

Annex 1

Summary of Recommendations

I. *General Recommendations*

There should be:

- 1) Increased emphasis and long term support for mountain agriculture research and development
- 2) Increased collection, preservation and maintenance of potentially useful mountain agriculture germplasm
- 3) Mutual exchange of germplasm between similar mountain agriculture areas
- 4) Continued scientific exchanges on mountain agriculture
- 5) Continued lobbying among scientists and politicians to stress the importance, uniqueness and fragility of mountain agriculture systems.

II. *Specific Recommendations*

- 1) The exchange of information can be achieved by (a) newsletters, (b) background on suitable crops including agronomic, cultural, post harvest and food preparation information.
- 2) The germplasm exchange should be initiated by a list of (a) what crops are available from which institution and country and (b) the needs of each country (a preliminary list is being prepared). The germplasm exchange should initially include a wide range of genetic material(e.g., land races or populations). Information on the performance of the exchanged material must also be made available.
- 3) Germplasm storage of mountain agricultural crops must be decentralized using facilities of National Centres, and of international institutes for their mandate crops.
- 4) The exchange of personnel between different mountain areas should involve scientists, policy makers and farmers.

III. Methodology Research

Specific methodology questions were also raised:

- 1) How to characterize mountain agriculture environments: It was suggested that indicator crops, agro-ecological, agro-meteorological and socio economic factors might all be required.
- 2) How to exchange germplasm: What are the mechanisms, regulations and protocol necessary? How can roots, tubers and fruit crops be exchanged safely to prevent spread of viruses?
- 3) What is the best strategy of exchange? Should there be a wide range of diversity, e.g., land races or segregating populations? Should exchange be between similar zones or from widely differing geographic areas?
- 4) What is the best strategy for testing? Should they be tested in common environments and multi-locational trials? Can testing be simplified? How can one determine gene X environment interactions?

IV. Strategies for Accomplishing the Recommendations

The discussion groups also recommended various strategies to accomplish their recommendations.

- 1) Exchange of mountain crop germplasm through bilateral collaboration between national research centres as well as existing international centres, gene banks and through networks whenever possible.
- 2) ICIMOD should assist and support
 - a) the exchange of information and documentation
 - b) coordinate collaboration and exchange between mountain systems
 - c) the whole system approach to mountain agricultural development (e.g., crops, trees and animals)
- 3) The exchange of information and genetic material should be initiated and reinforced by a further exchange of visits. It was recommended that initially two scientists working on Himalayan mountain crops visit the Andes, bringing with them Himalayan crop germplasm. During their visit they should be involved in collecting Andean crop germplasm, and become familiar with the cultivation and use of these crops in the Andes. An exchange visit would then take place, followed by larger expeditions which should include farmers.