



# ICIMOD

International Centre for Integrated Mountain Development

## NEWSLETTER No 8

DECEMBER 1987



*Hon'ble Minister of State for Education and Culture, HMG Nepal addressing the Twenty-fourth General Assembly of UNESCO on October 23, 1987*

The Hon'ble Minister of State for Education and Culture (HMG Nepal), Mr. Keshar Bahadur Bista, in his recent address to the twenty-fourth General Assembly of UNESCO held in Paris, emphasized the need for substantially enhanced international support to ICIMOD. Expressing the hope for UNESCO's continued support to ICIMOD, the Minister said:

*"Of particular concern to Nepal as well as to other countries in the Himalayan region is the unrelenting pressure on our natural resources. Our agro-based economy and our heavy reliance on firewood and fodder, coupled with rapid population growth, have led to serious deforestation. The result is that there is going to be a severe ecological imbalance in this region which cannot be effectively tackled through national efforts alone. There is a pressing need for regional and international cooperation. In this context, Mr. President, we highly appreciate the foresight demonstrated by UNESCO in giving support for the establishment in Nepal of*

*the International Centre for Integrated Mountain Development or ICIMOD. I hope that UNESCO's support for ICIMOD will not only continue, but will be substantially raised by regarding ecological preservation in this region as one of UNESCO's major programmes of high priority. This involves higher budgetary commitment for 1988-89 to which, I presume, UNESCO will give due consideration in view of the immensity of the problem. The urgency of UNESCO's assistance to this area can obviously be perceived in the light of the gravity of ecological deterioration and the growing inability on the part of the countries in the Himalayan region to finance imported energy."*

ICIMOD greatly appreciates this most encouraging expression of strong and sustained support by HMG Nepal for the Centre which, of course, has its international headquarters in this mountain Kingdom.



## Managing the Mountain Environment

*"We must pursue modes of development which maintain ecological balances and permit renewable resources to yield their bounty on a sustainable basis. This is why integrated development is the only approach that makes sense, particularly in mountain areas where the ecological sensitivities and balances involved are especially delicate. Integrated and sustainable mountain development is not an option, but an absolute imperative. There is simply no other way."*

Dr. Maurice Strong - in his Address at the Inauguration of ICIMOD in December 1983

Development of the Hindu Kush-Himalayan mountain region poses a serious dilemma: development efforts must necessarily involve exploitation of the available resources yet, with the known fragility of mountain eco-systems, this exploitation could - and too often does - imperil the very resources, such as soil and forests and pastures on which the mountain communities depend for their livelihood. At the present time there is a very clear danger that the ecological balance of these mountains may be irreversibly disrupted.

The intricate complexity and diversity of the eco-systems of the Hindu Kush-Himalaya, extending over some 3500 kms from the arid mountains of Afghanistan in the far west of this largest mountain area in the world to the lush tropical humidity of the highlands of Northeast India, Northern Thailand and Southern China at its eastern extremity, make it difficult - and indeed misleading - to generalise. Nevertheless it is very clear that, in most parts of this vast Region, the needs of a rapidly growing population have now exceeded the carrying capacity of the cultivable land. Population pressures have led to the increased use of marginal, easily eroded lands and to the overgrazing of fragile upland pastures. Forests, which protected slopes from excessive erosion, are being cleared at an ever increasing rate for more farming and grazing lands. The heavy demands for firewood and timber, spiraling upwards with population growth, make further inroads into forest resources. Remaining trees are severely lopped for fodder. When the forests disappear, and poorly protected mountain slopes are over-used, acute problems quickly follow: soil impoverishment, massive erosion, frequent landslides. Decreasing agricultural yields, on these marginal lands in mountain areas characterised by their high degree of inaccessibility for external agricultural inputs, are directly linked to the deteriorating physical and biological environment.

If this increasingly critical decline in these mountains is to be arrested before it is too late, the aim must be to develop a new balance between essential develop-

ment and sound environmental management in ways which will be consistent with the basic socio-economic needs of the mountain communities and the sustainable resource management of their highly vulnerable habitats.

### The Search for Effective Management Systems

The above mentioned perception of a growing developmental and ecological crisis in the Hindu Kush-Himalaya is, of course, a familiar theme of political and conference and media rhetoric - important as this is for the stimulation of the increased social and political awareness needed for the more urgent mobilisation of national and international resources for mountain development (with 'built-in' conservation). But increased resources to do what? And by whom?

If the challenges are increasingly clear, the most effective developmental responses are far from clear - despite massive if highly fragmented (or sectorally compartmentalised) government and aid agency interventions throughout the mountains. There is no scarcity of diagnostic statements or of gloomy prognoses, of varying sophistication, regarding the complex ailments of the hill farming systems and their associated habitats: successful and sustained curative or preventative methods seem very hard to identify and replicate with the speed and scale urgently required.

One certain conclusion to emerge from the series of International Workshops organised by ICIMOD over the past three years on various aspects of mountain development and environmental management has been the obvious need to concentrate attention much more than hitherto on the issues of **management** - particularly as regards the skills of leadership and organisation for effective implementation. There is much need for thorough institutional analyses, and for innovative experiment with decentralised institution-building (and indeed 'confidence-building') at local community



levels throughout the mountains - and for the systematic exchange of experience in this field across national frontiers.

Rational management of natural resources in the mountains depends on the **integrated** development of improved and diversified mountain farming systems, better infrastructure support for the hill farmer, more effective forest and pasture and watershed management - but equally and essentially on new attitudes and commitments (at local, district, regional and national levels) to decentralised community action, community responsibilities, and community-based decision-making.

The universal and fundamental need throughout the mountains, irrespective of nationality seems to be the better organisation of a more constructive partnership between government and local community - at all relevant levels of policy formulation and practical implementation.

#### **A Collaborative Work Programme On Mountain Developmental Management**

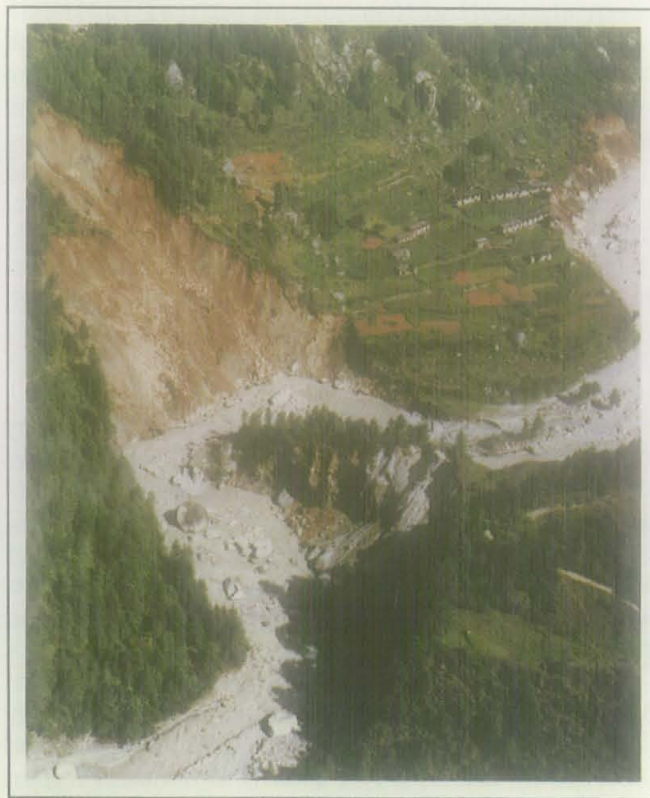
These high-priority issues of organisation and management with regard to the mountain environment throughout the Hindu Kush- Himalaya will be the central theme of a major International Workshop being jointly organised by ICIMOD and the Man and Biosphere (MAB) Programme of UNESCO, Paris, and scheduled for October 1988 in Kathmandu. In preparation for this Workshop, and to make sure that the discussion is strongly focused on the practical organisational and managerial responses to specific issues of mountain environmental management, a series of carefully selected field 'case studies' is now being prepared in collaboration with relevant institutions and experienced professionals in the countries of the Hindu Kush-Himalaya.

The case studies have been chosen both as a varied sample of diverse mountain eco-systems throughout this vast mountain region and also as reflecting management situations of varying scale and complexity. An additional reason, for most of the cases, was the ready availability of data, previous research studies, or programme and project reports in a variety of fields. The five case studies now in course of preparation are: the **Arun River Basin** in the Kosi Zone in Nepal, three panchayats of the **Kakani Watershed** in Nuwakot District also in Nepal, **Swat District** of NWFP in Pakistan, the **Dun Valley Region** of Uttar Pradesh in India, and **Nyemu County** in the Lhasa Valley Region of the Tibetan Plateau in China. In each case, the emphasis is less on environmental

assessment and on problem identification - though both are obviously essential - but rather on the key questions of sustained management responses (institutional responsibilities and accountability powers and resources, coordination and control, monitoring and evaluation methods, management effectiveness).

The basic questions in each case are: whose job is it to manage the mountain environment? Within what overall management system? How effective is this system in specific cases? What are the general lessons to be learnt? What improvements are necessary for sound and sustained management of mountain eco-systems? What new institutions and new management tools are needed? The five case studies will form the empirical basis for the Workshop deliberations.

This ICIMOD/UNESCO (MAB) programme, leading initially to the International Workshop in late 1988, is being designed as an integral part of a four-year programme at the Centre which, focusing on the **interrelationships** between Mountain Farming Systems, Mountain Environmental Management, Mountain Infrastructure Development and Mountain Institutional Development, will concentrate throughout on this basic issue of **building institutional and management capacity for integrated mountain development**.



*Erosion and River Sedimentation in Dudh Kosi river basin in Nepal*





*The Director of ICIMOD, Dr. Colin Rosser, addressing the concluding session on the Use of Practical Case Studies in Training Programmes*

## Training Workshop on Soil Erosion Control in the Mountains

In the broad field of 'mountain environmental management' ICIMOD is now concentrating its professional skills and resources on two high-priority subject areas:

- **Organisation** for effective Mountain Resource Management, with emphasis on the role of relevant governmental agencies in partnership with community-based local institutions and non-governmental organisations in mountain areas
- **Practical Training Programmes** with the emphasis on the assessment of specific training needs, the preparation of practical project-based training materials, and the organisation of 'training for trainers' workshops at the international level to promote the exchange of experience across national frontiers on this much-neglected but highly important issue of building the essential institutional capacity for mountain resource management through better staff training programmes at all necessary levels.

International reviews (including those completed by ICIMOD) on watershed management in the countries of the Hindu Kush-Himalaya Region have repeatedly stressed the need for more effective institutions, both at national and community levels, with clearer definition of responsibilities, more adequate resources and - perhaps above all - better trained and motivated technical staff at all levels.

Against this background, ICIMOD organised in July this year, in collaboration with UNEP Nairobi and UNEP/COM Moscow, a two-part International Expert Meeting on the Design of Training Programmes in Soil Erosion Control in Mountain Areas.

The first part of this most useful and constructive

international exchange was in the form of a six-day Workshop held at the ICIMOD campus in Kathmandu. Thirty-eight senior professionals from Nepal, Bangladesh, Bhutan, China, India, Pakistan, Bulgaria, Canada, Switzerland and USA participated in the detailed discussions on training with the senior professional staff of ICIMOD and from UNEP Nairobi. The focus was on the specific erosion problems of the Himalayas. The key issue of the Workshop, examined within a comprehensive review of current training efforts in the Region, was a full exploration of the necessary interrelationship of systematic and relevant training programmes on the one hand with practical field programmes and projects on the other.

This theme of how best to 'irrigate' formal training programmes with the practical lessons from field experience was explored in detail through the examination of **specially-prepared case studies** of particular watershed management projects in the Indian Himalaya in Nepal.

The second-part of this Expert Meeting was a field study tour for the participants to examine Erosion Control measures in the arid mountain regions of Tadzhikistan in the Pamir Mountains of the USSR. This latter field study visit was organised through the hospitality of the UNEP/COM Programme.

ICIMOD will shortly publish a full Report on this Expert Meeting on Training in Soil Erosion Control in the Mountains. This Report will concentrate on the three key recommendations of the Workshop regarding, respectively, a) the use of practical case studies in training programmes; b) the need to focus training on carefully selected 'field demonstration projects'; and c) the role of regional Centres such as ICIMOD in contributing to the training of trainers on an international level.



## Senior Research Fellowships in 1987

ICIMOD started the Senior Research Fellowship programme in 1986. Its main objective is to enable senior professionals to undertake a period of individual sabbatical research and publication on a subject of direct relevance to Integrated Mountain Development. The Ford Foundation has provided ICIMOD a generous grant to support the Programme. The Director of ICIMOD is pleased to announce three further Senior Research Fellowship Awards.

### Rangeland Management in Pakistan

**Dr. Noor Mohammed**, Coordinator, National Forage and Pasture Programme, National Agricultural Research Centre, Islamabad, Pakistan.

Rangelands in Pakistan constitute over 60 percent of the country. These are the main source of feed for livestock particularly sheep, goats, camels and cattle. Due to heavy competition with grain crops, the expansion of cultivated areas for fodder crops is not possible. Concerted efforts are therefore needed to improve range areas for increasing forage production. Management of rangelands is also needed for the production of fuelwood, building materials and medicinal plants.

During this Senior Research Fellowship assignment Dr. Noor Mohammed will make an attempt to accumulate information on the existing state of the technology available for improving rangelands for Pakistan and other countries in the Hindu Kush - Himalaya Region. This review of the experience of different countries in rangeland management will close a major gap in our current knowledge about mountain rangelands. The publication is intended to serve as a guide for professionals, planners and students in the field of rangeland development and management. By identifying existing gaps in knowledge, it will contribute to the future development of ICIMOD's programme in the field of Pasture and Fodder Management in the Hindu Kush-Himalaya Region.

### Economic Development and Ecological Stability in Garhwal Himalaya

**Dr. J. Bandopadhyay**, Faculty member, Indian Institute of Management, Bangalore, and Director, Project Dehradun, India.

As with other parts of Central and Western Himalaya, ecological degradation in the Garhwal Himalaya

(Uttar Pradesh, India) has drawn the attention of professionals, governments and international agencies. The Chipko Movement, the most well-known environment movement in India, had its origin in this ecological degradation. The main rivers of North India, Ganga and Yamuna, have a glacial origin. The presence of a large number of rainfed tributaries in the region makes the implication of this ecological degradation more significant.

Dr. Bandopadhyay in his Senior Fellowship Programme proposes to evolve a methodology for more effective development administration which will ensure ecological stability with socio - economic development programmes and programmes for ecological rehabilitation. Current economic development programmes are not made on the basis of a conceptually evolved tool that adequately recognizes the ecological and resultant socio-economic implications of these programmes. Accordingly this study by internalizing the ecological limitation and recognizing the socio-economic necessities will try to provide an outline for ecologically stable development activities in the region. It will also assess the role of participatory methods in this context.

### Impact of Tourism Development in Mountain Areas: A Case of Manali in Himachal Pradesh, India

**Dr. Tej Vir Singh**, Director Institute of Himalayan Studies, Garhwal University, Srinagar, Garhwal, India.

Tourism is being promoted in a big way in many parts of the Himalayas. It has brought very significant economic benefits to the people. At the same time, it has also resulted in many environmental and non-economic changes about which little is known. Uncontrolled growth in tourism could lead to increased pressures on many vital environmental resources.

Dr. Tej Vir Singh in this programme is proposing to examine comprehensively the experience and impact of tourism development in Manali in the Kulu Valley of Himachal Pradesh, India. The focus will be on the extent to which it has been possible to develop tourism in an integrated and balanced manner in terms of the interaction of tourism development with the local economy and the environment. It will also identify the major lessons of experience in the Kulu Valley and the extent to which they are relevant for other parts of the Himalayas.



## ICIMOD 1988/89 Work Programmes

### I MOUNTAIN FARMING SYSTEMS

Long-term Strategies for Mountain Agriculture:  
Policy and Programme Analyses; Farmer's Strategies and  
Responses; Forestry-Farming Linkages; Marketing  
Systems for Mountain Agriculture

Preparation for major International Conference on  
Mountain Farming Systems to be held in 1989

### II MOUNTAIN ENVIRONMENTAL MANAGEMENT

International Conference on Mountain Environmental  
Management in mid 1988

Integrated Watershed and Forest Management

Environmental Management of Rapid Urban Growth in  
Major Himalayan Valley Regions

### III MOUNTAIN INFRASTRUCTURE DEVELOPMENT

Risk Engineering in Mountains: Design and Testing of  
Training Programmes

Design and Training Programmes for mini and micro Hydel  
Power Planning and Implementation

Expert Meeting on Himalayan Road Construction  
and Maintenance

### IV MOUNTAIN INSTITUTIONAL DEVELOPMENT

District level Energy Planning and Management

Organisation and Management of Integrated Rural  
Development Programmes

Role of Women in Mountain Farming and  
Forest Management

### V MOUNTAIN DOCUMENTATION AND COMMUNICATIONS

Development of Documentation Centre,  
Mountain Bibliographies, Publications  
Audio-Visual Communications

### VI DATA PROCESSING

Computer Centre, Statistics, Cartography,  
Remote Sensing

### VII RESEARCH SUPPORT

Senior Research Fellowships, Research Awards,  
Specially Commissioned Knowledge Reviews

## New Staff Members

**Dr. M. Abdullah (Pakistan)**, Head of Mountain Infrastructure and Engineering Division, from July 1987 for 2 years.

**Mr. Lakpa Tsering (Bhutan)**, Mountain Infrastructure and Engineering Division for 11/2 years from July 1987 to work on Energy Technology.

**Dr. M.S. Rathore (India)**, Mountain Farming Systems Division from July 1987, for 1 year to work on the Economics of Hill Agriculture.

**Dr. Tej Pratap (India)**, Mountain Farming Systems Division from July 1987 for 1 year specializing in Hill Farming Eco-systems in the Indian Himalaya.

## Short Term Appointments

**Ms. Wanida Srichai (Thailand)**: Mountain Environmental Management to prepare a report on Environmental Impact Assessment: Concepts and Techniques.

**Mr. Thomas Heah (Canada)**: Road Engineering Geology.

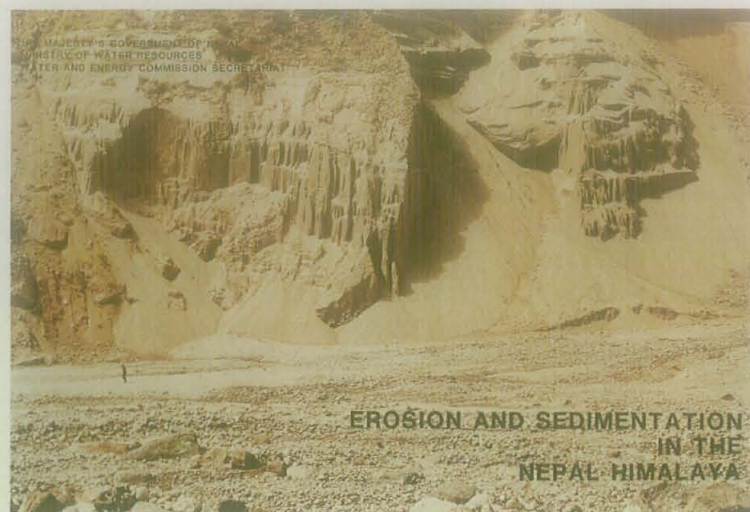
## Staff Departures (on completion of contracts)

**Mme Zhang Li (China)**: at ICIMOD for 3 years, in Chinese Documentation.

**Dr. B. Bhadra (Nepal)**: at ICIMOD for 3 years, working on Agriculture Economics.

**Mme Yao Bijun (China)**: at ICIMOD for 1 year, in Chinese Documentation.

**Mr. P.L. Maharjan (Nepal)**: in Mountain Environmental Management Division for 2 years.



*ICIMOD has assisted, with CIDA and IDRC of Canada, with the publication of a major Training Manual on*

*"Erosion Sedimentation in the Nepal Himalaya"*  
by

*HMG Nepal Ministry of Water Resources  
Water and Energy Commission Secretariat*

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For information please contact ICIMOD

## Bhutan Contributes To ICIMOD Core Funding

His Excellency the Foreign Minister of Bhutan, Lyonpo Dawa Tsering, recently visited the Centre to hand over to the Director a cheque for \$10,000 as an ad hoc contribution from the Royal Government of Bhutan to the Centre's core support funding for the current financial year. This generous contribution, which will be warmly welcomed by the ICIMOD Board of Governors at its Ninth Board Meeting this December, is a most encouraging recognition of the Centre's progress over its first three years towards its goal of becoming an effective International Centre for the promotion of integrated mountain development in the countries of the Hindu Kush-Himalayan Region.

With this latest contribution from Bhutan, the five countries of this Region, Bhutan, China, India, Nepal and Pakistan - all very actively participating in the Centre's establishment and programmes, have now joined the Governments of Switzerland and the Federal Republic of Germany in providing the core financial support (now exceeding one million dollars annually) on which the successful development of ICIMOD so heavily depends.

## Extension of the ICIMOD Campus in Jawalakhel

A particularly welcome development over the past few months has been the agreement by the Federal Republic of Germany (through GTZ) to our special request for the increase of their already major financial support this year. Additional ad hoc funding is being provided for the special capital expenditures required to expand the Centre's present physical facilities. This will mean the acquisition and renovation and equipment of two further buildings adjacent to our present small but attractive 'campus' formed of seven individually rented (and substantially renovated) buildings.

These very substantial additional funds are being used to complete the Centre's physical development on its present temporary site. The two newly acquired buildings, making a close-knit group of nine buildings in all, are being reconstructed and equipped to provide two new conference rooms to increase our facilities for training programmes. They will also house our much expanded mountain cartography and mountain statistics sections, and a new audio-visual centre fully-equipped for the professional production of video films on various aspects of mountain development and mountain environmental management.

## ICIMOD Publications

OCCASIONAL PAPERS	WORKSHOP REPORT SERIES	WORKING PAPERS (mimeod)
1 Erosion Processes in the Nepalese Himalayas: Brian Carson	- People and Protected Areas: May 85	Bhutan: Issues in Integrated Mountain Development B. Bhadra and P. Alirol
2 Integrated Rural Development Projects in Nepal: A Review: Bharat B. Pradhan	- Managing Mountain Watersheds: October 85	Horticulture Development in the Hindu Kush-Himalaya: A Review: S. S. Teatolia
3 People's Participation in Watershed Management: Anis A Dani and J.G. Campbell	- Towns in the Mountains: March 86	Terracing in the Hindu Kush-Himalaya: A Reassessment: D. C. Das and P. L. Maharjan
4 Decentralised Energy Planning and Management: Deepak Bajracharya	- Energy for Mountain Districts: May 86	Mountain Economy in Southern China: Collected Papers: Lin Qing Fa
5 Glacial Lake Outburst Floods in the Himalaya: Jack D. Ives	- People and Jobs in the Mountains: May 86	Ecology and Climate in the Mountain System: A Review: Suresh Chalise
6 Forest Management: D. Gilmour and G. Applegate	- Mountain Crop Genetics: February 87	
7 Forestry-Farming Linkages in the Mountains: T.B.S. Mahat	BOOK Rural Energy Planning for the Indian Himalaya: edited by V. Kumar and D. Ahuja	
8 Road Construction in the Nepal Himalaya: Urs Schaffner		



## ICIMOD Board of Governors ( as of December 1987)

<b>Dr. R. Hoegger , Chairman</b> Vice-Director, Directorate of Development Cooperation and Humanitarian Aid, Federal Department of Foreign Affairs	SWITZERLAND	<b>Dasho Karma Letho</b> <i>(member-elect)</i> Ambassador of The Royal Government of Bhutan to India and Nepal	BHUTAN
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<b>Dr. K. J. Lampe</b> German Technical Cooperation (GTZ) and Director-General ( <i>designate</i> ) of the International Rice Research Instt. (IRRI)	WEST GERMANY	<b>Dr. N. N. Singh</b> Secretary, Ministry of Education and Culture, HMG Nepal	NEPAL
		<b>Dr. K. C. Rosser (<i>ex-officio</i>)</b> Director, ICIMOD	ICIMOD

### Publication Distribution

The purpose of ICIMOD's publication programme is to support one of the institution's major objectives: the systematic exchange of knowledge and information regarding integrated mountain development in the Hindu Kush-Himalaya.

The publications are grouped into three main categories. ICIMOD distributes general information relating to the Centre and its activities, without cost, to institutions and professionals around the world. Professional publications are made available, free of charge to collaborating organisations, development programme implementors, policy makers, and scientists in the Hindu Kush-Himalaya region; a limited number are also available for private purchase. In further support of its objectives, ICIMOD prepares working papers, often in collaboration with other agencies. These are produced for limited circulation and are available, on request, at a small charge to cover the costs of production.

ICIMOD gives preference to institutions within the Region, National and International organizations and individuals concerned with the development of mountain systems, that are willing to cooperate through a publications exchange programme.

If you would like to have your name added to our mailing list, send the filled-in form below to the Publications Unit, ICIMOD

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