

AGA KHAN RURAL SUPPORT PROGRAMME
BALTIKIAN



HIGH ALTITUDE INTEGRATED NATURAL RESOURCE MANAGEMENT

REPORT NO. 1

SUMMARY REPORT

**POUL WISBORG
KHALEEL TETLAY**

AKRSP - NLH, DECEMBER 1998

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RESOURCE MANAGEMENT**

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HIGH ALTITUDE INTEGRATED NATURAL RESOURCE MANAGEMENT: This is Report No 1 (*Summary Report*) of seven progress reports presenting the activities and preliminary findings of joint research under an institutional cooperation programme between the Aga Khan Rural Support Programme, Pakistan, and the Agricultural University of Norway.

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PROJECT REPORTS 1998

Report No. 1: Summary report

Report No. 2: Institutions and organisations in pasture and forestry management

Report No. 3: Pasture, livestock and biodiversity

Report No. 4: Natural forest inventory

Report No. 5: Gender, resource management and livelihood security

Report No. 6: Information and documentation

Report No. 7: Socio-economic survey of Basho (project site)

More copies of the reports may be obtained from AKRSP, Regional Programme Office, Skardu or Noragric's Library.

Preface

The Aga Khan Rural Support Programme (AKRSP) and the Agricultural University of Norway (NLH) have initiated a cooperation programme on alpine resource management. The programme was planned during mutual visits in 1997 and implementation started in March 1998. The programme is funded by the Norwegian Agency for Development Cooperation (NORAD) as an integrated part of Norwegian support to AKRSP's natural resource management programme in Baltistan. In 1998 the main activity is an integrated study of alpine resource management systems (pasture and natural forest) in the Basho watershed of Skardu District. Appendix 1 lists the main components and AKRSP - NLH counterparts. The project was initiated in the spring of 1998, primarily through joint field research by visiting NLH staff and AKRSP counterparts.

The funding for the cooperation programme during 1997 (field planning workshop) and 1998 amounted to NOK 1.807 million. The research on soils was covered by Norwegian Institute of Land Inventory (NIJOS).

AKRSP has applied for a total of NOK 4.0 million for the continuation of the cooperation project during the period 1999 - 2001, as an integrated part of the application to NORAD for support for the natural resource management programme in the Baltistan Region, with a total frame of NOK 12.337 million (AKRSP, August 1998).

This summary report briefly outlines the project objectives, focus and components and the main activities and results during 1998. It assesses overall progress and makes general recommendations about the continuation of the programme.

For more detail, reference is made to the progress reports 2 to 7, and to the Project Document and Action Plan 1999 (NLH – AKRSP, December 1998).

Acknowledgements

During the first year of implementation participants have enjoyed the opportunity of carrying out field research in the Basho watershed of Skardu District. We thank the people of Basho, including their representative, the Basho Development Organisation (BDO), for a warm reception and permission to work in the area. Men and women of the eight villages of the watershed have contributed of their valuable time and knowledge to joint activities, such as participatory learning exercises, field trips, village meetings and interviews. Local people also made their school available for a researcher and her family. The village organisations and the Basho Development Organisation have shown exceptional hospitality and support. It has been agreed that all maps, reports and other documentation shall be made available to the BDO, when appropriate also for display in local schools.

We thank the District Commissioner, Skardu, Haji Sanaullah and other government officials, for their interest in the collaborative programme and for offering useful recommendations and advice, and in some cases active participation in the programme. The practical implementation of the field programme was made a lot easier by the generous offer from the Divisional Forest Officer, Skardu, Mr Sharif, that AKRSP and visiting researchers could use the Forest Department Guest House in Basho.

We thank NORAD and the Royal Norwegian Embassy, Islamabad, for the continued support and for the consistent good-will towards the cooperating institutions, as well as active interest in the challenges and development potential of Baltistan.

AKRSP made excellent arrangements for field research. All Norwegian participants sincerely appreciate the many efforts without which they would not have been able to carry out research in Baltistan.

Support by local people, government institutions and the donor agency will remain a condition for the project to achieve its goals. The partners appreciate with humility the good relations and many contributions they have enjoyed so far. We hope that the linkage programme may continue and grow to the benefit of local people, the co-operating institutions and relevant government authorities.

Ås/Skardu,

List of acronyms and abbreviations

AKRSP	Aga Khan Rural Support Programme
BDO	Basho Development Organisation
DFO	Divisional Forest Officer
IUCN	International Union for the Conservation of Nature
JMM	Joint Monitoring Mission
NRM	Natural Resource Management
NLH	Agricultural University of Norway
NORAD	Norwegian Agency for Development Cooperation
Noragric	Centre for International Environment and Development Studies, NLH

Map of the Basho Watershed and its location within Pakistan

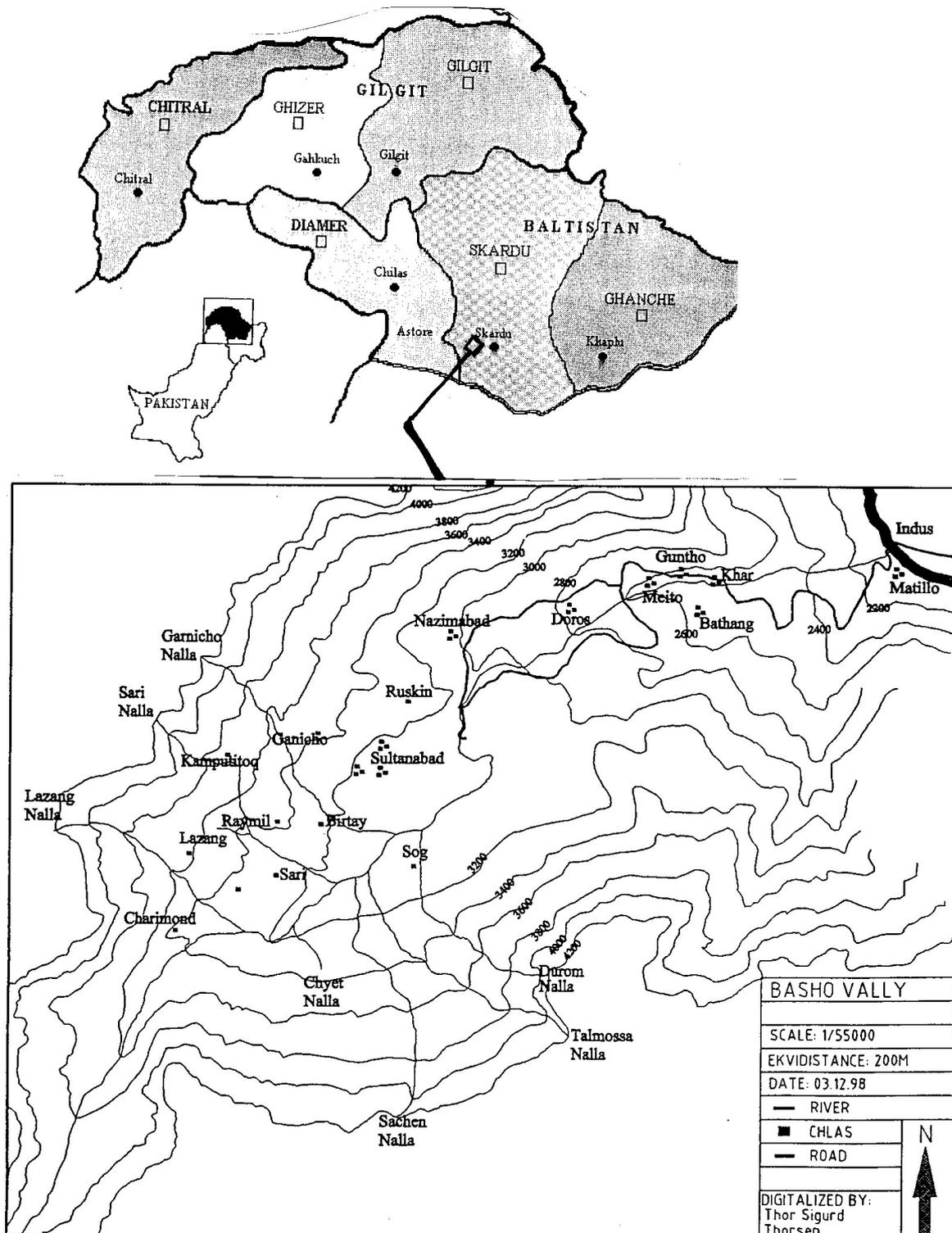


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1. INTRODUCTION

1.1 AKRSP – NLH Co-operation

The context of this report is the agreement between AKRSP and NLH to cooperate on a combined programme of competence building and applied research on High Altitude Integrated Natural Resource Management (Project document: NLH - AKRSP, 1997). It is stated here that:

The aim of the institutional cooperation programme is to gain further insights into pasture and forest resources and their role in farmers' livelihood systems. Participatory, applied research shall enhance the capacity of AKRSP to work with village organisations and partner institutions for sustainable management of pasture and forestry resources, through providing knowledge which may be used in developing management and conservation strategies, initially at project sites.

The specific objectives relating to AKRSP are:

- to expand the knowledge of the resource systems of Baltistan through a joint research project in order to enhance the capabilities of project staff to respond to the challenges of integrated resource management in high-altitude areas
- to improve AKRSP documentation and extension systems with respect to forestry and pasture
- to improve AKRSP's links with national and international research institutions

The specific objectives relating to NLH are:

- to strengthen its knowledge-base for development-oriented research in the region and within fields where NLH is already working

- to gain the opportunity for carrying out applied, participatory research together with an implementing NGO and farmer-based organisations
- to provide an opportunity for staff, students and ex-students to gain field level working experience in Baltistan, Pakistan

The main **activities** in the programme will be:

- planning and conducting joint, participatory field research/documentation
- training and capacity building for AKRSP staff, primarily through joint research/documentation
- disseminating and sharing knowledge gained through workshops, training sessions, networking and publications
- exchanging information, references and literature through a library link for improved networking and information management
- offering technical advice for field-level application of the knowledge generated through research

1.2 AKRSP Strategy

The AKRSP Programme Proposal 1997 - 2001 states that,

“the goal of the Natural Resource Management (NRM) programme is to improve the living standards of people in northern Pakistan through building local capacity for more productive, integrated and sustainable management of their natural resources.”

The proposal indicates an increased strategic emphasis on “above the channel” resources:

“..in the next phase, AKRSP intends to make environmental concerns a greater part of its planning and programming.....NRM efforts

will have environmental interests as one of its central aspects alpine pastures and natural forests will be included in the discussion of village and watershed plans...”.

The 1997-2001 proposal also addresses the institutional challenges involved when above the channel resources and wider environmental concerns are given a more prominent status:

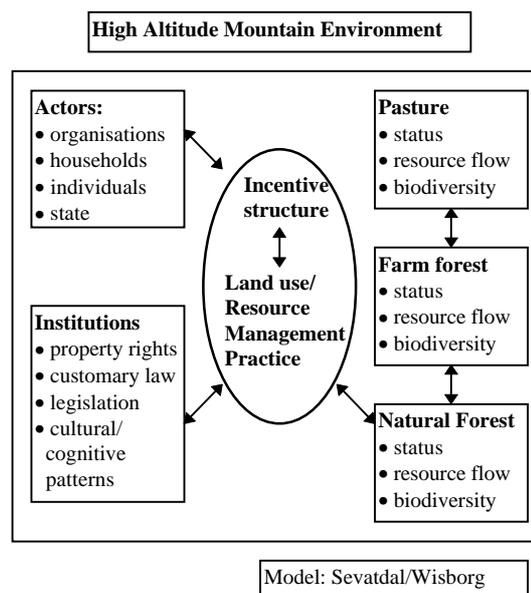
“Subject to future agreements, AKRSP will, in principle, support joint Government - VO/WO initiatives in forest conservation and pasture development”....“links with IUCN biodiversity projects have already been established..”.....“pasture development will be integrated with watershed level planning....appropriate user-based institutional arrangements for improved pasture management will be introduced....”

AKRSP is involved in several innovative projects in institutional cooperation for natural resource management, including cooperation with the IUCN and Forest Department as partners. How new institutional cooperation arrangements can best be grounded in and relate to village-level institutions is often a major challenge.

1.3 Focus and components of the study

Based on joint planning workshops in Norway and Baltistan, the partners formulated a project focusing on high altitude natural resources. Appendix 1 lists the different components of the study. In spite of the practical formulation of sub-themes, the purpose remains to provide an integrated understanding of resource management, reflecting the integrated nature of local ecosystems and livelihood strategies. Integrated analysis is supported by a broad model of natural resource management, initially for descriptive purposes only (Figure 1).

Figure 1: Conceptual model



2. STUDY AREA: BASHO VALLEY

2.1 Selection of study area

As a part of the NRM programme of AKRSP-Baltistan, the cooperation project focuses on Baltistan, the eastern-most region of the Northern Areas. During the NLH-AKRSP Field Planning Workshop in Baltistan in September 1997, the Basho watershed was suggested by AKRSP as the site for a joint case study. After visiting both Hoshe (Ghanche District) and Basho (Skardu District), Basho was chosen as the main study area in 1998. Some of the criteria were:

- The presence and importance of alpine resources, including natural forest assumed to be among the largest patches left in Baltistan
- Local people’s active interest in the alpine commons, partly expressed through the recent formation of a cluster organisation (the BDO)
- Accessibility (less than two hours driving distance from Skardu)

Basho was selected, therefore, as an interesting and illustrative case for both AKRSP and NLH, given the interest in the high alpine zone. Alpine natural resource management in Basho is probably similar to that of many other watersheds in Northern Areas or Baltistan, but in a strict scientific sense it was not selected to be representative of a certain larger area.

2.2 Brief description¹

The Basho watershed is located about 45 km west of Skardu Town in the District of Skardu, Baltistan. The total area of the watershed is about 120 km². It ascends from the southern side of river Indus at an altitude of approx. 2,150 m elevation to the Banak La mountain at 5,520 m elevation. The uppermost village of Sultanabad is situated at approx. 3,200 m elevation. It is located within the co-ordinates 75°10' and 75°25' (East) and 35°20' and 35°30' (North).

Situated in the western-most arm of the Himalayan range, Basho is found within a semi-arid and rugged mountain landscape ("mountain desert"). It falls within the "rain shadow" of the Himalayas, and average rainfall in the valley bottom is estimated to be between 100 and 200 mm, but rising with elevation to create a moist environment at the extensive, high-altitude rangelands. Because of the altitude, the area has a marked seasonal climate comparable to that of the temperate zone. The mean maximum temperature during summer revolves between +30 - 35° C, while the mercury will drop to -15° C in winter.

The area falls under three major vegetation types (Schweinfurth, 1957). The lower north-eastern part from the river Indus to about 2,500 m elevation is described as **Sub-tropical semi-desert**. The area above the Sub-tropical semi-desert is classified as **Steppe of Artemisia**, dominated by scrubs such as *Artemisia maritima*, *Eurotia ceratoides* and *Kochia*. The average rainfall may approach 400 - 500 mm, depending on location, and most of the precipitation is received as snow during winter. The vegetation described as **Moist alpine scrub and meadows** borders the **Steppe of artemisia** at about 3,600 m. Natural blue pine forest covers the north-western facing moraine slopes above Sultanabad. The forested moraine slopes are led by deep gulches and glacialfluvial gravel fans sparsely vegetated by pine trees, willow (*Salix sp.*) and shrubs. Grassy slopes and juniper (*Juniper macropoda*) cover areas where the forest has been cut down. Above the pine forest, patches of birch (*Betula utilis*) delineate the upper forest line at about 3,800 m.

Wildlife known to be found in Basho is Asiatic ibex (*Capra ibex sibirica*), snow leopard (*Panthera uncia*), wolf (*Canis lupus*), red fox (*Vulpus vulpus*), marmot (*Marmota caudata*) and mouse hare (*Ochotona sp.*). Musk deer (*Mochus mochiferus*) is known to be found in the area, but has been highly priced and hunted for its musk. Common birds include chukor partridge (*Alectoris chukar*), jungle crow (*Corvus machrohynchos*) and Himalayan snowcock or ram chukor (*Tetraogallus himalayensis*).

¹ Please refer to reports 2, 3 or 4 for a more detailed description.

People in Basho live in eight different villages distributed from top to bottom of the zone of permanent habitation along the Khar Nullah: Sultanabad, Nazimabad, Doros, Meito, Guntho, Khar, Bathang and Matillo. Agriculture and livestock production are the major sources of livelihood; the pastoralist system involves a seasonal transhumance between villages and temporary settlement in the high alpine zone. Off-farm employment play an increasing role. Most visitors would find the natural scenery of Basho highly attractive, but so far trekking or other forms of tourism are not developed in the watershed.

The majority of people are *Balti* speakers, while a minority are *Shina* speakers (immigrants from the Astore Valley).

The total number of households in Basho is estimated at 297 and approximate number of inhabitants at 2,400, based on an average household size of eight (Socio-economic survey by Aurang Zeb Zia, AKRSP, 1998).

AKRSP has worked in Basho since 1987. Today, seven of the villages have a Village Organisation (VO) and four or five have a Women's Organisation (WO). A cluster organisation, Basho Development Organisation (BDO) was established in January 1997, but as with the VOs, it grew out of a long-standing tradition of cooperating within the watershed. Villagers refer to a tradition of shared ownership and use of alpine resources.

3. MAIN ACTIVITIES AND DEVIATIONS FROM PLAN

3.1 Main activities

In all major respects, in 1998 the AKRSP – NLH co-operation programme has been implemented according to the activity plan completed by the partners (AKRSP-NLH, November 1997).

The partners have carried out a joint study of the Basho watershed, with focus on management of high alpine natural resources and an emphasis on linking competence and skills development to research. An overview of the main activities is given in Appendix II (for more details, please refer to the reports 2-7 regarding the different sub-components).

3.2 Main deviations from plan

The main deviations from the activity plan are:

- Because of unforeseen personnel constraints, NLH did not participate in the implementation of the household survey carried out in Basho. AKRSP carried out the survey with inputs to the questionnaire from NLH team members.
- A re-visit in September by the main NLH researcher on *Institutions and organisations* was cancelled, primarily based on an assessment of the usefulness of carrying out a new round of field research at the given stage of the research process.

4. MAIN FINDINGS

The findings of a broad, descriptive study of the alpine natural resource management in the Basho watershed are given in the reports 2-7 listed on the back of the front page. Please

refer to Appendix III for executive summaries.

Some major findings concern:

- Community rights in pasture and forest management within the framework of state-ownership of alpine commons.
- Distribution, characteristics and ownership of more than fifty identified alpine grazing areas, some of them with summer farm sheds (in which case they are termed *broqs*). Pastures are managed through an elaborate community-based system which distributes rights between villages and households.
- Major patterns of people-livestock seasonal movement to alpine summer farms (Norwegian: *seterdriftssystem*)
- A classification and description of nine major vegetation zones of the watershed
- Identification and description of six major soil types
- Estimating the approximate size of the local population of Ibex
- Providing the first inventory of the natural forest in Basho, estimating the total standing volume to approximately 18,200 m³, of which Blue pine accounts for almost 90%. Regeneration of the forest is pointed out as the major management problem as it is estimated to be sufficient in only approximately 5% of the forest area.
- Details of gender and livelihood strategies with emphasis on the uppermost village of Sultanabad. Roles in the management of forest and pastures are gender-divided, and there are gender-specific routes for humans moving in the alpine zone.
- The study has been supported by a collection and registration of literature on

the region (literature data bases; World-Wide Web site; database of institutions for networking).

- A socio-economic survey of 100 of 297 households in Basho giving the main descriptive statistics regarding population, employment, land holdings and livestock.

The study has confirmed the importance of alpine resources for local livelihoods. It has given an overview of local actors in natural resource management, of which one important is the Basho Development Organisation. It has provided a rich material for discussing linkages between different resources, but findings are of a preliminary nature. Specific hypotheses about causal relationships have not been formulated and tested.

Some of the development options which emerge from discussions between the cooperating partners and with local people (including the BDO) are:

- Pasture quality and the relative importance of alpine pastures in fodder management and development; soil stability as an aspect of pasture and livestock management
- Institutional aspects of managing (and avoiding non-sustainable) grazing pressure on pastures
- Eco-tourism development based on the attractive landscape and local wildlife
- Factors affecting regeneration of natural forest and the knowledge-base for assessing sustainable levels and methods of harvesting forest products
- The current process of institutional reform in management of natural forest (and wildlife)

The knowledge-base for these development options is still weak, and the partners should select some of them for further study and competence-building.

5. DEGREE TO WHICH OBJECTIVES HAVE BEEN MET

5.1 Overall aim

The partners find that the activities and results obtained correspond well with the overall aim, as well as the institution-specific objectives of the programme (please see sub-chapter 1.1).

It is also the case that the programme has a considerable way yet to go in order to achieve its overall aim/development objective. This refers to among others:

- The knowledge and analyses are in major ways preliminary, and need further testing through discussion and/or empirical verification
- The research process has involved competence building, but in an uneven manner (not all project components), and cannot yet be regarded as sustainable

5.2 Goals and results

Regarding the more specific goals and results for 1998 listed by the project document and activity plan, the following comments are made

5.2.1 Goals 1998

Further developing the institutional relationship and contact with villagers for a participatory project relevant to local people's concerns

AKRSP and NLH have developed the institutional relationship resulting in a better understanding of resources and constraints in either institution. Counterparts responsible for sub-components have established individual relationships, but the sharing and common ownership of the learning processes needs to be strengthened.

The partners have established a good working relationship with villagers and their representatives in the BDO, but through a process which was not without its hurdles. Villagers at the initial stages of field research expressed scepticism about foreigners carrying out research in their valley, and about the purpose of a project which does not carry direct, material benefits. At one point questions were also raised as to why the focus was primarily on the upper part of the watershed, apparently neglecting some of the (historically more powerful) villages lower down.

The success in implementing the project is primarily based on AKRSP's history and recognition in Basho. AKRSP, through its social organiser and other staff, also made a big effort in facilitating and explaining the projects and in solving emerging conflicts. The fact that NLH had a researcher and her family staying in Basho for more than four months gave continuity to the NLH involvement, which was otherwise characterised by rather brief field visits.

Through the facilitation by AKRSP, some participatory research techniques were used in learning about alpine pastures, social

organisation, community history etc. The project did not, in this respect, move beyond the experience already held by AKRSP from several such exercises in other villages and watersheds. Because other organisations have also carried out participatory research in Basho (IUCN, March 1998), further research should be very clearly targeted and probably carried out with smaller focal groups.

The partners got a very favourable reception and feed-back from the BDO and village organisations, who also confirmed their interest in the area of study chosen. There is clearly a need to renew and re-confirm this interest through careful discussion of findings and the relevance of the more detailed studies suggested for follow-up.

Gaining an overview and basic documentation about alpine resources and their role in local livelihood systems

This goal is addressed in the previous chapter and has been achieved, as documented in reports No. 2 - 7.

The partners feel that the **relative socio-economic importance** of high altitude natural resources need more careful analysis. One way of doing this is to extract and analyse more information from the raw data collected in the household survey. Another measure is to secure more quantitative and qualitative information on the contributions of on-farm resources, particularly fodder and fuel wood.

Determining the main parameters, conditions and relationships which require further study in a scientific analysis and explanation of

resource use patterns (refer the model above)

Based on the findings in 1998, some issues and methods for further investigation have been suggested in the (draft) reports 2 - 7 (see also chapter 4).

Identifying and discussing possible management measures/entry points for AKRSP, village organisations and partner institutions, and the related needs for further investigation

The project is still at a stage where it would be premature to identify management measures and the institutional responsibility for these.

It is important to note that there are several institutions directly involved in management or management related research in Basho, notably Forest Department, AKRSP, IUCN and NLH.

AKRSP and NLH worked closely with the Forest Department in the forest related studies (both the inventory and the institutional aspects). NLH and IUCN carried out one survey of Ibex together in a neighbouring valley for exchange of information and methods used.

Coordination and information sharing has been a valuable aspect of the project, but needs to be strengthened in 1999 (for instance, NLH was not aware of the results of the March 1998 IUCN participatory learning exercises in Basho until November 1998, when the bulk of reporting had been completed).

NLH will maintain the position that its role is not in management, but in assisting AKRSP and partner institutions in strengthening the

knowledge-base for management decisions and interventions.

Explore and determine specific competence building activities for AKRSP staff, such as short courses in Pakistan or Norway

This aspect has been given some, but probably insufficient consideration in 1998. Some of the features discussed and /or proposed for the phase 1999 - 2001 are:

- **Training and learning approach.** AKRSP is involved in a training and learning programme (TLP) with the Univ. of Bath, addressing social organisation. Major features of the approach are that staff meet for training sessions, receive comprehensive reference materials and are responsible for further learning and exploration of the issues in question through individual assignments using reference material and field study. The TLP approach appears to represent both a substantial AKRSP investment in competence-building and a sound individual ownership of the learning process. The AKRSP - NLH cooperation could be improved by learning from this experience. Major elements would be careful planning of joint studies to (continue to) reflect problems and issues which both agree are the most important ones; a clearer definition of the AKRSP counterpart responsibility for learning and reporting; improved emphasis by NLH counterparts on communicating **methods, skills and academic resources** within a problem-based learning approach.
- **Higher degree training.** During the second half of 1998, AKRSP and NLH

have discussed the possibility of incorporating a PhD study by AKRSP study. This could strengthen AKRSP direct involvement in competence building and would be a major asset to the project. However, NLH regulations require that a PhD student should be enrolled full time in the PhD programme for three to four years even though substantial periods would be used to carry out field research in Baltistan. The full-time programme is not conducive from the AKRSP point of view. As the major funding is likely to be available from other sources, the option should be kept open. Similarly, the possibility of AKRSP participation in Noragric's two-year MSc programme Management of Natural Resource and Sustainable Agriculture should not be forgotten².

- **NLH visit and field workshop in Norway 2000.** The partners have suggested a visit for the key AKRSP staff to NLH and selected institutions working on alpine resource management in Norway. If AKRSP staff would prefer to use this time for individual visits working with their counterparts at NLH, that would also be an option.

5.2.2 Specific results and outputs:

Strengthened AKRSP skills and understanding in documentation and integrated analysis of high altitude natural resources

² The student from AKRSP currently (1998 - 2000) enrolled in the programme is keen to carry out his field research in conjunction with the AKRSP-NLH cooperation in Baltistan, which should be a major benefit to both the candidate and the project.

Examples are:

- 2 staff participated in vegetation classification and description.
- AKRSP staff, government staff and local people trained in methodology for natural forest inventory (through design training 21.08. and implementation 22.08. - 03.09.).
- 1 staff used “institutions and actors” model in independent study.
- 1 staff carried out gender and livelihood study in cooperation with NLH researcher.
- 1 staff carried out household survey with NLH inputs on qualitative aspects of questionnaire design (e.g. making it reflect the importance of share animals, *barpa* system).
- Many AKRSP staff facilitated and participated in village learning exercises (e.g. 30.05 and 31.05.) and team discussions.
- AKRSP has recorded literature references in Procite database provided by Noragric.

There are also examples of components where the full potential for skills and competence was not realised because of constraints on either of the sides (analysis of institutions and organisations; analysis of alpine pasture management; competence-building on soils sampling and interpretation).

Strengthened NLH regional and local specific competence

NLH researchers have benefited from a unique opportunity to work with AKRSP staff and village organisations in an interdisciplinary case study of a fascinating watershed in the Himalayas. The local and regional competence has been substantially strengthened. It is also

clear that NLH researchers have a lot more to learn about AKRSP and the region, to further activate the specialist competence and Norwegian experiences which they and other researchers and departments represent.

Mini-seminars conducted for AKRSP staff and partner institutions on each of the sub-themes

Several counterpart meetings were held during the field season, both in Skardu and Basho, for preparing work and discussing findings. Mini-seminars were held at Skardu RPO on:

- **9 June, 98, 09.00 - 13.00:** Preliminary findings pastures, wildlife, soils, institutions and organisations and gender. Seminar inaugurated and attended by the Deputy Commissioner, Baltistan, and attended by the DFO, Skardu.
- **20 July, 1998:** Seminar on pasture management issues and gender
- **5 September, 1998:** Presentation of preliminary results of the forest inventory, some gender aspects and the wildlife registration component

Reports by NLH/AKRSP on each of the sub-themes

Reports 2 to 7 were prepared during the second half of 1998 with the aim of finalising the reporting by December 1998. Care was taken to make findings, methods used and also some more preliminary material available for testing and further work in the coming three year period.

Balanced sharing of the responsibility for reporting needs more careful attention in the future, and it is perhaps fair to say that NLH

dominated reporting has received too much attention as compared to other learning and information sharing strategies. An advantage of the written reports is that they may facilitate information sharing with other regions and partner institutions.

Reporting was done relatively late (October-November) which was a constraint on the integration of findings from different components, which is a serious shortcoming of a project of this nature. NLH researchers held a joint two-day workshop 22.10. - 23.10., which was important for integration and professional discussion and planning. To further improve this, brief but substantive field reports produced on the spot - and shared with all partners - are important.

Literature data base and information for improved institutional net-working shared with AKRSP

These have been provided as per the project document. At the time of the field workshop (Sept. 1997), one hoped that AKRSP Baltistan would get Internet access in the near future. This has not happened, therefore the World Wide Web site is not of direct use to AKRSP - Baltistan. Much of the effort has been spent on building an information base; the active use of the base by NLH has been less than expected, and AKRSP should also be able to gain more direct benefits in the future.

Seminars at both of the collaborating institutions presenting main findings

- AKRSP: held though-out the field season as indicated above.
- NLH: project seminar for interested staff

and students 4 December 1998

6. LESSONS LEARNED

AKRSP and NLH have carried out what may be regarded as a learning phase of an institutional cooperation programme which contains several new elements for both partners. Partners have found the programme exciting, complex and challenging.

These are some of the lessons learned:

1. Relevance of focus and case: The first year of study has confirmed the relevance of the focus on alpine resources, and Basho is well selected to illustrate the importance and complexity of the issues studied.

2. Learning process: The first year has confirmed the potential of the AKRSP - NLH institutional match for development-oriented research and competence-building, but the partners have quite some way to go to realise this potential. The cooperation has tended to take its starting point in commonly shared areas of interest, but without specifying **the mode and goals of the learning process**, the respective roles and responsibilities of AKRSP and NLH staff, and how they mutually support each other.

3. Funding arrangement for institutional cooperation: Unlike other institutional cooperation programmes, the majority of the funding specifically allocated for the cooperation programme is allocated for the Norwegian partner (albeit as a component within a larger package in which approx. 75% is for AKRSP operations etc.). This

arrangement has merits and demerits. Among the demerits are that it may be difficult for AKRSP to prioritise the investment required for active participation in different stages of the project, particularly during a very busy season of NRM implementation (which is also the season one can carry out research).

The partners aim to prepare budgets in such a way that at least AKRSP direct costs for the cooperation should be covered.

Otherwise the funding arrangement, through NORAD and the Aga Khan Foundation works smoothly.

4. Logistics and administration: The project is complex with a high number of people involved, as compared to the overall size of the project. Both partners found in 1998 that logistics and administration turned out to be more of a burden than expected. Linked with points 2 and 3 above, this created a situation where AKRSP staff were seen to devote much time to support activities which hamper rather than strengthen competence-building.

On the other hand, NLH researchers felt that they received a level of service which went beyond what they would expect. Some of the practical aspects should also be made easier by the fact that the initial investments and arrangements at the Basho field site have now been made.

5. Complexity and flexibility: Partners have discussed whether the project scope should be reduced or whether the project could be staged to reduce complexity. So far, this idea is only

to some extent reflected in the revised and updated activity planning. One reason is that the integrated nature of the project makes it undesirable to “cut out” components; another is that both the research and competence building process require the partners to use whatever degree of continuity they can achieve.

The project has a year’s experience with activity planning. This has worked reasonably well. However, the annual activity planning must allow some flexibility to reflect personnel constraints and unforeseen commitments which will inevitably come up.

6. Focus: farm resources and the watershed:

It has been suggested by AKRSP that important private farm resources “below the channel” must be incorporated to understand livelihood strategies within an integrated watershed approach. Fodder production, farm forestry and food security are key issues. Due to funding constraints (and the problem of escalating complexity), NLH will primarily contribute to this component through broadening the scope of the components addressing fodder production and forestry and looking for ways to supervise AKRSP work in this area.

7. Other partners: As stated in AKRSP policy, broader institutional co-operation is necessary in management of alpine commons. The cooperation with the Forest Department about the natural forest inventory is an important area in which this was achieved.

Some coordination was achieved with IUCN activities in the project area, but probably it

can be improved through more active information sharing and joint planning. It is essential for local people, and for the project achieving its goals, that activities are coordinated.

7. RECOMMENDATIONS

1. The AKRSP - NLH co-operation project should be continued within the framework of the aims, goals and scope formulated in the project document of 1997; the agreement signed by the two institutions; and the application to NORAD (AKRSP, 1998). Through a three-year programme 1999 - 2001, the partners should have achieved:

- AKRSP-Baltistan has substantially strengthened its competence for integrated NRM
- AKRSP and NLH have developed a joint, problem-based learning approach
- The project has contributed to AKRSP's strategy for integration of the high alpine zone and wider environmental concerns in programme planning
- Articles of international scientific standard have been published

2. The partners have created a foundation for a unique study of a mountain valley undergoing rapid change, and the effects the change has on peoples strategies for managing natural resources. This shared perspective must be maintained, so that the AKRSP - NLH case study becomes increasingly relevant for documenting and understanding broad processes of change in the region.

3. The partners will prepare annual activity

plans, so also in 1998 (AKRSP - NLH, December 1998,).

4. The project leaders and each of the counterpart teams must pay careful attention to planning, not only of the issues of study, but the learning process and its specific goals and outputs in terms of competence-building. The new round of field research and training must therefore be initiated with planning sessions where shared understanding of problems and goals are consolidated and refined. This may also involve clearer formulation of AKRSP staff development plans and, perhaps, discussion of recruitment for strengthening specific areas of expertise.

5. During the coming three year period, comparison and information sharing with other Field Management Units and Regional Programme Offices should be strengthened. The partners suggest a regional workshop in Gilgit in the summer of year 2000, which can be used to exchange information with other regions and other international cooperation programmes (e.g. by AKRSP Gilgit with Macaulay Land Use Research Institute, Scotland).

APPENDIX I : OVERVIEW OF PROJECT COMPONENTS AND COUNTERPARTS

Project	NLH	AKRSP
Institutions and organisations in pasture and forestry management (property rights and other formal and informal institutions interpreted as the rules for behaviour; organisations/actors within the institutional framework)	Hans Sevatdal, Håvard Steinsholt, Poul Wisborg	M. Akbar Raza, Dr Abbas; Wazir Ghulam Haider
Pasture, livestock and biodiversity (the dynamics of high pasture management, fodder demand and fodder production, quality assessment for land use planning and conservation of soil and vegetation)	Øystein Holand, Per Wegge, Kathrin C. Hofmann, Åge Nyborg, Veronika Seim, Thor Sigurd Thorsen	Iqbal Hussain, Dr Abbas, Jawad Ali, Ulrik Motzfeldt
Farm forestry and natural forest assessment (forest and tree resources assessment, regeneration evaluation, and analysis of the supply and demand of forest products and linkages between farm-forestry practices and natural forest)	Knut Velle, Johnny Valen	Jawad Ali,
Gender in natural resource management (dynamics of changes in women's and men's use, access to and control over resources, and the effects of changes on household food security)	Ingrid Nyborg	Nazir Ahmed, Gulcheen Aquil
Information and documentation (creating a common information resource base relevant to all project sub-themes, facilitating exchange of information between project counterparts in Baltistan and Norway and supporting AKRSP Baltistan's efforts in networking for information access)	Liv Ellingsen	M. Maqsood Khan/ Nazir Ahmed
Coordination	Poul Wisborg	Khaleel Tetlay

APPENDIX II: OVERVIEW OF MAIN ACTIVITIES

For more details, please refer to the reports 2 --7 regarding the different sub-components.

TIME	ACTIVITY/OUTPUT	WHO
1997		
January	Planning workshop. NLH Project document and application to NORAD	8 AKRSP staff
August-September	Preparatory studies and work by AKRSP. Field Planning Workshop, Baltistan. Revised project document and activity plan	7 NLH staff
1998		
January - March	Details of project preparation A number of meetings held. Plans for field visits. Correspondence. Literature collection.	Staff on both sides
April - September	Field implementation (general) Main points given by sub-component below.	AKRSP - NLH counterparts. Dr Abbas, Field Coordinator Ghulam Abas, Field guide Muhammad Diin, Cook Mr Ashraf, Cook,
26.05. – 13.06.	Field research, Institutions and organisations. Interviews Skardu. Participatory learning Basho; interviews. Field report Seminar in Skardu on 09.06. See Rep. No 2.	Moh. Akbar Raza, Coord./Res. Håvard Steinsholt, Res. Hans Sevatdal, Res. Poul Wisborg, Cord./Res.
20.04. – 20.07.	Field research, Pasture, livestock and biodiversity Mapping of alpine pastures Vegetation survey Ibex survey (in coop. with IUCN) Foraging behaviour on pastures Soil sampling Collecting information for maps Workshops in Skardu.	Dr Iqbal, Coord./Res.; Jawad Ali, Ulrik Motzfeldt, Dr Abbas Kathrin Hofmann, Res.; William Sveinsson, Res. Ass.; Øystein Holand, Res. Åge Nyborg, Res. (Soils) Veronika Seim. MSc stud. Thor S. Thorsen, Stud. (mapping)
August	Natural forest inventory A survey of the natural forest was carried out (area, distribution, density, volume, regeneration etc.). See Rep. No. 4	Knut Velle, Res. Mr Sharif, DFO, Skardu and forest department staff; Jawad Ali; Local people
September	Household survey, See Rep. No 7	Aurangzeb Zia with AKRSP team of enumerators
01.04. – 15.09.	Gender in Natural Resource Management PhD field research. A number of workshops at Skardu. Study by Nazir Ahmad for Training and Learning Programme. See Rep no. 5	Ingrid Nyborg, PhD res. ; Nazir Ahmad, Counterpart; Gulcheen Aqil, Interpreter/field assistant Accompanying husband (Åge Nyborg), two children (Morgan Henrik and Kimberly Linn) and child care attendant (Ragnhild)
Throughout the year	Information and documentation Collection of literature; preparation of databases; preparation of WWW site; institutional networking references. See Rep. No 6	Nazir Ahmad Maqsood Khan Liv Ellingsen Gulcheen Aquil
Throughout the year	Coordination Field visit, PW, 26.05. – 13.06.; reporting October - November , preparation of activity plan 99 (June – Nov.). NLH workshop for joint writing and planning 22. – 23.10. NLH seminar presentation of findings 04.12.	Khaleel Tetlay Poul Wisborg Team leaders AKRSP/NLH

APPENDIX III: EXECUTIVE SUMMARIES FROM THEMATIC REPORTS

Executive summary, Report No. 2: Institutions and organisations in pasture and forestry management

As part of an ongoing institutional co-operation programme, NLH and AKRSP have carried out a study of institutional and organisational aspects of alpine resource management in the Basho Watershed of Skardu District, Northern Areas, Pakistan. The study aimed at a broad understanding and description of major institutions and organisations in natural resource management, with emphasis on land tenure in the high alpine zone. Findings are preliminary and tentative.

The report is based on interviews with government officials; participatory learning exercises; group or individual interviews in five of the eight villages of Basho (Matillo, Meito, Doros, Nazimabad and Sultanabad); discussion with other AKRSP and NLH team members and follow-up investigations by AKRSP staff. Joint field research by AKRSP and NLH was carried out during 28 May to 9 June 1998.

The main findings of the study are:

1) STATE-CLAIMED OWNERSHIP TO COMMONS

The main features of the land tenure system, as it applies to alpine resources, is a combination of state-claimed ownership to land (*Khalisa Sarkar*) and community and household user rights established through a mix of traditional custom, legislation, legal practice and ongoing informal appropriation. One exception is that the *Raja* of Skardu is a major private owner of land above the channel. There is a striking contrast in the practical implications of state-claimed ownership for natural forest and alpine pasture.

2) ALPINE PASTURES

Alpine pastures are managed communally by the eight villages of the watershed. The state has so far not interfered in the pasture management system, so it is a locally evolved and community-based management adaptation to the local environment. Key features of the tenure system are:

- Village grazing rights are entered in an agreement dating back to 1918 and held by the Revenue Department.
- Villages, groups of households or households hold the grazing rights to land within the village boundary, to defined summer farm pastures (*broqs*) and alpine grazing areas (*sosa*). Such rights may be exclusive or shared with other identified villages. The rights to *broqs* may be restricted to defined households, and locals make a distinction between collective and household *khlas* (summer farm sheds). Unless excluded by users of better title, free grazing is performed. The eight villages hold shared grazing rights to the *Ranga* grazing area around Sultanabad and the *Upper Valley* grazing areas. With respect to grazing rights there is no difference between the forested and non-forested part of the state-owned commons.
- Further household appropriation of alpine pastures through *kabza* – ownership established through long-term cultivation - has been an important strategy for expansion of agricultural land and food production. Private appropriation of state owned commons has been banned by the government of Pakistan, so that today expansion of land under cultivation is restricted to community-based projects.
- The *Barpa*, *Khapay Mar* and *Rablay* systems of lease animals are important factors in creating social networks and are appreciated by people as a way of minimising risk. They

probably contribute to adapting the production system to the unevenly distributed pasture resources.

- While local people have complex ways for spreading grazing pressure and utilising every inch of land, it appears that village organisations have not developed rules (at any level) that limit the number of animals on summer pastures. Such future regulations appears to be under discussion in the villages.

3) **NATURAL FOREST**

In contrast to pasture tenure and use, the natural forest is characterised by strong government presence, some of the major features being:

- The governments owns, and has the management right, not only to the land, but also to trees of certain species (including Pine and Juniper) regardless of land ownership (e.g. on *Raja* and other private land).
- Villagers' usufruct rights to the natural forest trees are limited to dead fallen fuel wood, dead fallen and dead standing timber (avalanche and flood timber). They have a formal priority for getting concession for timber cutting for domestic use, if the condition of the forest permits harvesting, but this is currently not applied due to the ban on commercial felling of green trees (communicated to villagers as an all-inclusive ban). The procedures for obtaining permission for harvesting, including bureaucratic costs, seem to have made this difficult, even before the ban was introduced in 1986.
- Intra- and inter village informal rights to single trees appear to be established through a complex system of use, apparently as a corollary to *kabza* for land
- Based on the history of heavy extraction of timber since the Forest Department's construction of the jeep road to the forested upper part (completed 1968), the relationship to the authorities has been one of suspicion. Villagers have perceived government and forest law as institutional constraints on resource utilisation, conservation and development.
- The Basho Development Organisation has confirmed and is partly enforcing, the ban on felling of green trees through appointed guards and fining. BDO leaders state that their current internally enforced restrictions on natural forest exploitation are not sustainable without secure rights to an increased stream of benefits
- The current initiatives to create legal/institutional reforms permitting greater local participation and benefits from forest harvesting, including the Skardu Divisional Forest Officer's recommendations for new by-laws to the Forestry Act of 1927, represent important institutional reforms regarding the management of natural resources in the Northern Areas. A crucial question is the legal status of the village and/or cluster organisations as a party to an agreement with government regarding rights to felling of timber, revenue sharing and as the agent of internal jurisdiction. The example of the agreement between the Forest Department and two villages (Khaiber in Gilgit Region and Hoshey in Khaplu, Baltistan) is relevant and may serve as a model for institutional reforms in forest management.

4) **SOCIAL ORGANISATION AND CONFLICT RESOLUTION**

- The villages of Basho have a variety of non-formal organisations and individuals for conflict resolution and almost all conflicts are solved through these.
- The BDO, established in January 1997, is partly motivated by new opportunities in nature based enterprise development, such as "eco-tourism", but it also represents a continuation of traditional co-operation about alpine resource management. So far its major effort is concentrated on land development through channel irrigation.
- Villagers present the BDO as the hub of social organisation in the watershed. They

clearly articulate the formal, democratic procedures on which the BDO is built, but also stress the context of other village level associations and groupings that it relies on. The overlay between the “modern”, democratic village organisations and traditional organisations, such as elders and religious organisations, is complex. It appears that people bridge old and new “rules” by giving elderly notables prominent roles in the new organisations.

- Women have also strengthened their social organisation, but are only indirectly represented in the watershed organisation (BDO). This may be a constraint on its ability to address management of the alpine commons.

The main recommendations are:

- 1) The participating partners should pursue further joint study which is linked to realistic development options and AKRSP’s strategy for competence building.
- 2) The many tentative generalisations need further verification through field and literature study. The partners suggest that these are among the specific issues which deserve further study and competence building under the “Institutions and organisations” component:
 - Institutional and organisational aspects of grazing systems. Mechanisms regulating access. Interplay between old and new institutions/rules.
 - The dynamics of institution building at the local level, including a focus on the legal and social status of the BDO as a partner for government. Document participation in the BDO, including the representation of women’s interests.
 - Comparison of the organisational and institutional development with that of one to two other watersheds, with emphasis on emerging cluster organisations and the on-going institutional change in forest and wildlife management.
- 3) As for the project in general, continued close cooperation and information sharing with relevant government authorities are very important for this component.

Executive summary, Report No. 3: Pasture, livestock and biodiversity

The dynamic seasonal multi-species grazing system is a complex and integrated part of the agro-pastoral system where the households try to optimise the total outcome taking into account vegetation phenology, species composition, stocking density and other biotic and abiotic factors, as well as social and cultural factors such as allocation of labour force in relation to seasonal demands, grazing rights, tradition and social relations between households and villages. During the first season of the project a study on rangeland availability, livestock and ibex distribution and habitat use as well as animal production and grazing behaviour was carried out in Basho valley, Baltistan during May - October 1998. The main emphasis was put on identifying, mapping and classifying the distribution of main habitat classes and pastures used by livestock and ibex.

The main findings of the study are:

1. Animal husbandry is an important component of the agro-pastoral farming system with about 7 000 domestic ruminants belonging to about 280 households. Average composition of livestock per household was 7 large ruminants (cattle, zomo and zo) and 19 small ruminants (sheep and goat). Only few yak (<10 animals) are herded in the valley. The livestock utilise a total summer pasture area of roughly 33 km².
2. A total of 24 *broqs* are spread out over the whole valley between 3,000 m and 4,000 m elevation. *The lower broqs* have a multipurpose function, mainly by increasing the area of land under cultivation and for utilising surrounding pastures for lactating animals and raising calves, lambs and kids. *The higher broqs* are mainly animal production units making it possible to utilise the more remote higher pastures for milk, wool, live animal and meat production. Most of the households practise this two-step summer farming movement.
3. *The small ruminants* are herded strictly together and guarded all through the day, whereas the *lactating cows and crossbreeds* are taken to the grazing area in the morning and gathered in the evening. *Free ranging animals* (yak, zo, male cattle and dry cows and zomos) are free ranging from early spring to late autumn, probably following the snow-melt on the pastures and only taken down to the *broqs* and villages when needed for ploughing and harvesting.
4. Nine main habitat classes were described based on ecological factors such as geo-morphological parameters, topography and dominant vegetation, and 13 km² were mapped between the village Sultanabad at 3,100 m elevation and 4,000 m elevation. This provides a basis for further investigations on habitat use, pasture quality and biomass productivity of these functional units.
5. A total of 6 soil types were identified and described on selected *broqs* and grazing areas. Surface crusting and platy structure was pronounced in the silty Cambisols and have a negative effect on plant growth. This form of soil degradation may be the result of climatic factors and/or compaction by grazing animals. Another 'negative' soil property concerning the Basho Cambisols, is their high erodibility.

6. A total of 38 and 45 ibexes were counted during two different surveys in May within an area of roughly 100 km², giving a crude density estimate of about 0.38/km² and 0.45/km² respectively. The number is most probably an underestimate due to quite difficult field conditions, animals being dispersed, and limited sampling effort. Among adults, between 39.2 and 48.5 percent were males. Number of recorded kids varied markedly between the two surveys, indicating the need for a more intensive and complete census for reliable population assessment. Little spatial and no temporal overlap in habitat use between ibex and livestock was observed during June and in September/early October, indicating minor interaction between ibex and domestic ungulates during these times of the year.

The following sub-projects are recommended for the coming seasons:

A. Livestock and grazing dynamics

1. Movement pattern of livestock in relation to pasture quality. Methodology: measurement of quality and quantity of forage at fixed locations along a gradient from the lower-most broqs to alpine pasture throughout the summer grazing season.
2. Determination of grazing pressure. Methodology: measurement of forage production and changes in floristic composition within and outside permanent enclosures distributed along an altitudinal gradient on main pastures, stratified according to distance from khlas.
3. Foraging behaviour on pastures of different quality. Methodology: quantifying behaviour of selected small ruminants within selected flocks while grazing on presumably poor and good quality pastures. Simultaneous collection of plant material for quantity and quality analyses.
4. Productivity of livestock related to pasture quality. Methodology: measurement of weight gain and milk production of selected groups of small ruminants during the summer grazing season. Comparative study where two groups receive supplemental food and another two groups receive no such supplement. The study could be extended to include the winter season in order to assess the effect of the currently practised stall feeding program.

B. Wildlife

1. Intensive census of the ibex population (for management plan for consumptive and non-consumptive uses). Methodology: systematic search of ibex habitat in the whole Basho watershed and recording number and composition (sex and age) of all animals sighted, during the rutting season in December. Census to be coordinated with IUCN/Pakistan.
2. Predation on domestic and wild ungulates (by wolves and snow leopard). Methodology: a combination of systematic searches for carcasses and a reporting system in cooperation with local villagers. Assessment of the number of predators using the watershed by camera trapping and pugmark tracking in late autumn and early spring.

Executive summary, Report No. 4: Natural forest inventory

An inventory of the natural forest was carried out as a systematic sampling survey with a grid of 100m by 100m (1 ha). In the field, the lines and plots were identified by means of compass bearing and measuring tape. Circular plots with a radius of 15m were selected which produces a plot size of 707 m². As each plot represents one ha, the surveyed area thus covers 7.1% of the total area. Within the plot all the trees were measured/assessed for the following parameters:

- dbh (diameter at breast height) in cm
- height; total tree height from the root to the tip of the tree in m
- timber quality
- age at breast height; intentionally the age of every 10th tree should be enumerated. As one of the borers got broken only half, approximately every 20th tree was measured.

In addition, the plot area was assessed for the following parameters: area category, bush cover percentage and regeneration

The main findings are given in the table below:

Forest area	Area ha	Total volume m³	Mean per ha m³	Standard deviation m³	Coeff. of variation	Max per ha m³
Sharimond	27	880	32.6	35.9	110.1	166.4
Sari	55	1601	29.1	30.2	103.7	147.4
Ranga	31	350	11.3	14.1	124.8	48.1
Durom	274	10088	36.8	49.4	134.1	294.9
Chat	47	3007	64.0	39.6	61.8	183.7
Zigerkun *)	45	2250	50.0			
Total	497	18176	36.7	45.2	123.2	294.9

*) Estimate without measurements

Standard Error of the Mean = 2.2 m³. Sampling Error = 5.9%

As regards distribution in size the results show clearly lack of trees in the small size classes, the proportion of old trees is to big in comparison to younger.

Regeneration, categories in percent of total area

Adequate regeneration	5.5%
Some regeneration, but not sufficient	24.0%
No or very little regeneration	70.5%

The table shows that the status of the regeneration is far from satisfactory. Regeneration is the overwhelming problem in the Basho forests. It is particularly poor on steep slopes.

The annual increment was found to be 1.2% or 218m³.

Executive summary, Report No. 5: Gender, resource management and livelihood security

Experience from development initiatives in the Northern Areas and Chitral of Pakistan has shown great diversity in the roles women and men play in resource management and food or livelihood security. Knowledge of these roles, however, is mainly static and descriptive; there has been little work in studying the dynamic, interactive nature of men's and women's strategies within livelihood security and resource management. It is clear that the relationship between natural resource management systems and food security or livelihood systems is more complex than previously assumed, and not well enough understood in these rugged, remote areas. One key to understanding this linkage may be found in a better understanding of changing social relations, both within and between households, and how these relations, particularly gender, influence and are influenced by the management of resources and the strategies chosen to ensure food security. The broad objective of this study is thus to explore what effect changes in the gendered patterns of access to and control of resources has on food security and the environment in rural Baltistan.

This report represents some preliminary discussions of the issues introduced above based on the first year of fieldwork in Sultanabad in the summer of 1998. The immediate objectives relevant to this report are:

- to describe the social, cultural, production and resource management systems of the village, and changes in these systems in recent history (past 50 years),
- to develop preliminary ideas on the dynamics of livelihoods and resource management in terms of their gendered social and cultural environment.

Some of the specific themes focused on include changes in food and livelihood security, gendered roles and responsibilities in agriculture and resource management, gendered aspects of workload and health, and local perceptions of poverty and well-being.

In general, the well-being of the village (as defined by the villagers) seems to have improved over the last twenty years, but there are clear differences within the village. Not all households are improving, and the opportunities for further improvement are highly gendered. While there seems to be agreement on what constitutes the poor in the village, the concept of well-off or rich is less clear, and seems to be changing as livelihoods shift towards more income-based strategies. Women play central roles in agricultural production in both valley and high pasture areas, and water management in particular, as well as in animal care and firewood collection. Men are partially involved in agriculture, more heavily involved in animal herding, and are increasingly involved in wage labour and outside employment. Perceptions of health in the village are highly gendered, however, both men and women make clear connections between their health and their workload in agriculture and resource management.

The next phase of the research will involve further analysis of the data collected during the 1998 season, and a re-visit to the field in 1999 for follow-up.

Executive summary, Report No. 6: Information and documentation

Access to existing information and documentation for future use is a prerequisite for doing research and disseminating research results. In a team co-operating across disciplinary and geographical boundaries, information resource management represents an important challenge.

Right from the start, a librarian has been included in the Norwegian project team, working closely with researchers in Norway and to AKRSP Baltistan via the leader of the Monitoring, Evaluation and Research Section (MER) as a counterpart. By using existing library facilities and systems as a focal point for project documentation, information collected has been made more easily accessible for project partners as well as for other interested parties.

The main activities in 1997/98 have been:

1) **In Norway:**

- starting a special collection of literature on the study area and topics of interest, located at Noragric, NLH.
- recording bibliographical data in two different database systems, BIBSYS and ProCite.
- creating a project site on the World Wide Web (<http://www.nlh.no/noragric/projects/akrsp/akrsp.html>)
- creating a FileMaker database for recording information networks and institutions relevant for information exchange
- keeping up current contact with AKRSP Baltistan on information and documentation issues

2) **In Baltistan:**

- hosting the NLH researchers' team for identification and selection of project site. Also arranged meetings, discussions for NLH counterparts on information sharing, with AKRSP staff at Core office, RPO Gilgit and Baltistan.
- launching the process to establish a regular library at Regional Programme Office Baltistan to facilitate work not only for AKRSP staff but also of researchers, consultants, interns and visitors.
- assigning staff for documentation work and training in the use of ProCite database system.

During, the first year of the project, much work has been spent on systems development, establishing routines and contact with project partners at both ends. The collections, databases, WWW pages and directory must be seen only as beginnings, not as results. The information and documentation component is a part of the research and competence-building processes, and the results are measured by its importance to the ongoing research and competence building covered by the project.