-monetary assets) are translated from functional currencies (except where functional currency is US Dollars) to the reporting currency at the year end official exchange rates. Income and expenditure (other than in US Dollars) are translated at official rates prevailing on the 1st day of the transaction month. Exchange gains or losses are transferred directly to Exchange Equalisation Reserve.

Fixed Assets:

Cost of fixed assets purchased during the year is charged off in the accounts of related projects and core operation or adjusted against Fixed Assets/MENRIS Reserve as in earlier years. Memorandum records are, however, maintained for all fixed assets in use where those are stated at cost at the date of acquisition or at fair market value at the date of donation (if received by way of gift). Depreciation on Fixed Assets although calculated in memorandum records, the same is not considered in the Operating Statement. Adjustments for short and excess found during physical verification are also made in memorandum records.

Inventories:

Consumable stores like office supplies, stationeries, fuel, etc. and cost of publications are charged to revenue as and when purchased/incurred and no value is carried forward for the stock lying unutilised at the year end. Memorandum records are, however, maintained for all categories of stock at cost or in case of deterioration in quality, etc. are adjusted appropriately as considered necessary.

Special Support Projects:

Total of contributions received for Special Support Projects is shown under "Fund Balances" net of expenditure on such projects. Similarly, aggregate of expenditure incurred in excess of contributions received for special support projects is carried forward to be set off against contribution receivable or expected to be received in future years. The deficit/surplus (where permissible) on Special Support Projects is finally transferred to Operating Statement on completion of projects.

PRICE WATERHOUSE

International Centre for Integrated Mountain Development
Schedules forming part of Financial Statements
for the Year ended 31st December, 1998 (Continued)

8. Significant Accounting Policies (continued)

Sundry Recoveries:

Recoveries on account of use of cars, photocopiers, computers, fax, telex, telephone, stationeries etc. for private purpose are recognised as income. Recovery of overheads for institutional support cost from special support project expenditure at predetermined agreed rates are allocated to following reserves at the rates indicated below:

- | | | |
|-------|---------------------|---|
| (i) | General Reserve | @ 64% |
| (ii) | Personnel Reserve | @ 14% |
| (iii) | Fixed Asset Reserve | @ 19% (together with sale proceeds of fixed assets) |
| (iv) | Publication Reserve | @ 3% (together with sale proceeds of publications) |

100%

Further, income generated through the programme activities of MENRIS Division is credited to MENRIS Reserve to meet the expenditure of the division which are not covered by Donor sources.

9. Notes on Financial Statements

a. Change from Accounting Policy:

i. Core Fund Account Receivable:

Annual contributions from donor countries/agencies for Core and other contributions for Special Support Projects as per accounting policy of the Centre are generally accounted for on cash basis. However, in order to reflect a fair result of operations for the year, part of the contribution for 1998 received from the Government of the Union of Myanmar subsequent to the year end amounting to US\$ 10,000 has been accounted for as income for the year. As a result of such change, income has increased by US\$ 10,000 with corresponding effects on the Operating Results, Current Assets and Reserves.

ii. Reporting Currency:

Pursuant to a resolution passed at a meeting of the Board of Governors in November 1997, reporting currency has been changed from Nepalese Rupees to US Dollars with effect from 1st January 1998. Accordingly, with effect from 1st January, 1998, the Centre has been maintaining its books of account in US Dollars after conversion of opening fund balances, assets and liabilities from Nepalese Rupees to US Dollars at the official exchange rate of Nepalese Rupees 61.25 = US Dollar 1 as applicable in December, 1997.

b. Fixed Assets:

In accordance with the policy of the Centre:

- i) Cost of fixed assets purchased during the year amounting to US\$ 235,245 has been charged off/adjusted in the accounts of various Projects, Core operation and MENRIS Reserve.
- ii) Sale proceeds of fixed assets amounting to US\$ 13,082 has been credited to Fixed Assets Reserve.

PRICE WATERHOUSE

International Centre for Integrated Mountain Development
Schedules forming part of Financial Statements
for the Year ended 31st December, 1998 (Continued)

9. **Notes on Financial Statements (continued)**

Details of Fixed Assets (at Cost/Valuation) as per Memorandum Records as at 31st December, 1998 are:

	<u>US \$</u>
Vehicles	181,434
Computers	942,055
Office Equipment	278,514
Furniture	102,537
Total	<u>1,504,540</u>

Cost/valuation of assets acquired up to 31st December, 1997 have been converted at the exchange rate indicated in Note (a)(ii) above and purchases during the year converted at official exchange rates prevailing on the 1st day of the transaction month.

c. Reserves:

The Board of Governors, at its meeting held in November 1997, approved the implementation of the revised financial regulations effective 1st January, 1998, which permits transfer of amounts in excess of the prescribed level in the Exchange Equalization Reserve to other reserves and the creation of an Operational Reserve. Accordingly, the Board of Governors, at the same meeting, prescribed a level of US\$ 400,000 in respect of the Exchange Equalization Reserve and approved the transfer of US\$ 81,000 to the Operational Reserve.

d. Accounts Payable:

Year end balance of Accounts Payable includes US\$ 25,000 to be disbursed by the year 2001 for the purpose of Tibet Fellowship programme funded by the Government of Netherlands.

e. Remittances from Donors:

Remittances received by the Centre from Donors for Unrestricted Core Support and Special Support Projects during 1998 are set out below:

For unrestricted Core Support:

	Functional Currency	US Dollar translation on date of receipt
Government of Bangladesh	USD 9,670	9,670
Royal Government of Bhutan	USD 5,000	5,000
People's Republic of China	USD 30,000	30,000
Government of India	INR 1,600,000	37,870
His Majesty's Government of Nepal	NPR 1,000,000	14,997
Islamic Republic of Pakistan	PRS 500,000	10,870
Federal Republic of Austria	ATS 4,200,000	326,512
GTZ, Germany	DMK 1,200,000	682,379
Swedish International Development Cooperation Agency	SEK 1,300,000	165,748
Swiss Development Cooperation	USD 500,000	500,000
Government of Denmark	USD 300,000	300,000
Government of Netherlands	NLG 1,000,000	515,350
NORAD	NOK 3,500,000	450,837
Total		<u>3,049,233</u>





PRICE WATERHOUSE

International Centre For Integrated Mountain Development
Schedules forming part of Financial Statements
for the Year ended 31st December, 1998 (Continued)

9. Notes on Financial Statements (continued)

For Special Support Projects

Donor and Project Title (Short)		Functional Currency	US Dollar translation on date of receipt
ADB	ATSCFS	USD 200,000	200,000
Austria	Bookkeeping	USD 170,000	170,000
CEC	Risk Engineering	ECU 61,240	70,412
CIDA	Renewable Energy Technology	CAD 5,500	3,760
FAO	Mixed Crop-Livestock System	USD 7,500	7,500
FAO	Mountain Forum Meeting	USD 6,500	6,500
FAO	Watershed Management	USD 15,000	15,000
Ford	Water Harvesting	USD 50,000	50,000
Ford	Management of Forest Land	USD 50,000	50,000
Ford	Mountain Development Policy	USD 75,000	75,000
IDRC	Internet Activities	CAD 5,360	3,791
IDRC	Internet for Pakistan	CAD 5,699	3,879
IDRC	People & Resource Dynamics	CAD 89,010	60,972
IDRC	Electronic Networking	CAD 85,000	57,823
IDRC	Workshop on Participative Forestry	CAD 8,470	5,871
Japan	Landslide Hazard Management	USD 100,000	100,000
MacArthur	Biodiversity - II	USD 35,000	35,000
Netherlands	Gender in Sustainable Development	USD 150,000	150,000
Netherlands	GIS Applications in HKH	USD 155,424	155,424
New Zealand	Yunnan Mission	USD 15,562	15,562
NORAD	Mini Micro Hydro	NOK 800,000	107,344
NORAD	Tourism for Local Community	NOK 297,796	39,293
SDC	Convenorship of Mountain Forum	USD 40,825	40,825
SDC	People & Resource Dynamics	USD 400,000	400,000
SDC	Sustainable Development of Mountains	USD 74,500	74,500
SDC	Workshop on Participative Forestry	USD 45,000	45,000
SDC	Bhotekoshi Study	USD 1,379	1,379
UNEP	Environment Assessment Programme	USD 18,617	18,617
UNEP	Himalayan Ecosystem	USD 9,000	9,000
UNESCO	Ethnobotany	USD 43,000	43,000
UNESCO	Empowerment of Women	USD 8,000	8,000
UNOPS	Workshop on Community Forestry	USD 41,636	41,636
USAID	GIS in Midwest Nepal	USD 30,000	30,000
Total			2,095,088




PRICE WATERHOUSE



Participating
countries of the
Hindu Kush-
Himalayan Region



Afghanistan
Bangladesh
Bhutan



China
India
Myanmar
Nepal
Pakistan



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