

UNESCO Director-General visits ICIMOD

Professor Federico Mayor Zaragoza, Director-General of UNESCO, visited ICIMOD on 18 December 1988. The Director-General was accompanied by Dr. Makaminan Makagian-sar, Assistant Director-General for Coordination of UNESCO activities in Asia and the Pacific, and Dr. M. Derkatch, Director, UNESCO Regional Office of Science and Technology for South and Central Asia. Dr. N.N. Singh, Secretary, Ministry of Education and Culture, HMG Nepal was also present at the occasion.

ICIMOD attaches special significance to the visit by the Director-General, since UNESCO is one of the founding sponsors of the Centre. In fact, the Centre was established, based upon an agreement between UNESCO and His Majesty's Government of Nepal in 1981.

Dr. Colin Rosser, Director of ICIMOD, briefed the distinguished visitors on ICIMOD's programmes and



Professor Mayor (right) with Dr. Colin Rosser at ICIMOD

activities. Professor Mayor expressed happiness at the progress made since ICIMOD's inception. He also said that he would like to see scientific ties strengthened between the Himalayan and Andean regions. UNESCO would like to provide support for the promotion of scientific exchange between professionals. Such support could ex-

tend to specific research activities in different regions, translation of existing literature on mountain development, and the establishment of information networks. The Director-General also emphasised the need for stronger ties between ICIMOD and other UN agencies in collaborative programme development.

Dr. E.F. Tacke : Director-Designate for ICIMOD

Dr. E. Frank Tacke, an eminent development expert, has been selected as the new Director-designate by ICIMOD's Board of Governors at the Eleventh Board Meeting held in December 1988. This decision fol-



lows the inability of Dr. Di Castri to join ICIMOD as Director (as announced in Newsletter No. 9) due to personal reasons. Dr. Tacke has accepted this offer and is expected to succeed Dr. Colin Rosser as Director in August 1989.

Dr. Tacke, an agricultural economist, is a citizen of the Federal Republic of Germany. He comes to ICIMOD after a distinguished career of thirty years in international agencies like OECD and the Asian Development Bank. Over the past twenty years, he has held a number of important positions at the ADB, most recently that of Director, Agriculture Department (West).

Dr. Tacke is no stranger to the Hindu Kush-Himalaya region. His work in development planning and assistance has repeatedly taken him to most countries of the region where he

has applied his expertise to promote agriculture and rural development. He has personally been responsible for the design and implementation of many studies and programmes in ICIMOD countries. Of immediate relevance are his contributions to integrated rural development of Sagar-matha Zone and formulation of agricultural sector strategies in Nepal; Chitral area development, barani (rainfed) area development and forestry studies in Pakistan; Serajgonj integrated rural development and Chittagong Hill Tracts development in Bangladesh; and similar experiences in Bhutan and Burma. In addition, his experience as Director of one of ADB's major programmes will be invaluable for the future development of ICIMOD. The present Director and staff of ICIMOD warmly congratulate Dr. Tacke on his appointment.

ICIMOD Embarks on Training in Mountain Risk Engineering

A ten-week pilot training programme on Mountain Risk Engineering began at ICIMOD, Kathmandu, from 6 February 1989. Twenty participants comprising engineers and geologists from Bhutan, China, Nepal, and Pakistan are participating in the training. Short-term professionals and guest lecturers from Europe and the Hindu Kush-Himalaya region are supplementing the efforts of ICIMOD professionals in conducting the training. This activity constitutes a part of ICIMOD's two-year Integrated Training Programme on Mountain Risk Engineering which was initiated in January 1988 with financial support from the European Economic Community (EEC).

The programme is based on the premise that infrastructure development in the Hindu Kush-Himalaya region is experiencing considerable problems due to washouts and failures resulting from landslides,

erosion, and gullyng. Such problems are to a significant extent triggered by careless practices during planning, designing, construction, and maintenance. They are also compounded by deforestation and mass movements due to natural processes and human interference. Environmental and economic consequences of these problems constitute a big challenge in the building and maintenance of physical infrastructures. These phenomena have to be taken into account for appropriate alignment, proper planning, and efficient design. Furthermore, there is the need to set up geological and environmental units in government agencies to integrate these aspects in the construction of roads, irrigation canals, dams and other infrastructure establishments.

Topics covered in the training programme include: new approaches to site selection, feasibility studies, detailed design, construction, and

maintenance of infrastructure in the mountains. Emphasis is placed on geomorphology, structural geology, soil and rock mechanics, socio-economic analyses, civil engineering design methods, hazard assessment procedures, geophysics and biotechnical engineering. Several case studies from the mid-hills of Nepal on mass movements and road construction have also been prepared.

An important aspect of the pilot training programme is that it is application oriented and utilizes laboratory exercises, two-week field exercise, and project work. The project work, divided among five groups during the last two weeks, will produce a complete package of correction measures for a small stretch of an existing hill road in Nepal. The package will look into hazard assessment and mapping, risk assessment, and environmental impact assessment.



ICIMOD Staff Engaged in Programme Development and Assessment

Dr. K.C. Rosser, Director of ICIMOD and Dr. Bharat P. Dhital, Vice-Chairman of the National Planning Commission of Nepal had extensive discussions recently on various areas of collaboration between the two institutions. Following this meeting, one immediate outcome was the participation of Dr. Mahesh Banskota, Chief Programme Coordinator of ICIMOD, in the discussions for the formulation of the Eighth Plan of Nepal (1990-1995). On a longer-term basis, ICIMOD will be collaborating with the Planning Commission towards the strengthening of regional development planning in Nepal. The first phase would include the design of a comprehensive area development programme for the Bagmati Zone in the Central Development Region of Nepal. The objective would be to integrate the issues of basic needs, environmental management, and regional economic development. Considering the rapid urban growth in the Greater Kathmandu Valley Region and the extension of transportation and institutional networks to all eight districts in the Zone, this area provides enormous opportunities for development. On the other hand, if the changes are not properly guided and managed, rapid population growth, urban expansion, and increasing environmental pressures could lead to even greater problems in the future. The challenge is clearly enormous.

Dr. T.B.S. Mahat participated as a forestry and soil conservation expert from 16 November 1988 to 6 February 1989 in a 7-member IFAD Identification/Preparation Mission for a Nepal Hill Livestock and Com-

munity Forestry Development Project. The major objective of this project is to develop and test the technology and institutional support structures for increasing the income of poor households in the hills and improving the ecological condition in their area. Small blocks of government owned degraded "forest" land would be leased on a long-term basis to groups of poor households for higher productivity. Farming activities would be supplemented by promoting livestock development and fodder production and also by supporting off-land income-generating activities. Local capabilities of people's institutions and government agencies would also be strengthened in due process.

Project beneficiaries would include 18,000 households from four districts (Ramechhap, Dolakha, Sindhu Palchok and Kabhre Palanchok from the Central Development Region). Each household would be given about 1 hectare of leasehold land as identified by the "spearhead team" consisting of designated officials from relevant line agencies and people's representatives from concerned districts. Management units consisting of officers from related line agencies would be established for overseeing the activities. Multidisciplinary "group development workers" (one for every cluster of 10 groups of 10 households each), selected from village communities, would be actively involved in implementation. An Interdepartmental Steering Committee at the national level would provide policy directives and implementation guidelines. The scale of the project is expected to be in the range of US \$ 15-20 million over a 7-8 year period.

Dr. Deepak Bajracharya, together with two representatives each from the Australian International Development Assistance Bureau and the Ministry of Forest and Soil Conservation of His Majesty's Government of Nepal, was engaged from 20 January 1988 to 13 February 1988 in the mid-term review of the Nepal-Australia Forestry Project (Phase 3).

The review concluded that progress was found to be generally satisfactory, and in some key areas, such as afforestation and demonstration, targets have been exceeded. The review's main recommendation that greater emphasis be placed on the development and testing of local forest management plans, was accepted by the Project Coordination Committee. Ten such plans in Kabhre Palanchok and Sindhu Palchok districts are currently scheduled by Project management for the fiscal year of 1988/89. The review team and the staff also undertook the task of restructuring the Project's logical framework which contains goals, objectives and activities. This resulted in a clearer definition of focus within the original scope of the Project. Further Australian involvement beyond 1990 was also discussed and would be based on:

- the need to develop and test sustainable strategies for the areas forested under the Project;
- the continued need for afforestation for both subsistence and market use; and
- the continued need for human resource development in the forestry sector, and the facilities and experience Australia has to offer.

Exploratory Andean Tour by ICIMOD Professionals

Dr. N.S. Jodha and Dr. T. Partap of ICIMOD visited the Andean region with the aim of exploring grounds for developing inter-regional programmes in mountain agriculture and genetic resources. Besides participating in the 6th International Congress on Andean Agriculture and Crop Genetic Resources held in Quito on 29 May - 2 June 1988, the team made an exploratory survey of Andean highland agriculture. Several mountain areas of Ecuador, Peru and Bolivia were visited to understand Andean mountain farming systems, the degree of environmental diversity and biological resource potentials. To assess approaches to public interventions, several agriculture and rural development projects e.g. COPACA, Herandina and PISA, were visited. Discussions on programmes of mutual interest were held with professionals of concerned

institutions like INIAP of Ecuador, INIAA (PISA) of Peru, National Universities of Lamolina, Cuzco, and Puno, and with regional institutions like Instituto Interamericano de Cooperacion Para La Agricultura (IICA) based in Quito, Ecuador. Professionals at these institutions were keen to collaborate on the exchange of knowledge, experiences, and genetic resources between Himalayan and Andean regions.

As a result of this exploratory visit to the Andes, several aspects of mountain agriculture came to light which are of interest to the Himalayan region. There are also common fields for encouraging joint efforts. There is at present very little exchange of information between the two regions. This may be due to the language barrier between the Himalayan and Andean regions but is also a result of the lack of efforts towards professional

interaction and cooperation. Possibilities for collaboration include:

- Scientific cooperation in harnessing, conserving and managing genetic resources of mountain farming systems, and thereby, contributing to sustainable development of mountain agriculture.
- Improving technologies and perceptions for institutional interventions to promote mountain development.
- Exchange of experiences on the role of women in the development of mountain areas.
- Comparative studies of systems and approaches to manage mountain environments.

Mutual benefits would indeed be derived from inter-regional professional exchange, translation of literature from English to Spanish and vice versa, and joint training programmes on relevant areas.



Andean Alpaca: promising introduction for the Himalaya?
(Photo : T. Partap)



Himalayan Yak: promising introduction for the Andes?
(Photo : C. Jest)

Senior Research Fellowship Award

Prof. Wang Sijing, Director, Institute of Geology, Chinese Academy of Sciences has been awarded a Senior Fellowship to work on "Environmental Geology for Strategic Development Planning in the Middle Hengduan Mountains of China". This research will emphasize geo-environmental factors in integrated economic

and infrastructure development of the region. The study area is abundant in natural resources, including mineral deposits and crustal energy with high hydropower potential. However, the fragile mountain environment with active tectonic and geo-dynamic processes cause problems and risks to engineering construction. An interplay

of geological processes and human engineering activities is important for a scientific basis in regional planning. A systems engineering approach will be used to gain a comprehensive understanding of the geo-environmental quality of various terrains for planning and site selection in major infrastructure development.

Study of Bhardeo Panchayat, Nepal

Overstocking of livestock has often been assumed to be a major cause of deforestation in the Himalaya region. To test this assumption, the Bagmati Watershed Project requested ICIMOD to conduct a special study of Bhardeo Panchayat, Lalitpur District in Nepal. The purpose was to identify strategies to possibly reduce livestock numbers and thereby enable reforestation and soil conservation programmes. The study was led by Dr. Kk. Panday in the summer of 1988.

Preliminary investigations showed that the economy of Bhardeo was not insulated from external influences. The link between livestock and forests could not, therefore, be examined in isolation. The study scope was accordingly expanded to include other resource management and development issues. The complete study involved a detailed assessment of farmland, livestock, fodder, forest and

water; the extent of resource degradation; an analysis of existing household economies; and an understanding of farmers' strategies to cope with existing problems.

The study concludes that the basic issue in Bhardeo is poverty, not overstocking. Excessive exploitation of forest resources, the principal source of fodder, has indeed led to negative consequences on the social-economic-ecological system. However, deforestation cannot be attributed to livestock overstocking alone. The agrarian economy is no longer self-sustaining.

At present, over 60% of the households in Bhardeo suffer from food deficit for at least six months each year. Farmers are compelled to migrate to urban areas to supplement their income. In fact, livestock produces only 17% of their cash income. The rest comes from salaried jobs, brick kiln labour, and other

casual employment. Prolonged absence of able-bodied males also results in considerable social problems and in labour shortages locally. Yet development services and opportunities within Bhardeo do not permit growth of viable local alternatives.

Farmers are responding to economic and ecological pressures by reducing use of forestry biomass, lowering labour inputs, and opting for smaller livestock like stall-fed goats, which are more energy efficient. To minimize risk, investment is distributed over several animals, and cash returns are higher than with cattle and buffaloes. Contrary to popular assumptions, the people of Bhardeo appear to be aware of ecological degradation and are adapting their forest to economic imperatives. Rehabilitation of natural resources may no longer be possible in Bhardeo without addressing the basic issues of economic development.

Monitoring Visit to Quxu and Miya in China

ICIMOD is currently involved in two case studies in China, one each in Quxu County, Tibet and Miya County, Sichuan. The Quxu study is being carried out by the Commission for Integrated Survey of Natural Resources, and the Miya study by the Chengdu Institute of Mountain Disaster and Environment and the Institute of Rural Development. In October 1988, a monitoring team (including Anis Dani and Deepak Bajracharya) visited the study area to review progress in data collection, and assist the research teams in organising and analyzing the data.

The visit vividly illustrated the diversity of ecological and social conditions between Quxu and Miya. Development processes and interventions are correspondingly quite different.

Quxu County consists of high altitude semi-arid valleys, irrigated terraces, and alpine pastures. Villages lie at 3,500-4,500 metres altitude. The farming system varies from extensive grain production to a preponderance of livestock, mainly yak and sheep. Land and livestock resources are distributed among households on a per capita basis under the household responsibility system, reportedly leading to increase in grain production. The economy however, remains subsistent and the traditional cooperative ethos is still evident.

Miya County lies in the humid rice bowl of Sichuan. Villages lie between 1,000-2,000 metres. The economy is predominantly agricultural. The household responsibility system, introduced in 1984, has granted control over productive

resources to households, initially for a period of 15 years. The result has been a dramatic increase in cash cropping, and diversification of the economy to non-traditional crops and non-farm activities.

The environment in Miya is more conducive to individual initiative than in Quxu County. Benefits are directly related to the effort and entrepreneurial skills of individuals but returns are leading to greater inequities. The drive for individual profit is pushing farmers to convert steep slopes to productive use, without adequate safeguards to prevent soil erosion.

Discussions between the monitoring team and the research teams helped to prioritize issues to be examined and led to a framework for analysis of development in the two counties.

Ecological Farming and Leasehold Forestry

Dr. Ram P. Yadav, Deputy Director, ICIMOD

During a recent visit to Qian Yan Zhou Experiment Station in Jiangxi Province of China, I was very impressed by the ecological farming model there which integrates forestry, livestock, horticulture, aquaculture, and crop production. Taking the watershed as a planning and management unit, the steep upper slopes are used for planting forest trees, followed by fruit trees, fodder trees and grass species. At the lower part, the water resource is harnessed by putting a dam and thus using accumulated water for both irrigation and aquaculture. The production of feed from both fodder trees and grasses facilitates livestock development. The production activities are furthermore integrated with processing and marketing (Figure 1). Spurred by the

success, the 3-D Company (which emphasises Development, Demonstration, and Diffusion) was subsequently established to promote ecological farming in other parts of Jiangxi Province.

Of particular interest in the model are:

- vertical farming that suits specific characteristics of mountain slopes, and
- supplementary activities to generate employment and income for the farmers.

The model thus addresses the problem stated in the Brundtland Commission Report, *Our Common Future*: "Poverty is a major cause and effect of global environmental problems". To tackle both problems simultaneously, an integrated ap-

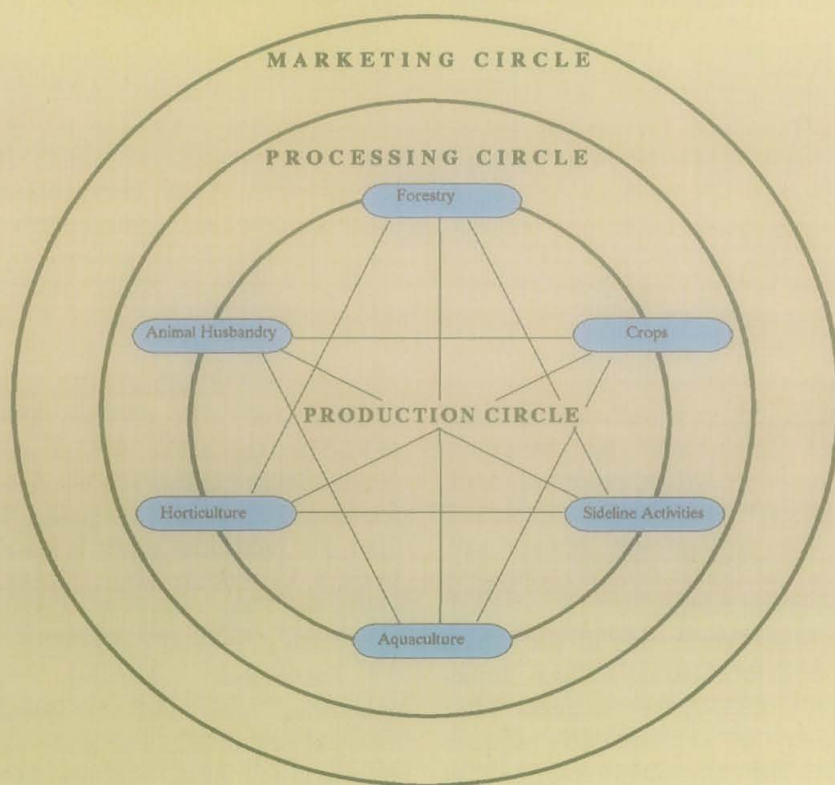
proach to development with full ecological consideration needs to be emphasised over a sectoral approach.

The model is worthy of emulation in many parts of the Hindu-Kush Himalaya region. Government-owned degraded "forest" land in the hills and mountains are potentially the productive assets that can be protected by the poor while generating income to sustain their own livelihood. In Nepal, for example, the heavily denuded forest and shrub area with 25% average crown density is about 2.12 million hectares. This constitutes about 37% of the total forest and shrub area in the mountain region. The additional area of non-cultivated inclusion is estimated at 876,000 hectares. The total degraded forest and "wasteland" area therefore amounts to 3 million hectares, almost the same amount as the total cultivated land in the country. This can be leased on a long-term basis to the poor households and brought under better use by integrating forestry, livestock, and horticulture. One million households in the hills and mountains of Nepal own less than one hectare of cultivated land. It is conceivable that each of these households is granted the long-term lease for 2 hectares of degraded forest land. Emphasis must however, be placed on appropriate arrangements that would ensure user rights and tenurial security. This proposition in favour of the poorest section of the population would contribute significantly towards poverty alleviation as well as environment management.

Proposed Organizational Structure

Along similar lines as the 3-D Company model of China, an Ecological Development Company (EDC) would be very relevant for implementation of the above idea. The EDC's institutional structure will stress an innovative and participatory approach

Figure 1
Integrated Ecological Farming System in China



Source: Adapted from Dr. Li Wenhua's presentation at ICIMOD, January 1989.

to achieve the dual objectives of meeting basic needs and ecological rehabilitation. My preliminary thinking is that the EDC may initially be financed with capital from government grants, bank loans, and some contributory shares from participating farmers and EDC employees. As the activities increase over time and the revenues start coming in, the share of the farmers would be increased. It would be advisable to try out this programme at its initial stage in one district of Nepal.

Three main activities that the Company might embark on are noteworthy:

- **Establishment of a Research Station for Ecological Farming:** The function of the station is to demonstrate the viability and appropriateness of site-specific farming system research, and disseminate the research results to farmers. The focus of the interdisciplinary research would be, for example, on improved species of fodder trees, fast-growing species of fuelwood trees, viability of agro-forestry systems, crop-livestock integration with land use potentials, development of technological packages to increase poor farmers' income, and restoration of degraded ecosystem.
- **Land Use Planning and Infrastructure Development:** Here the emphasis would be on land use mapping, preparation of topographical and soil classification maps, and the construction of needed basic infrastructure such as roads or trails.
- **Development and Support Services:** The main task here is for EDC to act as a mediator between the Forest Department and the farmers in acquiring land and ensuring that the terms of the lease would provide the necessary tenurial security to the rural poor. This has to be supplemented by the generation of appropriate technological packages and the market-



Qian Yan Zhou Experimental Station, Jiangxi Province, China
(Photo : R.P. Yadav)

ing of inputs and outputs through a good delivery system. These will facilitate economic activities by using productive assets (i.e. degraded "forest" land), and will provide the poor farmers with sustainable sources of employment and income.

Specific tasks would include:

- Identification of eligible poor households and organizing them into small functional groups, similar to those of the Small Farmers Development Project (SFDP), for the purpose of local resource management. These groups may further be organised into a regional association to achieve economies of scale. Because of the ecological orientation of EDC's activities, it would make sense if these associations were based on watershed criteria rather than those of administrative boundaries.
- Establishment of an extension structure. Extension is expected to be carried out by social organizers, like the SFDP Group Organizers. Their primary tasks would be to identify eligible rural households, organize them into small groups and into the regional associations,

and serve as the catalytic link to participating farmers, EDC's Research Station, and relevant sectoral line agencies. A saving scheme would also be promoted to build self-reliance among people.

- Establishment of processing and marketing systems for inputs and outputs.

To organize and manage this Company, a fundamental prerequisite would be the recruitment of highly dedicated and committed individuals, deeply concerned for the welfare of the poor. The EDC should furthermore be set up as an autonomous nongovernmental institution. Bureaucratic constraints in government agencies often obstruct the fulfilment of well-conceived project objectives. Experiences from the implementation of Integrated Rural Development Projects in Nepal provide us with ample evidences to support these observations.

The approach presented above provides clearly an innovative mechanism to combat both poverty and environmental degradation. With the help of active participation by the people, it will contribute substantially towards meeting basic needs on a sustainable basis.

Women, Development, and Mountain Resources

21-24 November 1988, Kathmandu, Nepal

The workshop was based on the premise that women play a central role in the management of ecologically vulnerable resources in the mountain systems. There is clearly a need to include women's contribution to the sustenance of the ecosystem and the economy of the mountains. In spite of this recognition, mainstream research and development activities continue to exclude women. This is partly due to the persistence of a gender bias, but also, due to the absence of methods and strategies for internalising women's concerns, women's issues, and women's capacities in knowledge generation, policy making and planning. The workshop objective was, therefore, aimed at promoting interaction between ICIMOD professional staff and invited resource people on women's studies to:

- conceptualise and identify central issues on the gender perspective, and
- search for methods and strategies to internalise the gender perspective in mountain research and development.

Out of a total of thirty participants, one half consisted of ICIMOD professionals representing different divisions and the other half included invited professionals from Bangladesh, China, W. Germany, India, Nepal, and the United States of America.

Theme papers and case studies focussed on four topics:

- current issues in women and development and their relevance to the mountain context;
- women and mountain farming systems;
- energy, employment, and women in the mountains, and

- women, environment, and mountain development.

The discussions were geared towards the formulation of forward-looking strategies for gender perspectives in all ICIMOD programmes.

Major issues emerging from the workshop emphasised the need for:

- consideration of environmental fragility and agro-ecological diversity in the mountains as they relate to women's knowledge base while striving for sustainability of mountain resource systems;
- a greater role for women in control and decision making in mountain resource management to promote greater efficiency and more appropriate patterns in mountain development;
- strategies for empowerment of women on a collective basis to counteract the difficulties associated with the current state of subsistence economy;
- methods for integrating gender as an analytical category while conducting research in the mountains as opposed to the plains;
- relating the experiences and lessons learned from activities in

specific areas to influence programme planning and policy formulation that is more sensitive to gender perspectives;

- the role of ICIMOD in information dissemination through the creation of a resource centre on women and mountain development, methodologies for inclusion of gender perspectives in mountain research and development, and organization of training, workshops and discussion forums for sensitisation of policy makers and planners.

The workshop has highlighted the specifics of how gender perspectives are distinctly different in the mountains as opposed to the plains. The insights gained from the discussions have provided the foundation for a deliberate inclusion of gender perspectives in ICIMOD's programmes in all divisions. Coordination is being provided through ICIMOD's ongoing programme on the Role of Women in Mountain Development with the help of a grant from the Ford Foundation. A more detailed report on the workshop is being prepared for publication.



Policies and Strategies for Mountain Agriculture

Agriculture in most parts of the Hindu Kush-Himalaya region is dominantly characterized by stagnation and decline. In response to this, ICIMOD's Farming Systems Programme is focussed on identifying the key elements that are essential in formulating strategies for sustainable mountain agriculture. This search is directed to four areas: farmers' strategies, public policies and programmes, science and technology (or research and development), and replicability of specific development experiences in different countries. Methods for enquiry involve both field studies and knowledge reviews with a focus on sustainability and collaboration with national agencies.

As a part of the review and reinterpretation of existing knowledge, ICIMOD initiated several papers on specific themes relating to agriculture in four countries of the region. About 15-18 papers prepared by respective country specialists formed the basis of discussions at various country workshops, namely:

- Development Experiences of Himachal Pradesh : Lessons for Other Mountain Areas, 11-13 April 1988, Manali, Himachal Pradesh, India.
- Mountain Agriculture in West Sichuan and Xizang : Policies and Strategies, 6-10 October 1988, Chengdu, China.
- Nepalese Experiences in Mountain Agriculture : Policies and Strategies, 14-16 November 1988, Kathmandu, Nepal.
- Pakistan Experiences in Mountain Agriculture : Policies and Strategies, 15-18 February 1989, Saidu Sharif, Swat, Pakistan.

The key purpose of the country workshops included:

- A closer understanding of major issues, problems and priorities in the

field of mountain agriculture in different countries.

- Review of relevant public policies and programmes with reference to their sensitivity to mountain perspectives.
- Identification of key thrusts of agricultural development strategies and crucial gaps, if any.
- Derivation of replicable experiences from different countries based on a comparative perspective of agricultural development strategies.
- Identification of major areas for collaborative work by national agencies and ICIMOD.
- Identification of, and interaction with, institutions and professionals for collaboration in field studies and knowledge reviews.

Focus of Discussions

The review papers in general and workshop discussions in particular were focussed on the relevance of "mountain perspectives" in public policies and programmes for agricultural development. The key parameters included inaccessibility, fragility, diversity, marginality, adaptation experiences in mountain communities, and comparative advantages or niches specific to mountain areas. Agriculture in mountain areas is, therefore, vastly different from that in the plains. Sensitivity to these mountain specificities is a critical factor in ensuring success of development programmes in these areas. The synthesis of workshop discussions indicates a number of similarities in the approaches and experiences of mountain agricultural development among the four countries:

- Mountain areas are by and large poverty-stricken when viewed from several angles. This is largely related to the disregard of mountain

perspectives in agricultural policies and programmes.

- Macro-level variables are taken into account when different papers from each of the countries discuss agro-ecological zones or major farming systems in the mountains. At operational levels, however, these perspectives are not fully incorporated in programmes and projects. On the contrary, mountain features are listed as constraints to development of agriculture. This is because of the fact that development approaches are conceived and applied to mountain situations with "plains or non-mountain perspectives". Repeated highlighting of this fact is one of the major achievements of the workshops.
- Programmes and policies, which were largely in keeping with mountain specificities, have proven their success, as illustrated by transformation experiences of Himachal Pradesh in India, Swat Valley in Pakistan, Miyi County in China, and Kakani Panchayat in Nepal. This underscores the need for more concrete understanding of mountain specificities and their explicit incorporation in development plans for mountain agriculture.

The workshop helped in sensitising researchers, policy makers and planners to the need for explicit incorporation of mountain perspectives into development strategies. However, one basic constraint is the lack of detailed information at micro-level. The awareness and enthusiasm generated by the workshops have hopefully helped towards a rethinking on approaches to mountain agricultural development.

Meetings attended by ICIMOD Staff

D. Bajracharya

FAO Expert Meeting on Energy Planning for Rural and Agricultural Development, 19-22 April 1988, Rome. Presented paper on "Participatory Action Research for Rural Energy Planning in Bangladesh, Bhutan and Nepal".

Regional Workshop on Standard Methods for Social and Economic Research on Farm and Village Forestry, 25-29 April 1988, Kathmandu. Presented paper on "Towards a Socioeconomic Database on Small Farm Use of Multipurpose Tree Species".

J. Bandyopadhyay

Meeting on the Feasibility of Establishing a Mountain Information Secretariat, 4-7 August 1988, Honolulu.

M. Banskota

Seminar on Land and Water Resource Management in Asia, 19-30 March 1988, Los Banos, Philippines. Presented paper on "Nepal: Upland Resource Management under Conditions of Subsistence Farming".

A.A. Chaudhry

Regional Conference of the International Association of Agricultural Librarians and Documentalists on Critical Issues in Agricultural Information, 16-20 November 1988, Serdang, Malaysia. Presented paper on "Establishing Integrated Information Management System Using Micro-computers".

Seminar on Library and Information Science Education in Nepal, 12-14

December 1988, Kathmandu, Nepal. Presented paper on "Information Technology for Developing Countries with Special Reference to Nepal".

A. Dani

FAO/Finland Workshop on People's Participation in Upland Conservation, 22-29 November 1988, Bangkok. Presented paper on "Incentives for Sustainable Use of Uplands".

N.S. Jodha

World Conference on the Changing Atmosphere: Implications for Global Security, 27-30 June 1988, Toronto, Canada.

UN Expert Group Meeting on Consequences of Rapid Population Growth in Developing Countries, 23-26 August 1988, New York. Presented paper on "Population Growth and Common Property Resources in India".

Third International Rangeland Congress, 7-11 November 1988, New Delhi. Presented paper on "Common Property Resources and Common Ills of India's Livestock Economy India".

International Conference on Global Warming and Climatic Change: Perspectives from Developing Countries, 21-23 February 1989, New Delhi, India. Presented paper on "Global Warming and Climatic Change: Impacts and Adaptations in Agriculture".

Kk. Panday

International Congress on Nature Management and Sustainable Development, 6-9 December 1988,

Groningen, The Netherlands. Presented paper on "Nature Management as a Pre-requisite to Economic Development: Case of Bhardeo in Central Nepal".

T. Partap

International Workshop on Conservation Methodology, 16-20 May 1988, Peradeniya, Colombo, Sri Lanka. Presented paper on "New Approach for Managing Conservation of Genetic Resources through Agroecosystem-based Regional Development Planning".

P. Thacker

Workshop on Improving Information Effectiveness and Services (CITIES), 23-27 February 1989. Presented paper on "Small Industry and Information Re-packaging".

ESCAP Seminar on Management of Information Centres on Women in Development, 6-22 December 1988, Bangkok, Thailand. Presented paper on "Information Storage and Retrieval Systems in the Context of National Information Policy".

SAARC Seminar on Utilization of Research in Planning and Development Programmes, 3-6 September 1988, Islamabad, Pakistan. Presented Nepal Country Paper.

R. P. Yadav

Seminar on Human Capital Development in the 1990's and Beyond: Lessons from Professional Capacity Building Programs in Asia, 26-28 September 1989, Bangkok. Presented paper on "Relevance of Social Science Graduate Education to Agriculture and Rural Development".

Visitors to the Centre

Mr. Vijay Pande, Director, IDRC Regional Office, New Delhi, India.

Dr. Wolf Tietze, Editor-in-Chief, International GeoJournal, Germany.

H.E. Mr. Milton Frank, U.S. Ambassador to Nepal, Kathmandu.

Dr. M.R. Thakur, Vice-Chancellor, Dr. Y.S. Parmar University of Horticulture and Forestry, Solan, Himachal Pradesh, India.

Dr. M. Hossain, Managing Director, Multidisciplinary Action Research Centre, Dhaka, Bangladesh.

Dr. B. Lohani, Head, Environment Unit, ADB, Manila.

Mr. Jerrold Berke, Resident Representative of UNDP, Kathmandu.

Prof. M.P. Singh, Head, Centre for Advanced Studies in Atmospheric Sciences, Indian Institute of Technology, New Delhi, India.

Delegation of the U.S. Congress including **Mr. Martin Synnar**, Chairman of the House Committee on Environment, Energy and Resource Management, and Congressman **Richard Durben**.

Dr. J.P. Srivastava, Deputy Director-General (International Co-operation), International Centre for Agricultural Research in the Dry Areas (ICARDA), Aleppo, Syria.

Ms. Andrea Singh, ILO Regional Coordinator, New Delhi, India.

Dr. A.A. Junejo, Chairman, Pakistan Council for Appropriate Technology, Islamabad, Pakistan.

Mr. C.S. Chandrasekhara, Former Advisor to the Planning Commission, New Delhi, India.

Dr. Mohammad T. El-Ashry, Vice President, Research and Policy Affairs, World Resources Institute, Washington, D.C., USA.

Dr. Helmut Eggers, Vice President, Academic Affairs, AIT, Bangkok, Thailand.

Dr. Wayne Mooneyhan, UNEP-GRID Geneva, Switzerland.

Ms. M. O'Neil, Deputy Minister for Citizenship, Government of Ontario, Canada.

Dr. Peter Rogers, Harvard University, and **Mr. Peter Lyndon**, USAID, Washington, USA.

Short-Term Assignments

Prof. Shen Changjiang. Activity: Livestock and Pastoral Development in Mongolia.

Mr. Urs Schaffner. Activity: Contribution to the Manual on Risk Engineering.

Dr. Sumitra Gurung. Activity: Role of Women in Mountain Resource Management.

Dr. Vandana Shiva. Activity: Women's Knowledge and Work Linkages in Mountain Farming Systems.

Ms. Dagmar Baer. Activity: Off-Farm Employment Opportunities for Women in Nepal.

Dr. L.R. Verma. Activity: Senior Fellowship on Beekeeping in the Hindu-Kush Himalaya: Scope and Strategies for Development.

Prof. Zhang Rongsu. Activity: Finalization of the Neymu Case Study for Presentation at the Symposium on Mountain Environmental Management.

Mr. Ganesh Ram Shrestha. Activity: Paper on Implementation Aspects of Rural Energy Planning.

Mr. Alexis Wagner. Activity: Contribution to the Manual on Risk Engineering and Lectures at the Training Programme.

Dr. L.A. Bruinzeel. Activity: Engineering Aspects of River Basin Management.

Ms. Elizabeth Cecelski. Activity: Paper on Women, Energy and Resource Linkages.

Mr. Mohan Raj. Activity: Preparation of ICIMOD Brochure and Annual Report.

Ms. Rica S. Llorente. Activity: Work on ICIMOD Publications.

Dr. John Dunsmore. Activity: Finalisation of Paper on Mountain Environmental Management in the Arun River Basin.

Dr. Li Wenhua. Activity: Senior Fellowship on Sustainable Forest Management in the Hengduan Mountains of China.

Ms. Jeannette Denholm. Activity: Strategies to Involve Women in Forest Management in Nepal.

Dr. Donald Alford. Activity: Water Resources Management in the Himalaya.

Mr. Hameed Ahmad. Activity: Review of Watershed Management in Pakistan.

Mr. Devendra Amatya. Activity: Soil Conservation Practices of Hill Farmers in Nepal.

Mr. Balram Bhatta. Activity: Community and Private Forestry in Nepal: The Institutional Issues.

Ms. Dominique Chapellier. Activity: Pilot Training in Mountain Risk Engineering Programme.

Departing Staff

Miss Nima Ome returned to Bhutan after completing three and a half years at the Centre. She worked in the Mountain Documentation Centre and the Mountain Institutional Development Division.

Dr. M. Abdullah, Head of the Mountain Infrastructure Development Division, returned to Pakistan, after completing one year and a half at the Centre.

Mr. Lin Chenfeng returned to China after one year at ICIMOD. He was a Trainee Professional in Mountain Farming Systems Division.

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