











# **Ecoregional Approaches to Mountain Agriculture**

Tools for Planning and Development



# about the organisations

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# Ecoregional Approaches to Mountain Agriculture

## Tools for Planning and Development

Report of an Inter-Ecoregional Workshop held in  
Kathmandu, Nepal, October 22-25, 2002



**Nyima Tashi**  
**Arjen Rotmans**

Organised by  
International Centre for Integrated Mountain Development  
Food and Agriculture Organization of the United Nations (FAO)  
Ecoregional Fund to Support Methodological Initiatives  
International Service for National Agricultural Research (ISNAR)

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Note: The affiliation and professional positions of the various participants were those current at the time of the meeting.

*"the special characteristics of mountains are no longer seen simply as constraints, these ecoregions also offer very special and varied opportunities....."*

**ecoregion** — a large area whose boundaries are fixed by geography, topography, climate, vegetation and/or other easily recognised natural patterns of the landscape

# Author's Preface

The MASIF team has endeavoured over the past four years to prepare a set of decision support tools that could be used by planners and decision-makers as an aid in setting priorities and targeting policies in order to improve agriculture in mountain ecoregions. Now that this project is nearing completion, we considered it an opportune time to bring together not only our partners from China and India but also participants from two other ecoregional programmes that have worked in mountain areas (DME-SUR and AHI). It was our hope that a workshop setting would help to facilitate interaction between the groups and would provide a forum where we could all share our findings and experiences on mountain ecoregions. The workshop explored aspects of the ecoregional approach as well as perspectives, methodologies, successes, and challenges specific to mountains. The ultimate goal was to prepare jointly a set of observations and recommendations on opportunities for mountain areas through ecoregional research.

Forty-nine participants from three mountain ecoregions (HKH, Andes, and African Highlands) attended the workshop. These included not only a host of technical experts on areas such as GIS, RS, soil and terrain, survey, and agronomy, and representatives from NGOs and INGOs, but also, perhaps more tellingly, policy makers from China, India, and Nepal. This cross-section is very much in keeping with the conclusions and recommendations of the international workshop on 'Organising and Managing Ecoregional Programmes' held in Wageningen, The Netherlands 26-28 March 2001, which urged both that there be improved "exchange of information between programmes" and that programmes "strengthen their interactions with policy-makers".

All participants were involved in giving input to the recommendations that were drafted as the ultimate output of the workshop. It is our intent that this short publication summarises the papers presented at the workshop and gives some insight into the thinking that went into the formulation of these recommendations. In preparing this short summary it is our hope that readers who were not present can also obtain some benefit from the discussions that took place. The workshop proceedings will be of interest to all those in mountain regions in general, and the HKH in particular, who are looking for new ways of approaching the subject of mountain development, and of using the wealth of experience and information available to improve planning and focus development interventions as effectively as possible.

Nyima Tashi PhD (ICIMOD)  
Arjen Rotmans MSc (FAO)

# Acronyms and Abbreviations

AHI	African Highlands Initiative
CAS	Chinese Academy of Sciences
CGIAR	Consultative Group on International Agricultural Research
CONDESAN	Consortium for Sustainable Development of the Andean Ecoregion
DME-SUR	Desarrollo de Metodos Ecorregionales (Ecoregional Fund project in southern Peru and Bolivia)
DME-NOR	Desarrollo de Metodos Ecorregionales (Ecoregional Fund project in northern Peru and Ecuador)
FAO	Food and Agriculture Organization of the United Nations
GDP	gross domestic product
GIS	geographic information system
GPS	global positioning system
HKH	Hindu Kush-Himalayas
HP	Himachal Pradesh (India)
ICASA	International Consortium for Agricultural Systems Applications
ICIMOD	International Centre for Integrated Mountain Development
INGO	international non-government organisation
ISRIC	International Soil Reference and Information Centre
IUCN	International Union for the Conservation of Nature and Natural Resources
IYM	International Year of Mountains (2002)
LUA	Land Use Analyst (software tool in the MASIF program)
MASIF	Mountain Agricultural System Information File
NCI	national collaborative institutes
NGO	non-government organisation
NRM	natural resource management
PARDYP	People and Resource Dynamics in Mountain Watersheds of the Hindu Kush-Himalayas Project (ICIMOD)
PRI	panchayati raj institutions
PST	planning support tool
R & D	research and development
RS	remote sensing
SALT	sloping agricultural land technology
SOTER	Soil and Terrain Database (FAO)
TAAAS	Tibet Academy of Agricultural and Animal Sciences

# Executive Summary

This document summarises the presentations, discussions, and findings of the workshop 'Ecoregional Perspectives to Mountain Agricultural Systems: Opportunities & Tools for Planning and Development' held in Kathmandu from 22-25 October 2002. The workshop was organised jointly as a contribution to the International Year of Mountains (IYM) by the International Centre for Integrated Mountain Development (ICIMOD), FAO, the Ecoregional Fund to Support Methodological Initiatives, and the International Service for National Agricultural Research (ISNAR).

The forty-nine participants who attended the three and a half day workshop came from three mountain ecoregions (HKH, Andes, and African Highlands) and from participating NGOs, INGOs, and donor agencies. The workshop began by exploring the implications of working in an ecoregional context and moved on to present the focus and aims of the Ecoregional Fund and explore specifically mountain perspectives and understandings. The successes and challenges met by researchers in each of the three mountain ecoregions were presented as well as their methodologies and tools. The participants also benefited from a session dedicated to group discussions in which the strategies used in the different ecoregions to effectively meet the challenges were compared and contrasted, as well as a session which explored the different options for managing knowledge and information for mountains. A considerable portion of the workshop was dedicated to the presentation of different aspects of the MASIF project both by the core researchers as well as by their partners in Tibet, China, and Himachal Pradesh, India.

The approaches chosen by the different groups in order to interact most effectively with their decision-makers showed a great range and diversity. The Andean group (DME-SUR) had chosen to use state-of-the-art computer models that integrated the latest in high tech RS and GIS data in order to approach their decision-makers. The African Highlands group (AHI) had chosen as its methodological premise the fact that local knowledge is central to management strategies and that without local participation there can be no sustainable benefit. Interactive work between researchers and farmers was key and resulted in intensive 'joint learning', which started at the farm and watershed level and would eventually serve as input to policy makers at the regional level. The MASIF ecoregional group took an approach that was intermediate between these two. It used the latest in advanced database technology to include both biophysical and socioeconomic data, but was guided in the writing of the 'tools' that extract data into a useable form by inputs from different partners who have ready links to decision-makers.

The final session comprised the concluding discussions and the formulation of the recommendations. The recommendations of the conference are intended to be used as a guide for organisations and governments that support sustainable development in mountain areas as well as for practitioners, donors and global partnerships, and global conferences. They covered such topics as the need for an ecoregional approach to solve common issues and enhance sharing of experience and multiplication of successes; the view of mountains as 'geographic storehouses of opportunity' rather than as areas burdened with problems; the possibilities offered by information and



communication technology for mobilising and systematising scattered information in a usable form; the need for researchers to work proactively with policy-makers; the need for improved communication and dialogue mechanisms to ensure two-way exchange of information between local people and policy-makers; the need to ground ecoregional analysis in real problems jointly identified by researchers and decision-makers; and the need for a joint learning and capacity building approach as a positive strategy to 'open the doors' between users and researchers.

The workshop had a considerable immediate impact which is summarised in the next section.

# Workshop Impact

This workshop was successful in bringing together participants from three mountain ecoregions as well as a host of technical experts and in engaging them in fruitful discussions on topics of ecoregional interest. The fact that the participants used and discussed the 'ecoregional approach' as the appropriate way to tackle the challenges in itself demonstrates impact. This is a real and profound change in thinking and perception on the part of scientists and development experts.

Throughout the course of the workshop, we could also sense that there had been a change in the participants' perception of mountain ecosystems. The concept of a 'mountain perspective' has been advocated for some years, but usually with an emphasis on the special problems of mountains and the need to take these into account in planning. This workshop witnessed that scientists, researchers, and policy makers are now ready to go beyond this approach. In the discussions that led to the recommendations, participants discussed not in terms of 'fragility', 'vulnerability', and 'inaccessibility', but rather in terms of the possibilities that mountain ecosystems can offer. Mountains were often referred to as 'geographic storehouses of opportunity', and the characteristics that have traditionally been seen as constraints were now discussed as opportunities. The recommendations show that the research and development community is ready to move on from merely building awareness of mountain issues to identifying actions and interventions

Immediately after this workshop many of the participants went on to attend the Bishkek Global Mountain Summit which started three days later (28 October - 1 November 2002) in Bishkek, Kyrgyzstan. This was the culminating global event of the International Year of Mountains 2002. The concept of the ecoregional approach to mountain development was presented on behalf of the Inter-Ecoregional Workshop and the MASIF team at various round table discussions throughout the Summit using the recommendations of the workshop as supporting documentation. The presentations were well received, and ultimately the concept of an ecoregional approach was incorporated into the Platform. The following passage is quoted from the 'Guiding Principles' of the **Bishkek Mountain Platform**<sup>1</sup>,

*"We support participatory, multi-stakeholder, multi-disciplinary, **eco-regional**, decentralised and long-term approaches that respect the principles of subsidiarity, human diversity, human rights, gender equity and the environment. We value and build upon both indigenous and scientific information and knowledge."*

<sup>1</sup> The objective of the Platform is to continue with existing initiatives and to develop substantive efforts beyond the Year by mobilising resources, giving orientation and guidance, and promoting synergies. In particular, it will provide a framework for stakeholders and others to contribute to sustainable development in the world's mountain regions. It will enable them to act together at all levels from local to global to improve the livelihoods of mountain people, to protect mountain ecosystems, and to use mountain resources more wisely. The Platform should, furthermore, serve as a contribution to debate in the General Assembly of the United Nations and to the achievement of the Millennium Goals.



Participants in the workshop Ecoregional Perspectives to Mountain Agricultural Systems: Opportunities & Tools for Planning and Development, held in Kathmandu, Nepal, October 22-25, 2002

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Day	Sessions	Chair
Day 1	Opening Ceremony	
	Session I: Working by Ecoregions: Focus and Aims of the Ecoregional Fund	Dr Mahesh Banskota
	Session II: Mountain Perspective and Understanding	Dr Eklabya Sharma
	Session III: Successes and Challenges in Mountain Agriculture	Dr Douglas Horton
Day 2 & 3	Session IV: Strategies to Effectively Meet the Challenges	Mr Alejandro Camino
	Session V: Methodologies and Tools as Support to Decision Making a) Use and limitations: experiences in the Andes and Africa b) Experiences in the Himalayas	Dr Johan Bouma Dr Tej Partap
Day 3	Session VI: Wrap-Up Session a) Managing Knowledge & Information for Mountains	Dr Roberto Quiroz
Day 4	Session VI: Wrap-Up Session b) Formulation of the Recommendations on <ul style="list-style-type: none"> <li>• Perspectives for a more balanced understanding of mountain environments</li> <li>• A statement on the key functions and challenges for mountain agriculture</li> <li>• The identification of opportunities and strategies for development</li> <li>• Scope &amp; limitation of IT tools for mountain agricultural development</li> <li>• Mobilisation of agricultural 'know how' to maximise mountains' potential</li> </ul>	Dr Ann Stroud

Figure 1: Flowchart for the workshop