

Integrated Planning for Environmental and Economic Development of Mountain Areas

**Report of a Regional Meeting of
Planners and Experts**

**Editor
T.S. Papola**

**Organised by the
International Centre for Integrated Mountain Development (ICIMOD)**

**July 22-24, 1996
Kathmandu, Nepal**

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Foreword

Conservation of mountain natural resources is essential not only from the environmental point of view but also in the context of sustainable economic development and the livelihoods of mountain people. A minimum level of economic well-being with a reasonable and continuous improvement is necessary for conservation of environmentally sensitive resources. There is an obvious need to strike a balance between conservation and development, by choosing a pattern of economic development that is in conformity with the comparative advantages of mountain areas. It is quite evident, from the widespread poverty and rapidly deteriorating environment in mountain regions, that the approaches adopted in the past have not integrated environmental and developmental goals, on the one hand, and have failed to generate adequate benefits from investments on the other. Approaches to planning the development of these regions have been characterised by attempts to conserve environment and achieve economic growth in isolation from each other. These have been attempted largely on a narrow sectoral basis, with very little attention being paid to intersectoral linkages.

ICIMOD has been engaged in the task of evolving suitable approaches that could meet the two paramount objectives of mountain development reflected in its mandate, namely, conservation of natural resources and improvements in the living standards of mountain people. Its past work has led it to believe that goals of environmental protection and economic development can be attained simultaneously — in fact, pursuit of one to the neglect of the other may not succeed in achieving either — and that the mountain people do not have to remain poor because of the constraints that nature has imposed on their habitat, since the mountain environment also has certain unique advantages in regard to development. It is, however, necessary that the approaches and strategies that could operationalise these propositions are consciously built into development plans, policies, and programmes.

It is with this end in mind that ICIMOD introduced a programme on Integrated Planning for Environmental and Economic Development of Mountain Areas. The programme aims to develop and disseminate suitable methodologies for planning to integrate environmental and development goals and sectoral activities and to assist planners and development workers in using these methodologies. A Regional Meeting of Planners and Experts organised from 22 to 24 July 1996, in which about two dozen high-level planning officials and experts in mountain and area development planning participated, constituted the first major initiative in this programme. The meeting provided the participants and ICIMOD staff with an opportunity to share experiences and exchange views on the subject. It also provided a significant advance in the future development of the programme. The proceedings of the meeting are being published not only

to record the meeting and input for the ICIMOD programme, but also with the hope that they will be of use to planners and development workers in work related to formulation of plans and programmes for the development of mountain regions.

Dr. T.S. Papola, Head, Mountain Enterprise and Infrastructure Division, ICIMOD not only coordinated the meeting and provided the major input for discussion in the form of a substantive background paper (now issued as Discussion Paper No. MEI/96/2), but also prepared this Report on the discussions at the meeting. Thanks are due to him, as well as to other ICIMOD professional, editorial, and administrative staff who contributed and assisted in the organisation of the meeting and preparation of the Report.

Egbert Pelinck
Director General

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1 Background and Objectives of the Meeting

Since its inception in 1983, ICIMOD has been engaged in developing appropriate approaches to sustainable development in mountain areas through research and demonstration, training, advice, and dissemination of knowledge, with a special focus on the Hindu Kush-Himalayan Region. A central concern in devising strategies and programmes for development of mountain areas is the need to strike a judicious balance between development and environment in improving the livelihoods of mountain people without destroying the mountain ecology. The degree to which such a balance is achieved depends, to a great extent, upon the availability and use of methodologies that integrate environmental considerations with development planning and policies, and upon the selection of an interlinked structure of activities (infrastructural development included) that, in its entirety, maximises economic returns and minimises adverse environmental impacts.

Are such methodologies available? Are they used by national, regional, and local planners and/or programme formulators? Are there gaps in the available methodologies or limitations in terms of their practical use? How do planners in different countries and at different levels use them? These methodologies need to be further developed. It should also be determined whether research and training are needed to demonstrate how to use them. Seeking answers to these and related questions, ICIMOD introduced a programme on **Integrated Planning for Environmental and Economic Development in Mountain Areas** in 1996. Building upon the past work of ICIMOD, the programme was to consist of the following activities.

- i) Review studies on the methods of environment-development and intersectoral integration into planning exercises at national, regional, and local levels and the extent to which they are practised in different HKH countries and methodological studies on environmental impact and economic impact assessment and area planning
- ii) Consultative and advisory missions to different countries
- iii) Development of training materials and actual training for planners and development workers

As the first step towards the concretisation of the programme, a meeting of planning officials and area planning experts was

organised from 22 to 24 July, 1996. The main purpose of the meeting was to share the views and experiences of planning officials and experts from different ICIMOD member countries concerning approaches and methods for integrating environmental considerations into development planning for mountain areas, in order to improve the standards of living of the mountain people and preserve the mountain ecology. The meeting also aimed to elicit the views of participants on the usefulness and contents of the ICIMOD programme in this field and on a future course of action in this respect. The detailed programme of the meeting is given in Annex 1.

Participants, 24 in all, were high-level officials from national, provincial, and local planning and development agencies and scholars with expertise and experience in regional and area planning in the mountain areas of Bangladesh, China, India, Myanmar, Nepal, and Pakistan. In addition, over a dozen ICIMOD Professional Staff, including the Director General and the Director of Programmes, also participated in the meeting. A list of participants is given in Annex 2. Discussions at the meeting largely centred around the issues raised in the background paper '**Integrated Planning for Environmental and Economic Development in Mountain Areas**', prepared by Dr. T.S. Papola, Head Mountain Enterprise and Infrastructure Division, ICIMOD, which has since been issued as Discussion Paper No. MEI 96/2. Most of the discussion took place in the sessions on Country Presentations and in the Working Groups. Most country presentations were made verbally, but some participants also gave brief written papers. A list of the papers is given in Annex 3. For more detailed discussion of some key issues, three Working Groups were formed. The recommendations of these working groups are given in Section 6.

2 The Opening Session

Mr. Egbert Pelinck, Director General, ICIMOD, opened the meeting with a note of welcome to all participants. Explaining the genesis and mandate of ICIMOD, he stated that the deteriorating environment and persistent poverty in the HKH Region had been matters of increasing concern, and the Centre had been striving to develop environmentally and economically sound and sustainable approaches to development in the region for the past 12 years. It had been observed that past efforts by national and international agencies had been far from appropriate and effective, insofar as they had treated environment and development as if they were inherently antagonistic entities. Development programmes had been mostly of a sectoral nature with very little recognition of intersectoral linkages. Mr. Pelinck emphasised the need for an integrated approach to sustainable development to reconcile the economic needs and aspirations of the people with the requirements for maintaining the ecological balance in mountain areas.

To develop such an approach, Mr. Pelinck argued, it was necessary to keep the 'mountain perspective' in mind. The basic elements of this perspective consisted of certain specificities of mountain areas: i.e., inaccessibility, fragility, and marginality — as constraints — and diversity, human adaptability, and 'niche' — as opportunities for mountain development. Only proper recognition and use of these specificities can result in sustainability, in both contexts of the environment and the livelihood of the people. Since poverty and environmental degradation were causally related, a minimum level of development was essential for environmental conservation, but development based on indiscriminate exploitation of environmentally-sensitive resources could not be sustainable.

Mr. Pelinck further pleaded for an approach to human resource development linked with the pattern of economic and environmental development. In particular, he stressed the need to improve access and opportunities for women to participate in development processes as they, as a workforce, had always been the backbone of mountain economies.

Mr. Pelinck concluded by expressing the hope that the current meeting, attended as it was by high level planning officials and experts from different ICIMOD regional member countries, would

pave the way for operationalising the approach to sustainable development of different HKH areas in national and local development plans and programmes.

Dr. Mahesh Banskota, Director of Programmes, ICIMOD, explained the background, objective, and theme of the meeting in the context of the ICIMOD mandate, functions, and past work on the subject. He explained that ICIMOD's aim was to promote development of an economically and environmentally sound ecosystem and improve the living standards of mountain people in the HKH area. ICIMOD was a multidisciplinary documentation centre, a focal point for training and applied research, and a consultative centre for scientific and technical matters relating to mountain development. It endeavoured to influence decisions and actions by providing appropriate concepts, strategies, and methodologies for policies and programmes, rather than suggesting further project activities to add to the abundant numbers in existence. Dr. Banskota said that the meeting constituted part of the Centre's effort in this direction.

Referring to the previous work of ICIMOD on the subject of area planning, Dr. Banskota mentioned micro-level studies focussing on environmental problems in areas such as Neimoy County in Tibet, Swat in Pakistan, and Doon Valley in India. Concerning integrated planning at regional level, he provided details of the study of the Bagmati Zone in Nepal, which had aimed to produce an integrated environment and development profile and develop practical approaches to integrating environmental and economic concerns into planning for each district in the zone.

Dr. Banskota highlighted some of the important issues that had emerged from the Bagmati Zone study. First, due to the neglect of environmental and equity considerations, growth resulting from development strategies adopted in the past had been accompanied by increasing poverty and disparities, on the one hand, and deterioration in the state of natural resources, on the other. Secondly, the limitations of both the 'project' and 'plan' approach, as practised in the past, had become quite evident. Plans had become a source of increasing disenchantment for the people as there had been substantial discrepancies between promises and performance, mainly due to the lack of realism about resources and capabilities in relation to declared goals. Most development activities had been carried out on the basis of projects, as all the plans become operational on the ground only in the form of projects. It was, therefore, often argued that plans were not needed and development could be carried out on the basis of projects. Projects, however, had their own limitations in terms of both the coverage

and time horizon as well as limitations caused by departmental rigidities and failure to develop intersectoral linkages with project funds. More importantly, the concerns underlying sustainable development emphasised the need for going beyond the project approach.

The third important lesson Dr. Banskota had drawn from the Bagmati Zone exercise was that area-based approaches provided a useful mechanism for integrating economic and environmental concerns. For this purpose, however, basic information on various physical and socioeconomic aspects on a spatial basis was essential, and the most important among these were land-related data.

Dr. Banskota argued that there was a need to develop the right kind of combination between projects and comprehensive development plans in order to ensure that the development pattern envisaged addressed (i) the underlying forces affecting development and not just the symptoms; (ii) the territorial realities of resource endowments, environmental constraints, and economic development potential; and (iii) the need to promote institutional capacities at various levels to cope with the management of sustainable development. Such plans should be realistic and avoid the temptation of being more ambitious than resources permitted and of attempting to incorporate every conceivable problem and activity.

These issues, Dr. Banskota observed, were among the many that the current meeting would consider. He hoped that the exchange of views among participants from different countries represented at the meeting would help to improve understanding of the approaches and methods of integrated planning in mountain areas and to shape the nature and contents of the ICIMOD programme.

3 Presentation of Issues

In the Introductory Session, chaired by *Professor Yang Qinye*, the important issues involved in integrated planning for development of mountain areas were presented by *Dr. T.S. Papola*, Head, MEI Division, ICIMOD, as a background for discussion. He stated that a new approach was needed, primarily because, in past planning exercises at national and local levels, environmental considerations had not been internalised, but had been attended to only in a partial and *ad hoc* manner and because planning had been mostly sectoral in nature without giving adequate attention to integration and inter-sectoral linkages. Integration was needed on three different fronts, i.e., between the environment and development; between infrastructure and economic activities and among different sectors of economic activity; and between human resource development, including the gender dimensions, and the development process. In mountain areas, integration was practical only in area-based planning because of the problems of inaccessibility, diversity of the resource base, and the physical aspects of space. These characteristics of mountain areas warranted a planning approach beyond mere decentralisation; a planning approach that is in a real sense area-based. These characteristics also emphasised the importance of using local institutions and a participatory approach to planning in mountain areas.

The environment-development debate, in the context of mountain areas, was often characterised by two extreme positions: development should be restricted because it impinges upon the environment, or, development cannot be restrained because of the environment. Dr. Papola argued that recognition of the 'trade-off' was required since restricting development was unfair to mountain people, while, at the same time, a development pattern involving indiscriminate exploitation of environmentally-sensitive natural resources was not sustainable. The 'trade-off' involved in a development pattern needed to be assessed in order to make conscious and reasonable decisions. The present practices in this respect, which mainly consisted of environmental impact assessments (EIAs), were inadequate, as they were mostly *ad hoc*, project specific, and used limited time horizons. Assessment of environmental impacts, not only of individual projects and activities but also of those related to them as prerequisites and consequences, in a relatively longer time frame, was needed. An

alternative approach would be to select the structure of development activities that minimised the adverse impact on environment and maximised the economic benefits for local people. This approach would involve: (i) ranking the feasible activities according to their environmental impact (EI); (ii) ranking them according to their economic benefits (EB); and (iii) choosing a structure of activities that minimised EI and maximised EB in totality.

Regarding the selection of development activities, Dr. Papola pointed out that, due to the limited resource base, fragility, environmental sensitivity of many resources, and inaccessibility, a highly diversified structure of activities was not possible in mountain areas. But these areas had a 'niche' or comparative advantage in some activities because of the availability of specific resources not found elsewhere. A lead sector(s) approach based on these activities might be more effective in mountain areas. At the same time, it must be recognised that specialised, lead-sector based development implies production of 'tradeables', and commercialisation. In other words, it would mean moving away from the subsistence food crop centred economy. In order for such a move to be successful, it would need to be supported by adequate arrangements to ensure food security for the mountain people. Dr. Papola also stressed the need to carefully plan and develop the backward and forward linkages around the lead sectors, because linkages as such were not seen to develop on their own in mountain areas due to the disadvantage of location and lack of entrepreneurship.

Linkages between infrastructure, energy, and development of economic activities had crucial significance in general; but they assumed special relevance in a commercially-oriented economy. Two issues were of special significance in the development of infrastructure in mountain areas; one, the adoption of ecologically-sound modes and technologies to minimise risks and hazards and, two, the effective use of infrastructure through integrating the plans for its development with the development of economic activities. In the case of energy development, three aspects needed special focus: one, the development of alternative sources of energy to reduce the use of wood and to check deforestation; two, a greater emphasis on the use of renewable energy sources such as water, solar, and non-wood biomass; and, three, the integration of development planning for energy and economic activities to ensure effective use of the capacity created. Hydel power development, especially in mini- and micro-units, had a great enough potential in many mountain areas not only to meet local consumption and production

requirements, but also to produce power as an 'exportable' commodity. However, necessary organisational, managerial, and ownership arrangements should be made for energy plants to ensure that the benefits of hydropower development for sale become available to the local community.

An important consideration in development, in general, and in development of mountain areas, in particular, was related to the implication of a commercially-oriented development process for equity. Such a process of development, though necessary in the present context, was likely to lead to sharper economic differentiation and inequality in the relatively equitable mountain communities. Those with relatively better access to land resources, education, and information were likely to benefit more than the landless, the uneducated, and the unskilled. Women who had been major producers, though not necessarily equally influential in the subsistence-centred agricultural economy, might become marginalised, even as workers. Adequate attention, therefore, needed to be paid to their needs and potentials in the development of social sectors, e.g., education, training, and health, with a view to enabling them to effectively participate in and benefit from the new development process. It was also important to ensure that the development activities generated more employment so that those with no resources, other than labour, could also share in the development of productive activities.

The kind of integration required in the development approach being proposed, according to Dr. Papola, was best possible in an area-based planning framework. As previously stated, development planning in the mountain areas would, therefore, need to go beyond decentralisation, which most often had merely meant decentralised implementation of policies and decisions originating at the centre. The demarcation of planning units could be based on concepts such as watershed and agroclimatic zones, but adequate attention should be paid to socioeconomic homogeneity and differentiation as well. Also, the implementing administrative units should not be ignored. In other words, a flexible approach, although it would not always conform to the rigorous physical and scientific norms, might have to be adopted, because the area delimited for planning purposes would have to have a combination of physical, socioeconomic, and administrative criteria. Another distinctive feature of area delimitation in mountain areas was altitude, and this needed to be incorporated as a dimension in defining an area as the planning unit. The highland-lowland interaction and resource flows within the defined area, as well as between the area and outside, along with the issue and mechanisms of sharing costs and

benefits, needed to be consciously incorporated into the planning exercise. Further, instead of looking at villages and towns as separate entities, the area planning exercise for mountain regions should adopt the concept of a rural-urban continuum, in which the towns should be seen as centres for markets and services for the development of the entire area.

Finally, in referring to the issues relating to the methodology for integrated planning of environmental and economic development in mountain areas, Dr. Papola emphasised the need for further work on the following aspects.

- Quantitative assessment of environmental impact and economic benefits from different individual activities and the entire structure of activities in a development pattern
- Use of linkage analysis in planning the integrated development of infrastructure, energy, and economic activities
- Assessment of inter-group, interpersonal, and gender dimensions of alternative development patterns and ways of incorporating them into development planning
- Treatment of space in a three-dimensional framework, data requirements and availability, and use of techniques such as GIS in area planning
- Alternative institutional mechanisms in area planning in the mountain regions, possibilities for using local, traditional, and people-centred institutions and practices
- The role of state and state-sponsored planning and the need for and type of interventions that might still be necessary, even in a market-dominated, economic policy framework, for sustainable development in mountain areas

Concluding his presentation, Dr. Papola suggested that the participants critically examine these issues, discuss the ways in which they were being tackled in different countries, and identify the problems that ICIMOD, jointly with national agencies and institutions, could overcome.

Dr. Papola's presentation was followed by a general discussion led by *Dr. R.P. Yadav* and *Professor H. Ramachandran*. Dr. Yadav noted that Dr. Papola's paper and presentation had shown that the issues in mountain development, including the approach to internalising environmental considerations, could be resolved, at least at the conceptual level. The question, however, was that of operationalising them in concrete planning exercises. He said that the paper also suggested methodologies for this purpose. He agreed that the development of mountain areas, with a view to alleviating poverty and raising the living standards of the people, had to be

based on an approach that took them out of the subsistence trap into a niche-based commercially-oriented production pattern. For this purpose, he supported the idea of lead sector based development, which, in his opinion, would also conform to the current economic policy regime which stressed privatisation and globalisation. However, in order to become sustainable, lead sector based development would have to use the diversity in mountain areas as an advantageous factor.

He also urged that more work on the assessment of costs and benefits of environmental protection and ways of sharing them among different groups and communities be carried out. He made a strong plea for the area planning approach and stated that the integrated planning concept could best be operationalised using the concept of 'convergence' in the area, probably at the district level, where institutions and services that needed to be converged for integrated development were already in place. He did not think that the availability of data would pose a serious problem in area planning, because plenty of data were available and more could be conveniently gathered in the very process of planning.

Professor Ramachandran stated that what was being presented as a 'new approach' was, in fact, a 'neglected approach', an approach that was known, but not applied. It was quite evident that choosing appropriate products was a key element to devising a suitable pattern of development in mountain areas. It was also clear that this selection should be based on 'niche'. But it was not certain that the 'niche' criterion would deliver the goods in all cases. One might have to go beyond the static concept of 'niche', it might have to be developed where it was not clearly visible at the moment. He preferred the 'structure of activities' approach to a lead sector approach, as the latter might limit development only to a certain level in many cases.

On the use of environmental criteria, Professor Ramachandran argued that the ranking of activities by environmental impact (EI) and economic benefits (EB) could constitute the necessary elements of an approach, but more cross-cutting considerations would have to be used. In particular, it would be necessary to decide on the selection-rejection criterion and prescribe certain qualifying conditions. Also the inter-generational dimension of environmental and economic criteria would need to be incorporated into decision-making. The question of sharing costs and benefits of environmentally-friendly development was extremely important. In these exercises, he pleaded for an explicit pro-mountain bias.

He accepted the desirability of an area approach in development planning in mountain areas, but he argued that the unit of operation needed to be defined using a matrix of resources and activities. At the same time, the difficulties or ease with which a scientifically defined unit works in an operation were important considerations. The realities of the existing boundaries of administrative units, sectoral lines of administration, and patterns of vertical responsibilities could not be ignored, if integrated area planning was to be a workable proposition.

In the subsequent discussion, several points, mainly relating to practical applicability of an integrated area planning approach, were made. *Mr. V.K. Pandit* said that a new approach or paradigm could not be adopted without giving due attention to the existing one, because the former had to be built upon the latter. Integration could be operationalised administratively in a 'one-window' service approach, and area planning through a 'growth-centre' approach. At the same time, integration could not be achieved by trying to do everything at the same time; sequencing and phasing were essential elements in development planning. He agreed that a move away from a subsistence-centred economy was essential for improving the livelihoods of the mountain people, but he emphasised that food security through a widespread and efficient public distribution system would be a pre-condition for this shift. On decentralisation and area planning, Mr. Pandit referred to the new constitutional provisions in India through which the village *panchayat(s)* had been given powers and responsibilities for planning and development.

Mr. S.N. Upadhyaya, speaking in the context of Nepal, said that the issue of human resource development was no doubt important, but, in addition to the gender dimension, it also needed to take account of the multi-ethnicity of population groups in mountain areas. Similarly, the area development approach, while essential, could not be isolated from the national perspective. The resource base of any area needed to be used not only for the development of that area but also for the benefit of the entire nation. Hydro-electricity development was a case in point. Equity considerations were, no doubt, important, and, therefore, mechanisms for sharing the benefits had to be evolved.

Dr. M.H. Rashid pointed out that integration had a cost and it was also not methodology-neutral. The time-frame and political considerations were the real factors to be considered. So, he cautioned, it was necessary to be realistic in terms of the degree and type of integration one would like to achieve. According to him, it

was difficult to talk of a mountain 'area', because mountains were 'infinite' in time and space. He pleaded for developing acceptable mechanisms for sharing costs and benefits of mountain environment and development, inter-generationally, inter-regionally, and internationally. Area planning, he thought, was conceptually easy but operationally difficult. Development of a database was costly, therefore one should be selective and rely to a greater extent on anthropological and sociological methods of study.

Rabindra K. Shukya, Member Secretary, National Plan Commission, HMG/Nepal. The next session, in which presentations were made by participants from China, Myanmar, Nepal, Pakistan, was chaired by Mr. V.K. Pandit, Special Secretary, Planning Commission, India. Dr. Pradeep Talachan of the Planning Division, ICIMOD, was the rapporteur for both sessions.

The presentation on the development experiences in Bangladesh ranged from the historical evolution of integrated planning, in general, and the Chittagong Hill Tracts (CHT), in particular, presented by Dr. M.H. Rashid, incorporation of environmental aspects in CHT development programmes, presented by Mr. Kazi N. Islam, to the forestry programmes for environment-development integration, presented by Professor A.H. Golam

Dr. Rashid said that Bangladesh had extensive experience with an integrated multi-sectoral approach. Because of cyclones and floods each year, there had always been a need for strong coordination among different sectoral offices such as health, transport, relief and rehabilitation, agriculture, and finance.

Referring specifically to the Chittagong Hill Tracts, Dr. Rashid stated that the area had been the theatre of the movement of a group of people displaced by the construction of the new railway line in the period of the formation of Bangladesh. Since 1947, the area had been the theatre of the movement of a group of people displaced by the construction of the new railway line in the period of the formation of Bangladesh. Since 1947, the area had been the theatre of the movement of a group of people displaced by the construction of the new railway line in the period of the formation of Bangladesh.

4 Approaches and Experiences in Different Countries

A good part of the meeting (two sessions of three hours each) was devoted to presentation and discussion of the planning and development experiences in different countries. In the first session on country experiences, presentations were made by participants from Bangladesh and India. This session was chaired by **Dr. Rabindra K. Shakya**, Member Secretary, National Planning Commission, HMG/Nepal. The next session, in which presentations were made by participants from China, Myanmar, Nepal, and Pakistan, was chaired by **Mr. V.K. Pandit**, Special Secretary, Planning Commission, India. **Dr. Pradeep Tulachan** of the MFS Division, ICIMOD, was the Rapporteur for both sessions. The following is a brief summary of the issues raised by different presentations and the discussions that followed.

Bangladesh

The presentation on the development experiences in Bangladesh ranged from the historical evolution of integrated planning, in general, and the Chittagong Hill Tracts (CHT), in particular, presented by **Dr. M.H. Rashid**, incorporation of environmental aspects in CHT development programmes, presented by **Mr. Kazi N. Islam**, to the forestry programmes for environment-development integration, presented by Professor **A.H. Golam Quddus**.

Dr. Rashid said that Bangladesh had extensive experience with an integrated multi-sectoral approach. Because of cyclones and floods each year, there had always been a need for strong coordination among different sectoral offices such as, health, transport, relief and rehabilitation, agriculture, and finance.

Referring specifically to the Chittagong Hill Tracts, Dr. Rashid pointed out that this area faced the problem of resettlement of a large group of people displaced by the construction of the hydroelectricity dam at the time of the liberation of Bangladesh. There was limited land for resettlement, and this had led to environmentally harmful activities such as the cutting down of forests. Therefore, the government had prepared a resettlement scheme which included allocating a certain piece of land for farming to grow food and providing some cash income, as well as

technology and other support facilities. The second phase had emphasised development activities, such as agriculture and horticulture, through cooperatives. It was only in the 1980s that comprehensive multi-sector development of the hill tracts began. An important change took place in 1989 when three districts of Chittagong were given autonomy, along with the authority to collect taxes.

Bangladesh had discontinued the system of five-year plans and operated on the basis of a 15-year perspective plan. In formulating this perspective plan, participation had been sought from all professional groups of people, including farmers and rickshaw-pullers.

A number of institutions had been set up for the Chittagong Hill Tracts (CHT): Chittagong Hill Tracts' Development Board, District Councils, and the Special Affairs' Division under the Prime Minister were the most notable among them.

Mr. Islam stated that, in Bangladesh, the hills covered 12 per cent of the area and were inhabited by about 1,500,000 people. During the decade from 1985 to 1995, a number of integrated community development activities which were mostly related to social sectors, such as drinking water, public health and sanitation, and literacy, had been implemented in the hills. Development programmes through the local government to assist hill people began in 1989. Initially, a feasibility study was carried out. These programmes were implemented by local people, while the government made only budgetary allocations. Since July 1995, the environmental aspects had also been considered in development planning. Every sectoral activity should incorporate environmental aspects from the village up to the central planning level.

Referring to ICIMOD's work in the CHT, Mr. Islam mentioned that the Centre had been of great help in pilot demonstrations of the SALT programme and in establishing a GIS centre. In the earlier planning phase, environmental concern in hill community development had been lacking. It was only in 1995 that a focus had been given to environmental aspects of hill area development in the national plan. ICIMOD had been also instrumental in this respect.

Professor Quddus, dwelling mainly on the forest-related aspects, stated that Bangladesh had had 16 per cent of its land under forests; but 10 per cent had already gone, with only six per cent of forest land left. Thirty to 40 per cent of the forest land was encroached upon by squatters, and they were a very powerful constituency. As a result, not much had been done to remove them from their present

settlements and restore the land to forests. He gave an example of how forest land could be distributed through intersectoral action. Although forest land was within the jurisdiction of the forest department, the power to distribute lay with the Deputy Commissioner. Together they were able to approach the government to distribute the forest land. Similarly, those who were allotted the distributed land required some service from the department of agriculture, which, in turn, also joined in the programme, thus achieving good inter-departmental coordination.

On being queried about whether land was distributed to the landless or to those who already had land, Professor Quddus confirmed that the land had been distributed to displaced people.

India

Five presentations were made regarding the Indian experiences in development. They ranged from national-level planning presented by **Mr. V.K. Pandit**, development experiences of a State – Himachal Pradesh, presented by **Dr. D.K. Sharma**, development programmes in the hill region, Uttarakhand, of a State – Uttar Pradesh, presented by **Mr. S.K. Muttoo**, an agroclimatic zonal planning approach, presented by **Mr. G.S. Guha**, to the environmental policy, presented by **Mr. R.S. Ahlawat**.

Mr. Pandit stated that, although the Indian government had recognised the distinct characteristics of the Himalayas, such as their diversified agro-ecological conditions and richness of biodiversity, it was only with the Fifth Five-year Plan that special hill area development programmes were introduced. Results of these programmes had been mixed. Some areas had developed, but, in many others, severe environmental pressures had emerged. A large number of development brokers and contractors had also surfaced to take advantage of the ineffectiveness of government machinery, which had been due to difficulty in terrain and physical conditions in the mountain areas, in the implementation of these programmes. They had played a detrimental role both on the developmental and environmental fronts in the Himalayas. In view of the lack of opportunities for local employment, resulting in wide-scale out-migration, the Fifth Five-year Plan had aimed to increase production and employment through different development packages. But too many things were attempted at the same time without much focus on achievable activities. Even though hill development programmes had been sector specific and they cut across the region, no long-term master plans had been developed. While implementing sector-specific programmes, there had been too much interference politically and too much pressure from

contractors. Due to the lack of long-term master plans, many of the roads were incomplete and unusable. However, educational infrastructure had expanded very rapidly.

Future plans should emphasise the use of the educated, unemployed youth in the hills by encouraging private businesses in the fields of environmental energy (water resources), electronics, medicine, and other suitable activities. Group-level actions, such as cooperatives, might also be promoted to run these businesses.

The hills were increasingly becoming food deficit areas. Furthermore, the nutritional needs of the people in the hills were greater than those living in the plains. Thus, the public distribution system in the hills should be strengthened. It should include food, clothing, and other essential items of household consumption.

A watershed-based development programme had been in operation for some time, but a reassessment of present programmes was required. Similarly, negative aspects of horticultural development should be studied. The right tourism choice was essential. Access to outsiders should not be denied since they brought new and useful skills. Local entrepreneurs should be encouraged to run local industries. Currently, there was an over-reliance on the public sector. Efforts should now be made to encourage private initiatives. For this purpose, changes in the current administrative structures were needed. There was also a need for concentrated research on the technological options available to hill areas. Household priorities, and particularly those of women, should form an essential element in development programmes.

Dr. Sharma provided a brief history of how Himachal Pradesh (HP) had undergone transformation from depending upon subsistence-centred agriculture to commercial horticulture-led development. In 1949, there had only been 700km of roads. At present, there were 2,500km of roads and half of them were metalled. Similarly, foodgrain production had increased from a mere 0.2 million tons in 1949 to 1.3 million tons. This had been made possible mostly through the transfer of the plains' technologies from Punjab and Haryana. Fruit production had increased from a mere 1,000 tons in 1949 to 400,000 tons. The dynamic and committed leadership of Dr. Y.S. Parmar, the first Chief Minister of HP, had been instrumental in these achievements. But, rapid growth in horticultural crops had begun to impinge on the forests, because of the need for packaging material (wooden boxes). Approximately 200,000cu.ft. of precious conifer trees had been felled each year, causing a negative impact on the environment. This had forced the state to impose a complete ban

on felling trees, apart from the dead ones from the forests, and to explore new options for the supply of wooden boxes. As a result, the state had started to produce half of its requirements for packaging boxes from timber imported from Punjab and Haryana and the rest from corrugated cardboard boxes.

Currently the State saw its future in harnessing water resources to generate hydropower and in tourism. Tourism in the State had suffered in the past because of the lack of appropriate policies to promote private sector tourism development. Excessive intervention by the public sector in tourism development had caused setbacks. This policy had discouraged private initiatives to create adequate infrastructure such as hotels, restaurants, and travel facilities. The lesson learned was that the government's role should be confined to promotional aspects and the opening up of new areas for tourists.

Horticulture did act as a lead sector in the development of Himachal Pradesh, but it should be noted that, whereas the government had played a facilitating role, the main initiative for development of this sector had come from the people themselves. In fact, it had been a missionary who first began work in horticulture in Himachal Pradesh.

Today, a serious question being asked was for whom do we preserve the hill environment because the mountain people living in the harsh environment had been left out of mainstream development and were lagging far behind in the fulfilment of their basic needs. They needed more development, not less. Here, the equity issue needed to be addressed seriously. Since resources for basic social and economic infrastructure could not be generated within a short time by local mountain people, from where could the required investment come? Would the mountain people be compensated for protecting an environment which was also the lifeline of people living downstream?

In conclusion, Dr. Sharma pointed out that certain basic facts needed to be kept in mind in approaching the development of mountain areas. These were a poor resource base; short working seasons; the high cost of infrastructure, the necessity to build longer roads for a given connectivity (a one kilometre road in the plains is equivalent to 8km in areas above 3,000m); a high cost of maintaining roads in the hills because of the fragile ecosystem; a high per capita administrative cost; and differences between the northern slopes and the southern slopes in terms of considerable heterogeneity in biophysical aspects, calling for a different approach and unit in area planning.

Mr. Muttoo presented a brief account of the evolution of hill-specific programmes and approaches in the state of Uttar Pradesh (UP). A separate hill agricultural development programme had been introduced about 25 years ago. An important landmark in this respect was the creation of a Directorate of Horticulture, mostly focussing on hill horticulture. Another was the creation of a separate department by the state government to deal with the Development of Hill Areas and, subsequently, the location of its offices in hill areas.

Mr. Muttoo stated that the Forestry Act, 1980, which included all forest areas as forestry land, had often been the biggest hindrance to the development of roads. To build roads, permission was required from the central government, and this was invariably delayed.

Among the main problems in Uttarakhand, Mr. Muttoo singled out that of the educated unemployed. Therefore, the government was encouraging agricultural graduates to take up farming, especially horticulture, by providing concessional credits. He stated that considerable progress had been achieved in silk cultivation (sericulture) in the hills. Over the last three years, silk production had tripled because of the completely integrated programme of input supply and marketing in which the wholesale market (*mandi*) and private traders were playing an active role.

Two recent initiatives were especially mentioned by Mr. Muttoo as being of significant potential in Uttarakhand: (1) tea plantation and (2) cultivating the fencing plant (*Ramban*). The latter was a shrub tree which grew well on marginal and degraded lands; fibres of this plant were used for rope-making and the pulp was used for making medicines and shampoo. NGOs were involved in promoting plantation of this tree on degraded land.

Mr. Guha made a brief presentation on the agroclimatic zonal approach and its useful application for mountain areas. Beginning in 1988, the Planning Commission had set up an Agroclimatic Regional Planning Unit (ARPU) to develop methodologies and undertake studies for the promotion of this approach. The agroclimatic regional planning approach was now being increasingly recognised as a viable and eco-friendly alternative to conventional area planning. Inherently built into the concept were the dimensions of convergence, 'planning from below', and peoples' participation. The concept of planning based on agroclimatic zoning assumed that each region (irrespective of states and their boundaries) had a reasonable degree of commonality in terms of natural resource endowments, constraints, development issues, infrastructure and farm practices, as well as sociodemographic-economic parameters.

The agroclimatic regional planning approach was making increasing use of the new computer technology. A fair amount of project modelling work was being undertaken; and simulation models had been used for sustainable resource management issues. To obtain data from satellite imagery, ARPU had linked up with the space networking system in India. An agroclimatic databank had also been developed which sold this data from which agroclimatic data were available at cost price.

Mr. Ahlawat presented a brief outline of the environment policy of the Government of India, particularly in respect to hill areas. He said the policy basically recognised that optimal planning was essential, both economically and environmentally. Cleaner technologies that conserved natural resources and used by-products were critical. Regeneration of the fragile ecosystem through appropriate actions was a basic element of the policy. Survey of resources, including the entire flora and fauna, was considered extremely important.

All the schemes of the Ministry of Environment and Forests were geared towards conserving the environment and different approaches were followed: a watershed approach; a forestry participatory approach—joint forest management schemes; sanctuaries and protected areas; and eco-tourism development. He said that eco-tourism should be based on the carrying capacity. Human resource development for developing entrepreneurship capabilities would be extremely important.

According to Mr. Ahlawat, two issues were of special significance: one, natural resource accounting and the issue of how it could be integrated into the national accounting system; and, two, in the context of liberal and market-oriented economic policies, how could resources be raised to protect and conserve the environment; for example, by charging environment tax?

Chairman, Dr. Rabindra K. Shakya, emphasised the need for local peoples' participation at all stages, i.e., designing, phasing, and monitoring and evaluation, in area-based planning and programmes. Building local capacities through human resource development and skill improvement was absolutely essential for local area planning. Although talking about integrated programmes for environment and development sounded good, the reality might be different. For example, integrated rural development projects in Nepal were the finest examples of how decisions were taken in a most disintegrated manner, because decision-making remained with sectoral offices.

Pakistan

The presentations from Pakistan gave an overview of the mountain area perspective in national plans and programmes. This was

presented by *Mr. Qaiser Ali Shah*; environment-development integration in mountain area development was presented by *Professor Mian M. Nazeer*; and a visual display of the mountain environment and the lives of mountain people was presented by *Ms. Nusrat*.

Mr. Shah pointed out that there were many tribal communities in northern Pakistan, and their sociocultural values were extremely important in development planning for mountain areas. Tribals were generally suspicious of the motives of government officials and believed more in their own kin and kith. Therefore, these people did not respond well to government officials and outsiders. Given the strong belief in their own sociocultural values, the participatory approach as a tool for development planning might not prove appropriate. Development impediments of a sociocultural nature were further compounded by physical problems related to land management, soil erosion, and natural disasters. In the circumstances, a number of development models of integrated regional planning that had been tried in the past did not work. The vertical system of bureaucracy, leading to problems of coordination and inconsistencies, had been among the most important bottlenecks in integrated regional planning.

Historically, the British had not entered tribal areas because of physical and cultural inaccessibility. However, with the advent of Pakistan, the government had launched three programmes to benefit tribal people – small-scale industries, for example, in leather and metal products; vocational education; and agricultural sector training, e.g., in agro-processing and in tubewell irrigation.

Mr. Shah considered (i) education/vocational training; (ii) employment generation (mainly self-employment); and (iii) a better price support system for agriculture to be the key elements of an illustrative development model for mountain areas. In his view, the key activities that needed attention in the northern mountain areas were:

- fruit processing,
- forestry,
- water harvesting,
- small-scale industries – ethnic crafts and clothes,
- mining – precious stones,
- women's development, and
- tourism.

Tourism, he stated, acted as a double-edged weapon. It created inflationary pressures on the local people since most of the goods and services were imported from the outside. Additionally, it pressurised the carrying capacity, e.g., garbage dumping, which was having a serious negative impact on the local environment.

The Government of Pakistan had created a Ministry of Environment which was focussing on several key activities such as the Tarbella watershed management project, the juniper forests' project in Baluchistan, and biodiversity and environmental protection and resource conservation. Some INGOs, such as IUCN, were assisting the government in designing programmes for environmental protection.

Professor Nazeer observed that mountain areas had remained inaccessible and marginalised. The increasing population did not receive adequate attention in the national development agenda. The first six Five-year plans had not included the environment as an aspect of development. It was only in the Seventh Five-year Plan that any mention of the environment was made. The Eighth Five-year Plan operationalised environmental aspects. The first conference on the environment was held in 1989/90. Yet, he thought that some of the crucial aspects of environment in mountain development, such as the intergenerational dimensions, received little attention in plans and programmes.

Professor Nazeer proceeded to describe the institutions and programmes involved in mountain development in Pakistan. Institutions responsible for mountain development included line departments, with various activities as a part of their annual plans, and the local development initiatives included district development committees and advisory and social action boards. A number of initiatives were being taken by parastatal agencies and NGOs, particularly by the Agha Khan Rural Support Programme. In terms of large development projects, there were multipurpose dams and forest projects. There were also a number of area development, multi-sectoral projects funded by various bilateral and multilateral donors and institutions. Most of these multi-sectoral projects, in Professor Nazeer's view, lacked critical linkages between the environment and development at various stages of implementation. This was partly because the political compulsions of the government resulted in them having a limited time-frame within which to show results. They wanted visible results within a short time, irrespective of the long-term environmental consequences. Also, there was a host of interrelated problems such as the lack of resources or a marginal resource base, lack of institutional and financial capability, and lack of a support system. Finally, there was

the lack of a 'pro-mountain bias'. Mountains were an objective in themselves; they should not be taken merely as space for activities.

The two presentations were followed by a slide show on the mountain environment, the lives of the people, and the participatory processes of programme initiatives in difficult mountain terrains in northern Pakistan by Ms. Nusrat.

China

The presentation on China by *Professor Yang Qinye* highlighted the experiences gained in preparing 'Agenda 21 for Sustainable Mountain Agricultural Development' for Tibet, with ICIMOD's support. Professor Yang emphasised that the Chinese Government had been paying a great deal of attention to sustainable development. Sustainable agricultural development in the high altitude, specific climatic areas was very important to both Tibet and the Asian mountain regions. The recent session of the sixth meeting of the Tibetan People's Representatives ratified the Ninth Five-year Plan and strategic objectives for Tibet's economic and social development up to A.D. 2010; these spelled out the plan for sustainable integrated development in Tibet for the next 15 years. The Agenda 21 for Sustainable Mountain Agricultural Development (SMAD) had been processed and would be regarded as a model document and as part of the 15-year Development Plan for Tibet.

Agenda 21 for SMAD in Tibet had 13 chapters organised around three thematic aspects, namely, sustainable resource and environmental development, sustainable economic development, and sustainable social development.

As a vast high-altitude mountainous area, Tibet faced severer problems in sustainable development than those in other regions where resources could be easily transported because of the plains' landscape. Thus, mountain agriculture in Tibet was naturally and historically more backward than in other regions of China. Now the key problem was to improve efficiency through strengthening the capacity for resource management. For this purpose, there was a great need to develop human resources by training the local people.

Supplementing Professor Yang's presentation, *Dr. Tej Partap* said that planning in China was very much decentralised. Tibet, which was considered to be most fragile and the poorest province, had harsh climatic conditions and an oppressive environment. The decentralisation process was operationalised in Tibet in keeping with these conditions. Problems were identified by the local people. Planning was carried out through a bottom-up approach. The role of

the provincial government was confined to making budget allocations.

In the past, the agricultural extension and research system had been geared to cereal crops for food security reasons. Moreover, at the policy level, there was a strong plains' bias. Scientists or agricultural graduates who came to work in Tibet were trained to grow rice and not trained to manage yaks in the highlands. As a result, in spite of a developed road infrastructure, 80,000 yaks had died of cold last year, mainly due to the lack of local management capabilities.

The Government of the Autonomous Region of Tibet had requested ICIMOD to assist them in preparing a strategy for poverty alleviation. ICIMOD had agreed to provide a platform to discuss issues and develop a strategic plan for this purpose. Several meetings had been conducted with high ranking Chinese officials. The outcome of these meetings and interactions was Agenda 21 for Sustainable Mountain Agricultural Development in Tibet.

Appreciating the points made with regard to decentralised planning in Tibet, Mr. Pandit, stated that, in the Indian context, central schemes and centrally-sponsored schemes were all planned and budgetted at the central level. With such schemes, the states did not have any flexibility, and these schemes were costly also. Therefore, it would be extremely important to leave many of the sectoral schemes, such as those for drinking water, primary health, elementary education, rural housing, and poverty eradication, with the states.

Myanmar

The two presentations from Myanmar focussed on institutional arrangements for the development of mountain regions and the people, by *Mr. Kyaw Moe*, and an approach to agricultural development, by *Mr. Win Maung*.

Briefly describing the geophysical characteristics of Myanmar, Mr. Moe stated that the mountain dwellers were poor because of many factors such as lack of communications, education, health facilities, and economic opportunities. Because of the lack of other productive opportunities, mountain farmers were forced to grow poppies as a cash crop. Realising this, an holistic approach had been adopted in development planning for mountain areas maintaining a balance between development and environment. The main objective was to provide economic opportunities without causing damage to the fragile environment.

To improve the living conditions of hill dwellers, the government, as a first step, established 'A Working Committee for the Development of Border Areas and National Races' in 1989. The government had also created a separate ministry in 1992 — the Ministry of Progress for Border Areas and National Races and Development Affairs — to look after development activities in hill areas. Sub-committees on agriculture, forests, and livestock breeding were given the responsibility of substituting poppies with other cash crops. Four other sub-committees were responsible for the social aspects of health, education, housing, and public relations. The roads and transport sub-committee looked after infrastructural development, and the communications' sub-committee looked after communications and postal services. Based on the experiences and achievements made in these areas, a Master Plan had been prepared and approved by the Central Committee in 1994.

As part of its efforts to develop and manage the sustainable mountain ecosystem, the country had joined the International Centre for Integrated Mountain Development in 1990. ICIMOD had provided both professional and technical training to 15 trainees from Myanmar. Myanmar was currently getting ICIMOD support in the fields of remote-sensing, GIS, and biodiversity management. A memorandum of understanding (MOU) had been signed between ICIMOD and Myanmar's Forest Department and the Department of Progress for Border Areas and National Races' Development in January 1996. Mr. Moe believed that this MOU would be of great assistance to future planning activities for environmental and economic development in mountain areas in Myanmar.

Mr. Maung also referred to the social backwardness and economic poverty among the mountain people who resorted to poppy growing. From the beginning of 1976, measures to control drugs, on the one hand, and to create opportunities for productive sectors, e.g., agriculture, on the other, had been undertaken. The latter included opening agricultural education stations; land reclamation for former opium poppy growers; cultivation of opium-substitute crops, supply of seeds, seedlings, fertilizer, pesticides, and farm implements; and conducting training courses for farmers. Currently, considerable success had been achieved in target areas because of effective programme implementation by the respective departments or sub-committees in coordination with the Ministry of Border Areas and National Races' Development.

With the overall objective of developing the mountain areas, the Myanmar Agricultural Service, under the Ministry of Agriculture,

had opened 75 agricultural education stations to affect a change from the shifting farming system to a stable agricultural system and also to prevent the misuse of land in mountain areas. Provisions had also been made to ensure the supply of inputs such as quality seeds, seedlings, fertilizers, pesticides, and farm implements.

To improve crop yields and conserve ecological conditions, the Myanmar Agriculture Service had recommended the dissemination and practice of (i) sustainable hillside farming technology; (ii) sloping agricultural land technology (SALT); and (iii) improved terrace farming. Mr. Maung hoped that coordination among different ministries and departments and the joint work on SALT with ICIMOD would bring about an improvement in the crop yield levels.

Nepal

Presentations from Nepal covered wide-ranging issues of mountain environment and development such as the national perspective on mountain resources, presented by *Mr. S.N. Upadhyay*, environmentally-friendly, low-cost road infrastructure, presented by *Mr. Rabindra N. Adhikari*, and development-environment integration in national planning, presented by *Dr. Rabindra K. Shakya*.

Mr. Upadhyay observed that one of Nepal's relatively successful experiences in integrated environment and development in the mountains so far had been the development of water resources for drinking and irrigation uses. Peoples' participation had played an extremely important role in the irrigation sector where local people managed irrigation systems covering 70 per cent of the total irrigated area. This was an excellent example of people successfully managing irrigation systems through mobilisation of their own local resources.

Environmental and economic development in the mountain areas, according to Mr. Upadhyay, should be viewed in the wider perspective of national development rather than focussing on some specific areas only. This was because the mountains were a storehouse of natural resources and effects on forests, water, and soil systems in the mountains had implications nationally, for example, catastrophic floods in the plains. Similarly, mountain water resources were being used by people living in the plains. Thus, there should be equitable sharing of benefits between the mountains and the plains. And, to this end, people living in the plains should be prepared to share the costs of preventing the natural degradation that had been taking place in the mountains. Recently, Nepal had legally operationalised the compensation

concept by binding the Nepal Electricity Development Authority to invest one per cent of the net income of power projects in mountain areas in order to compensate them for the use of mountain resources – water. Also, it was obliged to first provide electrification in the local areas. Job opportunities must be created locally in mountain areas. Transformation of the present subsistence-centered farming economy into a commercialised one, though difficult, was necessary for this purpose.

Mr. Adhikari said that development without disturbing the environment posed a challenge. Since Nepal had over two-thirds of its area in the mountains, mountain development played a critical role in the process of national development.

In the case of the development of roads in mountain areas, Mr. Adhikari said that the demand for road building was very high, but building roads was very costly, especially in the mountains. For example, to construct a 6.2km fair weather road from Silugadi to Safe Bazaar had cost about Nepalese Rupees 650 million. This meant that cost per kilometre of road was about NRs 10 million. Could such huge investments be justified in terms of economic returns? But, again, should these areas always remain inaccessible? As of now, there were 21 mountain districts with headquarters that were not yet connected by motorable roads.

In light of the high demand for road building and the compelling need to keep in tune with the resource and environmental constraints, Nepal had experimented with low-cost and environmentally-friendly road construction with local peoples' participation. There were two such roads already built, one in Palpa and the other in Dhading district. No heavy machinery and equipment or explosives had been used. People had used only small hand tools such as *kodalo(s)*, pickaxes, and shovels. These projects were started during off-season and a lot of employment for local people had been generated. The DDC and VDC had mobilised the local communities and only technical inputs had been provided from outside. Furthermore, local communities had stopped the movement of vehicles during the peak monsoon season in the two months during which 90 per cent of the damage to roads takes place. This had led to 90 per cent reduction in maintenance costs. Local communities were also given the power to collect the road taxes that were used for maintenance. Since this concept of low-cost and environmentally-friendly road construction had been successfully tested in two districts, it had been extended to three more districts with support from the Asian Development Bank.

However, this model had some limitations. Firstly, road construction with this approach was a slow and time-consuming

process. Politicians who wanted quick results did not necessarily like this method of road development. Secondly, the capability of local institutions was limited. As a result, this model did not allow the building of high standard roads and big bridges which required heavy investment and sophisticated technologies.

Dr. Shakya pointed out that Nepal was characterised by significant inter-regional disparities in economic development. The planning process had tried to reduce them, but to no avail. Mountain areas were becoming environmentally degraded. With the Sixth Five-year Plan, the government had introduced a separate land use and environment plan for mountain areas. The Seventh Plan had continued with this approach, but it had proved to be far from adequate in the implementation because of a shortage of expertise on environmental aspects. During 1988, a national conservation strategy had been developed and a council of natural and cultural institutions had also been established. The latest initiative was the creation of a separate Ministry of Environment and Population in 1995. This reflected the commitment of His Majesty's Government to incorporating environmental aspects into the process of development planning.

The Eighth Five-year Plan included a national policy on environment. The priority was to minimise negative impacts on the environment and to control all activities that degraded the environment. Currently, an Environmental Protection Act was being drafted. A new project/programme needed approval from the National Planning Commission (NPC). The NPC approved any project or programme on merit, using four criteria: engineering, technical, economic, and environmental. There was a Central Environmental Protection Council. Projects designed at central, district, and local/village level were required to give due consideration to the environment. Most of the projects had also to go through environmental impact assessment (EIA); it was mandatory for larger projects.

Dr. Shakya recognised the need to incorporate environmental accounting into national accounting. But he said that environmental accounting was very complex and difficult to handle. Firstly, there was a conceptual difficulty in measuring environmental impact, and, secondly, there was the problem of valuing natural resources. Yet, he thought that efforts needed to be carried on to resolve these problems. Dr. Shakya also gave examples of some successful environmentally-friendly projects in Nepal.

Commenting on the presentations, *Dr. M.S. Manandhar* pointed out that, although Nepal was a mountainous country with about 85 per

cent of its area in the mountains, the first four Five-year Plans had not been geared to the mountains. One reason, he thought, was that Nepal had first started its development work with imported models, such as India's block development model and the U.S. village development model, financed by the respective countries. It was only in the Fifth five-year Plan that a pilot hill development project financed by the Swiss government had been started in Jiri, called the Jiri Multipurpose Development Project. During the first few years, the project had been a non-starter because of the lack of roads. Later, the road component had been added to the project. In the 1970s, a large number of integrated development projects had been started — both planned and funded internationally, in donor chosen areas. Some were of a short duration and some had lasted as long as a 15-year period. Some roads had been built, but little had been done to develop local human resources. Projects in areas with no road connections, according to Dr. Manandhar, showed no visible results, because they were too scattered.

Of late, decentralisation and bottom-up planning were being emphasised in Nepal. As local resources, especially community forests, had been transferred to local control, the performance was much better. In this context, how the current trends of globalisation, free trade, and privatisation would effect local peoples' control over their resources was a crucial question. Globalisation-oriented models might not be environmentally-friendly. Therefore, it was important that we make the right choice of development models.

The Chairman, Mr. V.K. Pandit, suggested that the mountains should be seen as a distinct personality and a mountain perspective should be defined in the national context. As the strategic objectives today were tied up with decentralisation in relation to commercialisation based on specialisation, free market and globalisation, and the politics of public choice, the right choice of the development model assumed special significance, particularly in the case of mountain areas. Government had a role not only in social welfare but also as a facilitator, protector, and conservator. The innovative approach to road-building in Nepal through local peoples' participation was an excellent example to emulate. However, we needed to have an action plan which selected realistically what could be conserved and what could be developed.

5 Emerging Priorities and Issues

Drawing upon the presentations and experiences of different countries, *Dr. Pitamber Sharma* of ICIMOD highlighted the emerging priorities and questions that required further discussion, particularly in the Working Groups. Dr. Sharma presented the priorities and issues under six broad themes.

1. Unit of Planning

The basic purpose of the exercise for delimiting the planning area was to integrate socioeconomic and administrative criteria, so that the defined area provided the appropriate context for integration. A practical approach would be to search for and achieve conceptual unity within a given administrative unit. For, delimitation by itself might not be a major problem. What was more important was to develop a broader perspective and evolve a process of convergent planning.

Some important substantive issues raised relating to integrated area planning were as follow.

One, should the plan be comprehensive covering all sectors and aspects, or indicative, defining main directions and approaches? The data requirements of the two approaches would obviously be quite different; and, therefore, the related question would be whether to build a comprehensive database before planning or to plan with limited data.

Second, should area planning form the basis of macro-planning so that all planning is area based, should it be selective, i.e., only for certain areas identified for their specificities, thus supplementing the overall macro-planning that is practised in all areas?

Third, what are the lessons of integrated (rural) development programmes, in terms of methods, mechanisms, and the degree of integration attempted and achieved? How would an integrated programme approach differ from an integrated area approach?

2. Macro-economic Policies and Mountain Development

There was a lurking and well-founded suspicion that the policies of liberalisation and globalisation being currently followed by the

countries of the HKH region might not be exactly beneficial for the development of the mountain areas and people. Economic development patterns, based primarily on private initiative and markets, were likely to bypass mountain areas which offered little advantage, either in resources or demand, to private entrepreneurs for profitable ventures. Yet, a move away from a subsistence-centred to a specialisation-based market-oriented economy was necessary. And such a move, in order to be successful, would require state support and incentives in various ways. Important areas of state action in this respect would be the provision of food security and physical and social infrastructure. Public investments, even in directly productive sectors, could be necessary in some cases to work as a catalyst to development. Subsidies were not a very well-liked concept in the new economic policy regime, but it must be admitted that all successful cases had an element of subsidy. In the case of mountain areas, the question of subsidy could more rationally be seen as a mechanism for compensation for the use, by others and/or non-use by local people, of mountain resources. Research and development efforts in respect of products and technologies suitable for mountain areas were essential — mountain development was a 'knowledge-intensive' activity. And the local private enterprises could not be expected to invest in these activities; the state would have to take the initiative. In the context of globalisation-aimed commercial use of local resources, it would also be necessary that the control over these resources and benefits flowing from their use be regulated to favour the mountain people.

It was, therefore, important that the implications of economic liberalisation on mountain development be carefully examined and the role of the state should be clearly specified in respect of mountain development. Similarly, the role of donors and aid agencies in shaping the development of mountain areas needed to be closely examined to ensure that the aid was utilised in the best interests for the long-term development of mountain people.

3. Operationalising Integration

Integration was, in any case, a difficult task, even more so in the existing conditions of sectorally-oriented development administration. Thus, a conceptually elegant integrated plan could often be converted into fragmented sectoral projects and programmes, in practice. Here, integration or lack of it, was primarily a function of a mind set: a plan could be sectorally divided, yet could be integrated, i.e., if integration was seriously viewed by sectoral planners and administrators. In this sense, integration was not a concept but a 'process' with institutional implications, a process that responded to the problems as they arose. The practical approach to integration,

therefore, needed to be flexible; one need not insist on complete integration of all aspects as a precondition, but various elements could be integrated over time, along with execution of the plan and programmes.

The basic issues that needed to be clarified beforehand, however, were: 'what' needed to be integrated and 'how'. Integration had a cost; therefore, it was important to be specific. For example, the linkages between the plan and projects needed to be clearly defined. An operational agency for integration needed to be specified in terms of whether it should be from among the participating agencies, one that played an important sectoral role, or another, trans-sectoral government agency? Or, should the task of integration be undertaken by an outside agency, i.e., an NGO? Whichever agency is to be made primarily responsible for the purpose, it must be recognised that integration might not be achieved unless it is to be taken as a shared and collective task by all the agencies involved.

4. A Comparative Advantage Based Lead-Sector Approach

In view of the limited resource base and problems of inaccessibility and fragility, the development pattern of mountain economies could not be too diversified. Therefore, it was necessary to identify resources and activities that had a 'comparative advantage' in specific mountain areas and promote them as lead sectors. It must, however, be recognised that a lead sector might not have just one activity. Firstly, it could be more than one activity that offered the 'niche' and, therefore, multiple activities could form a lead sector; and, secondly, any lead sector would be comprised of interrelated activities.

The basic issues in identifying and developing lead sectors were: (i) the requirements of the physical and social infrastructure to solve the problems of inaccessibility, limited local markets, and lack of appropriate institutions for production and marketing arrangements; (ii) the choice between basic 'niche' based activities alone and a structure of activities supporting each other, even though each of these activities might not have the resource-based 'niche'; (iii) the requirements for human resource development in order to support lead sector based, commercially-oriented development, including skill formation and entrepreneurship, (iv) the question of sustainability of the lead sector in terms of resources (renewable or non-renewable) used for its development, defining sustainable resource use practices and narrow specialisation *vis-a-vis* diversification for sustainable development; and (v) the phenomenon of a spontaneous lead sector' (e.g., poppy growing in Myanmar) and its socioeconomic implications.

5. Institutional Arrangements

Obviously, integrated environmental and economic planning for development in mountain areas depended on institutional arrangements at the area level, with an appropriate mechanism for linkages with other higher — regional and national — levels, as well as for the integration of economic and environmental concerns. It was important to examine how far existing arrangements met these requirements and how best to strengthen them or create new institutions for this purpose.

Many mountain areas had endogenously evolved traditional institutions which had served as social mechanisms for collective responsibility and action in the interests of local communities, as perceived by them. How could these institutions be made to serve modern needs? or how could modern institutions be adapted to the particular sociocultural context? were issues that needed serious consideration. At another level, the question of sharing responsibilities by recognising the strength of the government, local civic bodies, and non-government organisations was also of crucial importance for evolving an appropriate institutional arrangement for development.

6. Methodological Issues

Taking into consideration the objectives and various necessary conditions and mechanisms for integrated development in mountain areas, Dr. Sharma posed the following methodological issues for the planning exercise.

- Internalisation of environmental accounting in area-based development planning
- Use of environmental impact analysis or other tools to assess cumulative environmental impacts and synergetic effects of individual development activities
- Approaches and methods to integrate concerns regarding the status of environmental resources and the status of households, and mechanisms for 'mediation' with regard to control over resources, land and other productive assets, and decision-making
- Identification of actors and processes in participatory area development planning
- Criteria and yardsticks for assessing development in the mountains, defining 'success', and internalising the 'mountain bias'
- Methods of integrating agroclimatic zonation with the area as a planning unit

6 Recommendations of the Working Groups

The issues raised at the Introductory Session and during the presentations from different countries and those highlighted by Dr. Pitamber Sharma were remitted for more detailed deliberations to the three Working Groups, under the following broad themes.

1. Integration of Environmental Considerations in Development Planning
2. Intersectoral Linkages – Infrastructure, Gender, and Structure of Economic Activities
3. Area Planning: Delimitation of Appropriate Unit and Data Requirements

A set of questions was posed to each group, covering various aspects relating to the broad theme assigned to it. The issues posed to the three groups and the composition of the groups are given in Annex 4.

Environmental Considerations in Development Planning

Group 1 was chaired by *Professor M.S. Manandhar* and the resource person was *Mr. Ajay Rastogi*. The group made the following recommendations in response to the questions posed to it.

- 1) Selection of the Pattern of Development Activity
 - a) Mountain specificities should be the basic consideration.
 - b) Activities should be site-specific, based on a unit of area, e.g., a watershed.
 - c) Activities could be selected on the basis of resource inventory need assessment and prioritised on the basis of environmental sensitivity and people's need.
 - d) Non-selection of economically-remunerative activities for environmental reasons should be part of a larger scheme incorporated into the national plans and policies. Apart from this, the upland lowland interaction and resource flows should also be taken into account.
- 2) Methodologies to Assess Environmental and Economic Costs and Benefits
 - a) A methodology for pricing natural resources needed to be developed as a prerequisite for environmental accounting.

- b) Shadow prices, with appropriate discounting, could be used for estimating costs of natural resources. The usage value of resources for the local population and society at large should form the basis for deriving shadow prices.
- c) The cost of using cleaner technologies should be offset against the environmental costs of resource-degrading and polluting technologies.

3) Adequacy of EIA

- a) Environmental Impact Analysis (EIA) should be used for most projects, but this should be applied to both pre- and post-project situations.
- b) For smaller projects, guidelines should be developed.
- c) EIA in the present form might prove inadequate for assessing the total impact of a structure of development activities, but the methodology could be improved upon for such an assessment. Once natural resource accounting was developed, it would be easy to make such an assessment in terms of impacts of various activities on environmental resources.

4) Assessment of Activities on Environmental-Developmental Criteria

- a) A matrix with a combination of economic and environmental potentials with respect to different feasible activities in mountain areas should be developed and the activities ranked accordingly.
- b) People's preferences should also receive due weightage in assessing benefits, both environmental and economic.
- c) Some necessity-based 'stand alone' projects and activities (e.g., a drinking water scheme that needed a reservoir) need not necessarily be subjected to ranking and weightage. The socioeconomic need for and benefits of such activities could be so overwhelming that an environmental impact assessment might not be able to hold.

5) Market-oriented Economic Policies and Mountain Development

- a) Market-led development strategies and policies needed to be supplemented, in the case of mountain areas, by state action in two crucial aspects: one, regulations for the protection of mountain environment and, two, investments in physical and social infrastructure.

- b) Government intervention would also be necessary in mountain areas in the form of special promotional services and incentives (including subsidies to encourage prevention of natural resource degradation), food security, and a responsible and efficient single-window institutional mechanism for the delivery of these services.

Intersectoral Linkages

The Group on this subject was chaired by *Professor S.P. Kashyap* and *Dr. Kamal Rijal* was the resource person. The group considered the various aspects of intersectoral linkages, including infrastructure, gender, and an activity structure around the concept of the 'lead sector' and made the following observations and recommendations.

- 1) The structure of production which featured the money-order economy in the mountains should be altered and the scope for expanded production possibilities explored.
- 2) The lead sector approach, which implied production for surplus generation, should be adopted to alter the structure of production. Lead sector(s) would, of course, have to be identified on the criteria of an economically and ecologically usable resource base and the development potential of an activity in the area.
- 3) The lead sector approach, resulting in an enhanced level of activities, led to greater interdependencies among the activities and the people. It should be ensured that advantage was taken of the collective and mutually supportive approach in order that the linkages did not result in an exploitative relationship between the resourceful and the resourceless, and between outside entrepreneurs and traders and the local people.
- 4) Development of the lead sector might not take place easily and spontaneously in mountain areas. It would need to be facilitated through outside interventions.
- 5) Public intervention, most importantly, would be in the development of general infrastructure, both physical and social, as well as services related to the identified, area-specific lead sector and related activities.
- 6) The infrastructure that needed to be developed would not necessarily consist of a standard package for all areas; its form (e.g., road and non-road modes of transport) would depend upon the physical specificities of the area and the nature of products promoted through the lead sector strategy.
- 7) Provision of energy, both for meeting the basic needs of the population and for use of productivity-enhancing technologies,

- was very crucial. Minimising the social cost of energy production and evolving a pattern of energy supply that suited local resource endowments and emerging consumption and production requirements should be basic considerations in energy development.
- 8) While planning and promoting economic activities based on a lead sector approach, besides considering local resources, attempts should also be made to use the traditional skills of local people and the time-honoured knowledge and practices in production and organisation. Technological changes that were incremental in nature were likely to have the best chances of success and sustainability.
 - 9) The centrality of women in mountain economies was of crucial importance. This centrality should be maintained and developed by improving the resource, educational, and skill endowments of women in order to enable them to participate effectively in the new development processes, rather than being further marginalised due to the lack of capabilities.
 - 10) The 'software' aspects of development, comprised of the social, cultural, and institutional mechanisms which had a crucial role in integrated and equitable development, should be given prime importance. Planning exercises for different areas should, therefore, include the use of methods such as social soundness analysis, social assessment, beneficiary analysis, gender analysis, and stake-holders' consultation. Besides the overall development of an area, planning should also incorporate a target group approach, giving special attention to the needs and potentials of women and the poor.
 - 11) As an initial step towards diversification of mountain economies and development of lead sector(s), land-based activities would have better chances of success. These activities would take the form of crop diversification, horticultural development, and animal husbandry. Increasing the efficiency of land and water use would be a necessary condition for this transition. The next step in diversification would consist of internalisation of the different stages of agro-processing. Subsequently, or even simultaneously, the feasibility of development of skill-based, but foot loose, industries, suitable to the agroclimatic conditions of mountain areas should be explored and promoted.

Area Planning

Group three, dealing with the subject of delimitation of an appropriate planning unit, its internal and external linkages, and data requirements was chaired by *Dr. B.P. Maithani* and *Mr. Hubert*

Trapp was the resource person. The findings and recommendations of the group in respect to the different issues posed to them are given below.

1) Area Planning Unit: Delimitation and Methodology

- a) An appropriate spatial unit for planning and implementation should correspond to the existing administrative units (e.g., district), as it had various advantages.
- b) The homogeneity of physical characteristics and the resource base, though useful, need not be the overriding criterion for delimiting planning units.
- c) Regionalisation, based on temperature, topography, soil, and water conditions, was important for the inter-district synchronisation of natural resources' management and effective development planning based on agroclimatic zonation.
- d) ICIMOD should introduce database development projects in all member countries to create knowledge bases and real time sharing of experiences.

2) Sharing Environmental Costs and Benefits

Mountain areas were capital poor but rich in certain natural resources (e.g., water, forest, minerals) with their demand and use extending beyond mountain habitats. Protection and conservation of these resources had to be seen from the point of view of the ecological stability of the mountains and the plains, as well as from the point of view of the proportional use of these resources for the benefit of the mountains and the plains. Therefore,

- a) protection of mountain environments should remain the specific responsibility of the respective mountain communities;
- b) the cost of protecting the environment of the mountains had to be borne by people elsewhere who used mountain resources or whose ecology was dependent on the health of the mountain habitat; and
- c) the cost could be in terms of investments for building physical and social infrastructure, for opening environmentally-friendly development and income-earning opportunities in the mountains, and in terms of subsidy for environmentally-friendly alternative energy and technology. Such investments could be realised by imposing taxes on the use of mountain resources.

3) Rural-Urban and Highland-Lowland Interaction

Rural-urban linkages were crucial for integrated planning in mountain areas, because villages in mountain areas were very small and widely scattered. Rural areas, being the supply base, always supplemented urban areas which were the demand base points.

Terms of trade were always in favour of urban areas because of the out-migration of able-bodied people causing a brain drain. There was a need to establish a human resource balance.

a) The Rural-Urban Balance and Linkages

- i) It should be clearly recognised that the agricultural sector could not absorb the growing local labour force in rural areas.
- ii) Primary and intermediary markets needed to be developed to promote farm and non-farm activities.
- iii) Farm to market road networks should be developed so that other development followed.
- iv) Tools of spatial organisation and rural growth centre planning could be used for this purpose.

b) Highland-Lowland Interaction

- i) This interaction could be reinforced by creating interdependence based on the locational advantage principle, e.g., seasonal vegetables.
- ii) Suitable mutually-agreed criteria could be evolved sharing the costs of environmental preservation in the mountains with the people living in the valleys and plains through taxation or subsidies.
- iii) Inter-zonal variations in the altitude could be incorporated through land use/land capability classifications.

4) Use of GIS and Data Requirements

- a) Geographic Information Systems (GIS) could incorporate data from different sources that provided information on, e.g., natural resources, infrastructure, services, and socioeconomic data.
- b) Generally, there was no lack of data. Data might already be available, but constraints, such as access to these data, cost of data, data quality, cost of data entry, and the problem of data compatibility needed to be reduced.
- c) Using GIS and building a database helped to overcome the methodological problems concerning an appropriate area

unit. The base of data collection might be the administrative unit, but the system should facilitate focus on either particular watersheds within this unit or agroclimatic zones, or road corridors, and so on. For example, the census data available at the administrative level could be transferred to other units of interest.

- d) GIS should be used for the temporal change analysis of spatial information, e.g., land use, change in accessibility, or delivery analysis for marketing products.
- e) All spatial analysis in mountain areas needed a 3-D perspective. GIS facilitated the introduction of elevation as a parameter for analysis, and this was one of its big advantages over the traditional methods of data presentation.

5) Manual on Area Planning for Mountain Areas

Many area plans had been developed in many countries, but there were very few planning/training manuals. The scope and approach varied among them – some concentrated on methods and techniques and others on area planning experiences. Invariably, they were, at best, area/region-neutral or, at worst, lowland biased. It was, therefore, necessary to modify the available manuals or prepare new ones that reflected:

- a) mountain specific area planning issues,
- b) analytical techniques that were mountain specific, and
- c) mountain specific norms/standards/indicators of development and environmental dimensions.

6) Use of Local/Traditional Practices, Community Organisations and Modern Institutions

The wealth of knowledge, practices, and social organisations prevalent among different cultural and ethnic communities in mountain areas could be suitably harnessed, but they would need modifications in order to use them for development purposes.

- a) Environmental awareness should be created among the communities by building up different awareness methodologies.
- b) The gap between planners and implementators could be bridged through close interactions.
- c) Local leaders should be involved through local self-government institutions.
- d) Devolution of authority to local self-governing institutions was necessary.

- e) Mountain-biased NGOs/agencies could be encouraged to engage in the development process.
- f) Traditional institutions and traditional leaders could be suitably involved and incorporated in the development planning and implementation process.

7) Field Experiments on Integrated Area Planning

It would be desirable, and also feasible in most countries, to try out the integrated planning methodology in selected watersheds/areas in the HKH region, jointly through national agencies, institutions, and ICIMOD. For this purpose, however, the following aspects needed to be clearly specified.

- a) Rationale for area planning
- b) Purpose and functions of the area planning exercise
- c) Heterogeneity and diversity of the hills and mountains
- d) Different circumstances in and experiences of the countries
- e) Some countries required more than others on such exercises
- f) Modality of the exercise

7 Concluding Session

The reports of the Working Groups were presented in the Plenary Session by the respective chairpersons. The plenary was chaired by *Professor Mian Nazeer*. During the discussions about the reports, while generally endorsing the recommendations made by different groups, participants offered additional suggestions on the further development of the ICIMOD programme on the subject. The initiative taken by the Centre to develop methodologies for integrating environmental considerations with development planning in mountain areas was enthusiastically welcomed. But some participants also cautioned against being too ambitious and advised proceeding on the basis of studies and experimentation in selected sectors and areas. Let the best not become the enemy of good was the general tenor of their advice.

An important idea floated by some participants and endorsed by most others was to build a strong advocacy for a pro-mountain bias in development strategies. The approach would differ from country to country depending on how important the mountain regions were in their geographical areas. But lobbying for mountain development and environment in favour of sustainable development and the livelihoods of mountain people was required in order to conscientise planners and policy-makers on the importance of the mountains. This, however, needed to be backed up by solid technical work on both environmental and socioeconomic aspects of development in mountain regions.

In concluding the meeting, *Mr. Egbert Pelinck*, Director General, ICIMOD, thanked the participants for their contributions and expressed the hope that the Centre would receive full cooperation and help in developing and executing the programme, as discussed in the meeting. He said that the Centre proposed to undertake the following activities under this programme.

- 1) Studies
 - a) Assessment of the extent and methods of incorporating environmental considerations in development planning in the mountain areas of different countries
 - b) Methodologies
 - i) Valuation and accounting of environmentally-sensitive natural resources

- ii) Development-environment and intersectoral integration on the basis of case studies of areas and projects
 - iii) Delimitation of a suitable unit for planning in mountain areas, based on case studies of the actual experiences using different concepts
- 2) Continuing consultations through meetings, workshops, and exchange of information and advisory services to countries in the formulation of plans and programmes.
 - 3) Technical support to the national, regional, and local government agencies and institutions and NGOs for implementing pilot projects on integrated area planning in selected watersheds/areas in different countries.
 - 4) Development of training programmes for planning officials and development workers at different levels using the results of studies under (i) above as well as inputs from national agencies and institutions.

The meeting ended with a vote of thanks by Dr. T.S. Papola to the participants for their contributions and to ICIMOD staff for their support in facilitating the meeting. On behalf of the participants, Mr. V.K. Pandit thanked ICIMOD for providing the opportunity for interaction and exchange and wished the programme on Integrated Planning for Development of Mountain Areas, introduced by the Centre, success.

Annex 1

Programme

Venue: ICIMOD Conference Hall

**22 July
1996
Day 1**

09:00-09:30 *Registration*

09:30-10:30 *Inaugural Session*

- Welcome
- Opening Address by Mr. Egbert Pelinck
Director General, ICIMOD
- Objectives of the Meeting
Dr. Mahesh Banskota,
Deputy Director General, ICIMOD
- Self Introduction by Participants

10:30-11:00 *Tea/Coffee*

11:00-13:00 *Introductory Session: Concepts, Issues and Approaches
in Integrated Planning in Mountain Areas*

Chairman: Professor Yang Qinye

- Presentation by Dr. T.S. Papola
- Discussion
 - ❖ Discussants
 - ☞ Dr. R.P. Yadav
 - ☞ Dr. H. Ramachandran
 - ❖ General Discussion

13:00-14:00 *Lunch*

14:00-17:00 *Presentation of Approaches and Experiences in
Different Countries*

[Each country presentation may be followed by a brief discussion **mainly for seeking** information and clarifications]

Chairman: Dr. Rabindra N. Shakya

Rapporteur: Dr. Pradeep Tulachan

23 July 1996 Day 2

Bangladesh: Dr. M.H. Rashid
Prof. A.H. Ghulam Quddus
Mr. Kazi Nasirul Islam
India: Mr. V.K. Pandit
Dr. D.K. Sharma
Mr. S.K. Muttoo
Mr. G.S. Guha
Mr. R.S. Ahlawat

Presentation of Approaches and Experiences - continued

	Chairman: Mr. V.K. Pandit
	Rapporteur: Dr. Pradeep Tulachan
09:00-12:00	<u>China:</u> Professor Yang Qinye Mr. Yuanchang
	<u>Pakistan:</u> Mr. Qaiser Ali Shah Prof. Mian Nazeer Ms. Nusrat
	<u>Myanmar:</u> Mr. U Kyaw Moe Mr. U Win Maung
	<u>Nepal:</u> Dr. Rabindra Shakya Mr. S.N. Upadhyaya Mr. Rabindra Adhikari
12:00-13:00	<i>Highlights of National/Regional Presentations: Emerging Priorities and Questions</i> Chairman: Dr. M.H. Rashid <ul style="list-style-type: none"> • Presentation <ul style="list-style-type: none"> ❖ Dr. Pitamber Sharma • Discussion
13:00-14:00	<i>Lunch</i>
14:00-15:30	<i>Discussion on Formation of Working Groups</i> Formation of Working Groups [Three Working Groups on the following themes are proposed. This is subject to modification, if found necessary]

1. Integration of Environmental Considerations in Development Planning

Chairperson: Prof. M.S. Manandhar

Resource Person: Mr. Ajay Rastogi

2. Intersectoral Linkages - Infrastructure, Gender and Structure of Economic Activity

Chairperson: Prof. S.P. Kashyap

Resource Person: Dr. K. Rijal

3. Area Planning - Delimitation of Appropriate Unit and Data Requirements

Chairperson: Dr. B.P. Maithani

Resource Person: Mr. Hubert Trapp

15:30-16:00 *Tea/Coffee*

16:00-17:00 *Discussions in the Working Groups*

09:00-13:00 *Discussions in the Working Groups - continued*

13:00-14:00 *Lunch*

14:00-16:00 *Presentation of Working Group Reports and Discussion*

Chairman: Professor Mian Nazeer

16:00-17:00 *Suggestions for Future Work & Closing*

Chairman: Mr. Egbert Pelinck, Director General, ICIMOD

**24 July
1996
Day 3**

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2. Dr. Mahesh Banskota, Deputy Director General
3. Dr. T. S. Papola, Head, MEI
4. Mr. Shahid Akhtar, Head, DITS
5. Prof. S.R. Chalise, MNR
6. Dr. A.A. Junejo, MEI
7. Dr. G.S. Mehta, MEI
8. Dr. Tej Partap, Head, MFS
9. Mr. Pramod Pradhan, Head, MENRIS
10. Mr. Ajay Rastogi, MNR
11. Dr. Kamal Rijal, MEI
12. Dr. Pitamber Sharma, MEI
13. Prof. Li Tianchi, MEI
14. Mr. Hubert Trapp, MENRIS
15. Dr. Pradeep Tulachan, MFS

LIST OF PAPERS

1. Development Planning of Chittagong Hill Tracts: Some Lessons from Experience Dr. Mohammad Haroonur Rashid
2. Experience on Compiling Agenda 21 for Sustainable Mountain Agricultural Development in Xizang Professor Yang Qinye
3. Planning and Development in Himachal Pradesh - A Brief Factual Outline Dr. D.K. Sharma
4. Some Thoughts and Issues Relating to Development of Hill Areas with Reference to Himachal Pradesh Dr. D.K. Sharma
5. Planning for Development in Mountainous Regions Mr. S.K. Muttoo
6. Integrated Environmental and Economic Planning for Mountain Areas: The Agroclimatic Regional Planning Approach Mr. G.S. Guha
7. Policies and Strategies of Hill Area Development Dr. B.P. Maithani
8. Some Aspects of Planning for Environment and Economic Development of Mountain Areas of Myanmar Mr. U. Kyaw Moe
9. Integrated Planning for Environmental and Economic Development in Myanmar Mr. U. Win Maung
10. Low-cost Environment-Friendly, Self-help Approach in Rural Road Construction Mr. Rabindra Adhikari
11. Nepal's Approaches and Experience on Integrated Planning for Environmental and Economic Development of Mountain Areas Dr. Rabindra K. Shakya

Annex 4

COMPOSITION OF AND TERMS OF REFERENCE FOR WORKING GROUPS

A. Composition

Group 1: Integration of Environmental Considerations in Development Planning

Chairperson: Prof. M.S. Manandhar

Resource Person: Mr. Ajay Rastogi

Venue: ICIMOD Conference Room

- | | |
|---------------------------|------------------------|
| 1. Mr. R.S. Ahlawat | 2. Mr. Shahid Akhtar |
| 3. Prof. S.R. Chalise | 4. Mr. U Kyaw Moe |
| 5. Prof. Mian M. Nazeer | 6. Mr. V.K. Pandit |
| 7. Dr. Tej Partap | 8. Prof. A.H.G. Quddus |
| 9. Dr. Mohammed H. Rashid | 10. Mr. S.N. Upadhyay |

Group 2: Intersectoral Linkages-Infrastructure, Gender, and Structure of Economic Activity

Chairperson: Prof. S.P. Kashyap

Resource Person: Dr. Kamal Rijal

Venue: Mountain Farming Systems Division Meeting Room

- | | |
|---------------------------|---------------------------|
| 1. Mr. U Win Maung | 2. Dr. G.S. Mehta |
| 3. Mr. S.K. Muttou | 4. Ms. Nusrat |
| 5. Dr. Syed Zahir Sadeque | 6. Dr. Rabindra N. Shakya |
| 7. Dr. D.K. Sharma | 8. Dr. Pradeep Tulachan |
| 9. Dr. R.P. Yadav | |

Group 3: Area Planning - Delimitation of Appropriate Unit and Data Requirements

Chairperson: Dr. B.P. Maithani

Resource Person: Mr. Hubert Trapp

Venue: Mountain Natural Resource Division Meeting Room

- | | |
|---------------------------|------------------------|
| 1. Dr. Rabindra Adhikari | 2. Dr. G.S. Guha |
| 3. Mr. Kazi Nasirul Islam | 4. Dr. A.A. Junejo |
| 5. Mr. Pramod Pradhan | 6. Prof. Yang Qinye |
| 7. Dr. H. Ramachandran | 8. Mr. Qaiser Ali Shah |
| 9. Dr. Pitamber Sharma | 10. Prof. Li Tianchi |

B. Terms of Reference

Group 1: Integration of Environmental Considerations in Development Planning

Chairperson: Prof. M.S. Manandhar

Resource Person: Mr. Ajay Rastogi

Venue: ICIMOD Conference Room

It is hoped that the group discussions will provide an opportunity to share experiences and methodologies prevailing in the countries of the HKH Region, besides raising issues that are not covered in the plenary sessions. It is also hoped that preliminary assessment of environmental issues and the prevailing gaps in terms of knowledge, methods, policies, and programmes can be made. Detailed deliberations on each of the issues listed below may be instrumental in arriving at specific recommendations for future activities. For instance, this may mean identification of relevant case studies to be conducted in order to reduce the existing gaps.

- How to decide on a pattern of development activities that could best meet the twin objectives of environmental conservation and development?
- How to devise appropriate tools and methods to assess environmental and economic costs and benefits (private and social)? What are the methodological options available in terms of their suitability for pricing mountain resources? What are the prerequisites for environmental accounting?
- How adequate are EIA's for decision-making and planning? Can they be used to evaluate the combined impact of the various activities linked to each other in the development process generated by a programme/project? Or are some alternative methodologies required?
- How to assess and rank development activities on environmental and economic accounts?
- What are the implications of market-oriented economic policies for development of mountain areas? What precautions are needed to ensure that these policies also benefit the mountain people?

Group 2: Intersectoral Linkages-Infrastructure, Gender and Structure of Economic Activity

Chairperson: Prof. S. P. Kashyap

Resource Person: Dr. Kamal Rijal

Venue: Mountain Farming Systems' Division Meeting Room

It is hoped that the group discussions will provide a basis for sharing experiences and methodologies that prevail in the countries of the HKH Region, besides raising issues that are not covered in the plenary sessions. It is also hoped that some preliminary assessment can be made of how the intersectoral linkages among various sectors are being established in the development planning of mountain areas and what are the prevailing gaps in terms of knowledge, methods, policies, and programmes. Detailed deliberations on each of the issues listed below may be instrumental in arriving at specific recommendations for future activities. For example, this may mean identification of relevant case studies to be conducted in order to identify the forward and backward linkages among economic activities, infrastructure, gender, and environment.

- How to capture the backward and forward linkages that exist between the structure of economic activities, infrastructure, technology, and gender?
- What criteria should be used to determine the need and appropriateness of infrastructure and related technologies? How to ensure that these criteria are applied in building infrastructure?
- How to ensure that appropriate modes and technologies are devised for the provision of infrastructure (energy, communication, and transport) with a view to minimising environmental hazards and impacts?
- How to ensure that the provision of infrastructure helps generate more economic activities for mountain communities? How to interface infrastructure development and development of productive activities for this purpose?
- What types of policies and programmes would ensure more appropriate forward and backward linkages among the various sectors?
- Does planning of social infrastructure require a special approach in mountain areas, particularly to ensure more effective partnerships of women and the poor?
- How to make development planning for mountain communities more sensitive to the issues of social equity and gender equity.

Group 3: Area Planning - Delimitation of Appropriate Unit and Data Requirements

Chairperson: Dr. B.P. Maithani

Resource Person: Mr. Hubert Trapp

Venue: Mountain Natural Resources' Division Meeting Room

It is believed that the group discussions will provide an opportunity to share experiences and methodologies prevailing in the countries of the HKH Region, besides raising issues that are not covered in the plenary sessions. It is also hoped that preliminary consensus on the appropriate unit for development planning as well as a methodological framework will be arrived at. Some kind of experimentation may be carried out to test the proposed framework for development planning with a view to better understanding of the data requirements and the relevance of a planning unit in the context of mountain areas, besides examining gaps in terms of knowledge, methods, policies, and programmes. Detailed deliberations on each of the issues listed below may be instrumental in arriving at specific recommendations for future activities.

- What is the desirability and feasibility of the national/local governments/institutions and ICIMOD jointly trying out the integrated planning exercise and methodology in selected watershed/areas in different HKH countries?
- What spatial unit among the various alternatives, e.g., watersheds, agroclimatic zones, etc, should be demarcated and adopted as an area suitable for integrated planning in mountain regions? In what ways could different concepts and dimensions be combined?
- What methods could be adopted for incorporating factors such as rural-urban linkages and highland-lowland interaction into development planning of mountain areas?
- In view of the paucity of data and the three-dimensional character of mountain areas, what help can tools like GIS offer for developing database arrangements and analysis of data for planning specifically?
- Is there a need to prepare a training manual for mountain area development? In what respect would existing manuals for area planning need modifications, if they are to be used?
- How could local traditional and community organisation and practices in mountain areas be used along with the more common modern institutions developed for formulation and implementation of plans?

Notes

Please note, there are currently 56.75 Nepalese rupees to the U.S. dollar

DDC = District Development Committee

VDC = Village Development Committee

Panchayat = five-tiered system of government

ICIMOD

Founded out of widespread recognition of degradation of mountain environments and the increasing poverty of mountain communities, ICIMOD is concerned with the search for more effective development responses to promote the sustained well being of mountain people.

The Centre was established in 1983 and commenced professional activities in 1984. Though international in its concerns, ICIMOD focusses on the specific, complex, and practical problems of the Hindu Kush-Himalayan Region which covers all or part of eight Sovereign States.

ICIMOD serves as a multidisciplinary documentation centre on integrated mountain development; a focal point for the mobilisation, conduct, and coordination of applied and problem-solving research activities; a focal point for training on integrated mountain development, with special emphasis on the assessment of training needs and the development of relevant training materials based directly on field case studies; and a consultative centre providing expert services on mountain development and resource management.

ICIMOD WORKSHOPS

ICIMOD Workshops are attended by experts from the countries of the Region, in addition to concerned professionals and representatives of international agencies. Professional papers and research studies are presented and discussed in detail.

Workshop Reports are intended to represent the discussions and conclusions reached at the Workshop and do not necessarily reflect the views of ICIMOD or other participating institutions. Copies of the reports, as well as a Catalogue of all of ICIMOD's Publications, are available upon request from:

**Documentation, Information, and Training Service (DITS)
International Centre for Integrated Mountain Development
(ICIMOD)**

**G.P.O. Box 3226
Kathmandu, Nepal**

An aerial photograph of a mountainous region. In the foreground, there are terraced fields, some of which are green and others brown. A small village with a few buildings is visible on the right. The background shows steep, forested mountains under a cloudy sky.

Participating Countries of the Hindu Kush-Himalayan Region

- * Afghanistan
- * Bhutan
- * India
- * Nepal

- * Bangladesh
- * China
- * Myanmar
- * Pakistan

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