ICIMOD

Investing in the Future

Agricultural Research and Education for Sustainable Mountain Agriculture - Report of a Regional Consultation

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Kathmandu, Nepal
January 23-26, 1996

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Foreword

Thousands and thousands of mountain people, both men and women, are responding in a myriad ways to the daily challenges of survival in a difficult environment. In the past, the principal part of this response has been to improve mountain agriculture. Indigenous wisdom played a singular role in bringing about the needed changes and mostly its workings were slow, small-scale, and evolutionary, rather than revolutionary. As the pace of change in mountain agriculture is significantly outpaced by more drastic changes from other forces, such as population growth, deforestation, expanding commercialisation, and so on, mountain agriculture is in dire need of becoming more sustainable in the future.

125 million mountain people currently living in the HKH region... and mountain agriculture will still be a way of life for substantial numbers of them

E. Pelinck

For the majority of the 125 million mountain people currently living in the HKH region and their children and grandchildren, these mountains will continue to be their home even in the 21st century, and mountain agriculture will still be a way of life for substantial numbers of them. Apart from this direct concern for mountain people, the failure of mountain agriculture and the resulting deterioration of mountain environments will have far-reaching downstream effects. Improving mountain agriculture in any way we can is therefore a challenge, and we need to find out what we can really do here.

One critical lacuna in the past has been the relatively gross neglect of attention to specificities of mountain agricultural education and research systems in the region. Realising this, ICIMOD proceeded to contact the different agricultural education and research organisations that could play an important role in future in improving the productivity and sustainability of mountain agriculture. The response has been overwhelming, as is evident from the contents of this monograph, "Investing in the Future." There is unanimous concern about the future of mountain farm households and about mountain agriculture in general. However, the approaches proposed for dealing with different aspects were, quite rightly, very different, reflecting different agroclimatic belts and different socioeconomic, cultural, and institutional conditions. Besides the identification of many beneficial activities for strengthening mountain agricultural education and research, there also emerged a new fraternity of mountain agricultural universities, professionals, and researchers, all unanimous in their call for ICIMOD to play a major facilitating role. ICIMOD will carefully study many of the issues and recommendations identified and select those to which we can make a meaningful contribution, and in particular those for which we have the specific mandate and comparative advantages, i.e., a mountain-specific focus, multidisciplinarity, and regional collaboration. I also hope others will,

at least, find a few innovative ideas and activities for implementation in this very critical area of mountain agricultural education and research. Our contribution today can make a significant impact tomorrow on the sustainability of mountain agriculture.

In closing, I would like to thank all the Vice Chancellors, Secretaries, Director Generals, Professors, and Researchers who worked hard to make a contribution during the Regional Consultation on Research and Education for Sustainable Mountain Agriculture held in Kathmandu, Nepal, from January 23-26, 1996. Organising this Regional Consultation was made possible through generous financial support provided by the Goverment of the Netherlands for a large programme on Institutional Strengthening for Sustainable Mountain Agriculture implemented by the Mountain Farming Systems' Division of ICIMOD. I take this opportunity to express our great appreciation of the Government of the Netherlands for this generous support to ICIMOD. I would also like to express appreciation of the efforts of Dr. M. Banskota and Dr. Tej Partap as editors of this important monograph. Thanks are also due to Greta Rana and her colleagues for preparing this manuscript for publication.

Egbert Pelinck
Director General

Preface

The Mountain Farming Systems' Division of ICIMOD is engaged in a long-term programme of strategies for sustainable mountain agriculture. Identifying and promoting ways of improving institutional capacities with respect to agricultural research and education was one of principal objectives of this programme.

To initiate a dialogue on regional cooperation among educational and research institutions in the Hindu Kush-Himalayas, a 'Regional Consultation on Education and Research for Sustainable Mountain Agriculture' was organised by the Mountain Farming Systems' Division of ICIMOD from January 23-26,1996, in Kathmandu, Nepal. The participants at the conference included, Vice Chancellors of the Universities of the HKH, Heads of Agricultural Research Institutions and Extension Agencies, representatives of NGOs in the region and International Agricultural Research Centres.

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The main objective behind the meeting was to provide an opportunity to institutions to share their experiences in and vision on mountain agricultural research and development processes within the region. It was expected that such interactions will lead to a better understanding of the need for regional cooperation in respect of mountain agricultural research and education. The meeting was a great success and ended up making several recommendations for and promises of follow-up action at national and regional levels.

This report presents a complete account of the issues concerning mountain agricultural research and education presented, highlighted, and deliberated upon during the consultation. The report starts with a brief background to this meeting, and then highlights the overall concerns of agricultural research and education raised by the distinguished speakers at the inaugural session. The following chapters are devoted to the key issues of the state of education and research in the HKH, soil fertility and water management challenges, the food security and livelihood concerns of the mountain farmer, institutional innovations in and micro-level evidence of sustainable mountain agricultural development approaches.

A considerable amount of deliberation took place on the perspectives, role, and responsibilities of the national agricultural research and education systems. Several experienced representatives from many institutions shared their vision and experiences. Keeping the essence of the points speakers made, we have tried to summarise their statements as concisely as possible.

The chapter on recommendations sums up the participants' suggestions for improving education in and research on mountain agriculture. The final chapter mainly consists of the closing remarks made by selected participants and their views on the achievements of the consultation as a whole.

In writing this report , we were faced with the challenge of putting the diversity of visions and experiences shared by the participants into a concise and readable framework. We have tried hard to do so with as much representation of the facts as narrated by participants themselves as possible. Responsibility for any mistakes and misquoting of facts attributed to others in this report is ours alone.

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Acronyms

AKRSP	Aga Khan Rural Support Programme
AZRI	Arid Zone Research Institute
CAFA	Commission for Agriculture, Forestry and Animal Husbandry
CGIAR	Consultative Group on International Agricultural Research
CHT	Chittagong Hill Tracts
CIMMYT	Centro Internationale de Mejoramiento de Miaz y Trigo
CRMT	Central Research Management Team
CIP	Centro International de la Papa
FAO	Food and Agriculture Organisation
HKH	Hindu Kush-Himalayas
HP	Himachal Pradesh
ICAR	Indian Council for Agricultural Research
ICARs	International Agricultural Research Centres
ICARDA	International Centre for Agricultural Research in Dry Areas
ICIMOD	International Centre for Integrated Mountain Development
IMF	International Monetary Fund
IRRI	International Rice Research Institute
LAC	Lumle Agricultural Centre
masl	metres above sea level
NARS	National Agricultural Research Systems
NARC	National Agricultural Research Council, Nepal
NE	North East (Indian Himalayas)
NGO	Non-Government Organisation
GDP	Gross Domestic Product
PAC	Pakhribas Agricultural Centre
PARC	Pakistan Agricultural Research Council
RNR	Renewable Natural Resources
R&D	Research and Development

SNV	Netherlands' Development Organisation
TA	Transformed Area
TV	Television
UP	Uttar Pradesh (India)
UNDP	United Nations' Development Programme
VHF	Very High Frequency

Executive Summary

Sustainable mountain development emphasises the need for some fundamental changes in agricultural research and education. Starting by overcoming the neglect and isolation of mountain agriculture and its farming women and other household members, the focus of education and research should not simply be on maximising productivity, but more on the sustainable use of fragile resources. ICMOD's initiative in bringing together the agricultural education and research organisations active in the Hindu Kush-Himalayas was motivated by the need to assess the current state of mountain agricultural education and research and to identify future research and educational priorities for the region.

...A Progressive rise in the standard of living is a legitimate aspiration of the people of mountain areas.

Hon'ble Prime Minister, S. B. Deuba

The Prime Minister of Nepal, in his inaugural address, made a very strong plea by saying that "*...while a progressive rise in the standard of living is a legitimate aspiration of the people of mountain areas, this does not mean that we should lead a wasteful and polluting lifestyle.*" This can be seen as the major challenge for the agricultural research and educational systems in the region. Dr. Amir Mohammed, in his keynote speech, pointed out that without improvements in many social, legal, and resource access conditions, "*mere availability of improved technology cannot achieve the desired end result of a healthy, vibrant agriculture at the grass roots.*"

The theme papers presented at the conference touched upon a number of critical dimensions of agricultural research and education in the region. Banskota and Partap pointed out that mountain farmers could no longer afford to think too far into the future, referring to the practical problems of resources' conservation. In spite of many critical areas requiring systematic research and integration with the educational system, agricultural research and education lacked the needed resources and were not preferred areas of work. Partap and Shah discussed the deteriorating soil and water resource base in mountain areas and argued that natural factors had been as important, if not more so, than mountain farmers in this process of change. They outlined some of the new, promising areas of research and learning in the managment of soil and water resources. A number of contributions focussed on institutional issues. Dr. Zafar Altaf pointed out that, in the ongoing agricultural institutional adjustments generated by liberalisation and structural adjustments, it is not clear who would focus on the problems of the small farmers as the priorities focussed not on what one produced, but on what the markets wanted. Anupam Bhatia pointed out that change was always painful but it was "*going to be a*

common thread and the ability of institutions to adopt and to meet the challenges of the future are going to be critical for sustainable mountain agriculture." There were many strong points to traditional systems, but these alone were insufficient to cope with new challenges. New capabilities need to be developed. Dr. Liu Yan Hua discussed the changes in institutional fortunes following market-oriented policies in China. Many institutions could not afford good people and without good people many organisations had no future in the market place. Paul Harding discussed the innovations being introduced at Lumle Agricultural Centre in Nepal where the institution was going through many different changes-the most important being the transformation from a donor managed, agricultural research and extension centre to being a part of the national agricultural research system.

...the need to integrate farmers' preferences and knowledge with scientific knowledge and technology

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A number of other presentations touched upon the issue of farmers' perspectives. Ram Yadav referred to the Chinese saying about walking on two legs while emphasising the need to integrate farmers' preferences and knowledge with scientific knowledge and technology. He cited an interesting example in which VHF telephone connections had helped farmers locate markets for their produce. Trilok Papola made a number of provocative suggestions when he argued that food security questons should be turned away from food self-sufficiency questions and futhermore that mountain agriculture as a sustainable source of livelihood in the mountains would remain a question mark. Jose Luis Reuda noted the need for different agencies to work together by contributing from their respective strengths or comparative advantages.

Presentations of micro-level experiences from different countries emphasised the overall role of infrastructure, service, and processing in order for subsistence agriculture to move towards high-value activities. Contributions from the different national agricultural research systems highlighted the experiences of the Arid Zone Agricultural Research Institute (AZRI) in Pakistan, the changing nature of pastoral areas in China, mixed farming systems in the middle hills of Nepal, and shifting cultivation in India and Myanmar. One interesting obervation from Nepal was that many of the problems farmers were facing were not agricultural research issues *per se* but issues concerning other sectors such as roads, electricity, education, health, and drinking water.

Many Vice-Chancellors made presentations on the status of agricultural research and education in their respective universities, focussing on the needs of sustainable mountain agriculture and the underlying problems and weaknesses in the measures taken to respond to some of these challenges.

Recommendations focussed on four major areas - transforming education systems, redefining research priorities, internalising gender ,and creating regional and international partnerships and alliances for sustainable mountain agriculture.

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