



Mountain Population and Employment

Discussion Paper Series

**VILLAGE MANAGEMENT SYSTEMS AND THE ROLE OF
THE AGA KHAN RURAL SUPPORT PROGRAMME IN
NORTHERN PAKISTAN**

**Tariq Husain
with
Abdullah Jan and Fawad Mahmood**

MPE Series No. 10

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FOREWORD

The discussion paper presented here by Dr. Tariq Husain and colleagues, entitled "Village Management Systems and the Role of the Aga Khan Rural Support Programme in Northern Pakistan", constitutes one of six case studies initiated by ICIMOD in conjunction with the Programme on Organisation and Management of Rural Development.

This programme focused primarily on the organisational resources and their relationship to the management of natural resources for sustainable development and increased productivity in mountainous areas. Across the Hindu Kush-Himalayan Mountains, rural development projects are relying on different strategies for the achievement of the above goal. These strategies are being implemented within a given macro-institutional and legal framework; presumably with adequate attention given to the sociocultural context. The framework and the context limit, as well as offer, possibilities to development agencies. The purpose of the case studies was to examine innovative institutional strategies implemented in projects (carried out by governmental agencies or nongovernmental organisations) and also to analyse and assess the utility and effectiveness of indigenous resource management systems.

I would like to thank the Aga Khan Foundation for the partial financial support in running the programme. I am also grateful for the assistance we received from the Nepal-Australia Forestry Project, the Dhading District Development Project, the Aga Khan Rural Support Programme and the Pak-German Self Help Project. The programme execution from ICIMOD's side was carried out by Dr. Anis Dani (now with AKRSP) and Dr. Deepak Bajracharya.

ICIMOD was also fortunate to have engaged in collaboration with professionals from various national institutions and project implementing agencies in China, Nepal, and Pakistan. Mutual consultations were held at various planning workshops and orientation sessions in Kathmandu and at the project sites. The participating researchers eventually agreed on the methodological framework and the set of questions that they would try to address. Sufficient flexibility was left, so that, at the discretion of researchers, responses could be made to site-specific situations.

Research Methods. A combination of techniques was used during the course of the research that lasted between six months to one year.

- o Collation and analysis of existing data from government and project records.
- o Selected open-ended interviews with relevant government officials, project personnel, and key resource persons from the region.
- o Field investigations in 8-12 villages within each project area, selected purposively to cover the various strata, the variable impact of development activities, and a range of resource management activities; rapid appraisal techniques were developed and each village was visited two or three times, altogether for about 7 days, to obtain details of specific components after preparation of an initial village profile.
- o Participant observation of project activities.

The **key questions** that the researchers were trying to address included the following:

- o Under what circumstances do existing resource management systems undergo institutional innovations?
- o What elements of existing resource management systems can intervening agencies build on: tenurial arrangements? property relationships? organizational structures? functionaries?
- o How do different kinds of interventions compare in terms of their ability to generate sustainable development and sound environmental management?
- o How does the user group internalize the benefits and costs of using the resource? How are risks shared? If benefits are not equally distributed, how are the losers compensated?
- o How does the user group ration a scarce resource?
- o How does the user group respond to development opportunities and entrepreneurial endeavours?

Influencing Factors. In addition, the following set of questions, which emerged from the reviews and research already conducted by ICIMOD, were also proposed for investigation during the course of the study:

- o Is the propensity of user investment in future returns related to the resource value, i.e., to the perceived value of the resource?
- o Does the tenurial security of the resource to the user influence the time horizon of local resource management?
- o If actual users have more responsibility for management decisions over their resources, are the resources more likely to be managed for long-term productivity at less cost to the supporting agencies?
- o Does increased equity in distribution of resource benefits encourage greater participation by user groups?
- o Will a resource management function be performed more efficiently if the performer is accountable to the local user group?

Women's Role in Resource Management. A third set of key questions, which appear to be of critical importance, deals with the role of women in resource management. These are:

- o What role do women have in resource management?
- o Is the role of women of particular importance in the use of certain resources, e.g., forests, grasslands, and water? If so, do they have any role in decision-making about, and the management of, those resources?
- o What are the constraints on women's involvement in resource management?
- o How do women perceive their own role in regard to resource management? How do they feel their participation can be improved?

While the present study attempts to touch upon all of the preceding issues, not all questions have been treated equally. Indeed, the subject matter focuses on the nature of change in Gilgit and the responses exhibited by village communities and development administrators. This approach, rather than proceeding with a comprehensive, descriptive treatment of resource management in the region, is employed in selecting issues for analysis in this study. I am confident that the readers will find the observations made by Dr. Tariq Husain and his colleagues interesting and thought provoking. Of particular relevance, in other countries as well as Pakistan, would be the author's attempt to generalize a model for sustainable resource management, and describe pertinent operational guidelines associated with it, based on the lessons learned from the Aga Khan Rural Support Programme.

Readers might be interested in knowing that all the six case studies mentioned above, including the one presented here, are brought out in the Discussion Paper Series of the Mountain Population and Employment Division (i.e., MPE Series No. 6 through 11). We would be happy if you would write to us with your comments and suggestions and join in the discussion on these important issues. ICIMOD is organising an International Workshop on the Role of Institutions in Mountain Resource Management, 30 April-2 May 1990, in Swat, Pakistan, to discuss many of the issues brought out by the case studies and provide a forum for interaction among researchers, development practitioners, and policy makers. The results of the Workshop are forthcoming shortly after the event takes place. ICIMOD is hopeful that these efforts would be useful in generating dialogues on organisational and institutional issues of integrated mountain development.

E.F. Tacke
Director

ACKNOWLEDGEMENTS

The idea for this study came from Anis Dani, formerly at ICIMOD and now with AKRSP. Without Anis's encouragement, insight and perseverance, this work would not have been possible. Anis provided an intellectual bridge between AKRSP and ICIMOD which has, over the years, benefitted both organizations. I am grateful to AKRSP and ICIMOD for their interest and support.

The ideas of organization and management discussed in this report are due, in large measure, to Shoaib Sultan Khan, the General Manager of AKRSP. It was my privilege to start my professional career with Shoaib Sultan at AKRSP. This study has benefitted not only from Shoaib Sultan's ideas, but also from his indulgence in letting me undertake research while working in the management of a demanding project.

I am grateful to my young colleagues Abdullah Jan and Fawad Mahmood, who patiently put up with the demands of a protracted and occasionally erratic research process.

All of us involved in this study appreciate the time and counsel provided so generously by the villagers with whom we worked. In return, we can only dedicate this study to them, with the prayer that their struggle for a better life may bear fruit for themselves and their children.

Tariq Husain

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BACKGROUND TO AKRSP AND RESOURCE MANAGEMENT

Scope of Paper

Objectives of the Study

The overall objective of this study is to explore those issues in community organization and resource management that represent the common concerns of the International Centre for Integrated Mountain Development (ICIMOD) and the Aga Khan Rural Support Programme (AKRSP). These concerns are related to the design and implementation of rural development programmes. They are motivated, in the case of AKRSP, by a desire to develop a model for high-mountain development in northern Pakistan that can enable the people of the region to improve their incomes in a sustainable and equitable manner. ICIMOD's motivation is to acquire lessons for the future by comparing the rich and diverse experiences in rural development in the Hindu Kush-Himalayan Region.

ICIMOD and AKRSP share the following broad perspectives:

- o that sustainable productivity and sound environmental management is a long-term goal of rural development;
- o that particular attention needs to be paid to organizational structures at the project and community levels, in addition to the attention that is normally paid to technical and financial constraints; and
- o that organizational resources are needed to facilitate implementation and enhance local participation in rural development programmes.

These perspectives have been the basis for collaborative work between AKRSP and ICIMOD since 1985 which has consisted of:

- o a pilot study on the inter-relationship of community management of rural resources, with accelerated development efforts, conducted in the project area of AKRSP;
- o a workshop, co-sponsored with the East-West Center, on Institutional Development for Local Management of Rural Resources, the proceedings of which are summarized in Dani, Gibbs, and Bromley (1987); and
- o discussions, with the participation of the Aga Khan Foundation, on preparations for the present study.

In addition, AKRSP sponsored a workshop on Women and Resource Management that is also pertinent to the set of common interests.

Methodology

This study follows the common methodology proposed for all the country studies in the ICIMOD programme. The analytical approach, however, is the responsibility of the author and is based on his own discipline (economics) as well as on AKRSP's institution-building experiences over the last five years.

The author has been part of the senior management of AKRSP since its inception in 1982. He was also associated with a large number of the village studies that form the basis for this paper. Thus, the need for field surveys was reduced. The field work necessary for acquiring information, that was not already at the author's disposal, was carried out by an economics graduate and an engineer with experience in rapid appraisal techniques.

The study uses a combination of data collection techniques: (i) collation and analysis of the considerable amount of data (particularly village studies) available with AKRSP and the Government; (ii) open-ended interviews with relevant government officials and project staff; (iii) field investigations in nine villages with varying characteristics; and (iv) participant observation of project activities. Field work was conducted with rapid appraisal techniques, borrowing data collection and illustration methods from appropriate approaches and authors.

The focus on change is on changes in institutions, markets, and technology. Rapid change followed the abolition of the region's small feudal states in 1974 and the opening of the all-weather Karakoram Highway (KKH) in 1978. Other changes came with new development initiatives, including the AKRSP in 1982, and responses to these changes by the communities of the region. The mixture of development changes has been paradoxical in maintaining frugality. A similar analytical approach was used by this author (Husain 1987) in examining household irrigation practices and village irrigation management systems in Gilgit.

Selection of Villages for Case Studies

Since AKRSP covers almost 95% of the rural population of Gilgit and operates in all those villages for which usable documentation is available, all nine villages selected for this study belong to the AKRSP project area. The villages were selected according to the following criteria:

1. access; on-off the KKH,
2. agroecological zone; one-crop, two-crop, or two-crop transitional,
3. number of AKRSP-sponsored Village Organizations in the village,
4. scale of village; large, medium, or small - and the number of AKRSP-sponsored Village Organizations (VOs) operating in the village, and
5. whether or not off-land employment opportunities are substantial.

The nine villages selected are described in terms of these five criteria in Table 1.

Although all these villages have received assistance from AKRSP, considerable variation can be expected in terms of the incentives involved when villagers adopt different elements of the development package offered by AKRSP. Similarly, the villages differ in their approaches to cooperative enterprises and community actions for managing common problems and resources. There are also differences in their access to education, social services, and markets; and in their

ability to identify and support development activities from within the village. Finally, the villages have varying access to natural resources, such as for irrigation, water, land, forests, and pastures. Therefore, it is expected that a comparative analysis of the nine villages selected for this study will be able to draw inferences from both observed similarities and differences.

Table 1: Some Basic Characteristics of the Nine Selected Villages

Village Name	On KKH?	Agroeco Zone	No. of VOs	Village Size	Strong Off-land Opport. ³
Broshal	No	1-crop	1	Medium ²	No
Khaiber	Yes	1-crop	1	Small	Yes
Passu	Yes	1-crop	1	Small	Yes
Roshanabad-Sherabad	Yes	2-crop transit ¹	1	Small	Yes
Rahbat	No	2-crop	2	Large	No
Rahimabad	Yes	2-crop	2	Medium	Yes
Oshikhandass	No	2-crop	3	Large	Yes
Shergilla	No	2-crop transit	3	Large	No
Thingdass	No	2-crop transit	1	Small	No

Notes:

1. Double-cropping extends up to about 1850m above sea level (masl), but villages at that altitude cannot expect the second crop (maize) to mature with certainty; these borderline villages are referred to as 2-crop transitional.
2. A medium-sized village has 100-150 households.
3. Strong off-land employment opportunities are evaluated subjectively by the author in terms of both seasonal and permanent jobs.

Introduction to Gilgit District and AKRSP

The project area of AKRSP comprises the three northern-most districts of Pakistan - Gilgit, Chitral, and Baltistan - situated between longitudes 71°2'E and 75°4'E and latitudes 35°3'N and 35°6'N; the region borders on India, China, and Afghanistan. The area covers 69,200 km² and has an estimated population of 830,000, scattered over 1,030 villages (AKRSP 1987b). The region

is extremely mountainous, since it is at the intersection of four of the world's highest mountain ranges - the Himalayas, Karakorams, Pamirs, and the Hindu Kush. Within this region, Gilgit District is the most privileged, in terms of accessibility and overall development. Its area is 28,500 km², with an estimated population of 286,000 living in more than 300 villages. There are some 30,000 farm families in Gilgit District and an urban population of about 40,000 (AKRSP 1987b).

The physiography of the region is rugged and hilly, with steep heavily dissected slopes, with water courses along the slope faces and valley bottoms. Due to secondary and tertiary incisions, landslides, and erosion, the landscape is highly irregular. The geology of the area is a mixture of igneous and metamorphic rocks consisting of slate, quartzite, limestone, marble, mica-rich gneiss, and crystalline schist. The terrain is naturally unstable and rockfalls and landslides are common occurrences.

The soil is mixed with stones and boulders, and the depth, aspect, location, and presence of seepage areas have more influence on production potential than the variation in the parent material.¹ These soils are low in clay content, and, due to extreme dryness, are very low in organic content. Under irrigation, they are susceptible to leaching and have a low water-holding capacity. The soils are naturally very low in nitrogen and low-to-medium in phosphorus and potassium. They are, however, suitable for a large number of annual and perennial crops.

The region lies just outside the monsoon area in a partial rain shadow. The region receives about 100-900 mm of rain annually, mainly as snow in the winter months. Agricultural production is sustained by irrigation with the glacial melt. The region can be best described as having an arid continental Mediterranean-type climate. Being dry and away from the sea, the prevailing thermal climate is continental and dictates both the length of the potential growing period and types of crops that can be grown successfully. The growing period at 1,500 masl is estimated to be 325 days, and at 3,000 masl it is 195 days (AKRSP 1987b). The nine villages selected for this study fall within this range.

Four distinct local languages are spoken in Gilgit District, in addition to Urdu, the national language. The area has a Buddhist heritage, overlaid by the three major Islamic traditions that are followed today. Until 1974, feudal chiefs - *Mirs* and *Rajahs*-governed much of the district under the supervision of the Political Agent of the Government of Pakistan. Today, Gilgit is one of the three districts under the Northern Areas Administration, controlled by the Federal Ministry of Kashmir Affairs and Northern Areas. The district is connected to the rest of Pakistan, and to China, via the all-weather Karakoram Highway (KKH) that was formally inaugurated in 1978. There are (1-3) scheduled daily flights between Gilgit and Islamabad, 600 km away by road, operated by Pakistan International Airlines; flights are subject to weather and operate, on average, about half the time.

Agriculture is by far the largest economic activity in Gilgit District and is the principal means of livelihood of 85-90 per cent of the population. (Detailed descriptions of the region's agriculture are given by Staley 1982, Saunders 1983, and Whitemen 1985. The region supports a range of farming systems, but nearly all contain common elements; cereals, grain legumes, fodder crops, small livestock, fruit and nut trees, vegetable crops, and fuel trees. Broadly, all the farming systems in the region can be described as arable crop systems with trees and livestock. In general, there is very little commercialization and no specialization in production. Indeed,

1. The information in the following three paragraphs is taken from background papers prepared by the AKRSP management

general, there is very little commercialization and no specialization in production. Indeed, farming in the region shows many of the symptoms of transition from a subsistence economy to a semi-commercial economy. The following picture of Gilgit's traditional agriculture by an agronomist (Whiteman 1986) describes the farm-household and its resources succinctly:

A typical village will contain about 60 households with an average family size of eight people and an irrigated area of 0.75-1.0 hectares in double-cropped areas (up to about 2,000 m altitude) and 1.5 to 2.0 hectares in the single-cropped area. Wheat is the dominant crop; maize became popular some 55 years ago and has largely replaced the earlier-maturing Panicum and Setaria millets and buckwheat that now persist only at the upper end of the double-cropping zone. Up to a quarter of the land may be under fodder crops, mostly lucerne for hay for winter use and shaftal clover for green cutting in spring. Pulses are rarely grown, and a small area is allocated for vegetables and potatoes. The area is deficient in grain and up to a third of the wheat that is consumed is from a subsidized quota. Yet in spite of the shortage of land for cereals, a range of multipurpose trees for fodder, fuel, timber, and fruit are grown along field boundaries around the house and on any steep but irrigable land. Poplar, willow, mulberry, apricot, and Russian olive (Eleagnus) are the most common, with walnut, peach, grape, apple, almond, pear, fig, and pomegranate widespread. There will be a pair of oxen, one or two cows, a calf, perhaps 20 goats, 10 sheep, 15 hens, and a donkey.

About 1,500 meters higher there is a sparse communally grazed alpine pasture about two days' walk away where the livestock are taken for a four-month period in summer. Farther up the mountain, in small side valleys, are stunted gnarled remains of open juniper forest with a little birch heavily overcut and grazed that provides the firewood for cooking. Between the village and the mountain pasture is often a small meadow or barley field wherever the valley becomes wide enough.

This little scenario depicts the total resources available to meet all family needs for house construction material, food, furnishings, woolen garments, dairy products, livestock fodder, and farm implements as well as cash for small sundries (paraffin, tea, matches, salt), though these are more often bartered for. Nowadays most households have a male member working part-time or full-time outside the area as a source of cash. Despite the material poverty and frugal life, there is a robust quality apparent in a life lived in equilibrium with an adapted farming system from a consistent resource base.

Changes taking place in rural markets and agricultural technology are affecting the above situation in significant ways. With improved communications, a majority of the district's farmers are now using tractors, threshers, and new varieties of wheat; an even larger proportion use chemical fertilizer. Timber is imported in large quantities from the neighbouring district of Diamer; wheat, rice, dairy products, vegetables, cooking oil, livestock, kerosene, liquefied petroleum gas, cement and construction material, and a number of other items of daily use are now supplied from the plains of Pakistan. Able-bodied men migrate in large numbers within the region, following agricultural, construction and tourism activities, or they go down-country in winter to work for cash. Increasingly, women are becoming involved in running the farm-household in association with old men and children. Small hydro-electric units provide night-time electricity for lighting. New roads connect remote valleys to the KKH. Education is becoming more widespread. The value of time is rising, and labour-intensive activities are increasingly being performed in less labour-intensive ways or else given up. Large amounts of credit are being made available for agricultural development, construction, and commerce.

In short, the allocation of resources in Gilgit is being subjected to rapid and pervasive change. After centuries of isolation and low-income equilibrium, the region's rural economy is characterized by constant change and the opportunity to reallocate resources from low-payoff options to high-payoff ones.

Organization, Objectives, and Approach of AKRSP

AKRSP was established by the Aga Khan Foundation in 1982 as a private company limited by guarantee. It is a non-profit, non-sectarian Pakistani organization, with its own Board of Directors for policy-making and direction and a management group in the project area (headed by the General Manager) for day-to-day operations.

Although seed money for AKRSP was (and is) provided by the Aga Khan Foundation, the company has received generous financial assistance over the years from the Canadian International Development Agency; the Alberta Agency for International Development; the Overseas Development Administration of the United Kingdom; the United States Agency for International Development; the Royal Netherlands Government, the Commission of European Communities; the Government of Pakistan, Women's Division; the Ford Foundation; OXFAM (United Kingdom); and the Aga Khan Foundation network in Canada, U.K., U.S.A., and Pakistan. In addition, AKRSP has received credit from Habib Bank Limited (for short-term production loans) and the regional Development Finance Corporation (for long-term development loans). Finally, AKRSP has, in a few significant instances, pooled its resources with development funds put at the disposal of elected representatives in Gilgit by the Government.

AKRSP started operating in Gilgit in December 1982 and subsequently extended its operations to the districts of Chitral and Baltistan. Its project area now includes followers of three major Islamic traditions in roughly equal proportions. All its staff are Pakistanis, and all the field and support staff are recruited from the project area. AKRSP's activities now extend to about 800 Village Organizations (nearly half of them in Gilgit District), and include programmes for social organization, women-in-development, physical infrastructure; particularly for irrigation and communications, agricultural and livestock research, extension input supply, appropriate technology, commercial and industrial development, savings and loans, resource management; particularly forestry and pasture development, and training in a wide range of practical and managerial skills. In addition, AKRSP is working with government and private agencies to provide Village Organizations (VOs) with access to basic health coverage, education, and improved living conditions. Wherever feasible, AKRSP provides services, through existing private or government entities, and works to create effective links between these and the VOs rather than duplicating the work of existing organizations.

AKRSP's Second Phase Strategy Paper describes the programme's objectives in the following words (AKRSP 1987a):

The broad objective of AKRSP is to increase the capacity of local people to identify and utilize opportunities and to solve their own problems so that they can plan and implement development programmes leading to increased incomes and employment (without significantly increasing inequalities); to improved health, nutrition, education and living conditions; and to improvements in the sustainability and productivity of the environment. Thus AKRSP is designed to promote development in an equitable and sustainable manner. It is also conceived, from the outset, as a self-liquidating organization, able to work itself out of a job in any location within approximately ten years. The aim is to leave in place local institutions capable of facilitating further progress into the future.

The basic planning tool for AKRSP is a series of diagnostic dialogues carried out with villagers (detailed description in AKRSP 1983). The General Manager initiates the first dialogue, explaining the objectives and methods of AKRSP and inviting the villagers to identify a project that could be undertaken and maintained by the villagers for the benefit of the village as a whole.

The second dialogue determines the feasibility of the project under the technical supervision of a competent senior manager. Field operations are managed by the Social Organization Unit (SOU) and the products of the second dialogue are blueprints and cost estimates for the project.

The third dialogue starts with a discussion of the finalized scheme. The terms of partnership between AKRSP and the villagers are also discussed and AKRSP describes the form and extent of assistance it can provide and villagers explain how they will plan and implement the scheme, develop skills, meet regularly as a disciplined organization, and establish group savings. If successful, the third dialogue results in a village-level project for the Village Organization.

The key concept in AKRSP's approach is that of the Village Organization - this is a broad-based coalition of all those village residents whose common economic interest is best served by forming a multi-purpose development organization. The VO is the executing agency for all village-level projects sponsored by AKRSP and its collaborators. This institution is established, in the first instance, by the promise of a grant (an average Rs150,000) for a village-level Productive Physical Infrastructure (PPI) project. Since farmers attach great importance to improvements in their common physical assets, the investment by AKRSP initiates a process of disciplined organization and collective management in the village. In turn, the formation of the VO enables the village to complete the PPI project more quickly and cheaply than would be possible otherwise. There is, thus, a symbiotic relationship between village organization and the grant-funded PPI; each enhances the effectiveness of the other and results in income-generation for the villagers. The new social organization (the VO) is aided by the catalytic effect of the new economic infrastructure (the PPI) that the VO is implementing. Together, the VO and the PPI become vehicles and stimulants for local income and employment generation.

During the First Phase (1983-86), the principal focus of AKRSP was the establishment of village-level institutions for managing development and the funding of essential local infrastructure projects, one per VO, chosen by the VOs. During the First Phase, both AKRSP and the villagers invested in various types of productive common property on a very large scale. This experience demonstrated the potential for community management of financial resources and physical assets such as irrigation channels, link roads, storage reservoirs, etc. Besides contributing to widespread increases in income, the collective management of these resources has helped shape the VOs as institutions for village development.

AKRSP, Village Organization and Resource Management

To build upon the experiences of the First Phase, AKRSP's Second Phase strategy lays down the objective of improving *the integrated management of resources at three levels - farm, village and valley/watershed*. This would include work on farming systems, integrated livestock-cropping-pasture systems at the village level, and contributions to valley planning and watershed management (AKRSP 1987a). The pursuit of this objective is expected to lead to:

- o improvements in the productivity and sustainability of natural resources, i.e., greater sustainability of natural resource use together with increases in farm incomes; and
- o a greater capacity among the villagers for managing their common resources.

AKRSP's existing programmes have begun to address issues of:

- o land use and the development of new land;
- o irrigation development and water management;
- o forest management and forestry development; and
- o livestock and pasture development.

In implementing these programmes, AKRSP has benefited from collaboration with relevant government agencies, as well as the International Wheat and Maize Improvement Centre (CIMMYT); the International Union for Conservation of Nature and Natural Resources (IUCN); the International Centre for Integrated Mountain Development (ICIMOD); the International Institute for Environment and Development; and the International Irrigation Management Institute (IIMI). Collaboration with these agencies is a response to the realization that the development of village management capacity in the future requires "*a growing sophistication in the identification and analysis of opportunities and problems, and in the development of entrepreneurial response and of internal mechanisms of management and control*" (AKRSP 1987a).

AKRSP's experience with resource development programmes in the First Phase led to the recognition of the amount of women's involvement in, and dependence on, the region's natural resources. To a varying but increasing degree, rural women are involved in or affected by the management of land, water, forests, pastures, and livestock. In areas where men have been attracted to off-land employment opportunities, it is particularly important to improve the efficiency of the time and management inputs provided by women, in order to equitably improve the productivity and sustainability of natural resources. To this end AKRSP's work included the sponsorship of the Workshop on Women and Resource Management in Gilgit, in November 1987; the four background papers for this workshop are given in the reference section at the end of this paper. The objectives of the workshop were:

- o to help develop models of technological innovations in village management for a pilot project area, with the potential for replication elsewhere in northern Pakistan;
- o to identify the important interactions in resource management that need to be conceptualized in terms of integrated approaches;
- o subject to the preceding objectives, highlight the contributions to and dependence of the region's women on natural resources; and
- o to help establish and strengthen working relationships between AKRSP and agencies concerned with resource management.

Since this workshop, AKRSP's staff have been working on specific plans for pasture development, as well as on institutional mechanisms for valley-level efforts at resource management. The efforts are small and tentative, in the nature of pilot projects in association with experts from outside AKRSP.

World Bank Evaluation of AKRSP's First Phase

While it is too early to assess the new directions of AKRSP's Second Phase, the First Phase was evaluated by the Operations Evaluation Department of the World Bank, in September 1986. The evaluation report has since been published (World Bank 1987).

The World Bank report concluded that AKRSP's achievements "*are largely attributable to the effectiveness of the institution-building efforts at the village level.*" It observed that the management principles that are critical to this effectiveness include:

1. **The principle of the primacy of the VO.** The VO is the focal point for all AKRSP activities but its sovereignty is sacrosanct, although AKRSP is firm in keeping to the agreed conditions of the partnership. The VO and AKRSP are seen as contractual partners in so far as activities of the VO are supported but never undercut.
2. **The principle of continued attention to innovations.** Villagers and staff of AKRSP alike are encouraged to innovate, using a trial and error approach that is carefully monitored. The effect is to create a 'learning environment' of active improvisation and innovation.

The World Bank report also points out that the "*pursuit of these principles is aided by the flexibility of AKRSP as a small, independent non-government organization, relatively free of fixed procedures, hierarchical clearance, or internal constraints on actions. This flexibility facilitates the 'working' method of experimentation, adaptation, and trial and error innovation that is the hallmark of the program.*" The following characteristics of the project area appear to have worked to AKRSP's advantage:

1. institution-building could proceed with little or no competition, in something of a political and administrative vacuum;
2. a tradition of cooperation in the villages that is consistent with the VO approach; and
3. the high proportion of Ismaili villages in Gilgit District, favourably disposed to an Aga Khan-supported programme, gave an initial impetus which was invaluable, though only about one-third of the population of the project area is Ismaili.

The World Bank commended the institutional model of AKRSP that combines Village Organization and PPIs at the village level. At the same time, it found that the 'production model' was less well studied and conceptualized than the 'institutional model' and several changes were recommended in this area. For example:

1. **environmental and resource constraints are a major issue**, and while much is being done, further attention to this issue is needed;
2. **institutional development within and beyond the VO, especially relating to land and water use, warrants support.**

The World Bank report summarized its understanding of AKRSP principles in the following list:

1. small farmers in isolated communities require a village organization to overcome the disadvantages of everything being on a small scale;
2. VOs can be used successfully to promote formal savings and credit by individuals and the group, provided that control of the savings and credit remains with the group;
3. VOs can be employed to promote genuine participation in planning and implementation of rural development;

4. villagers can be effectively organized initially around economic, rather than social, sector activities;
5. a PPI project is an effective entry point and catalyst for the organization of villagers;
6. in order to implement a PPI efficiently and without exploitation, village labour employed should be paid;
7. regular savings, however small, are an essential part of the discipline of collective management and finance of development;
8. members of the VO can acquire the necessary organizational and technical skills, for which other villagers are prepared to pay, to serve themselves and their community;
9. the VO following these principles can take continuing responsibility for sustainable development of the resources at its disposal.

A direct operational implication of these principles is that the Village Organization is the missing link between conservation and development, between income-generation from a resource and its sustainable use over time. This can be considered an extension of AKRSP's First Phase approach to its Second Phase concerns with sustainable resource management, particularly the management of change through institutional and technological innovation.

Institutions, Laws, and Natural Resources in Gilgit

The Context of Institutional Change

Like many Third World communities, Gilgit is subject to the forces of social fragmentation, disintegration of values and institutions, and the alienation of social and economic life from the values, institutions, and resources of rural communities. These forces represent both a constraint on and an opportunity for institution-building.

In Gilgit, land and irrigation development as well as control over forests and pastures were traditionally spearheaded by feudal chiefs such as *Mirs* and *Rajahs*. They could use the authority of the State to induce or constrain their subjects (through forced labour and transfers, exile, and punishment) to construct new channels, rehabilitate old ones, develop new land, restrict the exploitation of forests, and enforce rules for summer and winter grazing. There was a system, therefore, for maintaining and increasing society's vital physical infrastructure and the natural resource base.

A general decline in feudal authority commenced with the arrival of the British administration in 1892. This decline appears to have become more pronounced in the last 35-40 years. The feudal States were formally abolished in 1974. The effect of the decline in feudal authority is evident in the slow pace of irrigation and land development and a diminishing natural resource base. For example, despite growing populations, no land settlement schemes were undertaken that matched the size of projects sponsored by the *Mirs*.

Whereas the *Mirs* had helped establish new villages, AKRSP's irrigation development programme has opened up additional land to existing villages in magnitudes that are at least as significant as the achievements of the *Mirs*. There is a significant difference, however, between how villagers perceive irrigation development and forest and pasture management. This perception has to do

with the perception of ownership. As feudal chiefs were replaced by government administrators, the forests and pastures of the feudal States became the *de jure* property of the Government of Pakistan, acting through the Forest Department of the Northern Areas. Irrigation channels, however, and lands contiguous to villages remained outside the Government's domain. Thus, when AKRSP arrived on the scene in Gilgit, it found the villagers keen to improve their irrigation infrastructure, but it has had difficulty organizing villagers to improve the management of their common natural resources. The situation now is that the Forest Department has *de jure* jurisdiction over much of the forest and pastures but the actual position resembles open access. Over-exploitation is observed and there is little or no investment in sustainable management.

AKRSP Experiences with Common Property Management

In the last five years, both AKRSP and the villagers have been challenged to devise new rules and conventions for the management of village resources, sometimes in an ambiguous legal and institutional situation. This has happened, particularly when the traditional status of a resource has undergone change or when new assets have been introduced.

An early example of great interest was that of land development. AKRSP-sponsored irrigation channels assisted villagers in converting low-productivity, winter grazing land into potentially high-productivity, multiple-use farm land. The grazing land, by tradition, belonged to the entire village, so all households descended from those who established the village had equal rights to it. But how were the villagers to implement AKRSP's principle of "private ownership and collective management" on this now-irrigated new land? The villagers responded with a full range of options on various combinations of ownership and collective management.

At one extreme, some villages simply divided up the new land by handing the plots over to individual households which then developed the land through their own resources. However, even these villages generally approached AKRSP for land development loans through their Village Organizations. At the other extreme, Khaiber village in upper Hunza has a VO that is the regional leader in terms of land and labour specialisation. The new land there is being developed as a single farm, and portions of it will be transferred to individuals for farming after it has been fully developed. The VO will continue to own the fruit orchard and the fruit-cum-forest nursery on the new land. Women have been trained to manage the nursery. All irrigation on the new land is undertaken by three specialists. There are various other village specialists, as well, and all are remunerated by the VO.

In between these two types of management system, there are wide variations in what the villagers have adopted. By and large, new land is divided up (usually equally, according to traditional rights) among individual households, but specific inputs may be managed collectively. These inputs include: loans for land development; transport and implements for land development; fertilizer; seed and saplings; the services of village specialists; and, quite often, labour pooled among neighbours. In terms of collective management issues, AKRSP's First Phase was dominated by the land development process. The major lesson for AKRSP was that it should not insist on the VO treating its new land as a single farm. It should, instead, encourage the rapid and equitable development of land through collective management of critical inputs.

A multiplicity of issues arose in the Second Phase as the VOs began to tackle non-traditional assets and the supra-village dimensions of collective management. For both, the VOs had to define new rules and conventions. Not surprisingly, they did so usually with reference to traditional patterns of management. AKRSP has catalogued and discussed these experiences in its Fifth Annual Review (AKRSP 1987c), and the experience with forest and pasture management is

too limited to offer operational generalizations at this stage. The case studies discussed in Chapter Two may assist with the articulation of a few operational guidelines for AKRSP.

The Legal Situation of Forests and Rangelands

This is governed by the Land Revenue Act, 1967 (XVII of 1967), Section 50, the Forest Act of 1927, and the Northern Areas Wildlife Preservation Act of 1975.

According to the Land Revenue Act, the presumed ownership of forests, quarries, and wasteland rests with the Government, unless there is a written record of rights to the contrary completed by or before November 1871. A record of rights was drawn up wherever land settlement took place. In Gilgit District, land settlement took place in only one of the five sub-divisions. Hence, in four sub-divisions, there is no question of records of rights. After deposing the *Mirs* and *Rajahs* in 1974, all land without a record of rights was resumed by the Government of Pakistan, Northern Areas Administration, under the Land Revenue Act. The Administration's Forest Department maintains, therefore, that the region's communities have no claim whatsoever over forests, except as provided by the Department under the Forest Act of 1927. The Department further maintains that the villages have an option only over *shamlaat* forests, i.e., those on land accessible to the village irrigation channels. Finally, the Department maintains that the forests of six of the nine villages selected for this study belong to the State and the remaining three villages are said to have an insignificant number of forests.

The concessions provided to local communities under the Forest Act are listed in (CDC 1987). These concessions differ according to the legal status of the forest. The ownership and management of natural forests are of three types:

- o private: usually commercially exploited;
- o state: state control of local and commercial use; and
- o reserved: ownership and management by the State.

The matter of community use rights arises for State forests (category 2 above). Briefly:

- o there are no rules for grazing, but it is prohibited in specified areas of National Parks under Section 7 of the Northern Areas Wildlife Preservation Act;
- o villagers within five miles of the forest, or with traditional rights over it, can apply for the use of standing timber for domestic purposes upon payment of a concessionary fee;
- o such villagers also have free use of any dead, dying, or diseased timber for fuelwood ("*in practice, many people ring-bark trees to kill them*"); those living more than five miles away need a transport permit which is free;
- o timber for commercial use may be extracted upon payment of a standard fee; and
- o fuelwood obtained by contractors for commercial purposes requires a charge of Rs.5 per 100 kg and a transport permit (fuelwood sells in many parts of the district for one rupee per kg).

There have been recent incidents that have eroded the Forest Department's unqualified control over the use and management of State forests. The most contentious case is that of the Chalt-Chaprote forest and this is discussed in Chapter Two. In this case, the Deputy Commissioner of Gilgit, acting on an application by the community, authorized the community to exercise control

over the neighbouring forest. Such control was previously completely vested in the Forest Department. Legal support for the orders passed by the Deputy Commissioner may conceivably be found in the Forest Act, but this has not been confirmed by the present author.

Local communities also contend that the procedures specified by the Forest Act before resumption or reservation of forest lands have not been followed by the Forest Department. In particular, it is alleged that villagers were not given the opportunity to establish claims over resumed land, nor was there a land settlement made by any Government.

In general, the ambiguous legal situation in Gilgit will continue to plague attempts at improved resource management. The options currently available to the administration are:

- o continue with the status quo which will result in a continuing and rapid depletion of forest cover and degradation of pastures;
- o seek to enforce the authority of the Forest Department which will lead to confrontation in a sensitive part of the country; or
- o offer to work with AKRSP and the Village Organizations which will be effective if the VOs can devise rules for internalizing the costs and benefits of resources use.

Given the constraints on the Forest Department, there is a recognition among sections of the Government that the last option potentially represents the most effective strategy. If this view can be articulated as official policy, then AKRSP and the VOs will need to respond to the challenge of developing institutions that can demonstrably sustain and improve the natural resources of the district.

VILLAGE CASE STUDIES IN THE MANAGEMENT OF NATURAL RESOURCES

Background to the Village Studies

The Scope of Village Studies

Nine villages in Gilgit district were chosen for an in-depth study of institutional arrangements for resource management. These nine villages are:

1. Broshal, in the Nagar *Tehsil* of Nagar Sub-division;
2. Khaiber, in the Gojal *Tehsil* of Hunza Sub-division;
3. Passu, in the Gojal *Tehsil* of Hunza Sub-division;
4. Roshanabad-Sherabad, in the Aliabad *Tehsil* of Hunza Sub-division;
5. Rahbat, in the Sikanderabad *Tehsil* of Nagar Sub-division;
6. Rahimabad I, in Gilgit Sub-division (which has only one *Tehsil*)
7. Oshikhandass, in Gilgit Sub-division;
8. Sherqilla, in the Punyal *Tehsil* of Punyal-Ishkoman Sub-division; and
9. Thingdass, in the Punyal *Tehsil* of Punyal-Ishkoman Sub-division.

These nine villages are described in terms of the selection criteria in Table 1.

For the present study, the organizational structure of each village was examined with respect to a number of natural resources and other common property. The purpose was to analyze the performance of the village vis-a-vis a list of indicators of collective management. Both traditional and non-traditional forms of common property were examined so as to identify the institutional innovations introduced by a village. In particular, the analysis focused on:

- o any outstanding strengths and weaknesses of the VO;
- o significant elements of the process of constructing and maintaining the irrigation channel and the subsequent process of land development;
- o the organization of a cadre of village specialists who perform specialized tasks for remuneration by the VO;
- o innovations in the management of forests and pastures; and
- o brief notes on the VO's performance with respect to non-traditional common property such as community-owned tractors and VO-owned hybrid cattle (the latter being referred to as the Heifer Project).

Table 2 summarizes the presence or absence of selected indicators of collective management in the nine villages. In addition, the case studies provide basic locational and agroecological data on each village, supplemented by some statistics on the resource base.

Table 2: Indicators of Collective Management in the Nine Selected Villages

Village	Access to Nullah ²	PPI	Land Develop. Loan?	Common Tract?	Heifer Project?
Broshal	Shared	Irr. Chnl	Yes	Yes	No
Khaiber ¹	Exclusive	Irr. Chnl	Yes	Yes? ³	Yes
Passu ¹	Exclusive	Irr. Chnl	Yes	No	No
Roshanabad-Sherabad	Shared w/5 VOs	Irr. Chnl	No	Yes	No
Rahbat	Shared w/8 VOs	Irr. Chnl	No	Yes	No
Rahimabad I ¹	Shared w/4 VOs	Link Rd./ Irr. Chnl	Yes	Yes?	Yes
Oshikhandass ¹	No Nullah	Sed. Tank	No	Yes	No
Sherqilla ¹	Shared w/2 VOs	Irr. Chnl	Yes	Yes	No
Thingdass ¹	Shared	Irr. Chnl	Yes	Yes	No

Notes:

1. The village also has at least one cooperative society other than the AKRSP VO; Oshikhandass and Sherqilla have 3-4 coops each.
2. *Nullah* is the local term for the valley/watershed in which the forests and pastures are located;
3. A (?) against the 'Yes' for community tractor indicates an unconfirmed statement that the tractor is owned by a village cooperative society.

Traditional Management System for Village Resources

The majority of villages in Gilgit District are located on alluvial fans or river terraces, dominated by a backdrop of steep mountains with narrow openings into *nullahs* that lead to alpine pastures, glaciers, and snow fields. The *nullahs* contain mountain streams that feed the gravity channels

that irrigate the fans and terraces. From cultivated fields, water drains freely (when it is abundant) into rivers that merge into the River Gilgit or the River Hunza which, after their confluence near Gilgit Town, flow into the River Indus within the boundaries of Gilgit District. The *nullah* contains one or more alpine pastures and, occasionally, flatter meadows and land sown with barley or potatoes (see Kreuzmann 1985 for a fuller description). The highest of these pastures are at 4,600 masl, and they are used only for grazing yaks, although they may sustain protected wildlife (including the snow leopard). The migration of livestock to the pastures starts in April and May. Usually men and children accompany the animals to the pastures but in Wakhi-speaking areas (including Gojal *Tehsil*) women maintain the dominant role in tending livestock and making dairy products in the pastures. Each stage on the way to the highest pasture has huts for temporary residence, usually next to the watering holes. These resources belong to the village(s) using the pasture. Barley or potatoes may be cultivated on individual fields. Forest products may be brought down from the *nullah* on donkeys or carried on the back. The return movement from the pastures to the villages takes place in September or October.

The snow fields and glaciers in the *nullah* melt into mountain streams that are tapped for irrigation. The channel head may be several miles from the village, and its maintenance is the collective responsibility of the village. In spring, the entire village turns out to clean the channel before the date for first irrigation. This common effort is part of history and is referred to as *rajaki*. Violators of *rajaki* are required to pay a fine; usually wages for the number of days on which the individual absented himself from *rajaki*. Much of the length of a channel may be lined with trees that are individual property. Routine maintenance during the agricultural year is carried out by one or more *chowkidars* paid through contributions made by the villagers in cash or kind. The *chowkidar* enjoys a high status in the village. In periods of water scarcity (such as at the time of planting in spring) the villagers practice *warabundi*, i.e. a roster of turns by which water is used by each farmer for a specified length of time.

The land beyond the access of the irrigation channel is usually steep and uncultivated, supporting some grass and *hyppophae*. It is usually grazed in winter by free-grazing livestock. This winter 'pasture' is common land. Winter grazing also takes place on other uncultivated land, if any is available by tradition in the proximity of the settled village. Significant parts of such land have been converted to higher-payoff uses once irrigation has become available, because such land has represented the natural avenue for expansion in cultivated areas over the years.

Steep slopes often dominate the landscape below the irrigation channels and above the settled villages. With careful irrigation, this land can support lucerne and trees that are planted on individually-owned plots running vertically down the slope.

The settled village itself is dominated by houses, individual crop fields, and trees on steeper land. Farming fields are often surrounded by trees. There are well-defined rules governing the distance at which a tree can be planted from a neighbour's field. These rules are meant to ensure adequate sunlight and water to field crops. After the maize harvest in autumn (or after harvest in the single-crop areas), all crop fields may be grazed for stubble. Free-grazing coincides with the arrival of livestock from the alpine pastures. (Some villages are now beginning to ban free-grazing, perhaps in response to the benefits from tree planting on village land). Steeper parts of the settled village are planted or allowed to regenerate as individual woodlots.

The version of traditional systems, as depicted above, is becoming increasingly differentiated as different villages respond in different ways to the forces of change. Some of the important aspects of this differentiation are brought out in the case studies below.

General Analysis of Village-level Organizations

The Village Organizations sponsored by AKRSP have several features in common. The membership of the VO is open to all households in the village. The general rule is one male per household but exceptions to this rule may be found in instances where an occasional household contributes two members to the VO. When women participate actively, it is either through their own organization or by attending the VO meeting. In traditional villages, there is little active participation by women. In many Ismaili villages (particularly the Wakhi-speaking ones) men and women meet in a joint assembly and, in other cases, women may be represented in the VO by selected (male or elderly female) individuals.

In large villages, there are multiple VOs organized on the basis of neighbourhoods. Where the neighbourhood coincides with an irrigation channel's access area, each VO will have its own land development plan and loan, otherwise, land will be developed jointly by the concerned VOs. Similarly, when one project has to be implemented by several VOs, each VO is apportioned a share of the work by consensus. The multiplicity of VOs within a village does not, at present, affect the management of forests and pastures common to the village.

VOs were formed initially to implement and maintain PPI projects, start a group savings' programme for, and nominate and support a cadre of village specialists trained by AKRSP. VOs initially met every week. Over time, the VOs have acquired a longer-term perspective on village development and now participate in all the programmes offered by AKRSP and collaborating agencies. They also meet less frequently (2-4 times each month) now that the vast majority of VOs have completed their PPI projects.

VOs receive a grant from AKRSP for implementing their PPI projects. Most, but not all, VOs were far-sighted enough to save from this windfall labour income and deposit the savings in the VO's group account. These savings were augmented over time by savings from the sale of produce and non-farm employment. The 376 VOs of Gilgit District had combined savings of nearly Rs 24 million by the end of 1987. These savings are used by AKRSP and its collaborating bank as cash collateral against which the VOs are given loans for various development programmes. Rs 39 million had been disbursed as short-term and medium-term loans by the end of 1987, with a nearly flawless recovery record so far.

Unskilled labour for village projects is contributed by the villagers themselves. If the work is to be done without payment, as under the *rajaki* system, then each individual is expected to contribute equally; defaulters will pay the wage cost of their absence. Presence may be voluntary, as with PPI projects, if labour is being paid wages. The tradition is to reserve village-level tasks for the villagers themselves, although that tradition is now changing as more and more market exchange of labour develops. A village will also give preference to its own residence when hiring skilled labour.

Technical services for the VOs come from AKRSP and collaborating agencies and from the villagers themselves. AKRSP has a field unit called the Social Organization Unit (SOU), consisting of a Social Organizer, an engineer, and an agriculturalist. This unit is mobile and provides AKRSP with its technical and motivational outreach to the villagers. The VO itself supports a cadre of village specialists, in practical and managerial skills, who are trained by AKRSP and remunerated for services and supplies by the VO; supplies may be obtained at cost from AKRSP.

The mobilization of resources from among VO members is subject to a variety of rules (or, in some cases, no rules). For financial resources, contributions from members may be raised by one of the following mechanisms:

- o a fixed minimum to be contributed by each member;
- o an equal contribution by each member;
- o contribution in proportion to perception of benefits;
- o contribution on the basis of economic status; or
- o left to the decision of the individual.

There are no aggregate data on how many of the VOs follow each type of rule. Before AKRSP started interceding with the VOs, the majority of them appeared to be asking for a minimal fixed amount from their members for group savings. AKRSP's suggestion has been to adopt options 3 or 4 and many VOs have responded positively to this suggestion.

In the case of the utilization of loans given by AKRSP, there is a difference between short-term production loans and medium-term development loans. Short-term loans (for fertilizers, plants, marketing, etc.) are given out by the VO according to a household's demand for inputs or contributions to the produce that is marketed. Medium-term land development loans are divided equally among VO members; the rationale being the suggestion by AKRSP that a minimal amount must be available to each member to preserve equitability in the use of a rationed input. Better-off individuals may supplement the loan with their own cash resources.

In the case of village specialists, each user pays a fee that is in proportion to the services utilized. This straight-forward rule applies most commonly to para-veterinarians and plant protection specialists.

Errant VO members are disciplined through a series of graduated measures. An offender who has injured the interest of part or whole of the VO will be asked to render compensation to the injured party. One who breaks a VO's rule for the protection of common property is expected to pay the stipulated fine. A refusal to honour the decision of the VO is met, initially, by an attempt by the elders to convince the offender to obey the decision of the VO. If this and other means fail to bring around the dissenter, then, the traditional penalty of social boycott of the offender's household is imposed. This is considered a severe punishment.

Communications among members of the VO take place formally in the VO meeting. Here, VO matters are discussed, the options offered by outside agencies are examined, and every member has the right to express his opinion. Decisions are reached by consensus or majority vote. VO decisions are communicated to AKRSP by means of a resolution of the VO. The resolution is forwarded to the area's Social Organizer whose recommendation on it is nearly always respected by the management group. The Social Organizer and his associates on the SO Unit tour their area almost non-stop and provide the most reliable and effective channel for communications between VOs and the management group of AKRSP. In addition, frequent field visits are undertaken by the management. The VO itself sends its office-bearers and specialists to Gilgit for VO Conferences and refresher training in specialist skills. Proceedings of VO Conferences (one every month, for about 80 VOs each) are published and sent to each VO through the SOU.

The Village Organizations interact formally or informally with a large number of religious, political, social, economic, and government organizations. It is not possible to sketch out the relationship between the VOs and each of the other organizations active in Gilgit District. In the next two paragraphs, a list of such organizations is presented to illustrate the context in which the VO works.

All villages have regular religious and traditional gatherings in addition to VO meetings. Many villages have a formal religious organization working in the village. The Ismaili villages participate in the programmes of the various Aga Khan service institutions (for health, education, and housing). Many villages, particularly those supported by the Aga Khan Economic Planning Board, have village cooperative societies.

The political structure of the district revolves around the system of Local Bodies and Rural Development (LB&RD). There is a District Council in Gilgit with an Annual Development Plan drawn up on the recommendations of District and Union Council members. Each Union Council covers 3-5 villages, and there is a Union Council member from practically every village. Elected councillors are provided with technical support by the LB&RD Department of the Northern Areas Administration. Other line agencies operating in the district include; the Agricultural Department; the Animal Husbandry Department; the Forest Department; the Northern Areas Public Works Department; the Health Department; the Education Department; the Social Welfare Department; etc. In addition, there are commercial institutions, including scheduled banks and specialized institutions for agricultural, industrial, and cooperative capital.

Broshal

Broshal is the highest of the nine villages studied. Its altitude is 2,740 masl (only one crop can be grown each year on a given plot of land), and it is located 130 km from Gilgit and 40 km from the KKH, in the Hoper Valley of Nagar. Broshal lies in one of the more remote parts of Gilgit. Its 105 households belong to the Shia branch of Islam.

The documentation on Broshal and its neighbouring hamlets includes the works of Butz (1987) and Semple (1986) and notes and case studies undertaken by the SO Unit of AKRSP.

The following organizations are active in Broshal: the Union Council of the Local Bodies & Rural Development (LB&RD) system; the Project Committee of LB&RD; the traditional *jirga* (council of elders); the Committee to oversee the *Imam Bargah* (religious place); the AKRSP-sponsored Village Organization, and two committees set up under the aegis of the VO to manage the VO's tractor and enforce the livestock grazing rules of the VO. The Aga Khan Health Services are exploring the terms of partnership under which they can collaborate with the Broshal VO. In addition, there is a government school and dispensary.

Traditionally, as in other villages in the district, Broshal had a council of 7-10 elders (called the *jirga* led by the village headman (the *numberdar*). The *numberdar* was appointed by the *Mir* and was also responsible for the collection of taxes from the village. The *jirga* regulated the management of natural resources at the village level, including water distribution and allocation, channel maintenance, movements of livestock to the various pastures and within the village, dates of closure of pastures, etc. This system appears to be in force even today, but the *numberdar* has no official status and the *jirga* faces competition from other (religious, political, and economic) organizations. For inter-village disputes, the *Mir* was the arbitrator; today, there is increasing recourse to courts and government administration.

AKRSP's intervention in Broshal started with its sponsorship of the Hunono irrigation channel. This channel already existed but was in a state of disrepair and subject to occasional destruction as a result of landslides. The villagers proposed that the channel should be improved, with concrete work where necessary, to increase the reliability of water supplies and reduce the considerable risk to their agricultural production. AKRSP's agreement to this suggestion led to the formation of the Broshal Village Organization in July 1983.

The Broshal VO is led by a strong village activist, the Manager of the VO. An ex-serviceman, the Manager has run the VO with a fair bit of personal authority in support of the AKRSP message of collective management. As a result, the VO has been consistently ahead of other VOs in the valley in accepting AKRSP-sponsored activities, particularly those that require strong collective management. For example, it was reported in Semple's (1986) case study that the bulk (75 per cent) of the VO's savings were raised when the Manager decided to transfer part of the AKRSP grant for the channel to the VO's group savings' account. Voluntary savings were very small and came in response to the VO rule that each member must save one rupee per week. The savings were offered by the VO as cash collateral against a loan provided by AKRSP for the purchase of a tractor; one of the first VO-owned tractors in Gilgit.

The purchase of the tractor led to the first institutional innovation by the VO. The VO set up a tractor committee to manage the day-to-day affairs of the tractor. It appears, however, that the tractor's operations in Gilgit Town (when it is not in use in the village) are in the hands of a relative of the Manager who lives in Gilgit. The committee's existence has been a source of some concern at AKRSP, since AKRSP fears that such committees may take over control of an asset rather than remaining answerable to the general body that elected them. The tractor committee has not, so far, usurped the powers of the VO over tractor affairs. At the same time, the VO has decided that each member will deposit Rs 200 in group savings against future payments for the tractor, whether for maintenance or for loan repayment.

The VO also established a committee to control free grazing in the village. The committee drafted both punitive and preventive edicts. It is possible that the committee is effective in discharging its mandate. It needs to be noted, however, that Broshal experiences some seasonal migration of men. Control over free grazing reduces the returns from livestock by increasing the labour cost of livestock control. For free-grazing to be controlled, the villagers must realise greater gain from the crops that can be grown on the controlled fields. It is not yet clear whether this trade-off has been resolved in favour of crops and against livestock.

The village has an active para-veterinarian who has earned significant amounts from vaccinating livestock and considerably reducing their mortality rates. This specialist has been remunerated regularly by the VO for his services and supplies.

There are no significant innovations in the management of forests and pastures. The traditional system of the Hoper Valley continues to be in place.

Khaiber

Khaiber village, lying in the single-cropping zone at an altitude of 2,600 masl, and about 180 km from Gilgit Town on the KKH, has perhaps the most remarkable Village Organization in AKRSP's project area.

Khaiber has 55 households belonging to the Wakhi ethnic group and following the Ismailian tradition of Islam. These villagers are highly educated and close-knit. Their VO is led by a superior village activist, the President of the VO.

The documentation available on Khaiber includes the following references; four papers prepared for an AKRSP workshop, viz., Abidi (1987), Husain (1987b), Hussein and Karmali (1987), and Magrath (1987), Caroe (1986), CDC (1987), Meghji, Tetlay and Tejani (1987), and Semple (1986).

The following organizations are (or have been) active in community-oriented work in Khaiber; the Union Council of the LB&RD system; project committees set up for specific LB&RD projects; the project committee set up to implement the rural water supply project of the Community Basic Services' programme of UNICEF; the Government of Pakistan and the Aga Khan Foundation; a cooperative society; the Aga Khan Health Services; the Aga Khan Education Services; an AKRSP-sponsored Village Organization; its Project; the *Ismailia* Local Council; and the Ismailian *Tareeqi* Board (for religious affairs). In addition, there is a government school for boys and a school for girls managed under the Aga Khan Education Services. There is also a hydro-electric power station that provides electricity to the neighbouring villages of the Gojal Tehsil.

The Khaiber VO is unique because of the extent of collective management practised by it. The AKRSP-sponsored, new irrigation channel has enabled the VO to irrigate and develop a large tract of previously low-productivity winter grazing land, lying at a distance of 2-3 km from the village. The VO allotted portions of this land for use as: cropland; a fruit orchard; and a multi-purpose nursery for fruit and vegetables. All the new land is considered to be the common property of the VO, although the crop land will be assigned to individuals through the traditional system of lottery once it is developed. The VO has hired three *chowkidars* to be responsible for the irrigation of the new land. This is an innovative extension of the traditional practice of hiring a village *chowkidar* to clean and maintain the irrigation channel. Development of the crop land is the responsibility of the VO and individuals are assigned duties by turn to manage this process. The nursery is managed by the women of Khaiber, with the assistance of one male specialist and six women trained by AKRSP. Marketing from the new land is also done collectively by the VO. Women participate regularly in VO meetings and have a say in collective decision-making over common property.

Because of its ability to manage assets collectively, Khaiber was selected to be the recipient of 10 high-yielding hybrid cows which had to be housed in a single unit. This operation is part of a grant from Heifer Project International. The VO sent its nominees for training in basic animal production techniques; it allotted a piece of land (2-3 km from the settled village) for the construction of cattle sheds; and it organized the supply of considerable amounts of fodder that were needed by the new cows. The most recent information available indicates that the Heifer Project cows have the highest milk yields among all eight of the Heifer Project villages sponsored by AKRSP.

The Khaiber Village Organization supports a large cadre of village specialists. One of the earliest specialists was the para-veterinarian. His effectiveness in reducing mortality rates has enabled him to pursue his new specialty as a part-time job. The VO has also invested Rs 550 in an automatic syringe, thereby reducing the time costs of vaccination. Part of this saving has been passed on to VO members by taking lower charges. Several other specialists in Khaiber pursue their new vocations as part-time jobs, thus testifying to the VO's ability to create new employment opportunities within the village in response to the perception of higher returns for specific farm-based activities.

The issue of changing patterns of profitability has also influenced the village to take steps to stop the centuries-old practice of free-grazing. Villagers are convinced that free-grazing needs to be controlled in order to benefit from the improved marketing opportunities for fruit. Apple trees can now be seen in wheat fields, although previously no tree could last long outside a boundary wall. The village has found it possible to transfer free-grazing animals in autumn to its traditional winter pasture. Thus, an institutional innovation has come about as a result of changing markets and the relatively small cost of institutional change.

The overall trend in the allocation of labour, land, and livestock in Khaiber appears to be one of specialization. This specialization has been carried out with innovations and has reinforced the spirit of collective management. It is possible, taking the example of Khaiber, to see specialization in resource use as an innovative response to changing patterns of profitability and innovations in collective management as vehicles for growing specialization. Numerous jobs have been created in the village as a response to new ways of increasing income from agriculture. This has happened (in contrast to some other villages) despite the availability of off-farm opportunities and a high level of education in the village.

Passu

Passu is very similar to Khaiber in terms of some important features; and yet, it represents a development situation that varies substantially from that of Khaiber. Passu, with 67 Wakhi-speaking households of the Ismailian tradition, is located at an altitude of 2,440 masl, about 150 km from Gilgit Town on the KKH. It is in the single-cropping zone. Documentation available for Passu includes the four workshop papers cited above for Khaiber, as well as AKRSP (1984); CDC (1987); Conway et al. (1985); Kreutzmann (1985); Saunders (1983); and World Bank (1987).

The following organizations are (or have been) active in Passu; the Union Council of the LB&RD system; project committee for rural water supply under the Community. Basic Services programmes; the Village Production Group organized by the Integrated Rural Development Programme (IRDP) of the United Nations Development Programme (UNDP/FAO); a multi-purpose cooperative; a potato seed growers' association organized by UNDP/FAO for working with a commercial firm (Jaffer Brothers); the Village Organization and its women's group; and the Ismailian Local Council.

According to one hypothesis (World Bank 1987), the distinguishing feature of Passu is that it commands the access to the Passu and Batura Glaciers, and the surrounding alpine scenery is popular with growing numbers of tourists, trekkers, and expeditions. According to another point of view, Passu is distinguished by its factional VO and the lack of an acceptable activist within the VO.

Passu's PPI is a new irrigation channel that takes off from the Batura Glacier and brings water to a large tract of land that was previously used for winter grazing. As a result of the new channel each household in Passu increased its land holding by five with an additional 4.5 hectares. This channel has succeeded in bringing water to the new land, whereas several attempts before it had failed. It appears that the major reasons for earlier failures were: (i) the lack of proper surveying techniques and (ii) the uncertain movement of glaciers. Villagers, using the traditional methods of following the water level, ended up by the channel being too low to have access to any significant area, or else the glacier advanced to a point which made the location of the take-off point too low for necessary access. AKRSP assisted the VO by putting down a proper alignment. The site survey also used information on the movements of the glaciers collected by Chinese road engineers in the course of their work on the KKH.

The successful completion of the channel led to an expectation on the part of the AKRSP that the Passu VO would take up land development promptly and complete it speedily; this did not happen. The villagers of Passu observed that the process of making a new channel operational for full discharge is a long process that may take 5-8 years and their observation has been borne out by the experiences of other mountain communities. AKRSP believes that the VO's collective management of land is hampered by discord within the VO and the inability to perceive the value of investing in a sustainable source of income from agriculture. It appears that most able-bodied

villagers prefer to work as trekking guides in the summer (at about Rs 110 per day, rather than investing labour or cash in land development. Moreover, Passu's land development, unlike Khaiber's, is an individual affair for each beneficiary household, even though the VO has taken a collective land development loan from AKRSP. The use of new land in Passu does, however, resemble that of Khaiber, in that tree (particularly fruit) crops appear to be preferred to annual crops.

Clearly, the residents of Passu are responding to new opportunities by seeking a balance between near-term prospects for cash income and the longer-term payoff to investment in land. In the short-term, there is a movement of labour and other resources away from agriculture and livestock. Kreutzmann (1985) observes that many of the huts in the alpine pastures inside the Passu *nullah* now lie vacant, as fewer people make the seasonal trek with their livestock to the pastures - the treks made today are with tourists, and for cash income. Thus, the glaciers and their surrounding scenery are being transformed into multiple-use resources, while prior to the KKH they were of importance only to agriculture and livestock.

The financial and entrepreneurial resources of the VO and its members are also subject to the strong dual pressures of competing agricultural and non-agricultural uses. For example, VO savings, normally reserved for investment in agriculture, were used to purchase stocks for an electrical goods' store to be operated by the VO for all the neighbouring villages that presently received power connections. Similarly, there appears to be a reluctance on the part of the VO to nominate villagers for training in specialized functions; most eligible candidates prefer non-farm employment. The case of the neglected VO para-veterinarian indicates, too, that the effect of competing demands on resources is magnified by the factionalism in the VO. On the other hand, the VO has responded with enthusiasm to the highly-profitable seed potato production programme introduced by UNDP/FAO and a commercial firm. In the short run, income from seed potatoes is estimated to equal the income from tourism in Passu. In the long term, both activities are liable to be associated with environmental problems (the potato programme because of sustainability and disease-resistance issues).

The changing patterns of incentives have placed increasing responsibility for farming on women. It is conceivable that specialization in labour over time could make women the farmers of the village, while their men folk take up more remunerative non-farm jobs. The importance of this transformation is appreciated by the VO and AKRSP, and a conscious attempt is made by both to channel motivational and other inputs to women.

By and large, there is evidence that both social and economic forces are responsible for the substantial difference between Khaiber and Passu. While Passu has much easier access to non-agricultural income, it is also more factional as a Village Organization. One consequence of the latter is that there is lack of clarity in the VO's medium-term perspective - the balance between traditional resource use and new opportunities has yet to be articulated by the VO and AKRSP. In particular, there is little recognition of the value of specialization in labour for managing the entire range of options available to the village.

Roshanabad-Sherabad

This is a small village of about 20 households, lying on both sides of the KKH in Central Hunza, about 95 km from Gilgit Town. The village lies at an altitude of about 2,000 masl, and maize, the second crop, is used for fodder since it does not ripen as grain. The inhabitants speak Burushaski, the main language of Hunza, and belong to the Ismaili branch of Islam.

Documentation available on the village includes: Meghji and Saleem (1987) and Neseem (1986). The following organizations are active in Roshanabad-Sherabad; the Union Council of the LB&RD system; project committee for rural water supply under the Community. Basic Services Programme; and the VO and its women's group (and their smaller nursery and tractor committees). In addition, there is a school nearby and a hydro-electric power station that provides electricity to Central Hunza.

The Roshanabad-Sherabad VO has a strong and well-educated leader and is a close-knit organization. VO membership includes women who participate fully in all VO meetings. Thus, from its inception, the VO has been active in pursuing women's development activities with the same vigour as those for men. In particular, the women have been managing a multi-purpose nursery, defining the procedures for income-sharing from this new common asset; they have also taken up a number of appropriate technology devices, such as nut-crackers (for apricot kernels), fruit pulpers, etc. Given the same broad pressures for changing gender roles as those that prevail in Passu, Roshanabad-Sherabad seems to have accomplished more in preparing for change by involving women.

The PPI for this village was an irrigation channel. The VO also took out a loan at an early stage for a tractor. The purchase and operation of the tractor turned out to be a saga of unforeseen circumstances. These events were narrated by VO representatives at a conference of Village Organizations in Gilgit and drew applause from the audience for both humour and relevance. The story illustrates the tremendous institutional innovation and managerial capacity that is required for acquiring and maintaining non-traditional assets and technology.

The Roshanabad-Sherabad VO has, since its inception, tried to develop a complete cadre of specialists for the activities undertaken by the VO. It has, for instance, a marketing team, with individuals nominated for fruit and livestock marketing, and others trained in fruit processing and packaging. It also has groups of women working, by turn, on the nursery (this is also observed in Khaiber). Like Khaiber VO, therefore, Roshanabad-Sherabad appears to be moving towards specialization in labour and management.

In a formal sense, the VO is a leader in village planning. It regularly works out (and presents on flip charts) a five-year plan for village development. While the earlier emphasis was on AKRSP-sponsored programmes, the plan now shows education and civic components as well. The plan is fairly basic, in that it lays down targets for products to be marketed, land to be developed, etc. It does not, as yet, show the ways and means for achieving the targets. The planning exercise shows how a basic concept introduced by AKRSP (initially for land development planning) is being extended and redefined by the VO; it points to the possibilities for innovation in planning for village development.

Rahbat and its Neighbouring Villages

Rahbat is located about 60 km from Gilgit Town and about 5 km from the KKH in the Chalt Valley of Nagar Sub-division, at an altitude of about 1,800 masl. Chalt Valley, with a population of over 4,000 followers of the Shia branch of Islam, includes six villages with nine Village Organizations. While much of the development activity is carried out by individual VOs, issues of natural resource management have entailed cooperation among two or more of the VOs. Thus, it is important to discuss both village-level and supra-village innovations.

The cluster of villages in Chalt has particular significance because of the evolving situation in the Chalt-Chaprote *nullah*. Here, the community of resource users has intervened to take control

over the natural forest and pastures of Chalt-Chaprote. This development represents a test case that will challenge the ingenuity of AKRSP, the VOs, and the Government in dealing with the issue of community control of natural resources.

Documentation on Rahbat and the neighbouring villages includes the following references: CDS (1987); Gohar (n.d.); Gohar, Khan and Rahemtulla (n.d.); Hunzai (1987); and Jan (n.d.).

Rahbat Village has the following development organizations: a project committee set up under the LB&RD system; the Union Council of the LB&RD system; a project committee set up to implement the rural water supply project of the Community Basic Services' Programme; the AKRSP-sponsored VO, its affiliated women's group, the forest management committee set up by Rahbat and its neighbouring VOs; and the Aga Khan Education Services.

After visiting the Gilgit area in 1986, a team of workshop participants had recommended that "*AKRSP could make a valuable contribution by interceding with the Government to return these forests to the status of locally held commons, to be managed by an organization - complete with enforceable sanctions-established by AKRSP*" (Dani, Gibbs, and Bromley 1987). AKRSP's approach has been to act on institutional innovations once they appear to have the interest and confidence of the villagers. Thus, while AKRSP was waiting for villagers to establish a line of approach for new ways of managing natural resources, the villages of Chalt decided to intervene to protect and sustain their natural wealth.

Villagers who were interviewed (CDC 1987) estimated that the Chalt-Chaprote forest is now only one-fourth of what it was about 20 years ago. The rapid depletion of forest and pasture is due to the changes in incentives that started with the construction work on the KKH. This brought about significant increases in the value of forest products; grazing has been particularly damaging to juniper regeneration. There is no doubt that the changes have benefited those in the area who were engaged in the commercial exploitation of the forest; one estimate states that Rs 1.5-3.0 million was earned by about 200 households every year, equal, on average, to a reasonable wage for one man-year per household of non-farm employment.

In March 1986, the six VOs of the area, acting through 36 representatives, set up a Reform Committee for Forest Conservation. Although there are several activists in the group, perhaps the most influential is a former *numberdar* from Rahbat. The Committee declared an immediate ban on commercial exploitation and domestic requirements were to be met as follows:

- o only dead wood would be used for fuelwood, with each household permitted one trip to the forest every week; and
- o timber would be made available upon application to the Reform Committee which would verify the requirements and then apply to the Forest Department for approval.

A gate (or check point) was set up on the road out of the village and was manned 24 hours a day. The *chowkidars* at the gate were remunerated by collecting equal contributions from each household. Offenders were to be fined Rs 25 per *maund* (about 38 kg) of fuelwood and Rs 500 per log of timber. The ban and sanctions are reportedly being enforced effectively.

The ban on commercial exploitation of forest still left unresolved the conflict between livestock grazing and forest and pasture regeneration. In 1987, the VOs proposed a new system of rotation that would reduce the pressures of overgrazing. They also agreed to a suggestion from AKRSP that some new tracks be constructed, to open up hitherto inaccessible parts of the rangeland, and

that additional earthen tanks be built to provide water for livestock. The Rahbat VO has set up a five-person pasture development committee.

In response to the initiatives undertaken by the VOs, AKRSP is providing technical and financial assistance for sustainable forest management with community participation. This assistance is outlined in the documents prepared by AKRSP staff and listed above.

It is not yet clear how the fundamental question of authority between the Reform Committee and the Forest Department will be resolved. The Committee's intervention takes over some of the functions of the Forest Department on State-controlled forest. The villagers maintain that they are helping the Government enforce forest regulations and that they have the written permission of the former Deputy Commissioner to do so. The Head of the Forest Department maintains that the Committee is a refuge for 'miscreants' bent upon the destruction of forests for their own vested interests. It is believed, however, that the Forest Department is issuing no new permits for commercial exploitation of the Chalt-Chaprote forest.

The villages of Chalt have also undertaken several other supra-village initiatives. Rahbat *Bala* and Rahbat *Paeen* VOs are working together to construct a domestic water supply project as well as a girls' school. The school represents the first instance of cooperation between a non-Ismaili village and the Aga Khan Education Services in the provision of a complete package of educational facilities. Rahbat Bala also hires a *chowkidar* jointly with the Chaprote Paeen VO for the maintenance of their common irrigation channel.

An institutional innovation at the village level was observed in Chaprote village. This village had been gifted 10 high-yielding, hybrids by the Heifer Project, with the expectation that, as at Khaiber, the cows would be kept in a collectively-managed unit. The villagers of Chaprote, however, have distributed the cows to individual households who will share the costs and benefits. The reason given for this system was that it is too costly to pay cash to the attendants who were to look after the cows in the common livestock unit.

The Rahbat VO appears to be a leader, among Shia villages, in involving women in the development programmes available for the region. In addition to the girls' school mentioned above, Rahbat has a multi-purpose nursery of the kind present at Khaiber and Roshanabad-Sherabad. This nursery is expected to play a supportive role in plans for sustainable forest management in the Chalt-Chaprote forest.

Most of the VOs of the valley have a full range of village specialists trained by AKRSP. These specialists are likely to include forestry and pasture specialists in the future.

In conclusion, it appears that the villages of Chalt have embarked on a dramatic course of institution-building that may have relevance to many other villages in the region. The initiative by the community has placed both AKRSP and the Government in a challenging position. Whereas the Government needs to articulate a response to an apparent conflict of authority, AKRSP needs to strengthen community institutions with the technical and financial assistance needed to capitalize upon the community's initiative; and community intervention needs to be extended into a strategy for sustainable resource management at a high level of productivity.

Rahimabad I

Rahimabad I is located along the KKH, about 30 km from Gilgit Town, at an altitude of about 1,670 masl. It has two VOs - *Bala* (upper) and *Paeen* (lower) - that are organized around separate *jamat khanas* (the religious gathering place for followers of the Ismaili branch of Islam); the combined population is 125 households, mostly from the Ismaili sect but also including a number of Shia families. Both sects are represented among the office-bearers of the VOs. Because of its proximity to Gilgit Town, Rahimabad I is part of a greater Gilgit economic zone supplying produce and manpower to the urban area on a daily basis.

Information on Rahimabad I is available in Hamid (1987); Khan (1985); Meghji (1984); Meghji, Tetlay, and Tejani (1987); and Semple (1986).

The following organizations are active in Rahimabad I in addition to its two VOs: the Union Council of the LB&RD system; the Ismailian Local Council; a cooperative society; and the Aga Khan Education Services. In addition, the village has a government school for boys; a school for girls managed by the Aga Khan Education Services; a government dispensary; and a government veterinary dispensary.

Rahimabad (original name Partab Singh Pura, subsequently Matum Dass) is one of the newer villages of Gilgit and thus there are people in the village (as in Oshikhandass) who can narrate the events leading up to the establishment of the village and the subsequent lengthy process of land development. According to these elders, the settlement of Rahimabad started with the construction of an irrigation channel in 1903. The construction of the channel is said to have been carried out, under the supervision of soldiers sent by Maharajah Partab Singh of Gilgit, as part of an agreement with Mir Nazim Khan of Hunza. The *Mir* sent 28 households from Hunza and their descendants inhabit the village today with those of the other original families. During the early stages of land development (1903-1920), the villagers brought fruit and forest trees from Hunza. Thereafter, they established fruit nurseries and obtained other tree cuttings locally.

Since 1903, the irrigation channel has been maintained with the help of a village *chowkidar*. In 1975, the then *chowkidar* applied to the VO for an increase in wages. The village agreed to increase the wages from 2 kg each of wheat and maize grain per household, per year, to 4 kg each of wheat and maize grain per household, per year, plus Rs 200 in cash from the village common fund. The revised wage rate also appears to be in effect today.

Rahimabad I was one of the first villages to form a VO after AKRSP's arrival. Its first PPI - that for the Paeen VO - was a link road, through the length of the village, connecting it at both ends with the KKH. From the very beginning, the issue of compensation for land taken up in road construction dominated discussions between AKRSP and the VO and among members of the VO. Some villagers maintained that AKRSP should follow the policy of the Northern Areas Public Works Department and pay land compensation at market rates, in addition to the cost of labour and material that is normally included in AKRSP cost estimates. AKRSP maintained that land compensation was an internal matter for the VO to resolve. It took 2-3 years for the issue to disappear from the agenda of meetings between AKRSP and the VO. The VO decided that no compensation would be paid, since those who bear the loss of land also benefit the most from the road by virtue of their proximity to the road. Many of the affected families appear to support this rationale. Thus, Rahimabad represents an example of a VO internalizing the costs and benefits of public good.

Rahimabad I also provides insight into traditional and new ways of discharging financial obligations in the village. Although the VOs of Rahimabad have taken out and repaid several

AKRSP loans, recovery of the first loan of Rs 6,534 for fertilizer was plagued by problems. Recovery of loans was then in the hands of the VO's model farmer who died suddenly before the loan could be repaid to AKRSP. Some villagers report that he had already collected about half the loan from individual VO members for repayment to AKRSP. The repayment of the loan was taken over by the late model farmer's nephew, as a matter of family honour; the nephew is the current manager of a VO. A meeting of village elders was called to discuss repayment; the elders decided that well-to-do families in the village should make donations towards erasing the loan, since many of the others were too poor to pay. The understanding was that the contributors would be repaid once a second PPI project (a channel for the Bala VO) was approved by AKRSP. Thus, eight villagers provided what is essentially bridge funding to the VO in anticipation of an improved cash flow for the VO later on. The second PPI project was approved after lengthy debate between AKRSP and the concerned VO. In the final analysis, some of the debtor VO members have paid off some of the contributors (to bridge finance) by selling produce for cash. It is not known with certainty whether the remaining amount has, in fact, been repaid out of the grant for the second PPI.

The *Bala* VO nominated two young men for training in para-veterinarian and plant protection functions. It was soon discovered that the para-vet was, in fact, redundant, since there is an Animal Husbandry dispensary in the village staffed by a properly-trained employee from the village. Contrary to the expectations of many outsiders, the dispensary appears to be well-stocked with necessary drugs and vaccines. The villagers understandably prefer the government dispensary to the VO specialist, since the Government provides free services while the VO charges for cost and the specialists's fee.

Rahimabad I is also one of the villages taking part in the Heifer Project. It has been successful, so far, in keeping the 10 cows together at one, collectively-managed, location. Furthermore, Rahimabad is in the process of developing what little land had been left undeveloped over the years. The pattern of land use on the new land favours tree crops, understandable in view of nearby markets for fruit and wood, and the diversion of labour to urban centres.

In retrospect, Rahimabad I has consistently chosen investment options that reinforce its position on the KKH close to Gilgit. Its first PPI was a link road; it preferred the government veterinarian to the more costly VO para-vet trained by AKRSP; at the same time, it accepted the high cost of upkeep of hybrid cattle in anticipation of later returns from milk marketing; and it has developed land for fruit and forest products that are in great demand locally and nearby. In retrospect, there is little an outsider could have done to improve upon the village's investment decisions in response to changing opportunities. At the same time, Rahimabad and Oshikhandass village represent possibly replicable approaches for agricultural development in other villages that are only now acquiring reliable and cheap access to sizeable markets.

Oshikhandass

Oshikhandass is a large village with 540 households from the Shia and Ismaili sects. It was established in the late 1930s, when 58 families migrated to the location and constructed an irrigation channel under the patronage of the feudal chiefs of the time. The village is situated just south-east of Gilgit Town, about 1 km along a dirt truck road from the KKH, and its altitude is 1,400 masl. It is divided into three neighbourhoods (*patees*) that correspond to the ancestral domiciles of the present inhabitants. The neighborhoods are called Jagir Patee, Bulchi Patee, and Farfoo Patee; each *patee* has its own VO, and there are also overlapping women's organizations.

References to Oshikhandas may be found in: Caroe (1986); CDC (1987); Conway et al. (1985); and Meghji (1984).

Oshikhandass has the following organizations in addition to its AKRSP-sponsored organizations: the Union Council of the LB&RD system; the Aga Khan Education Services; the Literacy and Mass Education Commission of the Government; three cooperative societies (including one trading in timber); the Ismailia Local Council; the Shia association; and a *numberdar* system from the days of the *Mirs*.

The original 58 families that settled in Oshikhandass were each given 3 hectares of land to develop. (They were not, however, given any share in the rights to the nearby *nullah*, as older villages had prior claim to it.) Additional land was brought under cultivation subsequently. Available information indicates the following rates of change over the last 50 years:

Total cultivated land	2.75% per annum: 275% over 50 years
Population	4.56% per annum: 831% over 50 years
Land/household	1.82% per annum: 58% over 50 years

Subjected to the pressures of in-migration and nearby urbanization, and existing without a natural forest or pasture of its own, Oshikhandass has responded by creating a resource base that is a model for many other villages in a similar position.

Since the very establishment of the village, its residents undertook a substantial programme of forestry inter-cropping with lucerne, as they had no other natural source of fuelwood, timber, and fodder. They planted trees on the slopes behind the village, as well as within the homestead. The village is today a remarkable example of forestry management in the village agroecosystem. It is estimated that 80% of the village's cash income now comes from forest products, almost all of it from individual holdings.

While livestock holdings are small, the village is attempting to improve the quality, quantity, and marketing of fruit, vegetables, poultry, and eggs for sale to the Gilgit urban market. Some of this is being accomplished through the Village Organizations of Oshikhandass as well as its women's organization.

The Oshikhandass Village Organization (which later split into three VOs) was one of the first two or three sponsored by AKRSP. It suffered, therefore, from a certain lack of knowledge about the intentions and approach of the management of AKRSP; the villagers simply extrapolated from their knowledge of the other agencies working in the district and paid little attention to the spirit of the AKRSP message. For example, dialogues with AKRSP staff were initially valued more for their recreational content than for discussing development problems and solutions. VO office-bearers were chosen by lottery! Few meetings were held, and the attendance was very thin. The implementation of the PPI project - a sedimentation tank - was ignored by the vast majority of the villagers and work was handed over to a committee; the project suffered from faulty implementation and was finally completed three years after it should have been. As a large and urbanizing village, Oshikhandass has found little in the AKRSP package to interest the majority of its residents.

In turn, development agencies have done little so far to develop a menu of programmes from which villages like Oshikhandass and Passu could choose major initiatives in high-value horticulture, forestry, and agro-based industry (such as wood products including furniture for the local market). In other words, there is a need to discover linkages between the kind of agricultural production model that AKRSP is trying to articulate, as a follow-up to its institutional model, and a rural-based model of small enterprise.

Sherqilla

Sherqilla, like Oshikhandass, is a large village (of about 500 households- with three VOs and a women's organization. Sherqilla lies on a jeep track, about 40 km from Gilgit Town; it takes two hours to complete the journey from Gilgit to Sherqilla. The jeep track is now being widened and improved to take trucks and buses.

Sherqilla is inhabited mostly by followers of the Ismaili sect and a handful of Sunni families. The village was the seat of the former Rajah of Punyal who still lives in Sherqilla. It is located at an altitude of about 1,830 masl and there are years in which the second crop (maize) does not ripen.

The following organizations are active in Sherqilla; the Union Council of the LB&RD system; project committees for LB&RD activities; Aga Khan Education Services; Aga Khan Health Services; three Village Organizations and their women's groups; the Ismailian Local Council; and four cooperative societies. In addition, there is an animal husbandry dispensary managed by the Government; government and Aga Khan school; and a hydro-electric power station to supply electricity to Sherqilla and a neighbouring village.

The PPI project in Sherqilla was an irrigation channel. This channel was constructed by what was then the combined VO of Sherqilla. Since it was not easy for a large village to congregate regularly in one place for VO meetings, the villagers decided to divide into three VOs, based on neighbourhoods (each with its own *jamat khana*). This division took place soon after the completion of the channel. At the time of division, the financial assets of the old VO were also divided by common consent.

Soon after the channel project was completed, the three VOs applied for land development loans. They were the first VOs to receive such loans from AKRSP and helped establish AKRSP policy on land development loans. It was observed that the channel was irrigating unequal land holdings within the settled village. One option was to give out the loan in proportion to the landholdings. The option chosen by AKRSP was to give a fixed amount of Rs. 2,000 to every household, on the grounds that this policy represented an equitable sharing of a rationed financial resource (i.e. subsidized credit). Accordingly, every household in Sherqilla received Rs 2,000 in medium-term credit in December 1984. It has been estimated that the actual land development cost has substantially exceeded the amount loaned out by AKRSP; the difference has been provided by individuals through direct or hired labour.

Sherqilla is, in many ways, a microcosm of the evolving situation in Gilgit. One can observe those who have too much land relative to family labour selling undeveloped land to migrants from higher up the valley; new migrants with little or no land creating a local market for grain, pulses, fodder, and dairy products; the landless and other poor working in the village on land development and haulage for wages; those with donkeys specializing in bringing fuelwood down from the forest; female education creating changing expectations among people of all generations; and the prospect of improved road transport generating expectations of bigger marketing efforts and higher cash incomes; and so on.

One consequence of change is in perceptions of livestock profitability. Those households whose men are involved in non-farm work are selling off their goats and sheep and retaining cows that can be managed by the women at home. Some households contract out livestock care to professional shepherds (*gujars*), but the cost of that option also seems to be rising. The practice in the past was that the *gujar* family would retain the butter and milk produced from the livestock; the situation now is that *gujars* ask for about 4 kg of wheat grain and Rs 10 in cash for each goat or sheep for a five-month period.

Sherqilla was the first village in which the women organized themselves along the lines of the VO. This happened in June 1983, only four months after the first VOs had been formed in Gilgit. It is important to note that Sherqilla has a 'model school' for girls managed by the Aga Khan Education Services (AKES). Almost all the teachers in the school came from other districts of Pakistan, mostly Karachi, and this might have influenced both men's and women's thinking in Sherqilla. From the very beginning, men and women collaborated in managing income-generating projects; the men being particularly useful in purchasing inputs and marketing in a society where women cannot go to markets outside the village.

In addition to the Village Organizations in Sherqilla, the village had four cooperative societies functioning in 1985 (Hussein 1985). These societies had memberships of 37, 42, 106 and 500 individuals. Together, they had equity and share capital of Rs 600,000; this compared with Rs 111,000 saved by the three Village Organizations by mid-1985. In comparison, the land development loans, provided to the three VOs by AKRSP, totalled Rs 764,000 - slightly more than the amount saved by villagers in all their cooperative bank accounts.

Of the four cooperatives in Sherqilla, two appear to be multi-purpose societies. One is for agricultural development and the fourth is a transport society. Many of the investments of these cooperatives have been in non-agricultural activities, particularly consumer shops. Most of these efforts, however, have led to financial loss.

In some cases, these cooperatives have taken out loans from the Federal Bank for Cooperatives at 9 per cent per annum, and reloaned the money to individual members at 12 per cent. The repayment record of the village as a whole is unblemished (Hussein 1985). One way in which the village effects timely repayments is by borrowing from one cooperative to pay off the other's loan. Since cooperative profits are shared by all members, villagers are also particular in repaying their individual obligations to the cooperative. Another incentive for prompt repayment is the significant interest rate of 12 per cent charged by the cooperatives-villagers are well aware that outstanding amounts are subject to this rate of interest.

Thus, Sherqilla shows a considerable variety of institutional and financial mechanisms for income-generation and market exchange. It appears to have initiated the transition from a subsistence to commercial economy before AKRSP's arrival. The following points are worth noting:

1. The villagers had started to apply the spirit of their traditional cooperation to the evolving market economy, even before AKRSP arrived on the scene. Most of the cooperative activity, however, seems to have been for the benefit of a minority of the households.
2. While Villagers perceived the benefit of investing in non-agricultural activities, these ran at a loss. This would suggest that; (i) although villagers may have the financial assets to invest in non-farm activities, they do not yet have the expertise to be entrepreneurs outside the farm economy or (ii) the organizational forms chosen by them (i.e. the cooperatives) to raise capital (through equity and concessional capital) may not be appropriate for the management of non-farm enterprises.
3. Villagers demonstrated the potential for undertaking new income-generating activities for women by building upon the traditional gender-division of tasks. Women's awareness of their collective income-generation potential might have been heightened by their socialization with women from outside the village.
4. The response to AKRSP's insistence on collective management may have been conditioned by the presence of alternative opportunities for income-generation available to the villagers of Sherqilla.

Thingdass

Thingdass is a hamlet-offshoot of Singal village; the headquarters of the Punyal-Ishkoman Sub-division. It lies at an altitude of about 2,000 masl, some 55 km from Gilgit Town along a dirt jeep-track. It has 42 households belonging to the Ismaili sect. References on Thingdass include: Khan (n.d.); Sakhi (1987); and Semple (1986). Organizations active in Thingdass include the Union Council of the LB&RD system; Aga Khan Education Services; Aga Khan Health Services; the Ismailian Local Council; and the VO and its women's group.

Thingdass was established by a relative of the *Rajah* of Punyal but soon attracted other residents who were given the right to develop the land not given by the *Rajah* to his relative. Whereas the *Rajah's* relative had commissioned the first irrigation channel, subsequent settlers extended the irrigation in the village. Now, irrigation and land are subject to the same rules and conventions that operate on such communal assets in other villages; these resources are no longer considered private property.

Thingdass and Singal, together with a neighbouring village (Gich) have access to one of the largest *nullahs* in the district. This *nullah*, however, has been subject to the same kind of overexploitation and depletion that has afflicted other such resources. It is under the control of the Forest Department. Fuelwood and timber collection has become increasingly expensive in the face of longer distances to travel and rising time costs. In response, villagers in Thingdass are planting woodlots within the settled village. Rising time costs and the availability of market substitutes have also led villagers to abandon the cultivation of barley and potatoes in the lower reaches of the *nullah*. Thus, like so many villages with access to non-farm employment and markets, Thingdass is moving away from pastoralism. Virtually none of the men now take their livestock up to the pastures, and there is no longer a rota system to perform that function. The pastures are used by *gujars* who bring their herds from other villages. It is reported that these *gujars* pay toll for the use of the pasture, at the time of the return migration from the pasture, and that this fee is collected by the *numberdars* and divided equally among all households.

Thingdass and its parent village Singal are subject to the constant threat of mud-flows destroying their channels in mid-season. This represents a substantial risk to agricultural production in both villages. It is not surprising, therefore, that the two villages have an arrangement under which each provides labour to the other in times of emergency. Pooling labour in this manner provides insurance against massive crop failure due to lack of water for irrigation. Villagers report that, in the last ten years, Thingdass has called upon its neighbours three times and repaid the obligation four times. Villagers also remember a mud-flow that required the services of 900 men for three days; meaning that they mobilized more labour than was required for the entire PPI project (an irrigation channel).

The PPI for Thingdass was the extension and widening of an existing irrigation channel. A previous attempt at this, financed by the LB&RD Department, had failed because of poor alignment. The piers left behind from that attempt were utilized in the AKRSP-sponsored project. Since the completion of the channel, the VO has taken a land development loan from AKRSP. More than half the new land is to be planted with forest trees.

All the VO specialists in Thingdass are active. The plant protection specialist has worked recently in collaboration with the Government's Department of Agriculture. Thingdass also is home to 10 of the hybrids introduced as part of the Heifer Project.

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.

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ICIMOD is the first international centre in the field of mountain development. Founded out of widespread recognition of environmental degradation of mountain habitats and the increasing poverty of mountain communities, ICIMOD is concerned with the search for more effective development responses to promote the sustained well being of mountain people.

The Centre was established in 1983, and commenced professional activities in 1984. Though international in its concerns, ICIMOD focuses on the specific, complex, and practical problems of the Hindu Kush-Himalayan Region which covers all or part of eight Sovereign States.

ICIMOD serves as a multidisciplinary documentation centre on integrated mountain development; a focal point for the mobilisation, conduct, and coordination of applied and problem-solving research activities; a focal point for training on integrated mountain development, with special emphasis on the assessment of training needs, the development of relevant training materials based directly on field case studies; and a consultative centre providing expert services on mountain development and resource management.

Mountain Population and Employment constitutes one of the four thematic research and development programmes at ICIMOD. The main goal of the programme is to identify viable off-farm alternatives and practical approaches to employment generation, income enhancement, and sustainability of mountain environments. Currently, the major focus of the programme is on three interrelated topics: (1) assessment of critical issues and options in mountain off-farm employment; (2) environmental regeneration and employment promotion through rural women's organisations; and (3) promotion of small towns and market centres for decentralised mountain development.

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