CHAPTER 8
Working with Mountain Communities on Their Terms

1. Mountain Farmers and Agenda 21

In Chapter 7, I developed the argument that a major gap exists between small mountain farmers' interest in and ability to adopt most sustainable agriculture and natural resource management practices capable of addressing the concerns of the global environmental community, including attempts to respond to Agenda 21. To summarise, most mountain farm households are concerned—as are most humans — with their immediate goals and needs as well as protection of their immediate environment. If a technology or a new system is both sustainable and allows timely response to those goals or needs, no problems should prevent reconciling farmer interests and societal environmental goals. In this case, conventional agricultural extension services are potentially sufficient to do the job. However, as outlined earlier, the time and investment required of the individual household to implement most sustainable agricultural practices proposed by external projects—not to mention sustainable natural resource management systems—are simply too costly or not in sync with local time frames. Since subsidies, price supports, or tax breaks are unlikely to come from HKH governments to implement sustainable practices of benefit to society or the ecoregion, it is improbable that farmers will take on those additional costs themselves. Such farmer adoption for society's benefit does not occur in the richer western nations, so there is no reason to believe voluntary acceptance of sustainable practices will occur in the developing countries, especially those of the HKH Ecoregion.

Based on the above analysis, I argue that the challenge then becomes one of how can the gap be bridged between the impossibility of Agenda 21-inspired technologies and the unlikelihood that individual farmers will adopt them.[5] One answer to this gap, I believe, lies in the resourcefulness of the mountain communities and kinship organisations themselves. Due to the demands of the mountain landscape, highland communities have always had an interest in mobilising the resources and energies of individual households for the creation of a social capital to protect the communal land and water resources. At the same time, the mountain community has evolved social sanctions and an obligatory culture which demand that all households invest in the protection of the village territory. The reasons why these patterns have evolved in mountains are clear and thoroughly discussed in earlier chapters of this book. The multi-zonal, vertical arrangement of most mountain landscapes does not allow individual decision-making and action without consideration of the broader community. For instance, if the pathways to the higher pastures were blocked by a villager owning a meadow along the route, then the majority of villagers would be denied crucial seasonal grazing for their animals. For this same reason, the high pastures and forests are communally owned, since private ownership would work against the needs of the entire community. Similar community action is required to repair the irrigation system, maintain roads and pathways, and protect the community from avalanche and other natural calamities. In many mountain communities, it is not lawful, by village decree, to even sell land to outsiders since such aliens may not respect the communal law. The mountain community, therefore, has evolved into a powerful force and remains so today, although in some areas of recent commercialisation some of the patterns may have broken down or disappeared.

5 Another option is to use the costs' curve in Figure 8 as a policy tool. By lowering costs of sustainable technologies dramatically, the Agenda 21 concerns can be addressed in a shorter time period. The challenge, of course, is how to stimulate prices so that the costs' curve's decline is more rapid.

While individual farmers cannot attain the required goals of a concerned global environmental community, and it is both unrealistic and unfair to ask them to do so, it is feasible and, in fact, historically verifiable, that the mountain community can achieve sustainability targets and goals which lie beyond the individual farmer's capability. The community or other form of user group has the vision and the power to plan for a much longer horizon than the individual farmer, and these visions are in accordance with those of community members. The community can mobilise existing resource assets from its members to install sustainable technologies but with matching of the missing assets through development activities and appropriate policy. The trick will be to support communities in such efforts, to provide them with resources where they are lacking, and provide a policy and information environment that will allow not only improvement of village lands but also direct improvement in the lands of individual farmers. This chapter is dedicated to a discussion of how practitioners can work with such communities and mountain farmers to be able to bridge the gap between individual constraints and global or broader ecosystemic requirements.

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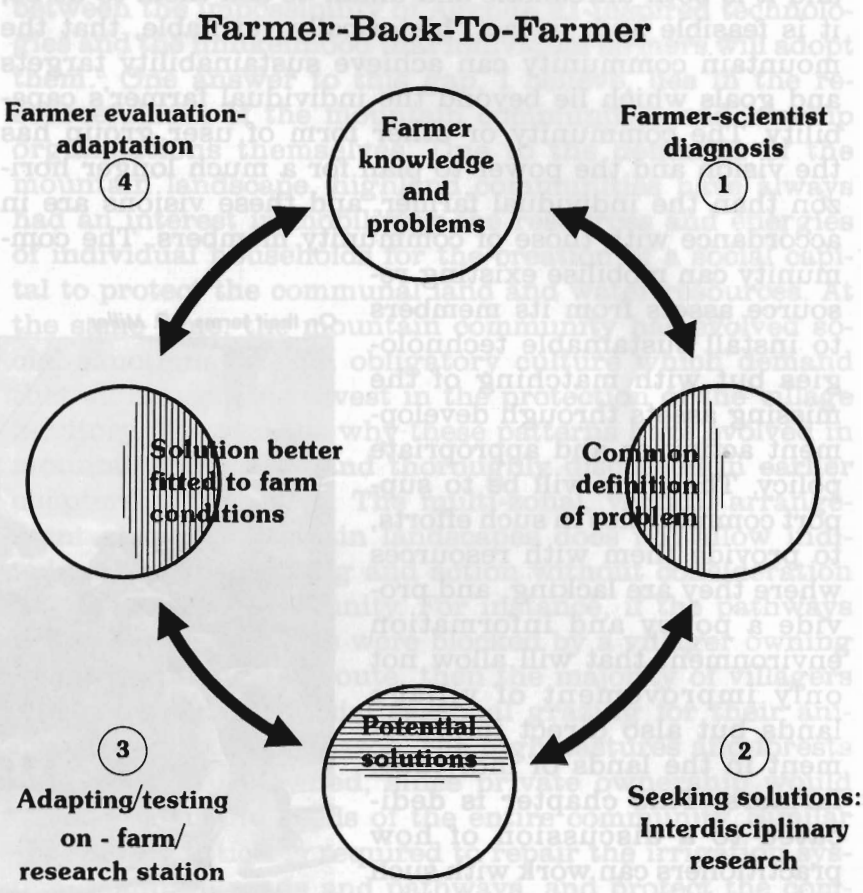
2. Community-based Approaches to Sustainable Agriculture and Natural Resource Management

Even if one accepts that the appropriate levels to address in sustainable mountain agriculture are the user groups, associations, or the local community and its farming system, the question arises as to what is the best development approach. During the past five years, there

Figure 10: Farmer-Back-to-Farmer Model of Adaptive Research (from Rhoades and Booth 1982)



The farmer-back-to-farmer model begins and ends with the farmer. It involves four major activities, each with a goal. The shaded areas in the circles indicate an increasing understanding of the technological problem area as research progresses. Note that research may constantly recycle.

Activities	Goals
1. Diagnosis	Common definition of problem by farmers and scientists
2. Interdisciplinary team research	Identify and develop a potential solution to the problem
3. On-farm testing and adaptation	Better adapt the proposed solution to farmer's conditions
4. Farmer evaluation / adaption	Modify technology to fit local condition; understand farmer response; monitor adoption

has been a dramatic increase in participatory research and development projects on the watershed and catchment scales in mountainous areas. Most major donor agencies and bilateral programmes are funding such participatory projects which aim, among other objectives, to increase community involvement in management of local resources. The basic principles underlying the projects grow from ***participatory paradigms*** which have evolved over the past 15 years (Cernea 1985; 1987). In this regard, the ***Farmer-Back-to-Farmer*** model developed by myself and Robert Booth in the late 1970s while working on potatoes has become the basis of a large number of different types of programmes, now including natural resources and sustainable agriculture (Rhoades and Booth 1982). Farmer Back to Farmer was a forerunner to the participatory approaches which have more recently come into vogue, and our original formulation is still relevant today. In this, and similar approaches, the farmers (user group, association, or community) are full participants in the research and development process rather than objects of study or providers of information. A key component of the research process is that all activities must begin with the farmers, their definition of the problem, and return full circle to the farmer who then is the ultimate authority on the validity of the technology or the management system under trial. The farmer, therefore, is an 'expert' member of the interdisciplinary team and is completely engaged in the problem identification, definition, and solution design (cf. Carter 1992 for a case study of Nepalese farmers' knowledge of tree cultivation). This approach is different from the transfer of technology (TOT) approach or even farming systems' research (**fsr**), which all too often ask farmers to test on-farm technologies or solutions that have been designed by scientists on an experimental station or laboratory out of touch with farm reality. Farmer-Back-To-Farmer has the capacity to tap the rich indigenous knowledge in order to define the problem as well as to seek solutions with scientists (Whiteman 1988). Although the Farmer-Back-to-Farmer model was developed for improving potato storage systems, it has subsequently been modified for use on more complex, community levels (SANREM-CRSP 1995).

3. A Community-based Approach for Sustainable Agriculture in the HKH: Some Premises

Some fundamental prerequisites for working with true participatory methods with mountain communities, associations, cooperatives, or other user groups assume the following.

- The rich cultural heritage involving local social, political, and economic strategies must be respected and seen as an integral resource among the required external and internal resources to solve problems at hand.
- No solution will be accepted by the local people unless they perceive it to be of some benefit and relevant economically, culturally, and socially to their lives. This includes appreciation of both the time and space dimensions relevant to local perceptions and behaviour.
- In most mountain agricultural communities, the primary means of communication are oral and visual, not through the written word. Research must begin from traditional farmers' symbolic worlds and proceed accordingly throughout the project.
- Villagers are nevertheless capable of handling several realities at one time, including both their own folk explanations and scientific ones. For example, villagers are perfectly capable of believing that people are getting sick because the spirits are angry with them as well understanding that the water is infested with a parasite. Scientists sometimes are not so broad in their thinking. However, it means that platforms of negotiation between scientific analysis and local folk knowledge must be constructed. This should help combine, at the community level, knowledge of "reality" with powers of science, including results or experience obtained on distant research sites or in distant watersheds.

4. Working with Mountain Farmers and Communities on their Terms

This section briefly outlines basic participatory guidance for working with mountain communities. At present, there are literally dozens of participatory watershed

projects being implemented on a global scale (involving billions of dollars in aid). Much of this effort is occurring without the benefit of learning from each other. The guidelines presented here are only a cursory glance at the participatory research process (see Rhoades n.d.; Byers and Sainju 1994; and Sharma 1996 for a more complete analysis of the participatory research approach at the watershed level). I recommend that ICIMOD take a more active role in the development of participatory watershed methods and in the creation of training modules which would build on "lessons learned"(ICIMOD 1996) in such projects.

A. Community Self-Diagnosis of Potentialities and Problems

The first step in a community-based approach to the mountains (Fisher and Gilmour 1990) is to listen to the community as they speak first about their dreams, hopes, desires, and problems. In a way, this is the place in the project where outsiders have a chance to learn first about the **cosmovision** (view of the universe) of the people they purport to help, instead of already assuming it is known what is best for them. This means, at least initially, that the project team should become listeners, learners, and students of the community. In a participatory self-diagnosis, the community (with scientists and practitioners looking on but not leading the discussion) will conduct a series of discussions under the facilitation of community development specialists (probably from local NGOs). The community may undertake sketchings of historical landscapes at different points in the community's history (or at least as far back as anyone can remember), determination of zones of production, re-

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sources in each zone, and problems associated with the zones. The community members, among themselves, will rank their problems as well as their perceptions of opportunities. They may even describe (through their local form of communication) what they would like their community to look like in the future (Steinem 1992). As a result of this exercise, a community report will be drawn up. This will be a locally-authored historical document for the community's archives and a tangible return to the community as a result of the participatory research process. From this basis and other information, the cosmovision of the community can be understood by outsiders (the local people already know—either consciously or intuitively—their own cosmology). Evidence from watershed studies shows that success is directly related to matching project activities with a community's cosmovision of the world and one's relationship to it (Sharma and Krösschell n.d.). The initial 'launching pad' community-diagnosis can last from four to five days, rarely longer. It should be stressed that this initial self-diagnosis is only a beginning, however. Many of the internal problems, for example, in the community will not be revealed in such a short time. A community celebration with music, dance, and other festival amenities is in order at the end of the first self-diagnosis.

B. Scientist and Practitioner Learning Stage

Assuming that scientists and practitioners have been reading the relevant secondary literature about the people and area and are ready to talk to community members, it is important that they be willing to learn about the environment using local ethnolinguistic categories. Himalayan farmers have a complex vocabulary of names and categories for animals, plants, insects, landforms, soils, and other aspects of nature (cf. Müller-Böker 1991 for a fascinating ethnoscientific study of soils in Gorkha, Nepal) (Jodha and Partap 1993). A strong case can easily be made for the establishment of a subdiscipline of **montology** called **ethno-montology**. Using both oral and visual forms of communication (the questionnaire should not be used at first), a great wealth of material can be gathered from

farmers in a very short period of time. Based on their scientific understanding of the issues guided by the project goals (often set by the donor but hopefully identified by the local people as a concern), the scientists should prepare their report. These should be matched with the self-diagnostic report of the local people described above. For instance, it might be valuable to compare folk landscape maps with GIS-generated land-use maps using scientists' categories. This gives an idea of the differences in perception and understanding (Scott and Walter 1993). The important point is that scientists adopt a learning mode in order to be able to contribute to the practical on-the-ground action required in the next stages.

C. Joint Planning of Action

At a ***circle of coordination***, it is time for community members and scientists and practitioners to have an eyeball to eyeball discussion about potentialities, needs, and problems. This interaction can be facilitated by a sensitive NGO or anyone trained in this (in fact, many mountain communities are experts at conflict resolution and communication between parties of differing opinions). The point of this interaction is to arrive at a "common definition of the problem" upon which both scientists/practitioners and community members can agree. It is no use continuing to work on a problem of no interest to the local people, neither is it of any use working on a problem that scientists/practitioners can do nothing about. It does little good for practitioners to try to argue with villagers about having less children if they like children and want more rather than less (Fricke 1986;198-199). There has to be a meeting of minds. It is appropriate at this juncture for scientists to present their understanding of the problems through a translation into categories understandable to local people. This does not imply they have to abandon scientific procedure or even language, but a translation is required.

D. Contractual Agreement on Matching Resources

Once the problems of both a scientific and practical nature are decided upon, then each group must carefully

examine their resources and bring them into the discussons. The resource assets' matrix described in Chapter 6 will be presented and agreed upon consensually by the community and development facilitators. As outlined earlier, the community will be rich in some assets, poor in others. Scientists will hold some asset "stocks" while they lack others (local environmental knowledge), while planners or policy-makers may be expected to provide appropriate policy or infrastructure "stocks". Obviously, there is no guarantee that all of the required assets will be assembled, but it will be clear from the outset who is giving what. It should be made clear to all parties that there will be no hand-outs, that everything has a cost, and that this is a binding contract. This is not only the case for villagers, but scientists also should know that they cannot conduct extractive research without a cost to villagers (time, opportunity costs), and some return back to the village (at least a report) is required.

E. The Community Action Plan

Growing from the contractual agreement is the action plan which specifies work to be done, by whom, and on what schedule. This should be written formally as well as outlined in a form of communication understandable to the community. Along with the workplans, there should be a regularly held ***circle of coordination*** at the field level (tri-monthly or quarterly). This will be a chance for all work partners to discuss what they are doing, why they are doing it, and what results are expected. Also, a ***circle of debate*** is in order in which participants gather socially to discuss findings and resolve differences of opinion or interpretation.

F. The Annual Project Assembly

Based on a traditional pattern found in many mountain communities, there should be an annual assembly of the project participants and community. For mountain peoples, this is a time when conflicts are resolved, alliances are cemented, decisions are made about the coming year, and when a social rebirth of relationships takes

place. Just as the villagers decide who should guard the forest, which irrigation canals need to be repaired, and how many animals can be taken to the high pastures, then the project personnel should decide among themselves who takes responsibility for what, which projects need fixing, and how much activity can take place where. This is also the time to celebrate before the next year of activities begins.

G. The Rolling Evaluation

It is important that the project be aware of its various clients (the stakeholders) who must be satisfied. Again, a clue can be taken from the highland communities which have a long history in dealing with diverse, external groups of people. Package the message according to the needs of diverse stakeholders, but do not stray from the main objective of building capacities at the local level to solve unanticipated agricultural and environmental problems in the future.

5. The Dream and the Reality

It is obvious that the above procedures are easier described than accomplished. There are many problems and issues. Among these are: who represents the community or user group? what are the ongoing conflicts in the community? what unrealistic expectations might the farmers have about the project? who are the marginalised members? and how can the project participants resolve the multi-expectations from their own institutions? These problems are not easily addressed, although there are many management and organisational techniques for dealing with them (Sharma and Krösschell n.d.).

Some guiding principles for the community-based mountain agricultural project are the following (see also Thompson and Warburton 1985:219-220):

- **Start small and keep focussed**. One of the main drawbacks of the multipurpose participatory mountain watershed's project is that often large sums of grant money are offered by bilateral agencies. This means that ambitious goals must be achieved (Agenda 21 tech-

nologies) within relatively short periods of time, and these are unrealistic for individual farmers. The pressure is to capitalise on the funding bandwagon without considering drawbacks. There is an inverse relationship between the amount of funding given to a participatory project and clarity of focus.

- **Keep flexible and experimental**. Another issue arising from the need to develop a large project is that the proposal is often prepared by outsiders and then handed over to one implementing agency. The objectives determined in the proposal then serve as a kind of strait jacket to kill creativity. It is important that organisations and communities be allowed to evolve together and an experimental, open approach be used. In other words, the project should also be enjoyable.
- **Minimising hidden agendas**. It is perhaps human nature that not all of the reasons for engaging in a participatory project are based on altruism. Academics need publishable results to get a promotion, a donor representative needs to meet targets to receive a raise, an NGO depends on development funds to survive, and perhaps a farmer is using the project to gain visibility and run for public office. Since one cannot present such 'hidden agendas', the best approach is to appreciate their existence and to keep at a minimum the number of different groups working in a watershed. All too often, small communities are overrun by an army of outsiders all doing different things for different reasons. It is also absolutely crucial for outsiders to realise that villages are as political as anyone.
- **Keep the eye on the prize**. The primary objective of the community-based approach is to foster the local capacity to solve problems while implementing concrete sustainable practices which will make a fundamental difference. In the end, this is the only worthwhile goal.

6. Conclusion

The last five years of the 20th Century (1995-2000) may well become known as the era of the multipurpose participatory project (landscape, watershed, or catchment

scale). Today, there are many such projects underway in Africa, Latin America, and Asia. The HKH Region has its abundant share, given the number of hydroelectric projects throughout the Himalayan range. In a recent visit to Nepal, the President of the World Bank suggested the participatory model to resolve planning issues and conflicts in watershed areas where large hydroelectric dams are planned. It is no exaggeration to say that the multipurpose watershed project based on participation is the new ***development bandwagon***.

The potential tragedy is that if such projects fail we may end up, as the old adage goes, "throwing the baby out with the bath water." Most of the multipurpose participatory projects have similar ambitions, goals, and methods, but there is little evidence that anyone is sharing experiences as practitioners struggle in the field. The sheer goal complexities and volumes of funds earmarked for these projects may, ironically, also cause their ultimate failure. If they fail and "participation" falls into disrepute, it will be most unfortunate since the potential of the mountain community as a sustainable development force may also be discarded. Case studies, such as the one conducted at Munglori, Uttar Pradesh, document unequivocally the positive power of local participation for sustainable natural resource management (Moench and Bandyopadhyay 1986). ICIMOD, and other centres of development thinking, can serve as a positive force in participatory development by becoming a conduit for the sharing of experiences, methods, models, and other aspects of participation on the watershed, catchment, or landscape scale.