

CONCLUSIONS AND GENERALIZATIONS

A Model for Sustainable Resource Management: Combining Community Organization with Sustainable Production

The focus of this paper has been on institutions rather than individuals and on changing rather than static institutions. Village and project management systems were described as institutions that may change themselves and the allocation of resources they manage. Such changes are responses to rapid and pervasive change in markets, technology, and the macro-institutional framework of Gilgit. The region is best characterized as being in transition from a traditional, subsistence-oriented, low-income equilibrium to a more modern, commercial, high-income equilibrium. There are signs, however, that the new equilibrium may not be sustainable, at least in terms of the welfare derived from natural resources. These signs have been registered by some of the Village Organizations sponsored by the AKRSP; these VOs have initiated some instructive course-corrections that may enhance the sustainability of the evolving equilibrium.

It is suggested that, in an environment of rapid change, the Village Organization could provide the missing link between income generation from natural resources and their sustainable management - **provided that** the VO can internalize the costs and benefits of resource use. The VO will acquire the capacity to accomplish this if:

- o it can devise appropriate rules and conventions governing its members use of and investment in various resources; and
- o it can obtain the technology and other inputs required for sustainable resource management at a high level of productivity.

Although institutional and technological innovations appear as complements in the preceding paragraph, AKRSP's experience demonstrates that institution-building should precede the delivery of technology. In other words, the investment in technology could be more productive, more equitable, and more sustainable if it is secured by an effective management system. Thus, sustainable and productive resource management is seen to proceed in two broad phases. In the first phase, the community of users adopts the institutional mechanisms needed to internalize the costs and benefits of resource use. In the second phase, the new institution needs to adopt what might be called a sustainable production model. The models of community management and sustainable production together make up the model for sustainable resource management.

The preceding conclusion is analogous to the suggestion made by the World Bank (1987) and adopted by AKRSP (1987b) that AKRSP's successful institutional model needs to be complemented by a well-articulated production model. The emphasis in the present discussion, however, has been on models of community management and sustainable production for natural resource management, neither of which have been operational except on an experimental basis. The remainder of this chapter seeks out operational guidelines for effective interaction between project management and village groups. The next section looks at the subject from the point of view of what could be done by project management; and the final section analyzes village responses to project initiatives.

Operational Guidelines for Models of Community Organization and Sustainable Production

Four Broad Concerns for Project Management

When institutions and markets are changing rapidly, how can a development project help villagers respond to change in a productive, equitable, and sustainable manner?

In many Third World communities, market pressures and other changes have led to rapid depletion of resources and the alienation of resource benefits from the host (biological and socioeconomic) environment. Planning and intervention by Governments has not kept pace with the pressures of change. In many locations, traditional user groups have responded, sometimes with outside assistance, by devising alternative models to those favoured by Governments. There are, indeed, models of community organization, land use, silvicultural practice, pasture management, marketing, etc. For simplicity, the following discussion groups together all aspects other than community organization into the category of a model of sustainable production.

The preceding section has argued that community organization is a fundamental component of sustainable resource management. It also argued that a model of sustainable production is a necessary complement to models of community organization. These thoughts will now be re-stated in positive rather than normative terms in order to yield guidelines for development projects. In broad terms, the concern with operational guidelines in the following lines is directed at:

- o methods of inquiry and planning;
- o resource management systems for the future, particularly models of community organization;
- o production possibilities for the future, in particular, approaches to articulating a model of sustainable production; and
- o methods of communication.

Methods of Inquiry and Planning

There is now widespread recognition that some of the conventional approaches to research and planning are inefficient at utilizing local knowledge and expertise and may lead to ineffective or counter-productive development interventions. Alternatives include several research and planning approaches that are farmer-oriented and cost-effective. Some of the approaches used by AKRSP are discussed in Husain (1987a). The important elements of these approaches include:

- o the recognition that the community of villagers represents a source of knowledge and expertise for action research and planning;
- o the use of careful cost-effective methods of data collection, such as semi-structured interviewing and short formal questionnaires (where quantification is essential); and
- o the identification of household and village priorities, resources, and opportunities through interactive consultation with villagers.

In essence, these approaches attempt to combine local knowledge and traditional practice with scientific knowledge and modern practice. This has also been the desired goal at AKRSP. There

is a need, however, to clearly identify the areas of comparative advantage for villagers and outside experts. For instance, villagers often have an extremely good idea about their priorities and resources and about existing markets (through information on prices) and traditional technology, but, in a changing environment, outside experts may have a better idea about technological options and potential markets. The two sources of knowledge and expertise can be combined in field work through:

- o informal methods of inquiry, including site visits, dialogues, etc. in the project area as a whole;
- o structured long-term monitoring for impact to observe emerging technologies and management system, with well-defined indicators and feedback loops, in a small number of villages; this would have two objectives;
 - (i) to identify regional trends in order to articulate regional planning needs, so that the project may make informed judgements from time to time on the reallocation of its resources; and
 - (ii) to identify and help disseminate institutional and technological innovations.
- o research to adapt emerging technologies and institutions to the widest possible range of conditions in the project area; the objective is to design replicable models of development, with appropriate institutions and technologies.

Management Systems for the Future

Some important lessons have been learnt from AKRSP's experiences with collective management, regarding the kind of activities that are suitable for collective management rather than control by individuals. These lessons suggest that:

- o the Village Organization has the potential to be the **manager of natural resources**: thus, the VO could play a pivotal role in the transition from feudal authority to open access to common property;
- o the Village Organization is a versatile **service contractor** since it can;
 - (i) exploit economies of scale in marketing and input supply; and
 - (ii) it facilitates division of labour and specialization by enabling markets to be created in the village where none might have existed before.
- o **production units** that are not traditionally common property represent a formidable challenge to collective management - here, the VO's record is mixed; while there are potential economies of scale to collective management, there is also the distinction between owner and manager that makes it difficult for the VO to manage a unit as efficiently as a single owner-manager might; and
- o women are fast emerging as farm managers as men take up off-farm employment opportunities; while this represents a departure from the traditional division of labour, there is little evidence of an increasing role for women in decision-making over common property; eventually, however, full adjustment to the new circumstances might be

consistent with a much greater role for women over natural resources that are traditionally common property.

AKRSP has a studied approach to institutional innovation. In essence, it makes suggestions to villagers based on prior experience in the project area; documents how the villagers respond; and helps disseminate working models that appear to be productive and equitable. Thus, the evolution of management systems for the future is seen to be a learning process for AKRSP and the villagers. There is no blueprint for institutional development.

Articulating a Model of Sustainable Production

Just as there is no blueprint for institutional development, it is difficult to make generalisations concerning terms of a production model suitable for a range of conditions. There are, however, elements of a minimal framework for planning towards a sustainable production model; these elements include:

- o developing an awareness of technological options available in the project area and elsewhere in similar environments, with particular attention to interactions in the use of various resources;
- o analyzing markets, particularly those subject to change; in the Gilgit context, both output and labour markets are subject to rapid change and reveal the shape of things to come;
- o identifying groups of villages or valleys in which particular combinations of resources, technology, and markets can have broadly similar results; in other words, delineating broad recommendation domains; and
- o maintaining a balance between activities that have a short-term payoff (and, thus, can help sustain a community in its collective endeavours) and those with a long-term payoff.

It needs to be emphasized that community action for conservation is seldom forthcoming without the prospect of gain. Thus, the sustainable production model should be able to deliver increases in domestic consumption or market sales within a time frame that is valued by the community.

In the Gilgit context, villages across the district are becoming increasingly differentiated in the way in which they exploit natural resources. There are, however, indications of comparative advantage at a sufficiently disaggregated level to enable AKRSP to develop a menu of production programmes from which VOs can choose the most appropriate options. At the present time, AKRSP is engaged in experimental work on pasture management and valley/watershed planning. Detailed reports by consultants and its own staff are beginning to give direction to the biological component of the sustainable production model. Thus, for instance:

- o it is recognized that while new forestry plantations will have to be multi-purpose, fuelwood is a priority in upper Hunza and fodder is important in central Hunza;
- o it is felt that slow-release nitrogenous fertilizer can increase the effectiveness of fertilizer use on the leaching soils of the area;
- o there is discussion about the balance of effort at AKRSP between fodder crop development and pasture development in terms of their contributions to livestock development; and

- o there is consideration and testing of a number of options that could make it worth the villager's while to control free grazing and use the land for more productive purposes.

Over time, there is a need to develop many such interventions in response to changes in the region's economy. Each technological intervention demonstrates, too, the challenge to institutional innovation. Addressing the two simultaneously will help AKRSP articulate effective strategies for resource management in the region.

Methods of Communication

Technologies and institutional arrangements passed down to villagers from preceding generations are often described in terms of rules of thumb and conventions. These rules of thumb - many of them expressing quantitative relationships - are simple and clear and can be transmitted cheaply and widely. If innovative practices are to be extended to farmers, they need to be backed up by a strategy of communication that is at least as effective as traditional methods.

Where research funds are small and farmer literacy is low, highly specific recommendations, conditional on continuous variables, may be prohibitively expensive to develop and disseminate (Byerlee 1986). Thus, simplicity in recommendations has particular value in a place like Gilgit and would imply priority to:

- o general recommendation, of which a single recommendation is made for all farmers in a recommendation domain, and, next in priority;
- o recommendations conditional on discrete rather than continuous variables, e.g., fertilizer level x soil type or crop, rather than irrigation x soil moisture percentage.

If simple and clear recommendations are available, they need to be communicated repeatedly to the farmer, particularly at the "right" time and in a cost-effective manner. In the past, AKRSP has used the following extension media:

- o model farmers and village plant protection specialists trained by AKRSP;
- o village meetings and dialogues;
- o demonstration plots in the villages;
- o Urdu language leaflets; and
- o meetings of village representatives held in Gilgit.

In the future, extension efforts might also benefit from the addition of an audio-visual unit and the commissioning of a radio station in Gilgit capable of covering the entire district.

There is a need to focus particularly on communications with village women. One report after another at AKRSP has identified the problems that AKRSP has faced because its field staff are men. AKRSP has been recruiting women to its district-level staff, and these women professionals go on extensive field tours in support of the extension efforts of particular technical sections. Nevertheless, Social Organization Units, based in the villages, remain a male preserve. Since these units are the coordinators of efforts at the field level, and since they are the primary means of two-way communication between AKRSP and the villagers, the absence of women from these teams must be counted as a serious weakness in AKRSP's approach to women-in-

development. While such conclusions have been put forward to AKRSP on a number of occasions, there are delays in formulating appropriate remedial measures. This is unusual for AKRSP and is probably due, in part, to the difficulty of recruiting appropriate female staff.

Village Response as a Mirror-Image of the Project's Approach and Organization

There are parallelisms between AKRSP's response to change and that of the villagers with whom it works. Both AKRSP and the VOs explicitly recognize the need for innovation as a response to change. If markets, technology, and the macro-institutional framework remained static, there would be no payoff to innovation; in particular, there would be no incentive to change traditional patterns of resource allocation and traditional resource management systems. Conversely, where change is greatest, the opportunity for innovation is greatest. The perception of change, and of priority in the reallocation of resources, however, may differ between AKRSP and the VOs, as well as among the VOs.

AKRSP offers a development package that combines collective management with agricultural production and marketing; it does not finance individual enterprise, nor does it sponsor non-agricultural activities. AKRSP is not, therefore, a programme for regional development; it is a small farmer development programme. This raises a fundamental question about future directions for village development, viz., what ways and means will the VO employ in the future to manage its resources in order to respond to all (not only agricultural) opportunities for development? Can one expect equitable and sustainable increases in resource productivity if large portions of economic activity are left outside of the planning and coordinating roles of the VO?

The differentiated response that is now emerging among the villages of the region suggests that the VO's influence on the future course of development might depend very strongly on the nature of support it gets from AKRSP; space left open by AKRSP will be occupied by forms of organization other than the VO. If this situation is permitted to develop, the VO may begin to lose its ability to capitalize upon the opportunities that are opening up, since many of these are outside of the currently-envisaged role for AKRSP and the VO. This has happened already:

1. since AKRSP does not have anything to offer to the villagers (except fruit packaging) in order to help them capitalize upon the growing tourist traffic, villages such as Passu are developing their own patterns of use for natural resources, capital, and labour; there is no institutional mechanism at the village level to coordinate decision-making over traditional and emerging patterns, since no clear approach has been articulated by AKRSP;
2. AKRSP's insistence on supporting only collectively-managed enterprises means that individually-owned small enterprises will flourish outside of the scope of the VO; thus, the VO's investments at the village level will be unable to fully exploit the linkages between technological innovation and the sources of demand (and higher incomes); in turn, this could affect the pace of technological and institutional innovation among VOs;
3. to the extent that loans and savings are alternative ways of financing investment, the AKRSP policy of providing cheap capital for agricultural development can be expected to have had a negative effect on the mobilization of village savings; voluntary savings from VO members seem to be small in comparison to savings mobilized through a VO manager's actions (in Broshal) or in response to occasional incentives from AKRSP (in Sherqilla); furthermore, in order to safeguard the

credibility of the VO, AKRSP suggests a conservative rather than innovative approach to the management of village finances, thereby trading productivity for security of investment; and

4. AKRSP's preferred approach to programme development is to follow the villagers' lead in institutional innovation; this reverses the central planner's bias but limits the means by which VOs and project management can respond to change; for instance, it is observed that many inter-village conflicts have been resolved by religious institutions that are filling the vacuum left by the *Mir* while AKRSP's efforts at inter-village coordination are much more recent.

These examples illustrate the limited role of AKRSP and the VOs in responding to the larger environment; the limits have been set by design. From its inception, AKRSP has replicated and extended a strategy that is meant only for small farmer development. At the same time, AKRSP has identified directions in which it will play a facilitating rather than a direct role, by creating access for the VO to other agencies and individuals. It remains to be seen how the VO will actually capitalize upon the activities of entities that have not, so far, been part of its institutional development.

The preceding discussion indicates that innovation by villagers has taken place in response to change and that innovation by VOs has been most forthcoming when the VO has been offered an appropriate opportunity by AKRSP. Similarly, AKRSP has responded to change through course-corrections and changes in emphasis, and its innovations in programme development have been most forthcoming when it has perceived villagers taking the lead.

There is a similarity, too, between the organizational forms of AKRSP and the VO. Both operate as collectively-managed enterprises, with specific tasks assigned to management committees, and as a strong leader maintaining control over dialogue and direction.

AKRSP maintains that the presence of a village activist makes the difference between an active VO and an inactive or lagging one. This activist is also seen as the prime mover for innovative action within the VO. Similarly, it has often been maintained by critics and admirers of AKRSP that the project thrives simply on the activism and charisma of its leader. This line of argument ignores (i) the whole set of economic and social factors that induces or constrains villagers to innovate and (ii) the basic principles of small farmer development with which AKRSP and its intellectual cousins have operated in different environments. In other words, there is a similarity between AKRSP and the VO in the way the role of the activist is over-emphasized.

There is, nevertheless, a distinct mark of the leader's authorship on the way that AKRSP and most "good" VOs operate collective management; whereas most decision-making is public, at least *ex post facto*, collective management is essentially a mechanism for task sharing rather than participatory decision-making. There is a tension, therefore, between participatory ideals and individual leadership. In this sense, it is perhaps more accurate to describe the management structure by analogy with a Pakistani household rather than a Greek assembly of equally-vested decision-makers: decisions are made by a paternal figure with regard to the welfare of the organization's members; debate is meant to bring issues into the open for efficient despatch, by obtaining agreement and assigning tasks.

The nature of organization at both AKRSP and the VO implies that innovation is generally with reference to past individual experience rather than through open-ended methods of inquiry (such as research, workshops, and visits to other projects). There is appreciation in the literature that villagers innovate with respect to their recent history, that there is continuity in innovation, and

that new institutions build upon old ones. AKRSP, too, is part of a continuing tradition of small farmer development programmes in Pakistan, and it proceeds by incremental course-corrections to approaches that were tested elsewhere during the experience of the project leader.

Perhaps the most surprising conclusion of this analysis relates to the resilience of tradition in shaping innovations for a changing future. If the preceding analysis is correct, it would imply that there exist indigenous organizational models for village and project management that, by changing their forms and approaches, have the capacity to respond to change. These organizational forms may not be strictly participatory (in the Greek tradition), but they appear to operate successfully by filial consent to an experienced leader.