Mountain Enterprises & Infrastructure

Discussion Paper
Series No. MEI 97/3

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Kathmandu, Nepal
1997

ISSN 1024 - 7564

Published by

International Centre for Integrated Mountain Development
G.P.O. Box 3226
Kathmandu, Nepal

Typesetting at ICIMOD Publications' Unit

ISSN 1024 - 7564

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Shaheen Rafi Khan, consultant to Hagler Bailly, Pakistan, prepared this report.

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Preface

The present report is part of a series of studies resulting from the second phase of the NORAD-funded project entitled, Mountain Tourism for Local Community Development. One of the major objectives of the project is to develop training modules and materials on mountain tourism for local community development for policy-makers, programme managers, private sector agencies, and local community-based entrepreneurs; and to impart training to these audiences on a pilot basis. As part of the project, a number of thematic studies and manuals has been prepared. The present report is a micro case study focussing on the concerns of mountain tourism for local development in the Fairy Meadows, a pristine alpine meadow at the base of Nanga Parbat in the Northern Areas, Pakistan. The report brings out the conflict between conservation for tourism and exploitation of primeval forest resources for revenue and also posits the scope for community action that would contribute to local development through the promotion of environmentally friendly tourism. The study was conducted as part of the development of training materials for different target audiences under the Mountain Tourism for Local Community Development Project.

The Sarhad Tourism Corporation and Hagler Bailly, Pakistan, have done a commendable job in undertaking the study. Dr. Shaheen Rafi Khan was principally responsible for preparing the Report. Mr. Waqar Zakaria also contributed to the development of the Action Plan.

On behalf of ICIMOD, Dr. Pitamber Sharma was the Project Coordinator as well as the technical editor of these papers.

Acknowledgements

The author wishes to thank Waqar Zakaria for comments and contributions, Ghulam Nabi for sharing his extensive knowledge of Raikot Valley, Rizwan Afzal for photographic assistance, and Rashid Iqbal and the staff of Hagler Bailly, Pakistan, for assistance in formatting the report.

Abstract

The case study relates the impact of a mountain road on a location of astounding beauty, Fairy Meadows in Raikot Valley, which leads up to the north face of Nanga Parbat in the northern areas of Pakistan. The study covers the interesting possibilities for tourism for community development. In analysis, the sociopolitical circumstances in this valley are complex. The road, built by an outside entrepreneur in exchange for access to the forests for logging purposes, is looked at from the negative and positive aspects in terms of tourism in the remote regions.

Tourism of itself is seen as a positive force; if it conforms to the dictates of carrying capacity it can be environmentally sustainable, economically beneficial, and culturally unobtrusive. Current environmental degradation stems from social conflict and economic exploitation by timber contractors, private developers, and the government. By addressing the environmental and socioeconomic manifestations stability can be restored, however. To do so, a tourism plan is needed as well as key interventions to undertake infrastructural rehabilitation, area and sector development, effective policy implementation, and sustained advocacy.

The case study is complemented with an interview with a local leader, photo plates, and maps.

Contents

Chapter 1
Introduction

This report and training modules are submitted in response to the terms of reference issued by the Sarhad Tourism Corporation (STC). The STC, in collaboration with the International Centre for Integrated Mountain Development (ICIMOD), intends to establish capabilities in environmentally sound tourism in the mountain areas of Pakistan. With this in mind , ICIMOD launched Phase-1 of a NORAD-funded project, 'Mountain Tourism for Local Community Development', in 1994. The objective of the project was to review the status of mountain tourism in selected regions of the Hindu Kush-Himalayan ranges, identify the key issues with respect to mountain tourism and economic and environmental development of local communities, undertake location-specific, in-depth investigation of key issues, and develop a framework for Action Plans for sustainable mountain tourism and local community development in the case study areas. Methodologically, a participatory method of enquiry and Action Plan preparation were to be pursued and documentation of the process was to be undertaken. The case studies for Pakistan were carried out in the Kalam Valley, in the North West Frontier Province (NWFP), and Hunza, in the Northern Areas.

The project was extended into a second phase in 1996 in order to further the understanding of key issues and problems developed in Phase 1. The three regions selected for investigation in Pakistan are Chitral and Gilgit in the Northern Areas and the Galiyat, which includes areas in the NWFP and Punjab. The present report includes a micro-case-study of Raikot Valley (Fairy Meadows), situated in the Gilgit District and an Action Plan for community development of the area, as well as for mountain tourism development. The training modules, under separate cover, draw upon these components and have been specifically prepared for use by the STC to impart training to various levels of government officials, to entrepreneurs , and to members of the community.

Raikot Valley leads up to the Raikot glacier on the north face of Nanga Parbat. The principal village in the valley is Tato, and the area of tourist interest is commonly known as Fairy Meadows, a name given to the area by German climbers. The location presents interesting possibilities for illustrating and enlarging upon the basic themes of the ICIMOD-STC project and could provide analyses and insights that will be widely applicable to the glacial valleys typical in the Northern Areas of Pakistan.

During the initial stages of investigation, it became apparent that the sociopolitical dynamics in the valley are extremely complex , and that a study on tourism which ignored this aspect would only do so at its own risk. Specifically, two clear aspects emerged. First, tourism in and of itself represents a positive force in the valley. It conforms to the dictates of carrying capacity in that it is environmentally sustainable, economically beneficial, and culturally unobtrusive. The present thrust and orientation of tourism is sound; with appropriate management interventions and training, the carrying capacity of the valley can be increased to accommodate a much larger inflow of tourists.

Second, and on the other hand, the obvious environmental destabilisation, social divisiveness , and economic exploitation of the community can be attributed to a triumvirate of timber contractors, private developers, and the government. Their depredations, through both commission and omission, are already in an advanced stage. Only by directly addressing the environmental and socioeconomic manifestations of their actions can a measure of stability be restored to the valley. In other words, implementation of a tourism action plan must proceed concurrently with a number of key interventions aimed at infrastructural rehabilitation, area and sector development, effective policy implementation, and sustained advocacy.

This report is organised as follows: Chapter Two provides baseline data on the valley's physical, demographic, socioeconomic, cultural , and gender characteristics. Chapter Three examines logging and its environmental consequences, while Chapter Four looks at the practices and potentials of tourism in the area. Chapter Five analyses carrying capacity concerns and Chapter Six presents an approach and a two-part Action Plan for the valley. The plan includes activities, institutional context, training requirements, financing modalities, monitoring indicators, and process documentation.

Supporting annexes are appended. In particular, Annex Three depicts the key valley characteristics pictorially.

Chapter 2

Fairy Meadows Micro Study

Area Description and Characteristics

Fairy Meadows is located at the base of Nanga Parbat in the Raikot Valley, in the District of Diamer. There is a road into the valley which is accessible by jeep , branching off the Karakoram Highway and originating at the Raikot Bridge on the River Indus, approximately 80km south of Gilgit. It terminates at the Raikot face of the Nanga Parbat in the south. The valley is bounded by Bulder Peak and adjoining ridges in the east and by Jilipur Peak and adjoining ridges in the west. Towards the north, the valley narrows and deepens, eventually reaching the Indus river (See maps A and B in Annex 1).

Starting from the permanently glaciated area at an elevation of about 4,300m towards the south, the Raikot Glacier descends towards the middle of the valley, tailing off at an elevation of about 3,000m. It feeds the Tato Nala, which flows by Tato village, located at an elevation of 2,500m, finally draining into the River Indus.

Geologically, the valley area is composed of Precambrian basement gneisses and Paleozoic cover sediments, intruded by Cambrian granites and metamorphosed into upper amphibolite facies during the Tertiary period. Anastomosing dykes and sills, with minor intrusive plutons of garnet - biotite - muscovite - tourmaline, intrude the gneisses. Pressure-temperature paths show an increase in pressure and temperature with time. Fission track data suggest extremely rapid, recent uplift and erosion rates. Combined with the extreme weather conditions, this makes the valley prone to frequent landslides.

Details of forest and vegetative cover are shown in detail in Map C, Annex 1. In the high altitude regions of the valley (between 2,800 - 3,700m) and on the north-facing slopes are concentrations of coniferous forest (*Pinus wallichiana*, *Picea smitheana*, *Abies pindrow*). Above these, and mostly in shady locations (from 3,500 - 3,900m), the conifers are replaced by birch and willow dwarf scrub (*Betula utilis, Salex karelini*). All exposures are covered with alpine mat (*Kobresia capillifolia* and *Carex* spp with alpine forbs). On south-facing slopes , the main tree species and scrubs found are juniper and scrub (*Juniperus excelsa* and *J. turkesticana*). In the lower reaches and heading down the valley, the predominant growth is *Artemesia* (*brevifolia*), interspersed

with gradually decreasing concentrations of yellow ash, stone oaks, and *chilghoza* pines; in their place scrub growth takes over. From 2,000m down to the valley base, the slopes are treeless with vegetative cover composed of shrubs, grasses, and herbs (*Artemesia fragrans, Capparis spinosa, Halaxylon thomsonii,* and *Stipagrostis plumosa).*

Environmental changes in Fairy Meadows over time are shown in the two companion maps D and E in Annex 1. The distinctive changes are incursions of conifers into birch zones and the appearance of scrub growth on the retreating face of the Raikot Glacier.

Weather conditions are monitored by the closest climate station at Astore. The correlation between mean summer runoff and winter precipitation is shown graphically in Figure 1, Annex 1. We assume mean summer runoff follows similar trends in Raikot Valley. Unfortunately, valley relevant microclimatic data are not available, although a few inferences can be made.

The data show that precipitation and runoff has, on average, been high. Combined with the geological instability, this partly explains the high incidences of erosion and landslides in the valley. There is relatively little summer precipitation, and this is also because of local pressure build-up. The monsoons do not reach the valley. This year, there were freak snowstorms in late April and unexpected, heavy rains in May (1996). In general, weather conditions remain benign during the tourist season.

Tato is the most populated settlement in the valley. There are additional settlements at Jhel, Fairy Meadows, and Beyal Camp at upper elevations. Fairy Meadows was named by a German expedition in 1930, on its return from an unsuccessful attempt to climb Nanga Parbat via the Raikot Face. This is easily the most difficult climbing route for mountaineers and was only attempted successfully by a Japanese expedition in 1995. Owing to the jeep road constructed by a timber contractor in 1984, access to the valley is much easier than it was previously. Consequently there has been a rapid increase in tourists and visitors to the area, which offers spectacular views of Nanga Parbat and provides extensive trekking opportunities. Fairy Meadows is one of the most attractive tourist locations in the Northern Areas; it has a great deal of natural beauty, is inhabited by colourful people, and there is a rich traditional lore about the *yeti*(s), fairies, and *jinn*(s).

Overview of Development Processes in the Northern Areas

Political Developments

The Karakoram Highway is, for long stretches, sited along one of the historical silk routes linking Afghanistan to Sinkiang. The silk route is reputed to have been followed by the intrepid traveller, Marco Polo, en route to China. During the British colonial era,

it became the strategic link between Srinagar and Gilgit , traversing Deosai and Astore; albeit this was an extremely treacherous link, negotiable for only three months of the year.

During this period, what are now referred to as the Northern Areas were placed under the suzerainty of the Maharajah of Kashmir, but effective administrative control resided with the political agent in Gilgit. After independence, down-country road communications were established via the Babusar Pass, and the route was upgraded to a jeep road. Subsequently, air links were also established with Gilgit. The Northern Areas were accorded special status in light of their strategic proximity to Kashmir. In effect, this meant continuation of British administrative practices, with the political agent being replaced by a Chief Commissioner.

In 1973, the old colonial system of governance was ostensibly abolished by the former Prime Minister, Ms Benazir Bhutto, to be replaced by a more representative system embodied in the Northern Areas' Council (NAC). The former Prime Minister had established an Executive Council in an attempt to strengthen the NAC.

In effect, the NAC is a shell, substantively deprived of political and financial authority. Periodic local outbreaks of both a political and sectarian nature have created discordant resonances and bear witness to the absence of genuine representation in the Northern Areas.

Construction of the Karakoram Highway: Impact on Local Tourism

Construction of the Karakoram Highway (KKH) began in the early seventies and the highway was inaugurated ten years later in 1986. The all-weather KKH has triggered a radical political, economic, and social transformation, effectively integrating the Northern Areas with the rest of the country. The opening of the trade and travel route from China has ushered in economic prosperity, with an inflow of relatively good quality, cheap products. The commercial potential, however, has not been fully exploited given the prevailing trade restrictions and assorted inter-provincial transit taxes. Down-country employment opportunities for locals have increased as has the reverse flow of necessities and materials. Considerable development has occurred along the road , and the rate of urbanisation in towns like Gilgit, Hunza, Skardu, and Chilas has reached unsustainable levels.

Increasing political awareness and a breakdown in traditional social structures have fostered tensions and discord, and these are further exacerbated by a government unable to come out of its strategic-manipulative mind set. On the positive side, the KKH has facilitated the activities of NGOs and INGOs, such as the Agha Khan Rural Support Programme (AKRSP) which, through its community-based and participatory development activities, has been able to counterbalance government neglect in selected areas such as Gilgit, Hunza, and Baltistan.

The KKH has been a major boon to tourism, opening up the beautiful and remote mountain valleys to local and foreign tourists, in both organised groups and as free, independent trekkers (FITs). But access to these valleys still remains difficult, and this constitutes a natural safeguard for the preservation of carrying capacity. The Northern Areas also offer archaeological attractions (Buddhist rock inscriptions), cultural diversity (e.g., Baltit Fort and similar elevated wood and mud structures at Skardu and Khaplu), and abundant wildlife (markhor, ibex, Marco Polo sheep, snow leopards , and Himalayan bears). Many species, unfortunately, face extinction because of hunters. Wildlife sanctuaries have been established by local and international NGOs and organisations, such as the AKRSP, IUCN, WWF, and Hagler Bailly Pakistan, in an effort to preserve local biodiversity.

Demographic and Ethnic Characteristics

Distribution of Human Settlements

The resident population in Raikot Valley consists of about 85 households, with an average household size of eight members per family, which translates into a peak season population of under 700 people. Agricultural and grazing potentials determine the location of settlements, which are dispersed along the main valley and in the upper alpine pastures. There are two settlements in the main valley on the access road; Tato, at a distance of 15 kilometres from Raikot, and Jhel, lying two kilometres further south, at the base of Fairy Meadows. The termination of the direct ascent up to Fairy Meadows marks the northern extremity of the village of Punjadori which extends southwards across terraced fields for about two kilometres. These three villages are the primary centres for agricultural activity. Just before reaching Raikot Serai (the main camping facility in Fairy Meadows) and immediately to its west are, respectively, the smaller villages of Majalaveet and Jut. The settlements at Beyal and — across Raikot Glacier — Bathret, are the southernmost settlements, leading up to the base camp of Nanga Parbat. Due west and northwest of Tato, in the high alpine pastures, are situated the two villages of Bezar and Wittar.

Land attributes and the occupational practices arising out of activities in these villages impart fluidity to settlement patterns. In other words, there are no permanent settlements. The owners of landholdings in Tato and Jhel also have ancillary holdings and residences in villages in the upper valley and in the alpine pastures. Intra-seasonal migrations between these villages are determined by cropping and grazing cycles. Taking these shifts into account, the generic population distribution is as follows:

Tato	40	families
Jhel	15	families
Wittar	15	families
Bezar	10	families
Bathret	5	families

Ethnic Characteristics

The major ethnic group is the *shin*(s), with a sprinkling of *gujjar*(s) and *marasi*(s). *Shina* is the spoken language. The land and its forest and water resources were owned by the ancestors of the *shin*, and their leadership is also ancestrally determined. While such ownership gives them primary revenue rights to the land and forests, the *yashkun*, an ethnic group residing in the village of Muthat in the adjacent valley, are entitled to a percentage of these revenues. The *gujjar* are inherently nomads who graze their livestock herds in the valley's alpine pastures during the summer season. In exchange for grazing rights, they pay taxes (*maaliya*) — mostly in kind — to the *shin*. However, the inhabitants of Bezar are *gujjar* families 'in residence'. They work as tenants on the lands of the more prosperous *shin* families and have been allotted small parcels of land, an act which constitutes exemption from the payment of *maaliya*. The residents of Bathret, although they are ethnically *shin*', do not have ancestral rights and, hence, no claim on forest royalties. They fall into the same category as the land-owning *gujjar*. There is one *marasi* (the term means artisan) blacksmith in the whole valley. In return for forging agricultural implements, he has been given a small plot of land on which to build a house and grow vegetables .

The *shin*(s) preserve their identities through extended kinship ties; inter-marriage across ethnic groups is unknown. This is a logical imperative, as it preserves their hold over ancestral property. The entire community is orthodox Sunni, and this dominates over pre-Islamic beliefs and practices such as shamanism and acts of worship connected with fairies and certain mythical animals. Nevertheless, remnants of such beliefs linger, inspired by the surrounding natural beauty and grandeur, tempering the drift towards extreme orthodoxy.

Socioeconomic Resources

Economic Assets

Landholdings and Tenure Structure

The modal range for private (*malkiyat*) family holdings is two to four acres, with an approximately equal amount of adjoining grazing area. The holdings are spatially scattered and mostly inter-generationally fragmented. The average landowner will, on average, have three holdings; one in Tato or Jhel, another in any one of the high alpine pastures, and one as a winter residence in Gunnar Farm or Gohrabad. Farmers cultivate the land themselves. However, there are a few families with larger holdings (5-10 acres) who practice share-cropping, mostly employing resident *gujjar*.

Rangelands and forests are communally owned. Rents generated from itinerant grazing are small and paid in kind. Forest royalties, by contrast, are potentially large. But a substantial proportion of these royalties is skimmed off through a combination of illegal

cutting, low negotiated returns, and a distribution system that is still not transparent. Also, decisions to sell communal land, or to enter into timber contracts, tend to be made by influential individuals without the concurrence of the entire community. Outside agents, both private and government, tend to exploit this lack of institutional representation.

Livestock Ownership

A family, on average owns 30 - 40 goats and sheep, five to seven head of cattle, and one or two donkeys. There are about 20 horses in the valley, owned by relatively affluent families. Both donkeys and horses are primarily used as pack animals. Cattle are used for dairy and cultivation purposes. The animals are usually slaughtered when they outgrow their economic utility; and this usually takes place on festive occasions such as weddings or religious ceremonies. Domestic animals are both grazed and stall-fed with crop fodder and grass cut from pastures.

The ratio of resident to itinerant (non-valley *gujjar*) animals is about 10:1. The resident livestock population is tending to stabilise around present numbers due to the high price of fodder and the difficulty of retaining attendants. This is an encouraging development from the environmental point of view.

Land-use Practices

Land-use practices are a reflection of both the physical (soils, altitude) and climatic features of the valley. These factors determine the types of crops to be grown, the cropping mix, and the induced intra-seasonal livestock migrations essential for separating grazing from cropping activities. The response and reaction dynamics are quite sophisticated, ensuring the most efficient use of available land resources.

A graphical overview of land-use practices, combining cropping and livestock management, is given in Figure 2, Annex 1.

Cropping and Irrigation Practices

The main crops in the valley are wheat, maize, and barley, grown singly and intercropped with a variety of vegetables. The crops are both channel irrigated and rain-fed.

Maize is the main summer (June - August) crop grown in Tato and Jhel. It is intercropped with vegetables (spinach – *samchal* and *sarson*, potatoes, cabbage, and string-beans). Relatively small proportions of stand-alone wheat and potato crops are also found. Intercropped vegetables are planted earlier, allowing follow-on, late-season planting. The primary source of water is an irrigation channel, diverted from the sand-laden Tato *Nala*. The channel needs frequent scouring, resulting in accumulated sand deposits in the fields which threaten soil fertility. In general, the

gravity flow of water channels is also used to operate water mills (*chakki*[s]) for grinding wheat, maize, and barley.

The plateau, known as Phari, is located directly above Tato. Both maize and wheat are single cropped here, peas are the main vegetable, and *reshka* (fodder) is grown quite extensively. Water is provided by a channel cut across extremely erosion-prone slopes and sourced south in a deep gorge known as Shatoo Vai. Because of frequent disruptions to the water flow, the cropping and considerable horticultural potential of Phari has not been fully realised.

Cultivation in Punjadori (which ranks third in terms of land under cultivation) is carried out on terraced alpine slopes. The traditional crops grown, in order of importance, are wheat, barley, and potatoes. There is no evidence of inter-cropping. Vegetables (spinach, cabbage, and peas) are grown in protected lots. The fields are irrigated by a clear-water channel, the source of which is two kilometres away in the forest above Jut. The main crops grown in Wittar are wheat and potatoes.

A variety of wheat cultivars are sown, essentially reflecting availability. Both organic and artificial manure are used on the fields. Virus-free growing conditions suggest a potential for seed potatoes and off-season, high-priced vegetables such as peas. In general, agronomic practices tend to be deficient. Crop rotation is not practised. While the fields lie fallow during winter months, the absence of crop rotation depletes the soil's nutritional value and fertility in the long run. There tends to be over-watering and under fertilization of maize crops. With a few exceptions, potato crops are poor; seeds are spaced too far apart for maximum yields. Potatoes and onions are subject to inadequate pit storage which frequently results in spoilage.

Fruit trees, such as almonds, apricots, walnuts, and *chilghoza* bearing pines, grow at random in the valley. While there is considerable potential, there is no tradition of organised horticulture as such.

Livestock Management

Livestock migrations from Gunnar Farm and Gohrabad begin in March, with the herds remaining dispersed around Tato from March to mid-May. Crops are sown from mid–May; concurrently, the herds begin to move further south to the main holding areas around Jut (lower and upper Fairy Meadows) and Beyal, as well as east to Bezar. Both south and north migrations are staggered in terms of time and, in order to protect the crops, enclosures have been constructed outside the villages of Tato, Jhel, Punjadori, and Wittar to corral and stall-feed the animals. The herds graze on the mountain slopes and in the pastures around Jut and Beyal, remaining there through mid-June to October. Vegetables are grown in protected lots in the pastures in order to allow the herds to graze freely. Ingress on to the cultivated lands around Punjadori, from the north and south, is blocked off by wooden gates. In general, around the cropped fields, grass may be cut, but grazing is forbidden.

The return migration begins around the end of October, with the herds reaching Punjadori and Wittar during crop harvesting, and remaining there as the crops in Jhel and Tato are cut. The last leg of the journey down from Tato begins around late October, with the herds reaching Gunnar Farm and Gohrabad towards mid-November.

The indicated time segments are somewhat stylised representations of reality. The important fact to note is that orchestrated movement, combined with protection, allows the two traditional land-use practices to coexist harmoniously.

Unfortunately, interactions between the herds and the forests are not quite so benign. Ingress into and across forests results in considerable attrition of young trees. While the soil has good regenerating qualities, this aspect does not completely offset the damage which occurs from unchecked grazing. It also reflects lack of environmental awareness on the part of the community, for whom the forests primarily have utilitarian and extractive value. Hopefully, with the advent of tourism and its demonstrated economic benefits, such awareness will begin to emerge.

Basic Social Services

Social services, such as schools, health care services, and water supply facilities are either unavailable or extremely basic, with skeletal staff and limited equipment and supplies. The single government primary school, built 25 years ago in Tato, is in a dilapidated state. It consists of two rooms and presently accommodates 50 children (45 boys, 5 girls). A single teacher (matriculate) runs five classes (I-V) and teaches five subjects. In addition, the teacher is often absent. Discipline is harsh, resulting in a drop-out rate of up to 20 per cent of the student body. Girls tend not to study full time, as they have to take time off to work in the fields or look after the younger children. Parents purchase the books and uniforms. Monthly fees are low – five rupees[1] per month. But the concern is quite clearly about quality rather than cost.

The single government dispensary is operated by a dispenser who has only been educated up to grade five, and it is poorly equipped — with a few first aid supplies and aspirin tablets. No medicines are available for prevalent illnesses such as typhoid, malaria, and gastro-intestinal problems, nor are immunisations or inoculations carried out. The District Health Officer visits the valley once or twice a year, primarily to settle accounts with the dispenser. Although there are regional budget allocations for both development and continuing expenditures, few of these funds find their way into the valley.

No maternal and child health care services are provided. Pregnancies are handled by local *dai*(s) (midwives). Local herbs and shrubs are used for treating a variety of illnesses; artemesia for fever, sage for worms, and *boonh*[2] for indigestion or nausea.

For the treatment of serious illnesses and injuries, patients have to be taken 40 kilometres down to Gunnar Farm, or even further to Chilas. The locals have indicated that they

1 There are 40 Pakistani rupees to the US dollar

2 *boonh* is the local name for a herb

would be willing to pay for local health services in order to avoid the lapse in time between injury and treatment.

Other Economic Attributes

Assets, Income, and Expenditure Patterns

The private asset base of the average family consists of land and livestock. The land is used for subsistence agriculture, with communal property yielding returns in kind (fodder, grazing rents) and in cash (timber royalties). Until recently, the local economy was non-monetised, based on self-consumption of produce and barter trade. But with the fragmentation of landholdings – which precludes self-sufficiency – and the growth of tourism and earnings from timber royalties, cash transactions have become more common.

Cash is spent on food and clothing, agricultural inputs, essential household items, and medical expenses. Clothes are purchased second hand in Gohrabad and cheap plastic footwear is used. One-off capital outlays cover land/house improvements, livestock purchases, marriages, and purchase of jewellery and firearms. Households tend to have deficit budgets. Kinship-based support systems enable community members to help each other with interest free loans. Commercial banking practices are frowned upon.

There is little vertical inequity in income distribution. Barring a few affluent families, private landholdings are small, while common property (*shamlaat*) yields limited income from grazing rents. The real income potential lies in the forests, but most of it is siphoned off by the timber contractor. Tourism has boosted local incomes. The differentiated returns from service provision; jeeps, camping facilities, guides, porters, and so on; more or less reinforce existing patterns of asset ownership and incomes.

Inflation

Table 1 gives an inflation read-out, spanning the period of tourist growth.

Table 1: Comparative Prices

Items	1989	1996
Eggs	Rs 0.50/egg	Rs 5.0/egg
Chicken	Rs 50/2 kilos	Rs 200/2 kilos
Milk	Rs 8/litre	Rs 25/litres
Goat	Rs 400/15 kilos	Rs 1200/15 kilos
Residential Land	Rs 20,000/*kanal*[2]	Rs 50,000/*kanal*

2 20 *kanals* = 1 hectare

These prices apply to non-residents. Residents tend to be self-sufficient in these commodities or barter in them. Essential items, such as grain and oil, hitherto produced by the farmers themselves, are now purchased in down-valley markets.

Migration and Unemployment

The valley population peaks during the four months of the summer season, from May to August. During the winter months, mid-November to the end of March, with the exception of a few remaining families in Tato, Jhel, and Fairy Meadows, the entire population shifts to winter homes in Gunnar Farm and Gohrabad. This ensures stability of the human-resource balance. In particular, it mitigates the threat of irreversible damage to forests by livestock encroachment, and livestock are -- by virtue of numbers -- the worst transgressors. On the other hand, traditional rangeland management tends to be environmentally benign. Secondarily, human migration allows soil regeneration, restricts the uptake of fuelwood, and limits pollution through garbage and sewerage disposal.

A third to a half of able-bodied male family members are forced to seek off-farm employment. A small number of the more enterprising young men migrates further south to the major cities; Islamabad, Lahore, Peshawar, and Karachi, in search of temporary employment. However, traditional ties to ancestral lands remain strong. Unemployment has become an endemic problem, and this is only partly mitigated by the seasonal employment opportunities offered by tourism.

Traditionally, the forests have been a source of timber for house construction and fuelwood. Both practices were sustainable. However, the onset of indiscriminate logging has created a vicious, self-perpetuating cycle. The economic benefits (royalties), although a pittance, are tangible enough for a community living at subsistence level to collide in such practices.

Gender Issues

Traditional strictures meant that there was no access to women in their households during the second round of the survey. But increased interaction with the community may elicit greater cooperation and permit implementation of a household survey at a later stage. The description of gender issues below is based on conversations with males.

The society is strictly Islamic and male dominated. Men are the final arbiters in decisions regarding birth control; in effect, there is a strict religious bar against family planning. Presently, women outnumber men. Marriages are strictly by arrangement and elopement is rare and punishable by depth. A *haq mehr* (bride price) is settled during marriage negotiations; this varies from Rs 10,000 to Rs30,000. The money is either given to the couple or used to purchase jewellery. Previously, wedding expenses were also paid out of the *haq mehr* but religious leaders subsequently forbade this practice.

The men make the major decisions regarding marriage of the children, their education, household expenditure, and investments. Despite their seclusion, women make a major contribution to the household economy. Their work load is exhausting; they cook, do the housework, graze livestock, collect fuel and fodder, and assist the men in sowing and harvesting crops. During child-rearing, boys are given definite preference over girls in matters of clothing, nutrition, and health care. Girls tend to be viewed as an economic asset, fetching large marriage dowries (bride price); post marriage, they are forced into becoming child-bearing drudges.

In recent years, a grudging willingness to educate young girls has begun to manifest itself, albeit within existing cultural confinements. This is the result of a growing recognition that educated girls can bring about significant improvements in household welfare, through better housekeeping, health, and nutrition practices. Hopefully, in this process, they will also catalyse attitude changes among the men.

Culture: Myths and Traditions

The Raikot Glacier has inspired humanistic interpretations. It is believed that the male (uncovered portion) and female (covered) portion of the glacier bond every two years, which results in its breadth-wise contraction or enlargement. Triggered by this belief, the locals are given to burying pieces of the male and female portions of the glacier side by side in the upper reaches of a gorge and sprinkling them periodically with salt, in the hope that a glacier will eventually take shape.

Traditional songs are mystical and introspective, extolling God (in the Sufi tradition), nature, and mythical creatures. Their collective rendition is referred to as *majlus*. The musicians (*domes*) are reputed to be originally *khutanas* from Spain who migrated into the Northern Areas via Ladakh. The traditional musical instruments are *taroi* (flute), *chang* (vibrating fork), *harip* (loud flute), *damul* (small drums), and *darang* (big drum) A traditional orchestra consists of a *darang*, two *harip*(s) and two *damul*(s). Musical sessions are an integral part of wedding ceremonies and precede communal schemes.

Mythical creatures woven into popular belief generally inspire awe and terror. They are the *ruinh* (witch), *parbandoo* (7-metre demon), and the fairies who hover around Nanga Parbat, exceedingly beautiful but with Circe-like tendencies of entrappment and incapacitation.

A traditional sporting practice, which is gradually dying out, is called *basrookh*. It is a biped version of *buzkashi*; an interesting variant involves knocking opponents into a raging bonfire.

With the advent of puritanical Islamic traditions, the community has become somewhat less tolerant of cultural diversity. The *dome*(s) have migrated south to Gohrabad, where they have taken to weaving woollen caps and gowns. Visitors are prohibited from

photographing women, and revealing or functional dressing among female tourists is frowned upon. The tourist community tends to respect such sensitivities.

Chapter 3

Logging and Its Environmental Consequences

The Origins and Nature of Communal Forest Rights

The forests are the communal property of the local population to which they have ancestral and legal rights. Such rights were established during the pre-partition colonial era under a system known as *bahr rajaki*. The British freely used the services of local labour and their pack animals to transport materials and equipment to designated camps. This form of group travel was known as *parao* which, literally translated, means stages. In return, the British granted large tracts of land and forest as well as water rights to the tribes and clans providing these services.

These rights were subsequently formalised and entered into the land revenue records. The arrangement is essentially a complex one in which such rights are both time and area differentiated. Thus, the residents of Raikot Valley and the village of Muthat in the adjacent valley have first entitlement to revenues generated from the sale of timber. However, the residents of villages in proximate distance from Raikot Valley, such as Gohrabad, are also entitled to a one-third share in these revenues. In addition to such revenue rights, the locals are also permitted to cut trees for house construction and fuel use, with prior approval from the Forestry Department.

These rights are communal and ancestrally derived, with the names of the original families inscribed on the land revenue official's (*patwari*) record (*chaddar*.) Under the governing Forestry Act (1927), sale and purchase of the land under forest cover are not allowed, although deforestation and land use changes have led to changes in classification and subsequently allowed land transactions to take place.

Exploitation of Communal Rights: Logging Contracts

In 1983, a retired army officer-cum-entrepreneur spotted the immense revenue potential of the forests — and also noted the economically distressed condition of the community. He offered to construct an access road up the valley in return for a contract allowing him to cut up to 18,000 trees in four demarcated valley blocks over a ten-year period. The contract can be extended by mutual agreement. Its details, implementation status, and impacts are summarised in Table 2.

Table 2: Contract Details, Implementation Status, and Impacts

Location	Sanctioned Cutting	Implementation Status	Forest Condition
Block C2. West of Tato	325,000 cu ft. 2,000 trees	175,000 cu ft. and removed. 125,000 cu ft. remaining	Good. Healthy regeneration
Block C3. West of Tato	300,000 cu ft. 1,400 trees	Trees cut as per contract and removed	Poor. Cutting on slopes. Visible evidence of slope destabilisation
Block C4. South-west of Jute	700,000 cu ft. 5,800 trees	3,600 trees cut and removed	Indiscriminate cutting. Little regeneration
Block C5. East of Raikot Glacier	975,000 cu ft. 8,800 trees	None cut	Pristine condition
Total	**2,000,000 cu ft. 18,000 trees**	**6,300 trees cut**	

Contract Terms

The terms of the contract, while not altering the community's legal status, were and continue to remain financially punitive. The original royalty was Rs 2.50 per cu.ft. for *kail* and chir (conifer species) and Rs 1.50 per cu.ft. for fir. The price in down-country markets during the same period was Rs 100 per cu.ft. Excluding Forestry Department legal fees, covert payments, and other costs, the contractor netted between Rs 50 - 60 per cu.ft.

In 1995, contract terms were renegotiated. The royalty was increased to Rs 40 per cu.ft. for chir, which comprises the predominant stand in the forests. The government levy went up to Rs 20 per cu.ft., of which Rs 11 accrue as revenue and Rs 9 are paid additionally to the community. Concurrently, the open market price for chir has increased to Rs 300 per cu.ft. Cost increases notwithstanding, the net real return to the contractor has grown relatively faster than to the community.

Contract Implementation Modalities

There are three key players in the timber extraction process.

Forestry Department

Activities pertaining to forests are authorised and supervised by the Northern Areas' Forest Department under the Forestry Act (1927). The department approved the contract terms and tenure with the community, marked the trees to be cut, continues to monitor its implementation, and is responsible for the disbursement of royalties to community representatives for further distribution.

The criteria established for marking and cutting trees are that they be: a) dead or dry standing (bottom burned, top dry); b) over mature; c) congested; or d) diseased. Once the trees are cut and fashioned into sleepers, they are guided down to a collection-cum-transit area in the valley, Here, Forestry Department officials measure the sleepers (*pemaish*), assess government dues and royalties, and ensure collection before exit permission is granted. The royalties and fees are deposited in the area Assistant Commissioner's office. Forestry Department officials are responsible for enforcing compliance with contract stipulations. While cutting trees for house construction and fuel is an intrinsic right of the community, it has to be authorised by forestry department staff.

Timber Contractor

The shortage of labour and skills in Raikot Valley necessitates the use of imported labour from Dir. The timber extraction process is in two stages, both of which are preceded by large labour movements into the valley and the establishment of temporary accommodations in the forests. In the first stage, the trees are cut and logs shaped into sleepers. The prevailing rate for sleepers is eight rupees per cu.ft.; on average a skilled labourer can shape up to 50cu.ft. a day.

The second stage involves the transportation of timber down valleys and gorges to designated collection sites where they are arranged in neat stacks (*thal*). The mode of down-valley transportation is mobile, collapsible bridges (*patrooh*) fashioned from the sleepers. Simultaneously, debris, branches, and other detritus are cleared from the forest base. The going contract rates for removing dead wood are Rs 400 per truck load.

The Community

The community's role is essentially one of a passive recipient of royalties, once the contract is signed. These royalties are distributed on an individual basis through the offices of the *zauti*.

Environmental Impacts

Land Degradation

Construction of the main access road began in 1983 and was completed in 1988. While it is a vital communication link and has yielded substantial economic benefits from tourism, these are, essentially, derivative gains. The primary purpose of the road is to facilitate down-country transport of timber. This is evident in the manner of its construction.

About five tons of dynamite were used to blast a way through the mountains, causing extensive fissuring in the rocks. This fissuring is constantly enlarged through alternate

cooling and heating. The process causes frequent landslides which block the road and expensive repairs are then required. Repeated use of dynamite creates a precedence for future use and further slope degradation. The community does not have the financial resources, nor the manpower, for repairs or maintenance. Dependence on the contractor for this purpose provides him with the leverage to persist with illegal logging practices.

Devastation of Forests

Logging in the three demarcated blocks, C2, C3, and C4, has been carried out sequentially. Each stage in the sequence is marked by a progressive deterioration in logging practices and social relations. From 1983 to 1988, timber extraction was confined to Block C2 and was carried out in strict compliance with forest department regulations. Only those trees were cut which were marked as over-mature, top dry, dead standing, diseased, or in congested lots. The timber was guided down with ropes to protect standing trees, and fallen branches and debris were cleared to permit regeneration.

During the period from 1987 to 1992, logging activities shifted to Blocks C3 and C4. Due to failing health, the retired officer delegated responsibilities for supervision. As a result, controlled harvesting was replaced by indiscriminate deforestation. Growing collusion with the forest department staff and, regrettably, with some locals, led to marking fresh and under-age trees, as well as cutting of unmarked trees. By 1992, the quota in Block C3 had been exceeded. Cutting from slopes has permanently destabilised the gorge between the two blocks, resulting in landslides which frequently block the road before Tato.

Close to 2,000 trees were cut down in Block C4, the largest of the four designated compartments. This forest is 3.5 kilometres long and one kilometre wide, extending from Fairy Meadows up to Beyal camp at the base of Nanga Parbat. Alerted to the deforestation problem, Interim President Moeen Quresh's government suspended logging in 1992 for a period of three years. But this has been misconstrued as a contract extension for an equivalent duration. In 1995, the ban was extended indefinitely. Notwithstanding, deforestation activities have continued apace. In 1995, the terms of the contract were renegotiated with the community. Financial returns of a high order of magnitude are more than a sufficient reason to provoke violations of the ban, with the community acting as a willing accessory. The promise of increased royalties and penalties amounting to a few hundred thousand rupees have proved to be an ineffective deterrent.

An on-the-spot visit in mid-July of 1996 revealed fresh evidence of extensive contractor activity. In the region of 1,500 trees had been cut in continued violation of the ban, and at a time when weather conditions made monitoring difficult. Visual inspection revealed a two-kilometre long and a 0.5-kilometre wide swathe of destruction. The trees cut and accumulated since 1992 had not been removed, with many in an advanced state of decay. Freshly cut trees were being shaped into sleepers, while

dead standing and bottom burned trees continued to be ignored. Many tree stumps did not bear the required Forest Department mark and number. Debris, fallen branches, and other detritus littered the ground, preventing regeneration and threatening blockage of the villagers' main irrigation channel. Marking of trees is being carried out clandestinely in collusion with the forest department staff, as well as with locals who are incited by the thought of personal gain. Monitoring and overseeing of contract implementation remain flawed, and environmentally harmful practices continue to be perpetuated.

The forestry department attempted to reseed certain cleared areas but failed to do so because of livestock intrusions. The community's standard response is that the forests have a naturally high rate of regeneration. While this may be true, it is a defensive response and not one dictated by environmental considerations.

An average chir pine yields 60 cu.ft. of timber. At the prevailing rate of Rs 300 per cu.ft., a tree is worth Rs 18,000 to Rs 20,000 in the open market. This makes it very tempting for community members to sell unmarked trees at a discount to the contractor — some of which they cut themselves and others in collusion with the contractor. Such unauthorised cutting tends to occur in areas such as Beyal, which are remotely situated and, hence, difficult to monitor.

Along the entire length of the valley, from Farm to Beyal, there is extensive evidence of the community cutting down trees for household construction and fuel. Such cutting tends to be spaced far apart and, as such, does not cause slope destabilisation. However, it does present a threat to biodiversity since the preference is for cutting *chilghoza* pine and juniper, both relatively scarce species.

Social Consequences

The community is becoming increasingly fractious and turning upon itself, as a result of the machinations of the contractor. While a few informed activists are trying to bring about awareness of the damage incurred, most of the community is not supportive. Neglected by the government, their income from tourists at stake, and tempted by prospects of higher royalties, the community is unwilling to forego immediate financial benefits in the interests of long-term environmental gains. It will take time and education to persuade them that, if the present felling of forests continues, it will deplete their stock of natural capital and, eventually, discourage tourists from visiting the area. In the mean time, the contractor continues to exacerbate and profit from the division in the community.

The Nature of Leadership and Community Participation

Effective leadership, rooted in community consensus and, in turn, accountable to it, is key to the management of development and ecotourism-related activities in Raikot Valley. At its peak, traditional leadership was defined by the juxtaposition of the pre-partition

numberdari system introduced by the British, with the traditional *jirga* (a collection of village elders) system. The arrangement ensured fiscal compliance as well as law and order, while respecting the independence and autonomy of local communities and was, essentially, a compromise arising from the inability of the British to enforce law and order directly in the remote valleys of the Northern Areas. Resistance to direct administrative control also had certain disadvantages inasmuch as it precluded investments in economic and social infrastructure (roads, irrigation channels, schools, medical facilities, etc).

The *numberdar*, a local notable (*muatabar, mukhtar*) nominated by the community was entrusted with levying and collecting *maaliya* (taxes) on water usage and agricultural produce. The local *jirga* maintained law and order in the community, adjudicating on criminal offences and disputes relating to agricultural property and grazing rights.

There has, traditionally, been an informal hierarchy of command which is inter-generational and based on ethnicity and, given the authoritarian outlook of the community, socially acceptable. At the same time, such authority is premised on accountability and accessibility. The predominantly large ethnic group, the *shin*(s) traditionally assumes leadership roles, correlative with their pre-eminent social status; at the same time, the common roots of poverty ensure that such leadership is both accountable and accessible. On the other hand, the forces of modernisation are strong and potentially divisive, lending urgency to the need to develop and strengthen mechanisms which allow the community to retain control over its common resources.

The evolution of politics, economics, and governance has created new dynamics as well as dissonances in the Northern Areas. In 1974, Bhutto's socialist government dissolved the *numberdari* system and abolished *maaliya*. In its place it introduced an ostensibly more proactive system of local government, charged with carrying out development work for local communities. This represented one aspect of the process of integration, i.e., into the national administrative framework. On a parallel track, the Karakoram Highway strengthened linkages with the national economy. Both factors led to a diffusion of traditional authority and loosening of communal ties. Lines of command and control have begun to flow out of the valleys, with alternative recourse to justice available in the district and sessions' courts and with greater scope for employment in government service. Access to the market economy, loss of insularity, and growing absorption into the national fabric have adversely impacted social cohesiveness and, by extension, traditional authority.

The inroads made by contractors and private developers have further threatened the structures of traditional authority by exacerbating intra-ethnic differences. Although the community is ethnically homogeneous, it is further defined along family lines. There are seven main families in the valley, namely, *raeesai, loainh, nagirai, hajjatai, khanevai, mujetai,* and *soutenai*. As is common among mountain people, family alliances are formed and shift over any number of issues, ranging from the critical to the trivial. For

instance, at one extreme, one observes a complete harmony of interest and action on infrastructural rehabilitation, such as an irrigation channel, which can temporarily subsume running vendettas. On the other, families are pitted against each other over the issue of forest revenues. In general, one infers that given continuous exposure to an event and time for reflection, the community evolves its own solution to a problem or an issue which then becomes a communal practice or habit.

Thus, although characterised by volatility, traditional authority structures are far from redundant. In fact, present conditions point towards their selective re-emergence in response to economic opportunities and social infrastructure needs. There are two reasons for this. First, a fiscally bankrupt local government has been unable to deliver development to local communities. The apex representative body, the Northern Areas' Council, exists in an emasculated form, lacking substantive fiscal powers, authority, and credibility. Second, administrative line departments are more prone to align themselves with private developers in exploiting the areas natural resources, rather than providing social and economic services or good governance. This has fostered disillusionment among local communities and a realisation that self-governance may be the only answer to official apathy and neglect. In Raikot Valley, such awareness and action have manifested themselves in the areas of logging, tourism, and infrastructural development, although some of the new mechanisms which have emerged are still in an embryonic stage.

The reconstitution of the *zauti* (local committee) represents the local response to logging. Its original functions were to collect taxes (also known as *maaliya*) on grazing by migratory livestock herds and to construct pony tracks, but the mandate has been extended to revenue distribution and monitoring of logging. The *zauti* consists of nominated influentials from among the local community who are replaced on rotation every year (the current membership is listed in Annex-5). With specific reference to logging, its responsibilities are to: a) negotiate a fair return for the sale of communally-owned forests; b) distribute funds generated from such sales; c) mark the trees in conjunction with forestry department officials, monitor logging activities; and d) assign and monitor tree cutting for house construction and fuel. On the other hand, the *zauti* is not an effective enforcer, as is evident by the blatant and collusive violations of forestry regulations.

Second, formal and informal groups have coalesced around tourism opportunities and social infrastructure. Under an informal arrangement, portage is regulated so that every able-bodied individual is given an opportunity to work. Jeep drivers have formed a union which maintains a closed shop in favour of local membership, establishes tourist rates, and manages a contingency fund for emergency road repairs. A water committee has been formed to coordinate and organise local labour for a donor-funded water supply scheme.

The emergence of such groups and committees clearly demonstrates that the spirit of self-governance remains strong and can be re-ignited when confronted by exploitation

and neglect, but that it can also be weakened by economic inducements. The key unifying factors are the homogeneous nature of the community, a result of its ethnic character; the high prevalence of poverty; relative lack of economic disparity; and the spatial limitations imposed by the valley's topography.

In an attempt to respond to the community's need for basic services, one of the valley's influential locals has registered a small NGO by the name of the Diamer Development Foundation. This is essentially a one-man operation relying on the valley's social network to coopt local labour for small projects, such as the recently approved water supply scheme. The concept is interesting; overheads are small and no bureaucratic delays occur in project implementation. On the other hand, the lack of institutionalisation means that the community has to depend on the initiative and dedication of individuals. The Agha Khan Rural Support Programme (AKRSP) has offered to extend its activities into the area; but this offer is viewed sceptically because of the organisation's sectarian associations.

Chapter 4

Tourism: Practice and Potential

Experience Zone Classification

Experientially, the upper Raikot Valley is classified as a Himalayan Zone for mountaineering and high altitude trekking. Its key features are isolation, solitude, unmodified natural environment, provision of environmentally friendly sanitation facilities, extremely low activity density, and exposure to natural conditions.The normal tourist season lasts six months, from April 1 to September 30.

Tourist Profile and Trends

The tourist community consists predominantly of trekkers, mountaineers, and researchers. Tourism began to pick up in 1988, with the completion of the access road to Fairy Meadows. From 200 in 1988, the number of tourists increased to 600 in 1992, peaking at 1,600 in 1995. There has been a fall-off in 1996, due to heavy landslides across the road. Present trends suggest the visitor population will not exceed 1,000 by the close of the season.

The foreign-to-local tourist ratio is about 60:40. Among locals, there is a predominance of college and university students, with a sprinkling of teachers and businessmen. Foreign tourists consist of professionals, i.e., doctors, engineers, teachers; company employees, i.e., managers and secretarial staff, and a few diplomats and students.

Tourists either drive up the Karakoram Highway, with an overnight stay at Besham or Berseem, or fly to Gilgit and then drive two hours west to Raikot. Their duration of stay is normally one to three days for trekkers who arrive in informal (FITs) or organised groups – the latter are arranged by travel or tourist agencies. Mountaineers, researchers, and mountain trekkers tend to stay for longer periods – up to seven days. Repeaters are limited to researchers and close acquaintances.

Between 1985 and 1995, five mountaineering expeditions have attempted to scale Nanga Parbat via the Raikot Face. The nationalities were Japanese, Korean, Italian, German, and Ukrainian. The last Japanese expedition succeeded in 1995. A number

of research expeditions has also visited the valley from various European (Tubingen, Bonn, Berlin), American (Nebraska), and Canadian (Waterloo) universities. Their research interests were varied, including glacial morphology, geology, seismology, human geography, and sociology.

Accommodation Arrangements

All tourist accommodation is provided locally. The main camping facility, called Raikot *Serai*, is situated in the meadow below the village of Jut. Spread over an area of about two acres, it is enclosed by a wooden fence and can accommodate up to a maximum of 35 two-person tents. Although the complex is architecturally appropriate – and a model which competitors are attempting to replicate in Beyal and Tato – there still remains room for considerable improvement.

The quality of construction is poor. Wooden structures (kitchen, store) are inadequately insulated. Wooden huts or tents firmly grounded on wooden or cement platforms, to guard against seepage, are not an available option. Similarly, cooking and catering arrangements are sub-standard. The food is expensive and poor in both nutrition and hygiene. Differential board and lodging rates apply to foreigners and Pakistanis; intra-category rates also vary depending on the manager's whims, and this often causes resentment. Drainage, sanitation, and garbage disposal arrangements result in above ground disposal of water, waste, and excreta. This is both visually offensive and a source of pollution.

The camp manager networks with about 15 travel and tourist agencies from a rented office in Islamabad. The arrangement is mutually beneficial; the agents ensure tourist flows in exchange for local facilitation.

A shop is located next to Raikot *Serai* which services both tourists and locals. The inventory is limited to necessities. No semi-precious stones, handicrafts, or items that would appeal to tourists are to be found.

A camping facility called Jilipur Inn was set up in 1995 for mountain trekkers at Beyal. It consists of four, three-person wooden huts, surrounded by a wooden railing. Water is available from a nearby channel and rudimentary hot water arrangements have been made. Similarly, in Tato, there are basic accommodation facilities in the form of an enclosed camping ground with running water.

The timber contractor, who is also a rich entrepreneur, intends to build a large tourist resort in Fairy Meadows, for which purpose he has already purchased communal land in a closed transaction with a few influential community members. It is difficult to reconcile his propensity for destruction of the environment with the intention of promoting tourism in the same area. The effects are not difficult to foresee, namely: inappropriate style of architecture, loss of income through leakages, competition in transport, import of skilled workers, catering to a class of affluent tourists least disposed to roughing it

out or, by the same token, least sensitive to the environment, and indiscriminate disposal of wastes and effluents.

Portage and Jeep Transport

Porters charge a fixed rate per camp; there are four camps from Raikot to the Nanga Parbat base camp, designated on the basis of distance-cum-altitude. The rates for high-altitude mountain porters are comparatively higher than those for low altitude porters. Since there is no formal distinction or training, porters also tend to double as guides, for which they charge higher rates. In effect, rates differ widely, based on a scale combining individual whim and tourist ignorance. Such absence of transparency also characterises the rates charged for the jeep drive up to Joel.

Details of rates and charges are given in Table 3.

Table 3: Rates and Charges

Activities	Locals	Foreigners
Accomodation: Raikot Serai		
1. Tents	Rs 250 /night	Rs 70 /night
Rented	Rs 350 /night	Rs 70 /night
Own (camping fee)		
2. Food		
Dinner	Rs 160 /person	Rs 180 /person
Lunch	Rs 100 /person	Rs 130 /person
Breakfast	Rs 50 /person	Rs 80 /person
Soft Drinks	Rs 25 /bottles	Rs 30 /bottle
Portage and Jeeps		
Guides	Rs 300 /day	
Porters	Rs 160 /camp	
Horses	Rs 700 /day	
Jeeps	Rs1,400 from Raikot to Jhel and back	
	Rs 700 to Jhel	

Tourism Impacts

Environmental Impact Assessment

Clearly, the environmental impacts of tourism have been minimal. Within existing carrying capacity and infrastructural constraints, up to 3,000 tourists can be accommodated seasonally. As indicated, logging and community activities are primarily responsible for environmental degradation and loss of biodiversity. In particular, local hunters have virtually annihilated many indicator species, numbering among them the markhor, ibex and *ram chakor* (partridge).

Table 4: Evaluation of Tourism in Raikot Valley

Type of Impact	No Impact	Minor Impact	Moderate Impact	Serious Impact
1. Road Traffic	**			
2. Pedestrian Traffic	**			
3. Trail Condition		**		
4. Littering/solid waste disposal	**			
5. Camping/picnicking	**			
6. Visual amenity	**			
7. Wildlife:				
Unique Flora	**			
Birds	**			
8. Drainage Conditions		**		
9. Surface water quality (pollution)	**			
10. Groundwater quality (pollution)		**		
11. Air quality (pollution)	**			
12. Cultural values	**			

The option of setting up a National Park in Fairy Meadows was discussed with the locals. They showed little or no enthusiasm for it. It not only meant a check on the use of forest resources, but also that controls would be enforced by government authorities in whom they had little trust or confidence. They were more open to the idea of a community park. But, essentially, one sensed the proposal was premature. While the immediate financial benefits of tourism are clearly appreciated, there is little awareness of the concept of carrying capacity. This can be inculcated through a process combining education with incentives.

Economic Impacts: Linkages with the Local Base

Portage (foot and pack animals) is informally regulated to ensure that all able-bodied men secure gainful employment. The camping areas in Jut, Serai, Beyal, and Tato; the tea stall in Jhel; and shops in Jut and Raikot are owned and operated by local entrepreneurs. Jeep transport is a local monopoly, protected by a closed shop arrangement. All jeeps are owned by Raikot Valley locals or by the adjacent valley residents of Muthat. Provisions such as meat, milk, chickens, eggs, grain, and vegetables are provided locally. As a result of these arrangements, the tourist support network operates quite harmoniously and to the community's advantage. However, as indicated, tourist reactions to service quality are mixed. The tendency to over-charge has attracted considerable adverse publicity, detrimental to the local community's reputation.

Tourism Policy and Infrastructure

Regional Network

Compared to urban centres such as Gilgit, Skardu, and Hunza, the infrastructure and facilities available for tourism in the less-developed rural areas are relatively limited and issues presented which are different from those encountered in the urban areas.

At present, tourist activity in the rural sections of the Northern Areas can be categorised as:

- valleys with moderate levels of tourism activity
- valleys with a relatively low level of tourism activity

Examples of the first type are Raikot, Naltar, Tershing, and Rama, and they are frequented by both organised and independent tourists, averaging at few hundred to over a thousand in a season. Examples of valleys with a low level of tourism are Gor, Darel, Tangir, and Khinar where tourism is practically non-existent. The areas under consideration have, therefore, not reached their carrying capacity limits.

Responsibility for policies, legislation, and regulation of tourism in the Northern Areas rests with the Ministry of Tourism at the Federal level. Permits for tourists in the local areas are issued by the local or provincial authorities. A Tourism Policy was released in 1993, but it has not been implemented and the incentives mentioned therein have not been provided. Essentially, policy experience and capabilities in the tourism area do not exist. The officials responsible for this function have limited tenure and are rotated into other government departments. They have no long-term stake or interest in promoting tourism.

As a result, tourism development programmes -- such as those undertaken by the STC in the NWFP -- have not been developed. There is very limited involvement of the Northern Areas' Administration and other ministries of the Federal Government in tourism programmes because of their inability to design or implement such programmes.

Local Tourism Network: Local Government Officials and NGOs

The local government officials that are directly or indirectly concerned with tourism consist of the District Administration, police, and the forest department. The Local Bodies and Rural Development (LB&RD) are responsible for small infrastructure projects and provide funds to the Union Councils for implementation. The head of the Union Councils is an elected Councillor. Basically, there are only a few organised NGOs such as the AKRSP, WWF, and IUCN that have an interest in promoting tourism activities. A private company, Hagler Bailly Pakistan, is implementing a high profile biodiversity project in Deosai, as a precursor to its planned involvement in sustainable tourism in Fairy Meadows.

Corporate Bodies and the Private Sector

Programme managers and implementers are associated with private tour operators; provincial tourism development organisations, such as the STC; and the Pakistan Tourism Development Corporation (PTDC).

In the Northern Areas, the PTDC has established and operates a number of hotels and motels. This organisation has taken a project approach to tourism development. Several

tour operators with experience in programme management and implementation are successfully running tourism-related businesses and have established clientele. The level of knowledge on community and environmental aspects of tourism is currently low.

Chapter 5
Analysis of Carrying Capacity

The Concept

The basis for tourism in Fairy Meadows is provided by its endowment of natural and cultural resources. These resources, referred to as Himalayan Environmental Resources (HER), have consumptive, productive, and amenity (non-consumptive) values. Sustainable use of HER requires both preservation and promotion of these values in a manner consistent with mountain community development (MCD) and through the instrumentality of mountain tourism development (MTD). The perceived challenge is to integrate tourism with community development in such a manner that socioeconomic, cultural, environmental, and visitor benefits can be maximised without adverse impact on the sociocultural, economic, and biophysical environments. In other words, MCD and MTD need to be achieved without putting pressure on, or destabilising, the 'carrying capacity' of the mountain environment.

Carrying capacity is best viewed as both a relative and dynamic concept. It serves primarily as a conceptual reference point for interventions that contribute to sustainable mountain development. It is governed by: a) mountain specificities (accessibility, fragility, diversity, and the extent to which population is marginalised); b) expectations, attitudes, and behaviour of both tourist and host populations; c) institutional capacity and management of tourism resources; d) extent to which mitigation investments are made; and e) national or regional policy objectives.

Extension of Analysis

Analysis of carrying capacity generally tends to be carried out in the context of tourism. The environmental, socioeconomic, and cultural impacts and linkages are viewed from a saturation perspective. The primary concern is with overloading, and remedial measures are proposed or attempts are made to deal with its negative and positive manifestations.

A variation of the analysis for Raikot Valley includes tourism and also extends beyond it. The reasons for this are two-fold: In the first place, tourism is a relatively recent

phenomenon. By and large, its interactions with the environment and the community have remained benign, conforming to the basic norms of MTD. Second, there are factors, older and more deeply entrenched, which generate instability and threaten to negate the salutary effects of tourism. A comprehensive analysis of carrying capacity must, therefore, include both the tourist and non-tourist universe. Only then will it be possible to devise appropriate interventions: policies, programmes, and projects, which can offer hope for sustainable mountain development.

Tourism and Non-tourism Impacts on Carrying Capacity

Size and Area Constraints

The main tourist season extends over six months, from the beginning of April to the end of September, with visitors dwindling considerably in pre or post-season. The main season more or less coincides with the seasonal migrations of the valley residents. The profile of tourists over the season can be represented as a gentle normal curve. Given the normally high rate of turnover (1-3-day stays), pressure on valley resources or accommodation has not presented a problem yet. Tourist inflows peaked at 1,600 in 1995. This translates into a daily turnover of 10 tourists, which is well within the carrying capacity of the area.

The sketch map provides an overview of the valley's spatial characteristics. Actual and potential tourist impacts are constrained because of the terrain and since access is only by road and trail. The combination of relative remoteness, extended areas, and small inflows of tourist are indicative of extensive rather than intensive use. On the other hand, environmentally harmful practices are being carried out by timber contractors and private developers. The community plays a partly active role and partly acquiesces in this process.

Summary Assessment

Table 5 presents a summary assessment of impacts and linkages, by type and sector, on carrying capacity. These have been identified in various parts of the study. The summary attempts to bring them together.

Carrying capacity is the ability of the resource base to support and provide for the needs of humans without being depleted. The notion is not only a measure of how many individuals a particular habitat can sustain at a given time, but also the measure of the maximum optimum impact that a particular habitat can absorb or retain. Thus, critical levels of resource degradation stand out as key elements in discussing carrying capacity. Our analysis gives a breakdown of the sources of degradation. It shows that the impacts and linkages with tourism have been benign and, if its present character is retained, will continue to remain so in the future as well. On the other hand, the activities of timber contractors and outside developers threaten to destabilise the valley in critical respects; environmentally, economically, and socially.

Table 5: Summary Analysis of Carrying Capacity

Impacts	Tourists		Timber Contractors/Private Developers		Community	
	Present Status	*Future*	*Present Status*	*Future*	*Present Status*	*Future*
Physical and Ecological Factors						
Slope destabilisation	No impact	No impact, provided existing parameters of MTD are not altered by private developers	Massive slope destabilisation caused by use of a) dynamite, resulting in erosion and landslides; b) extensive logging on slopes	Will continue in the absence of policy and programme interventions	No impact	No impact
Deforestation	No impact	No impact if with increased tourist inflow there is a switch to alternative fuels (kerosene, fongas, etc)	Indiscrimninate forestation, affecting regeneration, impairing overall state of forests, and reducing tourist appeal	Will continue in the absence of policy and programme interventions	Livestock grazing: Damage to young plants arrests regeneration	Will continue in the absence of interventions
Biodiversity (flora, fauna)	No impact	No impact, if present sustainable characteristics of tourism do not change	No impact	No impact	Extinction of Indicator Species: markhor, ibex, 'ram chakor' Reduction of forest species: Juniper, Chilghosa pine	Will continue in the absence of interventions
Pollution: Sanitation and Sewerage	Small but visible impact	Problem will be exacerbated if management practices do not improve In particular, pollution of sinks could become a serious problem if outside developers make inroads into the valley.	No impact	No impact	No impact	No impact

Table 5: Summary Analysis of Carrying Capacity (Cont'd)

Impacts	Tourists		Timber Contractors/Private Developers		Community	
	Present Status	*Future*	*Present Status*	*Future*	*Present Status*	*Future*
Economic Factors						
Economic Benefits	Strong Impact-Community income substantially increased by tourism, and also generates jobs and employment and provides a market for local produce (meat, dairy, flour, vegetables, etc). Tourism, in its present form, results in maximum linkages and minimum linkages Commercialisation of the local economy has fuelled inflation	Growth in tourist volume offers scope for substitution with harmful local land-use practices such as livestock grazing. Inflation is going to affect local community to an increasing degree as traditional barter trade declines.	Road has provided benefits by increasing tourist inflow and improving local travel efficiency Logging has generated monetary benefits.	Benefits will continue If allowed, private developer inroads into tourism will reduce income and employment linkages and promote leakages	No impact	No impact
Distribution of Benefits	Distribution of benefits based on existing hierarchy of ownership of assets (camping facilities, jeeps, guides, and portages	Distribution patterns will prevail.	Equitable distribution or royalties	Will remain equitable	No impact	Potential improvement through renegotiations of royalties
Local Investment	Desirable investment impact. Camping facilities planned in Beyal and Tato	Trend will continue, but concern about inappropriate outside investment in accommodation	No impacts	No impact	No impact	No impact
Gender Impacts	No impact	Subject to interventions	No impact	No impact	No impact	No impact

Table 5: Summary Analysis of Carrying Capacity (Cont'd)

Impacts	Tourists		Timber Contractors/Private Developers		Community	
	Present Status	*Future*	*Present Status*	*Future*	*Present Status*	*Future*
Infrastructural Factors						
Camping facilities	Site appropriate but food and service wanting in quality and subject to overcharging Inadequate sanitation, garbage and solid waste disposal Poor quality of construction and overall camp management	Improvement through interventions	No impact	No impact	No impact	No impact
Transportation	Efficient (jeeps and porters) but tendency to overcharge	Improved through interventions	No impact	Outside developers would provide own transport	No impact	No impact
Impact monitoring	Not applicable	Not applicable	Not applicable	Not applicable	Not done	Can be involved with appropriate training
Social and Cultural Factors						
Environmental Awareness	Promote community awareness through economic benefits, advocacy and personal interactions	Likely to be intensified	Promote material impulses, social discord and anti-environment sentiments.	Will be exacerbated in the absence of interventions	A minority of activists within the community	Likely to increase
Tourist Perceptions	No impact	No impact	Negative impact caused by environmentally unsound practices	Negative impact	Lack of transparency in service rates and charges creates adverse perceptions about the	community Negative impact
Cultural Sensitivities	Tourists tend to respect local culture	Likely to continue if tourist profile unchanged	No impact	No impact	Not applicable	Not applicable

Tourism is an expression for externality in the local economy (Shrestha 1990) and is expressed in different forms of interaction between the two groups, i.e., host (community) and guest (tourist) populations. The particular type of interaction applicable to Raikot Valley can best be described as 'mutualism'. However, the interdependence is one-sided, with the community relying more on tourists than vice versa. The ideal form of interaction is described as 'proto-cooperation', in which both the associating populations are benefited but relations are not obligatory. This can be achieved through various development interventions aimed at the economic and social empowerment of the community. These are described in the Action Plan in Chapter 6.

Chapter 6

An Action Plan (Project Framework) for Fairy Meadows

Approach and Nature of the Linkages

For purposes of operationalising the notion of carrying capacity, tourism interventions are generally classified into four broad types. These are aimed at preserving and improving natural capital (forests and biodiversity), socioeconomic benefits (maximum linkages, minimum leakages), cultural values, and infrastructural and management efficiency (quality of tourism services). The first three types are usually referred to as supply side interventions, while the last addresses demand side concerns. Ideally, such interventions are aimed at poverty alleviation, community development, and conserving the fragile mountain environment or, alternatively stated, towards meeting the objectives of intra-generational and inter-generational equity. Maximisation of visitor satisfaction is also a key objective.

The evident scope for tourism in Raikot Valley, and its clearly established linkages with the community, mean that there is an urgent need to streamline its modalities so that MTD and MCD can be sustainably achieved. But, as the analysis in the previous section indicated, there is an added dimension or, alternatively, a point of departure, which suggests that tourism-related initiatives need to be accompanied by more generic and broad-based interventions. These should aimed at: a) reversing environmental degradation; b) redressing socioeconomic imbalances; and c) thereby creating the attitudinal shifts necessary for sustainable tourism as well as for overall mountain development.

Negative Linkages

The baseline data and analysis of the sociopolitical dynamics in Raikot Valley indicate that both MTD and MCD are constrained by powerful outside forces. These forces constitute a looming threat to the valley's natural resources, have created a vicious cycle of dependence, and jeopardize long-term social and economic development prospects. In other words, destabilisation of the valley's carrying capacity has become a very real concern.

This dependence is engendered by the following reasons.

- The contractor has full control over the main communication link with the valley., i.e., the access road, which only he has the financial resources to maintain. This road is a vital lifeline for the community, as it facilitates communications and movement of essential supplies and equipment. The condition of this road also determines the volume of tourist traffic and related economic and employment benefits for the community.

- The community's inability to harvest its forest wealth. This exposes it to outside exploitation and fosters indifference towards long-term environmental concerns. Under these circumstances, critical behavioural changes, embodied in participatory or collective action, become difficult.

- The impoverished condition of the community leaves it vulnerable to private developers whose efforts at promoting tourism create environmental imbalances and are of marginal value to the population. Their characteristic get-rich-quick mentality is evident in poor architectural practices, in minimum linkages and maximum income leakages, pollution and pressure on sinks, and socially-disruptive behaviour.

- The traditional apathy of the government towards the socioeconomic aspirations of the community leave it vulnerable to mercenary elements from outside. Indeed, the functional line departments are also prone to colluding with these elements with a view to financial gains.

From the point of view of environmental sustainability, these elements constitute negative linkages, even though they may generate short-term economic benefits. Their adverse impacts are: a) destruction of forests; b) destabilisation of mountain slopes above the access road through massive use of dynamite during road construction and repairs which lead to further degradation; c) overburdening of sinks through poor sanitation practices; and d) creation of discord amongst the community through financial inducements which foster an excessively materialist outlook, to the detriment of both the environment and tourists.

Positive Linkages

On the present evidence, neither the activities of the local community nor those of tourists yet pose a threat to the sustainability of the valley's natural, economic, or cultural assets — in other words, to its carrying capacity. These activities, both direct and interactive, are of the following nature.

- The marginalised population ekes out a bare existence from the mountains, through terrace agriculture, livestock grazing, and the dual use of forest wood, both for house construction and fuel. The size of the population relative to its resource base

limits the extent to which it can use these resources without causing lasting environmental damage.

- The tourist universe is presently small and restricted to a particular type of person; one who welcomes a certain degree of physical hardship and is alert to environmental issues as well as to the cultural sensitivities of the people.

- Tourists generate income-generating and employment opportunities, thus diversifying income sources and reducing pressure on the land.

- Induced infrastructural investments, such as camping facilities, are basic and client appropriate. Modifications required are incremental rather than structural — for instance, more efficient disposal of sewerage and excreta.

- Over the long term, the income potential stemming from continued tourist inflows can be expected to create greater awareness about and concern with preserving the mountain environment in order to sustain and increase these inflows.

Such synergisms create the basis for sustainable mountain development, which remain within the bounds of the valley's carrying capacity and, in time, can improve upon it as well.

A critical precondition for developing a sustainable approach to MCD and MTD entails measures aimed to severe the contracter's stranglehold over the community. It is expected that he would resist such efforts — as would the Forest Department, which would have to forego legal revenues as well as covert payments. In addition, the required measures would have significant financial implications. Large outlays, rooted in a politically difficult context, are generally unattractive candidates for government or donor support. However, they go to the crux of the problem and, hence, cannot be avoided. Sectoral interventions to strengthen the community's socioeconomic base constitute another aspect of the same process. This will enable it to resist financial inducements and environmental encroachments.

Both types of interventions are aimed at stabilising the valley's carrying capacity. Once this is achieved, the identified positive linkages can be reinforced through tourism-oriented interventions. Essentially, the complexity of problems in Raikot Valley requires a comprehensive area development approach in which tourism initiatives can be embedded.

Investment Prerequisites for Sustainable Mountain Tourism Development

Certain preconditions need to be met before the goal and objectives of sustainable mountain tourism can be achieved. These preconditions can be divided into two related thrusts, both for restoring the carrying capacity to pre-damage levels. The first thrust attempts to rehabilitate degraded areas (forests, slopes) through curative measures.

The second thrust focusses on strengthening the community's socioeconomic base with a view to minimising future transgressions – this can also be construed as prevention, inasmuch as it would make it difficult for outside entities to foster social discord by exploiting poverty. In other words, MCD should be achieved directly, rather than through the instrumentality of MTD.

However, activities encompassed in these thrusts should not be financed unconditionally. This will merely foster a passive receiving mentality within the community, leading to subsequent neglect of environmental, social, and physical infrastructure, as is so often the case with government schemes. Certain prior agreements have to be negotiated with the community, e.g., eliciting contributions (labour, in kind) during the construction phase and, subsequently, commitments to maintain and charge for the services rendered by the completed project. The process is difficult, involving continuous interaction with the community. But, the end result has an enduring sense of ownership, and this is the key to sustainability.

Operationalisation of the two thrusts leads into the Tourism Action Plan which includes a set of tourism interventions (MTD) aimed at preserving and increasing carrying capacity. The measures strive to maximise forward and backward linkages with the community, to make environmental initiatives endogenous, create environmental awareness, and improve benefits for tourists.

Restoration of Carrying Capacity

Thrust 1: Rehabilitation of Environment

Road Repairs

Lasting repairs are needed on the access road. This means biological and engineering control measures — checkdams, protection walls, drainage, and planting of fast-growing grasses and shrubs on degraded mountain slopes. The appropriate technologies could be readily supplied by institutions such as ICIMOD. Once the road is stabilised, subsequent repairs and maintenance should be carried out by the community, with a view to acquiring eventual ownership.

Road reconstruction should focus on the 17-kilometre stretch from Raikot to Jhel. While this road was initially constructed up to Fairy Meadows, subsequent deterioration of this last portion has proved fortunate from a sustainability perspective. The community should be persuaded to resist repairs on this portion of the road in order to maintain the mountain trekking character of tourism in the valley. Specifically, this will prevent private developer inroads into Fairy Meadows, which commands a breath-taking view of Nanga Parbat and is a potential site for extensive construction. Experiences in other mountain areas of Pakistan (Kalam, Naran, Skardu) have shown that this particular form of construction is inseparable from income and employment benefits accruing to outsiders as well as with unacceptably high levels of pollution,

Community Park

Block 4 should be converted into a community park. The following policy, environmental, and management measures are proposed.

- A process of lobbying and advocacy should be to reinforce the official ban on cutting trees.
- A compensation mechanism should be instituted to ensure that payments to the community (for the contracted income foregone) are linked with a commitment to protect the forests. The payments should be jointly authorised and disbursed by the project, the area administration, the Forest Department, and the community representatives.
- Decaying timber and debris should be removed under a contractual arrangement to permit regeneration.
- The community would — based on a written contract — retain its rights to timber for house construction and fuelwood, and periodic controlled harvests would be allowed under community supervision and at royalty rates determined by them.
- Selected community members would be trained in forest management techniques; their salaries would be funded by the project for an initial period but, eventually shifted to the community.
- Fast-disappearing indicator species, such as the markhor, ibex , 'ram chakor' and the pheasant, would be reintroduced into the community park. Also, mushrooms, medicinal plants, and other exotic fauna would be grown on the trial basis.

This is probably the most difficult, yet extremely necessary action, with far-reaching environmental and social implications. Initial dialogue with the community on the subject has elicited negative reactions. The community is fearful that it would lead to appropriation of their forests. In order to allay such concerns, the implementation modalities should be clearly spelled out to them, a portion of the funds should be disbursed up front, and, preferably, the project should be financed by the donor community rather than the government. Essentially, the sensitivity of the problem requires a 'hands off' approach with the government restricting itself to a monitoring role.

Thrust 2: Socioeconomic Development

Physical Infrastructure

Irrigation Channels: Two of the three main irrigation channels in Raikot Valley need to be rehabilitated. The first channel feeding Tato Village and its surrounding fields was

originally sourced in a clear water spring. Over time, this source has been blocked, forcing a diversion from the sand-laden Tato Nala. The channel is scoured periodically, and the sand deposited in the fields leads to depletion in fertility. The second channel irrigates the fertile plateau, known as Phari, above Tato Village. This plateau has considerable horticultural potential. From its source in a deep gorge, the channel cuts across highly erosion prone slopes, with landslides creating frequent blockages. While the villagers repair the damage, a lasting solution has to be found to the problem – it could possibly be protected with steel-reinforced concrete pipes across the erosion-prone stretches.

Social Infrastructure

School Improvements: The primary school needs basic repairs and should be expanded to accommodate more students. In addition, a new local teacher needs to be hired to lower the student-teacher ratio and reduce the subject load on the existing teacher. Quality improvements entail teacher training and a supply of educational materials (training aids, books, stationery, etc).

School improvements should be undertaken in consultation with the community in the expectation that it will contribute land and labour for rehabilitation and expansion and, eventually, pay the salary of the local teacher. Financial solvency requires fees to be charged; experience has shown that these will be paid if school performance improves.

Expansion of Dispensary: The limited capabilities of the existing dispensary should be expanded to deal with: one, maternity and child health care issues and, two, the prevalent diseases in the area such as typhoid, pneumonia, and gastric problems. A local female medical attendant needs to be hired for mother and child health care services; for other medical services, the skills of the local dispenser should be upgraded. An initial stock of equipment, medicine, and essential supplies should also be ensured. These can be replenished via user charges, which will be acceptable as villagers presently have to walk long distances to obtain treatment and medicines.

The innovative, community-based approaches of the Social Action Programme (SAP) can serve as a useful guide to expanding and upgrading social service facilities in Raikot Valley. In addition, SAP could also be a possible funding source.

Sectoral Interventions

Agricultural Research and Extension: Pakistan has ceased to be self-sufficient in potatoes, with imports from India averaging an annual 200,000 tons over the last two years. Part of the problem stems from the growing incidence of pest and virus infestations. Imported seeds from Holland, planted in spring in the plains, are highly prone to virus attacks which reduce seed supplies for the main autumn crop. The government has attempted to make up the deficit through seed multiplication in greenhouses and by

ensuring seed supplies from mountain crops grown in summer in the Hunza, Kaghan, and Swat valleys.

Potatoes are both intercultivated and solo cropped in Raikot Valley, which enjoys virus-free growing conditions. Agronomic trials should be conducted on-farm and on demonstration plots to prove the crop's commercial viability as a seed source. Existing pit storage practices, which result in frequent spoilage, also need to be improved. Similar trials should be attempted with peas as a high-priced, off-season vegetable.

While horticulture is not a traditional practice, weather conditions suggest it has potential, as is evident from the natural stands of apricot, peach, fig, walnut, and pomegranate trees. In addition, the potential for yield increases in traditional crops such as wheat, maize, and barley, and this should be explored through varietal and agronomic trials.

Tourism Action Plan

Goals and Objectives

The goal of tourism asset development is preservation and improvement of carrying capacity. Achievement of investment preconditions will contribute towards this goal, although the primary concern is with environmental and social reconstruction. This investment process will generate credibility in and receptiveness to tourism initiatives.

The objectives of tourism asset development are:

- stability of the biophysical environment,
- increase in socioeconomic benefits,
- poverty alleviation and community development,
- retention of cultural values, and
- maximisation of visitor satisfaction.

These objectives satisfy the criteria of sustainable MTD.

Identification of Linkages and Impacts

As indicated earlier, tourism in its present form has contributed substantially to these objectives. In the first place, the environmental impact assessment (EIA) suggests that the present volume of tourists could easily be trebled before any adverse economic, environmental, or cultural impacts become apparent. The actual and potential benefits from tourism are substantial and tend to accrue largely to the community. These benefits are derived from:

- increased income and employment from local services' provision – porters, guides, pack animals, jeep transport, camping facilities, provision shops, and roadside stalls;

- marketing of foodstuffs - grain, meat (livestock and chickens), dairy products, vegetables, and fruit tourists; and

- sale of local handicrafts, precious stones, local medicinal herbs, and other artifacts.

In addition, such benefits represent economic options which could substitute for traditional land-use practices (crop cultivation, livestock grazing) when competition for finite land resources increases, as a result of population growth and an escalating tourist inflow.

Also, the visitor community has played the role of advocacy by exposing and publicising undesirable forestry practices in the area. This has already elicited administrative responses and could serve as a useful entry point for subsequent community and environmentally friendly policy initiatives.

While tourism tends to create benign linkages on the whole, some potential adverse effects stemming from the growth of indigenous and transient populations are a source of concern and also need to be addressed in the Action Plan. These are: a) growing demand for fuelwood; b) increasing pressure on sinks; c) littering on trails and tracks; and d) preservation of natural resources against growing demand for their use for agricultural and grazing purposes.

The actual and anticipated impacts stemming from the identified linkages are: a) improved income distribution and overall poverty alleviation; b) improved nutrition; and c) conspicuous consumption, rooted in cultural preferences for kalashnikovs and second marriages.

Main Elements of the Action Plan

The Action Plan will focus on measures which:

- reinforce beneficial linkages with the community and the environment;

- improve service responses to tourist needs;

- develop new tourism opportunities;

- pre-empt unsustainable forms of tourism; and

- anticipate and cater for future visitor expansion and local population growth.

Proposed Measures

Attraction: Development of Tourist Assets:

In addition to the main trekking trail from Jhel to Beyal Camp, there are several lesser-known tracks crisis-crossing the upper valley reaches which facilitate inter-village communication and provide access to forestry staff and loggers. The trail from Fairy Meadows to Beyal Camp and these uncharted tracks need to be widened and posted with signs displaying environmental messages along with directions. Additionally, anti-erosion measures should be taken at exposed places and simple log bridges should be constructed across streams. For the more adventurous, there are a number of mountain tracks spanning the semi-circular chain of mountains at the head of the valley. These also need to be posted with directional signs at the base and at periodic intervals.

Several thermal springs are found at the base of the Phari plateau behind Tato Village, and these constitute potential tourist sites. Their development entails: a) marking and improvement of the track leading up to the site from the main access road; b) diversion of a cold water channel to the springs; c) construction of concrete enclosures around the springs; and d) construction of segregated bath houses for women; and e) community-based arrangements for user charges and distribution of revenues.

By the same token, certain forms of asset development represent non-sustainable forms of tourism and should be prevented. In particular, a rich entrepreneur proposes to construct an elaborate resort in Fairy Meadows and to rehabilitate the access road leading up to it from Jhel. This activity would produce undesirable consequences such as site-inappropriate architecture, diversification of the tourist profile to include elements less sensitive to the environment and to local culture, income leakages, employment for non-valley residents, pressure on sources and sinks through demand for fuel and as a result of poor sewerage and sanitation practices, and pollution caused by littering and waste disposal.

The development of the community park, while not being specifically envisaged as a tourism intervention, will promote positive synergies and outcomes conducive to increasing the valley's tourist appeal.

Services: Expansion of Facilities and Quality Improvements

Service facilities catering to tourist needs are the main camping facility (Raikot *Serai*) in Fairy Meadows, a smaller version of this facility in the meadows below Beyal Camp, and a camping site at Tato. Raikot *Serai*, in its generic sense, is the model to replicate for aspiring competitors in Beyal and Tato. However, the quality of its services is still deficient in many respects. The key improvements needed are as follow.

- *Standardisation of Rates*: There is an absence of transparency in the prices and rentals charged for food and tents. Foreigners are generally charged more than locals, but intra-client variations are also common, depending on the manager's whims and preferences, and this creates resentment. The problem should be addressed by posting prices — and conforming to standardised rates.

- *Poor Quality Service* : The food provided to tourists is of variable quality and the hygiene of kitchens and catering is extremely poor. Tourists are prepared to pay a high price for food, provided it is clean, appetizing, and nutritious. Training of kitchen and catering staff in the essentials of cooking and cleanliness is needed.

- *Sanitation and Sewerage*: Toilet facilities are limited and drainage, garbage, and excreta are disposed of above ground. Additional toilets need to be constructed and excreta diverted into underground septic tanks.

- *Camping Facilities*: Camping facilities are restricted to tents, and these can become a problem during the early and late season when weather conditions are unpredictable. Wood cabins and concrete platforms for tents should be constructed to cater for inclement weather as well as to give tourists a choice.

- *Logistics and Guidance for Tourists*: The camping sites should furnish documented and verbal information on tourist attractions and local area conditions. In addition, guides and porters should be available when needed.

There are retail and roadside tea stalls catering for both tourists and locals in Raikot, Jhel, and Fairy Meadows. The primary concerns with respect to the tea stalls are price, quality, and cleanliness. In addition to stocking up with basic provisions, the retail shops need to diversify into locally produced handicrafts, gem stones, and other artifacts likely to appeal to the tourist population.

Transport

The provision of transport and portage needs to be better organised. Tourists are vulnerable to excessive and discriminatory charges. While there are criteria that determine rates for porters, guides, pack animals, and jeeps, such criteria tend to be informal and subject to loose interpretation. This becomes a source of both annoyance and confusion. Transparency requires that these rates be clearly indicated, uniformly charged, and consistently applied. Preying upon tourist ignorance may yield short-term dividends; in the long run it will create a generalised negative image of the valley.

The institutional arrangements for such service provision are basically sound and equitable. Additionally, jeep drivers, guides, and porters should be trained in interactive skills, restrictions on weight loads for porters and animals should be mandated and

information provided for dissemination to tourists. The intention is to create an *esprit de corps*, combining professional pride and hierarchy of service in equal measure.

Information and Promotion

A measure of coordination already exists between the local entrepreneur-manager of the camping facility and down-country travel agents, resulting in increased business turnover, to their mutual advantage. Other measures that need to be taken are advertising and the production of travel information (maps, magazines, articles, guidebooks, videos etc). The objective is to provide visitors with a greater understanding of places and activities. Pre-travel information is as important as *en route* and *in situ* information. This needs to be supplemented with periodic on-the-spot surveys to identify tourist perceptions and needs, so as to be in a better position to respond to them. Finally, logos, signs, posters, and informational material focussing on environmental messages, both for tourists and for the local community, need to be prepared.

Backward and Forward Linkages

The backward linkages stemming from tourism are already well established and few income and employment leakages are in evidence. The various measures suggested above are designed to strengthen these linkages. The non-tourism initiatives (investment prerequisites) are aimed at both the economic and social empowerment of the community.

Both tourism and non-tourism interventions have a forward looking aspect. MTD substitutes for traditional, non-sustainable land-use practices, thus helping to preserve and protect the community's natural resource base as population pressure on the land increases. In addition, it facilitates accommodation of growing tourist inflows. Non-tourism interventions, specifically aimed at increasing productivity and crop diversity, constitute preventive steps to avert land-use changes – in other words, conversion of forests to crop and grazing lands. Other environmental rehabilitation measures seek to minimise the influences of contractors and private developers, both highly detrimental to community interests

Identification of Training Needs

Human resource development has two aspects. First, it encompasses long-term improvements in literacy. The proposed school improvements are an essential part of this process. For women, the maternal and child health clinic could become the focal point for dissemination of training and messages regarding family planning, nutrition, and personal health care. The more specific training needs are identified as follow.

- Creation of environmental awareness and its linkages with tourism at the community level. This could be carried out *in situ*, through informal sessions and through

language-appropriate and visually attractive media such as skits, songs, pictures, and drawings.

- Training for local entrepreneurs and managers catering to tourist needs. The training would cover issues such as construction, sanitation, nutrition, accounting, and so on.
- Training in forestry management: regeneration, protection, wildlife conservation, herbiculture, etc.
- Training in social organisation and programme implementation: participatory decision-making, group formation and structures, programme identification and implementation, collective savings, book-keeping, and accounting.
- Training for transport service providers, porters, and trekking and mountaineering guides: rate and weight standardisation, collective funds' management, etc.
- Hands on training, involving demonstration plots and on-farm experimental trials. These trials would be extensive, covering crop, seed and fodder varieties, horticulture, livestock management, and agronomy for improvement of yields.

Local-level Institutional Context

The formal, up front involvement of local communities across the proposed spectrum of interventions, AKRSP style, is clearly not feasible. As pointed out, the contractor and private developers pose a constant threat to collective action; in fact, the tensions and frictions created by them have strained community relations to a great extent. On the other hand, common needs continue to exist, calling for collective responses and actions. Confronted with indifference and exploitation by elected representatives, government departments, and private entrepreneurs, the community has begun to revert to its old self-help traditions. The emergence of various reconstituted, informal groups around forestry, irrigation, transport, and portage demonstrates that collective responses continue to exist.

Developing this potential is a challenging task. Commitment and credibility are two critical preconditions for establishing trust and eliciting the community's cooperation. The options have to be clearly presented, benefits demonstrated, and firm dates and schedules specified. This is important if the community is to be weaned away from its present divisive behaviour. The strategy calls for an initial focus on the road and on various socioeconomic interventions which, politically, are the least controversial. Once these initiatives are underway, they will create unifying impulses which can be harnessed for other follow-on non-tourism and tourism-related actions.

Ultimately, the effectiveness of both types of initiative hinges on the policy environment and enabling administrative measures, namely: a) repeal of regressive, anti-community forestry legislation; b) enactment of new policies focussing on sustainable tourism; c)

vigorous implementation of the ban on cutting trees; and d) local government initiatives promoting socioeconomic and sectoral development.

An important catalytic and direct role is envisaged for the Diamer Development Foundation. This NGO's capabilities need to be strengthened through: a) additional staff recruitment; b) training in project identification, planning, and implementation; c) training in office and management skills; and d) establishment of an endowment fund.

Financing and Its Implementation

Table 6 shows the financing details, prioritised implementation schedule, and proposed financing sources for the Action Plan. The Action Plan is essentially a project framework, providing guidelines and broadly identifying initiatives. The next step is to develop a project document with implementation details. The estimated cost for preparing this document is US $20,000.

The envisaged financing sources for the Action Plan and project document are initially donors and the government. These investments are designed to create basic environmental and socioeconomic infrastructures. The tourism development measures will, at the outset, also need external infusions. Neither the beneficiaries nor the locally based entrepreneurs are in a position to make significant financial contributions, although considerable labour inputs can be expected. In time, however, once the infrastructure and support mechanisms are in place and participatory institutions established, external financing will be replaced by internal revenue generation, through user charges, fees and imposts, with a view to financial sustainability.

Monitoring Indicators

The Framework

The basic concepts, issues, and framework for monitoring and evaluation (M&E) of tourism in the context of mountain community development have been investigated by ICIMOD.[3] While the need for M&E is recognised, examples of M&E processes that were effectively able to provide objective feedback to the project planners and executors are practically non-existent. The wish list for data generally appears to be unlimited, and issues related to cost of data collection and trade-offs, with respect to the precision and need for the data, are seldom discussed.

In the context of this study, it should be noted that the discussion is limited to development of monitoring criteria that can provide insights into changes in HER, MCD, and MTD over time. At the outset, we have attempted to identify a number of qualitative milestones and key indicators with the following objective in mind:

3 Tourism for Mountain Community Development, Case Study Report on the Annapurna and Gorkha Regions of Nepal, Chapter 8, 'Monitoring Framework for Carrying Capacity of Mountain Tourism'

Table 6: Action Plan Fianancing and Schedule of Implementation

Activities	Finance			Year 1	Year 2	Year 3	Year 4	Year 5
	Amount	Period	Sources					
NON-TOURISM								
1 Environment/Infrastructure Rehabilitation								
Road Rehabilitation	85,000	Two	Donor/Government					
			Self-fiancing O&M					
Community Park	700,000	Five	Donor					
			Self-financing O&M, Salaries					
2 Socioeconomic Development								
School Improvement	20,000	One	Donors/Government (SAP)					
			User charges, salaries					
Expansion of Dispensary	20,000	Two	Donors/Government (SAP)					
			User Charges					
Ag. Research and Extension	60,000	Three	Donors/Government					
3 Strengthening of Diamer Development Foundation	20,000	Two	Donors					
4 Transport, Cost Over-runs, Consultants	100,000							
Total Non-tourism (a)	1,005,000							
TOURISM								
1 Interventions								
Tourism Asset Development	20,000	Two	Donors					
Expansion of Facilities/Quality Improvement	20,000	Two	Donors, Self-financing					
Transport	10,000	One	Donors					
Information and Promotion	15,000	Three	Donors/Government					
2 Training	20,000	Three	Donors					
3 Transport, Cost Over-runs Consultants, Trainers	50,000		Donors					
Total Tourism (b)	135,000							
GRAND TOTAL (a+b)	1,140,000							

- To provide a minimum set of parameters that can provide an insight into the changes taking place in the valley with respect to HER, MCD, and MTD.

Project specific criteria will have to be developed as a part of project proposals and plans that will hopefully be introduced as a result of this study.

Milestones

- *Economic Investments*: Government and donor expenditure — project and activity wise, developmental and non-developmental. Private sector investments from within the community.

- *Occupational Changes*: Observations on changes in income patterns, from agriculture, livestock, and other economic activities such as tourism.

- *Community Participation*: Projects and investments that involved community participation in planning, implementation, and operation. Description of nature and extent of participation.

- *Environmental Impacts*: Changes in the land-use patterns, with reference to area under forest, housing, grazing, agriculture, and commercial use (development of detailed land-use maps and yearly updating are recommended).

- *Gender Development*: Number of women involved in cash generating activities besides agriculture. Description of types of activities.

- *Policy*: Policy changes at the regional level and state and impact of advocacy, especially with reference to deforestation.

Basic-Data for Indicators

The indicators have been designed for operational feasibility and for selective rather than frequent monitoring.

- *Population*: Number of households and population for each of the settlements, Tato, Jhel, Punjadori, Beyal, Wittar, and Bezar.

- *Education*: Number of children, girls and boys, going to school at primary and middle levels.

- *Health*: Number of patients seen at the dispensary.

- *Tourism*: Number of tourists visiting; local and foreign. Number of tourism-related enterprises, including restaurants, shops, and campsites. Estimated income from tourism, for each enterprise.

- *Transport*: Number of jeeps operating jeep trips, further subdivided into tourism and non-tourism uses.

- *Guides and Porters*: Number of guides and porters and income generated.

- *Forests*: Total amount of timber extracted. Timber used for construction of tourist facilities and house construction. Use of fuelwood. Number of saplings planted.

Process Documentation

Two visits to Raikot Valley were carried out by the team members. The first visit in the last week of April 1996 provided an overview of the area, with regard to its physical features, land-use patterns, migratory habits of the population, physical and social infrastructure, and so on. First impressions were formed of the prevailing types of tourism, its environmental, cultural, and economic impacts on the local community, and supporting facilities. This overview was supplemented with published data on the diverse valley characteristics, compiled by the Pak-German Research Project (October 1995) under the overall coordination of the University of Tubingen, Germany.

At this stage, the experiences of the study adviser-cum-research assistant — who is also a resident of the valley and owner-manager of its main camping facility — were drawn upon. Both have a long and intimate acquaintance with valley conditions and are well versed in its political and social dynamics. Both advised against using a set-piece approach entailing attempts to collect community members for the purpose of conducting large formal group sessions. Instead, they suggested that, at the data collection stage, a rapid rural appraisal, combined with informal discussions with community members and representatives, would be more appropriate. This approach was followed for the second-round survey, carried out from July 10 to 15, 1996.

On-site visits provided information on the following:

- logging practices and the state of the forests;

- physical infrastructure: access road, irrigation channels, and water supply ;

- cropping and horticultural practices;

- livestock migration and grazing practices;

- practice and experience of tourism; and

- social infrastructure: school, dispensary.

Informal discussions were carried out with a cross-section of the resident as well as transient population, including community leaders, farmers and livestock owners, timber and road contractors and labourers, tourists, camping facility owners/managers, tour operators, porters, shopkeepers, students, jeep owners/drivers, paramedical staff, forest guards, religious representatives, etc.

The discussions were useful and informative. They provided basic information on ethnic and tribal characteristics, socioeconomic conditions, and cultural and religious practices. In addition, they provided insights into the tensions and conflicts arising from increased exposure to outside influences and opportunities in the light of their juxtaposition with the endemic state of poverty and in the context of tribal/family alignments.

The third round of the survey was be carried out in the second week of September 1996. The earlier visits had established a degree of credibility within the community which allowed the team members to conduct focus group discussions, as well as carry out a household survey on the conditions of women. At these discussions, the aims and objectives of the study were spelled out in detail. The Action Plan, which has been tentatively prepared on the basis of the first two rounds of the survey, was finalised through a participatory and consultative process.

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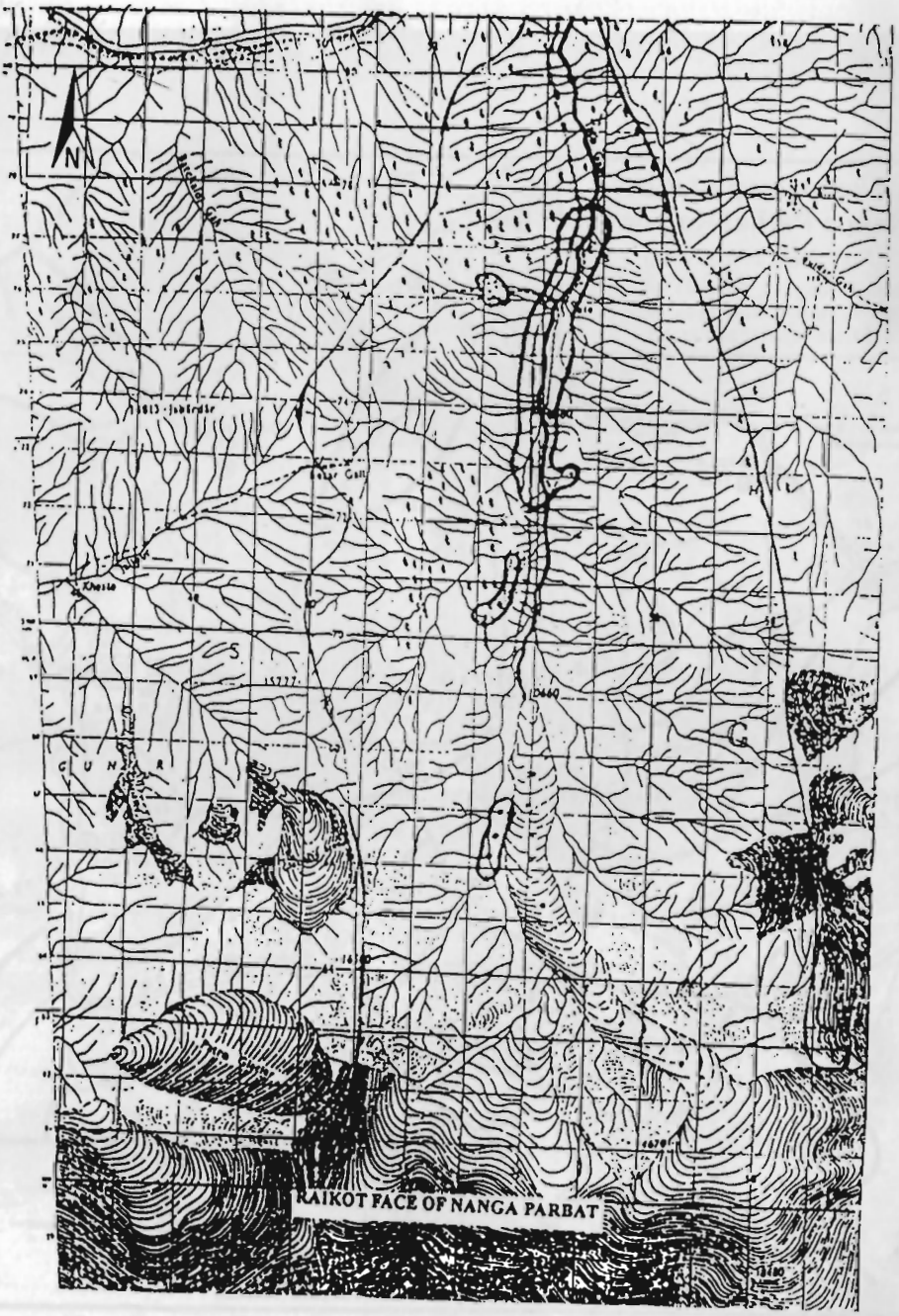
Annex 1

Maps and Figures

Map A: Guide Map of Raikot Valley



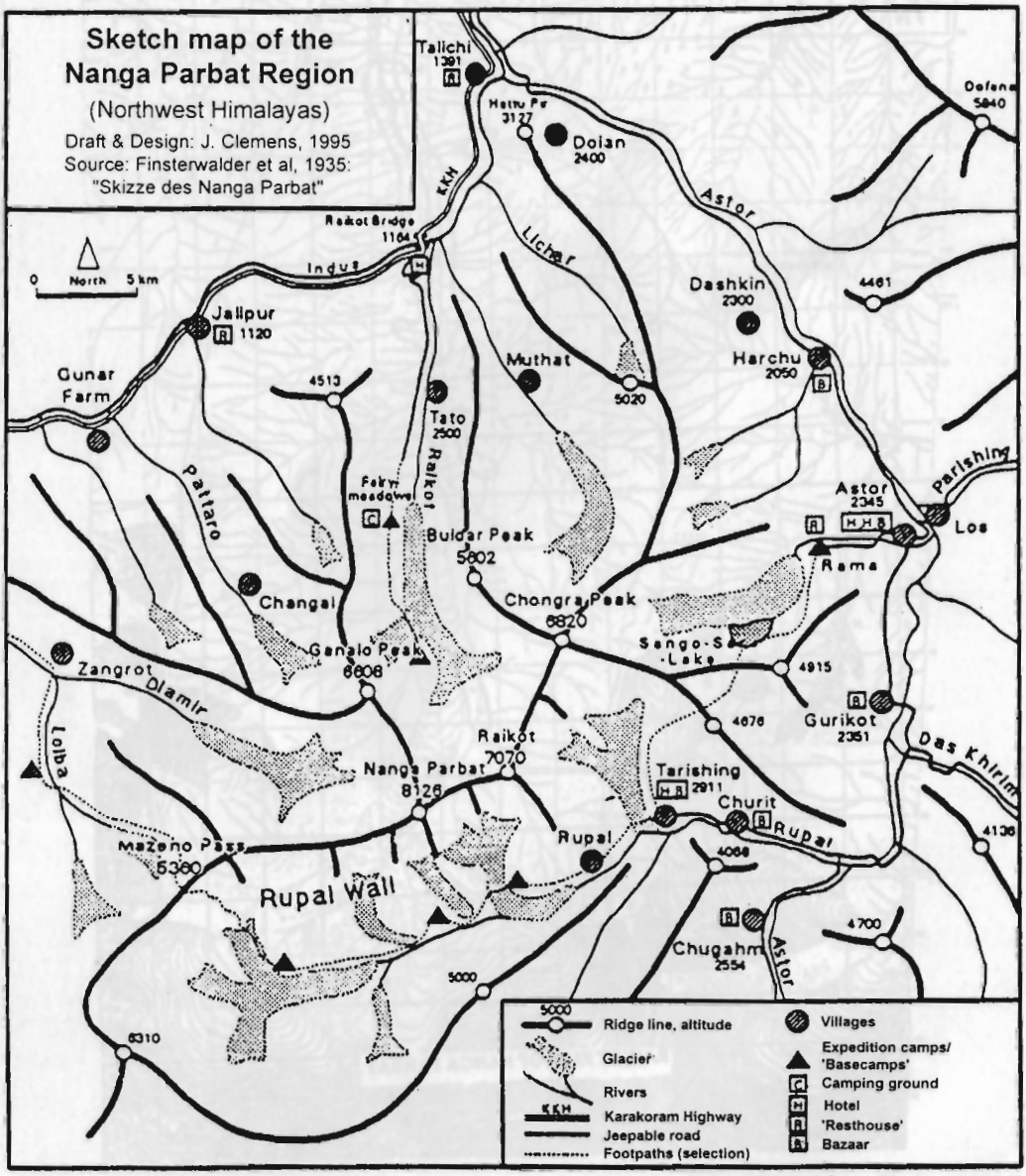
Trail

River

Jeepable Track

Settled Area

Map A: *Guide Map of Raikot Valley*



(map adapted from Clemens 1994)

Map B: *Sketch Map of the Nanga Parbat Region*

Map C: *Vegetation Cover in Raikot Valley* (Source: Troll 1939)

1.  Colline desert steppe of dry hot valleys: treeless, shrubs, grasses, herbs (*Artemisia fragrans, Capparis spinosa, Haloxylon thomsonii gilesii, Heliotropium dasycarpum, Stipagrostis plumosa*). From the valley bottom up to 2,000m.

2  Colline semi-desert with scattered small trees (*Pistacia khinjuk, P. chinensis* sub sp. *integerrima, Olea cuspidata*). Only at inclined, rocky locations.

3  Colline hygrophilous shrubs and woodland (*Tamarix ramosissima, Elaeagnus hortensis*).

4  Montane treeless artemisia steppe (*Artemisia brevifolia, Kochia prostrata, Koeleria cristata, Kraschenninnikovia ceratoides*). In spring, rich flora of grasses and herbs in between the shrubs 2,000 to 3000m in sunny locations up to > 4,000m.

5  Montane artemisia tree-steppe (*Artemisa brevifolia, Juniperus excelsa*) with various shrubs (*Rosa webbiana, Daphne mucronata, Ribes orientale, Cotoneaster*). Density of points represents the density of trees.

6  Montane Chilgoza Pine Steppe-forest (*Pinus gerardiana, Juniperus excelsa, Artemisia brevifolia*). Tree-steppe to steppe forest.

7  Montane Stone Oak Steppe-forest (*Quercus balloot, Pinus gerardiana, Juniperus excelsa, Artemisia brevifolia*).

8  Montane artemisia steppe, predominately covered with Yellow Ash (*Fraxinus xanthoxyloides*). Only on scree slopes.

9  Montane moist coniferous forest (*Pinus wallichiana, Picea smithiana*; with *Abies webbiana* in the South). Mainly at shady locations from 2,800 to 3,700m.

10  Montane semi-humid coniferous forest (*Pinus wallichiana, Picea smithiana*) interspersed with *Juniperus excelsa*.

11  Montane-subalpine moist coniferous forest (cf. No. 9) interspersed with birch (*Betula utilis* sub sp. *jacquemontiana*) also aside the groves and avalanche tracks.

12  Subalpine birch forest (*Betual utilis* sub sp. *jacquemontiana*). In shady locations above the moist coniferous forests from 3,500 to 3,900m, in grooves and avalanche tracks of the coniferous forest belt down to 2,700m.

13  Alpine (subalpine to high alpine) turf, meadow, and dwarf-shrub (*Kobresia capillifolia, Polygonum affine*). Towards the cold desert, gradually disappearing.

14  Subalpine-alpine willow shrub (*Salix karelinii*). Only on shady slopes.

15  Subalpine-alpine rhododendron dwarf-shrub (*Rhododendron anthopogon*). Mainly mixed with No. 14. Only on Shady slopes.

16  Subalpine-alpine Juniper dwarf-shrub (*Juniperus squamata, J. communis* sub sp. *alpina*). Preferably in sunny locations.

17  Subalpine-alpine meadow with juniper trees (*Juniperus turkestanica*). Only in sunny locations up to 3,900 (4,200)m.

18  Montane-subalpine hygrophilous shrub and woodland with willows (*Salix sericocarpa, S. wallichiana*), poplars (*Populus caspica, P. ciliata*), *Lonicera, Cotoneaster, Viburnum, Euonymus, Hippophae, Myricaria*, etc.

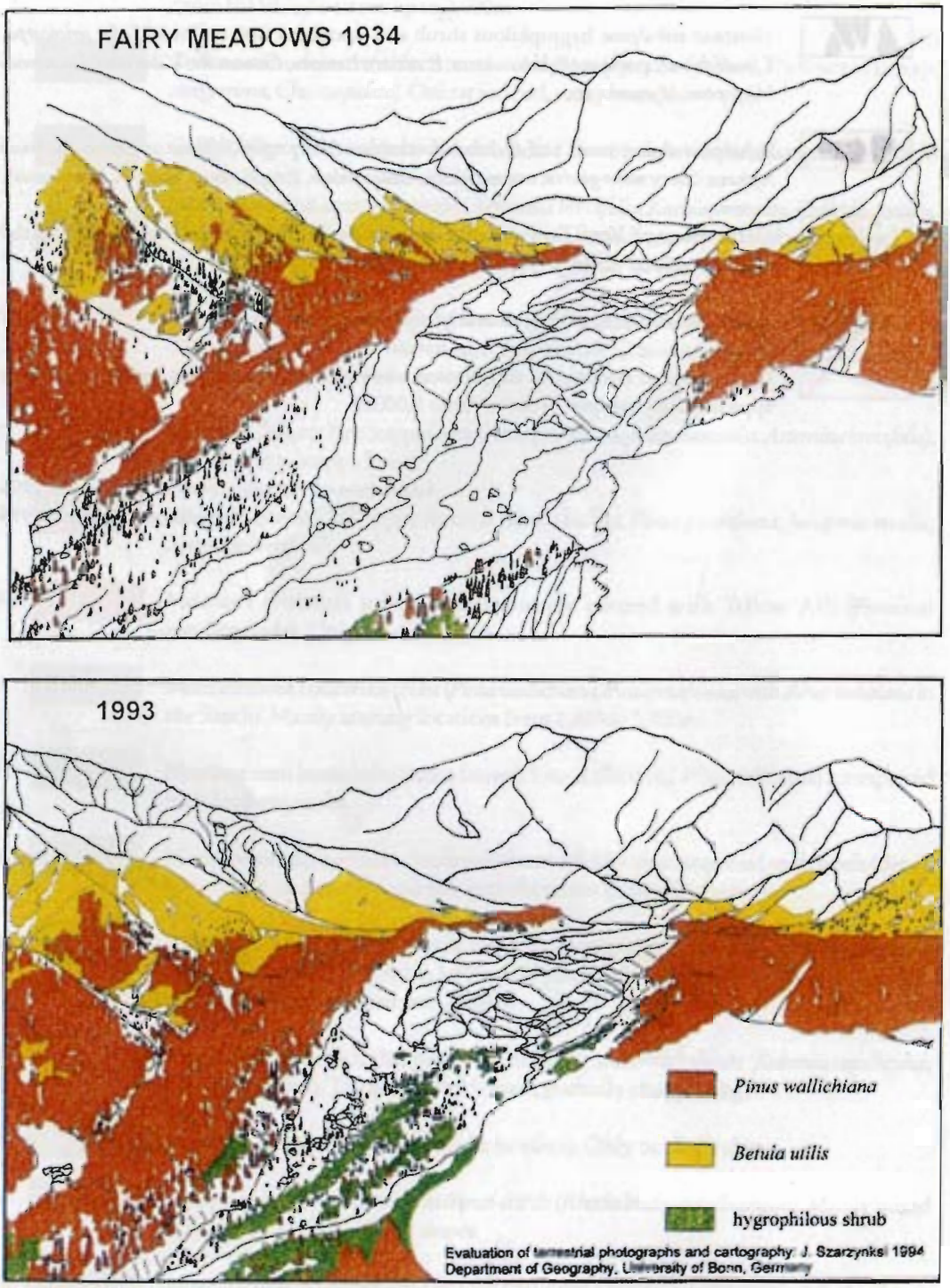
19  Subalpine-alpine moist turf and dwarf-scrub on fenny soils (*Blysmus compressus, Kobresia royleana, Carex micro-glochin*; occasionally *Aulacomnium, Eriophorum scheuchzeri, Salix caesia*).

20  Occurrences of Yew (*Taxus baccata* sub sp. *wallichiana*). Only in the Pattaro Valley at the western edge of the map.

21  Cultivated area (irrigated fields and gardens with meadows' edge).

22  Upper limit of continuous distribution of vascular plants (relying on a few samples approximately mapped between 4,900-5,000m).

Adaptation of Botanical Names: B. Dickore 1995
Translation: M. Munz 1995



Maps D & E: *Environmental Changes in Fairy Meadows*

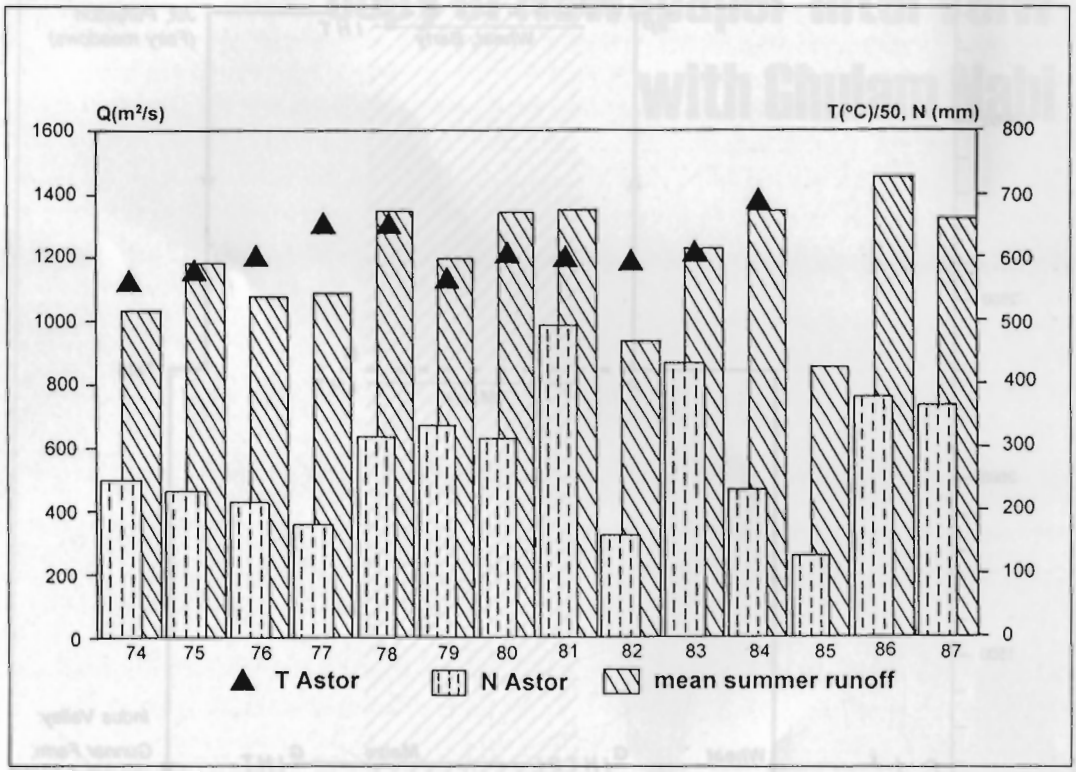


Figure 1: *Winter Precipitation and Mean Summer Run-off*

Correlation between mean summer runoff (May-September) of Astor river and winter precipitation (N) as well as the mean minimum temperatures (T) of the climatic station Astor (1947-1987). (Source: Kolb 1994: 74)

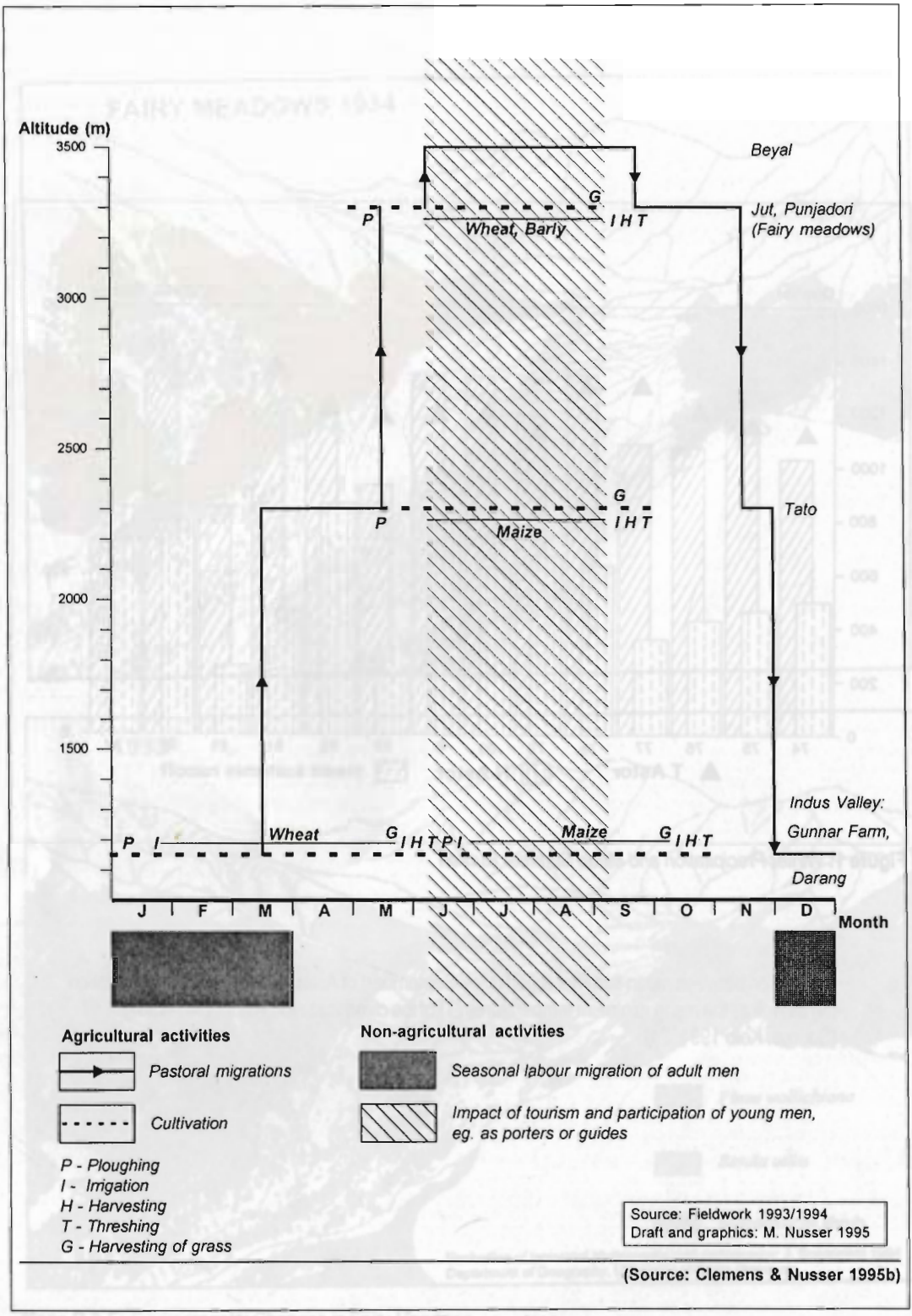


Figure 2: *Stages of Land Use in Raikot Valley: The Example of Tato*

Annex 2

Copy of Newspaper Interveiw with Ghulam Nabi

Interview with Ghulam Nabi by Jurgen Chemens
13 November 1995, Aachen, Germany

(Abridged with minimal editing)

JC: *I want to ask you about the situation at Fairy Meadows ? What was the reason to organise the people against Brig. Azlam Beg ? What were the very first approaches that you have made, whether there was unity in the village or whether there were only some particular families being organised in the village ? What is your idea about tourism, how should it develop in the near future, especially at Fairy Meadows ? What about the reactions of Brig. Azlam Beg and his sons, how did he react when you started to organise the villagers ? What is your idea of the further development of the entire village ? What do you want to do next, also with your NGO, maybe also a question concerning the situation of the forests ? What shall be done with the forests in the next ten years or so ? These are the questions that I want to discuss with you, but maybe you also have some ideas or points that we should talk about now.*

GN: The main reason for forming the village organisation was to protect the forest. Because it is a community-owned forest and the community do not really have the awareness ... for (such) disasters. They sold this forest about 12 years back to Brig Azlam at a very cheap rate. The reason for selling this so cheap was to get a jeep road constructed up to the village. And, after a few years, we started to realise that tourism is a more important source of income than the trees. If we maintain the trees, we can earn and have more and more tourists, which is better for the ecology. We did have some sort of organisation which is called *zauti* (*zauti*, most of the time was for animal husbandry and other community work like the construction of pony tracks. *Zauti*(s) were responsible for collecting people or collecting the taxes which they implement on the animals of outsiders, called *maaliya*. But this did not include the forests. So we founded this small organisation, and we are trying to do some development work, e.g., water, sanitation, health projects, and primary education.

JC: *How many years ago did you begin?*

GN: Four years ago. Since last year we have this organised committee, you can say. Now we have a trial at the court against Azlam's sons. We, the locals are demanding at least 80-times more the price than he was paying. So it is really a hard time for him.

JC: *Is it a trial about the forests or a trial about the land at Fairy Meadows?*

GN: It is a trial about the forests, not about the land. The people are asking him to pay more money for the trees that he has already cut. They won't let him cut fresh trees. For the trees he has already cut three years ago, he should pay more. He should pay at least ... before, he was paying two rupees per cubic-foot, now they are demanding more than 100 rupees per cubic-foot. (...) This is really hard for him, he simply can't do it. We are hoping that he drops the idea of cutting more trees.

JC: *What happened with the money that he already paid? Did he pay to a Jirga-like system or did he pay to the families?*

GN: Yes. He always paid it to the *muatabar*(s) (*mukhtars*). *Mukhtar*(s) are the responsible people of the village, it doesn't really mean the elders of the village, but whosoever was selected for this purpose. They get this money, they bring this money into the community. When there is a community gathering, they divide it. There are two ways of dividing the money: they divide by household or, most of the time, if we take into consideration religious reasons, they have to divide it person-wise. Actually, this is the real Islamic way of division.

JC: *I was told that they do it mostly householdwise.*
GN: The easiest way is to divide household-wise. If you do it person-wise, than women have less share, men have more share, children have less share and elders... It is more complicated, although there is more justice, because if there are twenty people in a house, they should get more. But, since it is a difficult task, people divide it by the household.

JC: *Does every house get an equal share or is there a hierarchy of families?*
GN: Well, if they divide it by household, then they give an equal share to every house. If they divide it by counting men or persons, then they do it accordingly. But not all (families) of the villagers are owners of the forests. Quite a lot of people who don't have rights to the forests do not get anything. They are called *gair zakim* which means unsettled outsiders. There is a big cotton sheet, you can call it a gazetteer, an old gazetteer. Only people who are mentioned in this gazetteer get a share.

JC: *How do you refer to this?*
GN: 'Chaddor' which means shawl. It is a white cotton sheet, so it is actually a shawl.

JC: *There is a similar system also in Astor which is run by the patwari*(s).
GN: We also have *patwari*(s) in Chilas. We are also a little afraid of mass tourism which can be dangerous for the ecology. For this reason we are trying to educate the people here so that we can have sustainable tourism.

JC: *I also discussed his ideas of tourism with your brother Rehmat Nabi. He told me that he does not like to have the same situation at Fairy Meadows as is in Kaghan, in Murree or other popular and often crowded places.*
GN: That is the main reason that we stopped this road. If this road was cleared, if it was again constructed up to Fairy Meadows, then there would have been the same mass tourism as in Kaghan because of its proximity to the Karakoram Highway. This place too would get overcrowded. So stopping the construction of this road was the best idea to keep tourism sustainable.

JC: *Who stopped this road? Was it the village people or was it the doing of nature, whereby parts of it were broken by landslides?*
GN: Previously I would say that it was nature. They completed this road by October 1991 and then there was the first snowfall, the people left for lower areas. In winter, most of the walls broke down because of landslides. So, the next year there was a ban

implemented by the government on the cutting of trees. Therefore, the contractors were not interested in constructing this road again. It was sheer luck that they did not turn up again and that now people have to walk. And because the walk is three hours, the tourist crowd is low. I think it is a good thing to keep this area as natural as it is.

JC: *What do you think about the intensity of tourism nowadays, is the number of tourists sustainable or is it already too much?*
GN: I won't say that it is too much, because it is not a small area, it is a big valley. Five hundred to one thousand tourists per year, I would say, is not a major (problem). This area can sustain up to 2,000 to 3,000 tourists a summer easily, if you do it with sustainable planning.

JC: *Have you ever heard any criticism of your camping grounds at Raikot Serai? Maybe that in some way you force people to pay for camping there.*
GN: Well, in fact, we don't force people to pay for camping. Whoever comes there, they are good people because they have to walk and they understand the nature of this area. I never heard anything like this from any tourists up there. Well, everywhere in the world, people pay for camping, it is an obvious thing.

JC: *When I visited Fairy Meadows once, there was a young British tourist who refused to pay any money and then he went into the forest to camp there free of cost.*
GN: Well, all over the world there are people like that. Even this summer, there were five young boys, they came up, and they refused to pay. They wanted to go further. I told them, o.k., if you don't have money, you can stay in my mass tent, you do not need to sleep outside at night.

JC: *So, you do not force anyone?*
GN: No, I don't force anyone who does not want to stay there! It is his own will. He also can go to the forest and stay there free of cost. Nobody forces anyone!

JC: *Were there some complaints from other families in the village? Maybe, that you offer camping facilities on your ground and that you earn the money and not them?*
GN: Yes, there were some and I would say it was professional jealousy and it has something to do with education. Now, they are realising that I have given them some business awareness. They used to fear that camping might reduce the number of loads because the tourists do not need to bring many things (up there). But now they realise that, by advertising, I have increased the number of tourists. They are catering to a bigger volume now. Before, hardly a group in a month would come. Now, with the advertisement and the facilities up there, lots of people are coming.

JC: *Yes, nearly every day tourists come.*
GN: Yes, now you must have seen this year that two or three more small camping sites are being prepared. It is not threatening for the villagers, as long as we keep it natural.

JC: *Is it true that more and more families are engaged in this business now ?*
GN: Everybody, even a young boy, if you open his pocket, may have a thousand or two thousand rupees. Which is just impossible in the Northern Areas.

JC: *Is there now unity in your village about this business ? Or are there still some families in opposition to this?*
GN: Well, there is a lot of opposition from some families. We tried to organise a porters' union this year. But it did not work, some people refused to join. But still, there is always a lottery or very fair justice by dividing the loads. It is very well organised. It is not that some people always get loads and some never. Everyone has equal rights. Except, there are some influential people or some intellectuals who quickly get the job of a guide. However, this has to do with education. If you have a better education, if you can speak English, you can do this job.

JC: *Do you hear complaints about the bad reputation that Tato people have, maybe in Gilgit or in other places. You also may have read about this in travel magazines or guide books that they (Tato people) take too much money; that they close up their valley and their business against other outsiders.*
GN: I think that it is a positive point to keep it (our valley) a little bit expensive or to close it for outsiders. It is a sign of better economical appraisal of the village. Because, if we simply let a jeep enter from Gilgit, usually all tourists come from Gilgit, everybody will bring a jeep directly from Gilgit, the locals who spend a lot of money on their own jeeps will not get any profit. They maintain this road themselves, so they also have the right to do this. I think, as long as they do not really bother someone. Charging a little bit more, indeed it is more expensive than in other parts of the Northern Areas, is a good thing for the sustainability of tourism. We are not in favour of mass tourism, we are in favour of sustainable tourism.

JC: *Again, concerning the bad reputation. In some older travel guides you might read "Beware of thieves in Tato! Is there such a problem?*
GN: I also have read this many times in some books. However, what often happens is that it happened to one person and then it comes into the papers. Later hundreds of people read it and hundreds of people talk about this. Basically, it just happened to one person. It is an accident. Maybe, it was the carelessness of the particular person himself who left something outside the tent and a small child sees it and will try to play with it. Maybe that is the way a bad reputation came about. We always have a saying that bad news travel very quick.

JC: *Yes, journalists might tell you that 'good news is no news', only bad news counts! What about the land on Fairy Meadows? Once in Pakistan you told me, that Brig. Azlam Beg actually has bought a portion of land on Fairy Meadows and he is still the property owner.*
GN: Of course, he bought it from the locals and they have sold it. Legally, he is the owner of this property. But it can be stopped, there can be some agitaiton against it, there might be a trial in the court. Like in Hunza, he bought land from (individuals?) ....

Here, he bought land from the whole community and some from *mukhtar*(s). And, it is very possible that we will succeed against him because it was sold only by a few people and not by the whole community.

JC: *So, you will go to court again?*
GN: Sure!

JC: *I also discussed this problem with your brother Rehmat Nabi and he told me that you are planning to collect money to buy this land back from him.*
GN: It is not that much money. Even I myself, I can pay for this. And even the community can afford to buy it back, because he has already taken too much from this village. On the other hand, if the young people simply stay together, nothing will happen, he can't really come here.

JC: *You do not fear that he will come here and build a hotel?*
GN: I don't really fear. I told him, that 'if you want to have a camp site or if you want to build some huts, you can! As long as you do not harm the ecology you can come. Legally, you have the right 'But if it comes to the point of the destruction of this area, we will stop you whatever it takes. The people are determined to stop such plans.

JC: *Do you think that Azlam Beg's sons are interested in this area? This summer, I noticed that the small 'Shangri La' at 'Rarkot Bridge' had been closed and the locals were running a small restaurant and tea shop.*
GN: They are very interested. The closing of the Shangri La happened because it is a very hot place and they have problems with water supply. On the other hand, it is not a big set up to keep open. It is just a transit station for tourists to leave luggage there. They only have four to five rooms. Azlam Beg's grandson was here this summer and I had a lengthy discussion with him. We had quite bitter arguments in the first half of the discussions but later on he understood (my point), because he has travelled around and was coming from Canada and he would like to keep this place as natural as possible.

JC: *What is the basic idea behind your NGO?*
GN: The basic idea of this NGO is to collect money for the underdeveloped areas to provide basic needs to the people like water sanitation, health services, and basic education. This was my main objective as well as providing them with a healthy atmosphere.

JC: *Is it confined to the villages of Tato, Gunnar Farm, and Gor?*
GN: No, it is the entire area of Diamer, its name is 'Diamer Development Foundation'. It has been registered in Islamabad and we can operate all over Pakistan. Basically, our first aim is to do some work in village areas, like Gorabad, Gunar Farm or near Chilas. We already started a water sanitation project which was ... the donor was surprised that this project was done so quickly. They have put up 6,000 ft. of galvanised pipe in one month and a few days. They dug three feet down and sometimes they had problems with rocks also. The people really are in need of water. It is primarily drinking water, but

it is also supposed to be sufficient for the fields. It is quite big, almost three centimetres in diameter.

JC: *Who is the donor? Does the money come from Pakistan?*
GN: It is the Dutch Embassy! I was so surprised. I just submitted a few papers with some photographs. I knew someone in the development department and we just had one meeting. Next month, I was given the money. Generally, the Dutch are very flexible. With the Germans, you normally need political connections. I also did try to get money for the same project from the German Embassy. It took three months and then there was no answer. After this, I went to the Dutch Embassy and, in one month, they gave me the money. In the next month, I completed the project, which was also surprising for them.

JC: *Who did all the work, the villagers or a contractor?*
GN: Just the village people! No, we did not hire a contractor. The basic idea was to provide the villagers with the material needed. The rest of the job they were supposed to do themselves. We hadn't that much money to provide everything. And I think it is also a good idea to involve the community in this construction. We realised their responsibility [sic]. Well, if they keep it in a good condition, they will enjoy it in the future. If they do not maintain it, it is their own failure. They have to take care of this, it is their project!

JC: *Was there unity among the village community?*
GN: Before getting a donation, you have to organise the village. The first thing we did was to have an organisation from the village, a committee of five people. These people are responsible for this project.

JC: *Is the tap water now available to all the houses or is it confined to some particular houses?*
GN: Well, it is not meant for particular households. The village consists of about 25 households and this tap leads to a main tank right in the middle of the village. From there it is divided to three communal taps from where everybody is allowed to take water.

JC: *Did all houses donate some work for the construction of this project or were there some families who could not or did not cooperate?*
GN: Every house did! You know, normally one person out of a household was supposed to help, but there were even times when three men from one house came to work and help. They have wanted such a project for the last twenty years or so. Whenever there was an election, they were asking the politicians, 'if you can get water for us, we will vote for you!' Everybody promised this, but in fact nobody did it. This time they came to know that I do this type of work and some came to my home. I went up and I saw the situation. The women had to walk four miles in winter through the snow to fetch water. So I gave it a try. I did not really promise them. They were really in need of such a scheme.

JC: *Now, do you get more and more applications for such projects? Or was this a unique one?*
GN: Well, I was asked by the Dutch people only four weeks ago when I submitted my final report to them whether I have other projects or not. I told them, that I am going to Europe and I will come back to submit more projects.

JC: *Do you employ some staff for this or is it all done voluntarily?*
GN: We do this all alone. It is not a big job. We just make a report, a feasibility study. Well, in this NGO, we have some friends who are very big environmentalists who are doing a lot of big projects for the environment in our country. So, if I need any consultation, they do it for me.

JC: *And they do it voluntarily?*
GN: Yes, it is not a business, they do it totally voluntarily.

JC: *So, you have no permanent staff like the AKRSP?*
GN: No, AKRSP is a different thing. This is a big organisation, they have more money, they have a bigger infrastructure. So, I would say, they are doing less in development and are spending more on their own infrastructure. They are growing too big, they are paying high salaries and they are paying a lot of money for their cars, which we simply cannot afford to do. We prefer to spend the money for the communities than to develop our NGO.

JC: *However, when there are more and more applications from the villages, it might be necessary to have some staff, it might become too much for one person to handle?*
GN: Still, I think there are many other ways to get money and give it to the communities by making them responsible.

JC: *But I think that you also should implement some kind of control. If you divide so much money for so many different people, I think you should be sure whether there is really a positive impact.*
GN: Well, if it reaches a certain level or number of projects, there will be a need to hire people and implement some kind of control. But I think it won't be that much. Because it is a small area and if you involve communities you really don't need employees. Projects should belong to the communities and they need these things and they know how to manage them. For the next ten years, I am sure we won't grow so big, because to get donations is also a difficult job.

JC: *What do you think, what kind of projects are most necessary for the villages?*
GN: The first thing I would say is health problems [sic] which are directly concerned with water sanitation. If you give them clean water, there will be less health problems! So, water sanitation is one of the primary issues and the second is primary education. It is really important for the people. Education means awareness! Awareness about health and about environment.

JC: *So, you will go there and give some lectures or so?*
GN: We always do that, we always try to get in contact with the youth who are educated. Whenever there is a meeting, we try to explain to them what should be done or what should not be done. Now, more people are thinking because they simply need food, they demand a better way of life. If you talk of environment, they feel it is a crazy thing. So the first thing is, to provide them with something and then you can ask them to give something back.

JC: *Maybe you know Guy Duke from the 'Palas Project", he related to me exactly the same lesson based on his experiences in Kohistan. First of all, they introduced different economic incentives like better seeds, mineral fertilizers, or something else to prepare a basis for the people to get involved in the project's primary objective, the conservation of 'biodiversity'.*
GN: Yes, in order to get help or to get support from the village, you have to give them something. You simply can't go there and tell them to stop cutting trees. They need money for a better life. After giving them something, you can ask for the protection of nature. If you directly talk of nature, they simply won't listen.

JC: *I am also sure of this. Do you think that this 'Palas Project' is working well in Kohistan?*
GN: I think that it is, considering the situation there, it is a very successful project. You cannot expect such a good project in Kohistan where more people are illiterate and they simply don't have any awareness of the environment. That is one of the places where the timber felling originally started, you know? So it was a successful project. Although I do not know about it in detail, I am sure that implementing such projects in Kohistan is a major achievement, it is really a big achievement!

JC: *This summer, I was told, not only by the AKRSP people but especially by them, that politicians and people from Chilas are demanding the expansion of this project into Chilas. Would you welcome them also?*
GN: Yes, they should do this. I would welcome all these things from AKRSP. But simply there are a few religious groups who don't want this. Because they are frightened of the ... you know, there are rumours, that around the year 2000 they are going to convert the North into an Ismailian State. I do not know whether it is true or not. The fear is that, by means of the expansion of AKRSP's projects, they will carry out some kind of religious education. I do not believe it and I don't agree with it, but this is the reason why they are not allowed to come to Chilas.

JC: *I was told similar things in Astor also. But now, there are lots of people from Astor engaged and employed by this project. Already now, AKRSP is looking for staff from Chilas to be prepared for the possible expansion into this area. They want to train people in advance. I do not see such a threat of conversion, but I can understand that some people are afraid.*
GN: Yes, that is the main reason for this issue. Otherwise, I mean, it is not a religious issue. It is totally .... I would say, they have so many donations from the USA and other

countries. They (Chilasis) accept these projects and schemes but they do not accept the 'Agha Khan Foundation' because it might be a kind of missionary one, that is what they believe.

JC: *Suppose, AKRSP will actually start working in Chilas, do you fear some competition for you NGO?*
GN: Our NGO aims basically at providing good things to the communities. If someone else is also doing this, I would rather welcome it. It will be more quickly done than I can do it, so I would feel happy if more and more people come up with these things. It is not a private business, so I do not think there will be competition.

JC: *So, do you see a chance for cooperation or some kind of specialisation in development activities?*
GN: It is always welcome, if someone else comes. It has nothing to do with competition. We are not making money out of it, so there is no fear that AKRSP will take up everything. We are working on minor levels, they on superior levels. I can't think of being their competitor, if I can do my work and they can do theirs.

JC: *Concerning forests, as far as I know there is a ban since 1993 on the felling of trees. However, this summer we saw so many logs being brought down from the forests to the roads. What is going on there?*
GN: This year, they lifted the ban to pull out the previous trees for marketing.

JC: *Who is getting the money for these trees? Is it still Azlam Beg and his sons or is it the villagers from Tato earning money from marketing the trees brought down this summer?*
GN: Well, this forest is still on lease to him. Officially, it is still Azlam's property. He has to pay some money to the villagers, the 'royalties'. The rest is his money. The trial going on now is about the villagers demanding more royalties than he has paid before.

JC: *How long will this lease last?*
GN: Normally for twelve years, but the twelve years are over. But since the government implemented a ban in between, these three years go to his credit. It can be expanded.

JC: *What will happen when the lease is finished?*
GN: The forest will be handed over again to the village.

JC: *What are your plans for the forest in the near future? Will you exploit it the same way that Azlam Beg did?*
GN: We will conserve it, rather we will exploit it also, but in a different way, in such a way that the community gets benefits and nature is conserved. We have a lot of 'dead fallen' and 'dry standing' trees which can be removed and the economy can be upraised very quickly, but not by cutting living trees.

JC: *However, did you make any calculations about whether these 'dead fallen' trees will be sufficient for domestic needs, for the construction of houses and so on?*
GN: We really have a lot of such trees. We will divide the forests. Some parts of it will be solely for the domestic needs of the people, from some parts they also may sell timber. Rather, we are thinking of keeping it for our own resources, for our own use. You might have heard that I have raised my voice to the owners of these forests in our region saying that they can sell their forests to me at a higher rate, more than double the price that they are demanding from Brigadier Azlam and I will not cut it! I will keep it! I told them to sell it to me for 50 years. This money is a million dollars. I think it is difficult but not impossible to collect this money. There are people who would give donations for such a beautiful forest. It is very difficult, but not impossible.

JC: *There are similar programmes run by Greenpeace and so on. They bought some land in Brazil to conserve the tropical rain forests. So, of course, this might be possible also in Pakistan.*
GN: Yes, I am already in close contact with IUCN (The World Conservation Union). They have given positive signals. There is another organisation, CNPP, Commission on National Parks and Protected Areas', another big NGO from Switzerland, they also wrote us a letter saying it would be possible to buy this forest. But first, we need a proper infrastructure.

JC: *Yes, I also wanted to ask you about the policy on National Parks and the situation in Fairy Meadows. If such a park were to be created for the Fairy Meadows area, do you fear that this will create restrictions for the local people?*
GN: Yes, we had a big village meeting about two years ago on the topic of National Parks. But then we realised that the government can implement stupid restrictions on practices which the locals have been enjoying for hundreds of years. They can't really stop it! So we thought that we should manage the forest ourselves in consideration of the natural rights of the people.

JC: *Did you find a consensus in the valley, in the villages?*
GN: We had a big talk and most refused to have the forests converted into a National Park with a lot of restrictions. So now we will make it a 'natural' National Park which means, let the locals continue to enjoy their rights. On the other hand, we will protect the forests and stop the exploitation of the forests.

JC: *And the management should be with the local people?*
GN: It should be within the community and not with higher ups who often are corrupt people.

JC: *I think that Khunjerab is a very bad example of a National Park.*
GN: Yes, it is no longer a natural park. Even after the implementation of this National Park, wild animals are being killed. Because the people who were supposed to be the game watchers, they themselves shoot wildlife.

JC: *By the way, do you know John Mock? He gave an excellent lecture on the policy of National Parks at the 'Hindu Kush Conference' in Chitral. He clearly pointed out that the management should be with the local people, because they know the local situation best and they want to have sustainable use of their environment.*
GN: Once when I was in Khunjerab, I was invited by a friend of mine, a forest officer. He offered me a meat dish and I asked him what kind of meat it was and he told me, well markhor! So I told him, well you are supposed to protect these animals! But he answered, well it is no problem to shoot one or two, there were supposed to be a lot of them. So I told him, if you kill one, another one will come and kill one and eventually everyone will come, and the problem will never stop.

JC: *Just one last question concerning the forests. Do you see the necessity and also the potential for planting forest trees or do you think that natural regeneration is sufficient?*
GN: There is a very high ratio of natural growth in our forests, you must have realised. However, there are some places where too much timber felling has already been carried out and where some erosion is taking place. I feel the need to plant some new trees in such places and we will do this in the next few years.

JC: *And what about grazing? When the trees are young, they often are eaten up by goats?*
GN: That is one reason why we can really not plant lots of trees. We can't simply cover it with wires or with some fence. But I think it will not be a major issue. Generally, we have natural forests all over here, and there will be very few places where we have to plant the trees and we can protect these. We will tell the shepherds not to go to those sides. The basic thing is the awareness of the people. Once they are aware of it, once they feel their responsibility, once they realise it, then there will be no problem.

JC: *I am quite optimistic about your case but sometimes I fear that this awareness will only come and grow when the forests are nearly gone! Then it might be too late. My experience in Astor is that people are still not aware because until now the forests are still abundant and the people keep on cutting trees. Maybe after 20 years the forests will be finished.*
GN: Yes, that's why we have already started with our work!

Annex 3

Photographic Depiction of Raikot Valley and Activities

Overview

Pristine Forests

ROAD DEGRADATION

Landslide across road

Erosion above road

Road repairs

DEFORESTATION

Mobile sleeper bridge (*patrooh*)

LOGGING IN BLOCK 4C

Collection (*thal*) and transit area

DEFORESTATION

LOGGING IN BLOCK 4C

DEFORESTATION

SHAPING INTO SLEEPERS

Decaying logs

Terrace agriculture

Potato crops

Vegetables in enclosure

Irrigation channel in forest above Jut

Two kilometres down in Punjadori

Gravity flow grain mill (Chakki)

Alpine pasture below Jut

Alpine pasture at Beyal

Coexistence

LAND-USE PRACTICES: LIVESTOCK MANAGEMENT

Retaining gate

Too close for comfort

Raikot Serai community at war

Stop the cutting! No way, I need the money

My house, my mansion

Raikot Serai: disposal of excreta

Go for it! Plently more where these came from

Near Raikot Serai: provisions for tourists and locals

Annex 4

Monitoring Report on Fairy Meadows

Fairy Meadows: Forests at the Edge of Disaster
(Shaheen Rafi Khan, Ghulam Nabi, Rizwan Afzal)

Fairy Meadows — a poetic name for a poetic place, bestowed by a poetic people. In the upper reaches of one of the remote valleys in the Northern Areas, Fairy Meadows, one of many pristine alpine pastures, lies cushioned serenely among majestic mountains and tall dark virgin forests. In spring, the meadows are a blaze of colour; a riot of wild flowers of every variety, stretching out as far as the eye can see. They delight weary trekkers who have braved the three hour long, 1,000 metre high climb to relax finally among the meadows and gaze in awe at the resplendent snow-clad Nanga Parbat and her no less formidable sisters. Catching their breath, their eyes descend from the scudding clouds which garland Nanga Parbat, move along the kilometre-wide Raikot Glacier, finally coming to rest at its base. On both sides of the glacier, dark green forests of pine, fir, juniper, and birch ascend onwards and upwards until they reach the limits of the snow line. At the glacier base, new forest growth crowds its grey retreat, demonstrating yet again the millennia old triumph of birth over death. In time, satiated with such splendour and, gaining new strength, the visitors venture out again among the many forest and mountain trails for new experiences.

But, Fairy Meadows is under a looming threat, yet another victim of the rapacious timber mafia which has cast its malign shadow over the entire valley. Holding the impoverished local community to ransom and coopting government line agencies with equal facility, its rape of the environment and its people is both a physical and metaphorical travesty. Vast forest tracts lie devastated, mountain slopes have been irreversibly destabilised through massive use of dynamite and, thanks to an exploitative contractual arrangement, the proud and simple mountain folk are hopelessly at odds with each other over the small pittance allowed to them as royalties. The inert and weather-beaten deodar, fir, and pine logs littering the Karakoram Highway will eventually find their way into the houses of the elite, transformed into panels, cabinets, cupboards, beds, and other hallmarks of status. Few will trace their connection to a remote and beautiful mountain valley on its way to becoming another disappearing legacy.

Fairy Meadows is located in the Raikot Valley, Diamer District. The valley can be reached by jeepable road, branching south off the Karakoram Highway and originating at the Raikot Bridge on the Indus Rivers approximately 80km south of Gilgit. Winding up along the contours of the mountain slopes, the road passes by the main settlement, Tato Village. It comes to a stop at Jhel, a smaller village from which the final ascent up to Fairy Meadows begins. Construction of this road began in 1983 and was completed five years later in 1988. It is a vital lifeline for the valley residents, facilitating communications and movement of supplies. Thanks to the road, the influx of tourists and trekkers has also picked up rapidly.

The resident population in the 20-kilometre long Raikot Valley consists of about 100 households, with an average household size of seven members. The main ethnic group is the *shin*(s) (99% of the population) with *shina* being the spoken language. Their

ancestral hold on the land, its forests, and water resources also gives them primary revenue rights from the exploitation of forest resources. The *shin(s)* preserve their hold over their ancestral property through extended kinship ties, with intermarriages across ethnic groups being strictly forbidden. The community is orthodox Sunni, which has come to dominate pre-Islamic beliefs and practices, such as shamanism and acts of worship connected with fairies and certain mythical animals. But the old myths linger, preserved through oral tradition and the medium of music; a source of entertainment for visitors on cold nights over a warm campfire.

The upper reaches of Raikot Valley have enormous trekking and mountaineering potentials. The International Centre for Integrated Mountain Development (ICIMOD) has classified it as a Himalayan Environment Resource (HER). HERs have unique attributes such as inaccessibility, diversity, and fragility. Inaccessibility allows the pristine and diverse quality of the mountain environment, with its forests, flora, and fauna, to survive in an undisturbed state. But the inherent geological instability, combined with high intensity use of mountain resources; mining of forests for timber and fuelwood; overgrazing on mountain slopes; and overburdening of sinks through poor sanitation practices, can easily disturb the fragile ecological balance, often giving rise to irreversible degradation. Increased rates of erosion, landslides, and loss of flora and fauna are examples of such degradation. In order to prevent this from happening, the mountain resource base must be used sustainably within the limits represented by its 'carrying capacity'. This is an all-encompassing concept; it means that the activities of the host and transient populations must contribute to maximising environmental, socioeconomic, and cultural benefits, without adverse impacts on its biophysical, socioeconomic, and cultural environment.

As is evident, neither the activities of the local community nor those of the tourists pose a threat to the sustainability of the valley's natural, economic, or cultural assets so far. In fact, their mutual interactions represent a healthy symbiosis, resulting in reduced pressure on the resource base, as well as in improvements in the socioeconomic welfare of the community. The marginalised population of Raikot Valley ekes out a bare subsistence from the mountains, which takes the form of terrace agriculture, livestock grazing, and dual use of forest wood for house construction and fuel. Clearly, the small size of the population, relative to the size of its resource base, i.e., forests, land, and water, limits the extent to which these resources can be exploited without causing lasting environmental damage.

Tourist interactions with the environment have also remained benign. In the first place, difficulty of access restricts the type of visitor to a particular type of person; one who welcomes a certain degree of physical hardship, is in tune with environmental issues, and is alert to the cultural sensitivities of the people. Second, the visitors have generated employment and income-earning opportunities for the community, through hiring porters and guides, use of local jeeps, and purchase of food and fuelwood, thus diversifying income sources and reducing pressure on the land. Third, induced support infrastructure, such as camping facilities, are basic and client appropriate; no expensive tourist resorts

are to be seen. Finally, the income potential stemming from the continued influx of tourists and trekkers can be expected to create greater awareness and concern with preserving the pristine quality of the mountain environment, in order to sustain and increase these inflows. Such synergisms represent sustainable mountain tourism development in a form which not only remains within the bounds of the area's carrying capacity but, in time, can improve it as well.

But the story, unfortunately, does not end here, as the inserts so vividly demonstrate. The manifest destruction of the forests and degradation of mountain slopes are further affirmation of our national afflictions — namely, greed, exploitation, and corruption. Such wanton acts, clearly, cannot be attributed to the indigenous community nor to the tourists, but to a much more malignant presence, namely, the timber mafia. Thereby hangs a sordid tale.

The forests are the communal property of the local population, to which they have legal and ancestral rights. Such rights were established during the pre-partition colonial era, under a system known as *bahr rajaki*. In return for use of labour services and pack animals to transport material and equipment to designated camps (*parao*), the British granted large tracts of land and forest to the tribes and clans providing these services. These liberal grants also established the basis for a hands-off style of self-governance which suited these proud and independent people and guaranteed payment of revenues (*maaliya*) to the colonial administration. The Bhutto government abolished the *numberdari* system in the early seventies. However, its replacement, the local government system, has provided few benefits to the mountain communities.

Nowhere is this neglect more evident than in Raikot Valley. The valley has one ill-equipped and under-staffed primary school; the local dispensary can barely deal with first aid cases; there are no water supply facilities; and repeated requests from the community to construct an access road or to repair irrigation channels have met with typical bureaucratic apathy. The locals continued to lead a bare subsistence existence without the means or knowhow to exploit their forest wealth.

In 1983, a retired officer and entrepreneur par excellence spotted the immense revenue potential of the forests — and also noted the economically distressed condition of the community. He offered to construct an access road up the valley, in return for a contract allowing him to cut up to 20,000 thousand trees in six designated valley blocks over a ten-year period. The locals accepted with alacrity. Not only did this mean a desperately-needed road would be provided but an additional sweetener was provided as well; for every square foot of timber extracted, Rs 2.50 was guaranteed in the form of royalty to be distributed among the community. A more detached observer would have noted that the road was being constructed primarily to facilitate transport of timber through otherwise inaccessible terrain. Also, the royalty was a fraction of what the timber would fetch at down-country sales.

To this officer's credit, he continues to be respected by the local community. Although extracting his pound of flesh, he also understood what the forests represented and the value of controlled cutting. In strict compliance with forest department regulations, only those trees were cut which were marked as mature, top dry, dead standing, diseased or in congested lots. The timber was guided down with ropes to protect standing trees, and fallen branches and debris cleared to allow regeneration to take place. By the time the road was completed in 1988, 5,000 trees had been cut from two blocks or compartments. On the modest assumption that an average tree yields 50 square feet of usable timber and that the market rate then was Rs 100 per square foot, the contract turned out to be an extremely lucrative proposition. Of the gross revenues of Rs 25 million, the community was paid Rs 7.5 hundred thousand with an equal amount going to the forestry department as fees. Furthermore, about five tons of dynamite were used in blasting the road. This has caused extensive fissuring in the rocks which is constantly enlarged through alternate cooling and heating. The process has become a source of frequent landslides which block the access road and require expensive and repeated repairs.

In 1988, when the officer ceased supervising activities, a critical turning point for the forests was reached. It unleashed a chain of events that has spelled large-scale destruction and which the inserts have attempted to portray. As timber prices soared and the community became aware of the one-sided terms of the contract, they began to agitate for better terms. At the same time, managed harvesting of timber began to be replaced by indiscriminate deforestation. Growing collusion with the forest department staff and, regrettably, with some locals, led to marking of fresh and under-age trees, as well as cutting of unmarked trees. By 1992, an additional 2,000 trees had been levelled in Block 4, the largest of the six designated compartments. This is a forest 3.5 kilometres long and one kilometre wide, extending from Fairy Meadows up to Beyal Camp at the base of Nanga Parbat.

Alerted to the impending disaster, the Moeen Qureshi government imposed a ban on cutting trees in 1992. Fed up with an increasingly strident local population and faced with a probable loss in income, the officer's son sold out the remaining portion of his contract to a timber lord from Dir. The ban notwithstanding, deforestation activities have continued apace. In 1995, the terms of the contract were renegotiated with the community; their combined royalties and returns were increased to Rs 50 per square foot. But timber prices also went up in the meantime, to Rs 300 per square foot. A rough calculation suggests that the remaining 15,000 trees will gross anywhere in the region of Rs 225 million. Of this, approximately Rs 45 million constitute royalties and Forest Department fees. Returns of this magnitude are more than a sufficient reason to engender violations of the ban with the associated penalties, amounting to a few hundred thousand rupees, proving to be an ineffective deterrent.

The authors went up to Fairy Meadows in mid-July to evaluate the latest situation. There, they found fresh evidence of extensive contractor activity. They were informed that anywhere from 500 - 1,000 fresh trees had been cut in Block 4 during the winter

in continued violation of the ban and at a time when weather conditions made monitoring difficult. Visual inspection revealed a two kilometre long and a half kilometre wide swathe of destruction. The trees cut and accumulated since 1992 had not been removed, with many in an advanced state of decay. Freshly cut trees were being shaped into sleepers, while dead standing and bottom burnt trees continued to remain bleakly upright. Many tree stumps did not bear the required Forest Department mark and number. Debris, fallen branches, and other detritus littered the ground, preventing regeneration and threatening to block off the villagers' main irrigation channel. The Deputy Director of ICIMOD, who accompanied the authors, was horrified at the devastation, remarking that he had seen nothing like it before in his experience.

The work is being carried out by imported labour from Dir. This labour is also being used to repair the road which has been undergoing severe erosion since early May, blocking all access to the valley and causing a serious setback to tourist traffic. While the primary purpose of these repairs is self-evident, the community is in no mood to ask questions, given the tangible benefits that this road represents for them.

The community is becoming increasingly fractious and turning upon itself, thanks to the machinations of the contractor. While a few informed activists are putting up a brave rearguard action to stem the rot, they are pitted against the bulk of the community. One cannot blame them. Neglected by the government, their income from tourists is at stake and, tempted by prospects of higher royalties, they cannot be expected to forego immediate financial benefits in the interests of long-term environmental gains. It will take time and education to persuade them that, if the present exploitation of forests continues, it will deplete their stock of natural capital and, eventually, discourage tourists from visiting the area. In the mean time, the contractor continues to exacerbate and feed upon their divisiveness.

Clearly, two radical and expensive solutions are called for which would break this vicious nexus of dependence upon the contractor. First, either the government or a donor agency should undertake lasting repairs on the access road. This means biological and engineering measures without the use of dynamite, e.g., checkdams, protection walls, drainage, and planting of fast-growing grasses and shrubs on the degraded mountain slopes. The appropriate technologies could be readily supplied by institutions such as ICIMOD. Once the road is stabilised, subsequent repairs and maintenance can be carried out by the community.

The second solution calls for an adequate financial incentive to the community to substitute for revenues from the contractor, as well as arrangements to remove dead wood from the forest base. The objective should be to convert Block 4 into a community park. The compensation mechanism should be such that payments are linked to demonstrated commitment by the community to protect the forest. The community would — under written contract — retain its rights to timber for house construction and fuelwood, and periodic controlled harvests would be allowed under community supervision and at royalty rates determined by them.

While these are the key actions required to marginalise the contractor's influence, other sectoral interventions are also critically needed. These consist of: a) physical and social infrastructure (irrigation channels, water supply schemes, school improvements, and a general as well as maternal and child health clinic); b) agricultural extension advice — for instance, Raikot Valley grows virus free potatoes and can be developed into a national seed source; and c) development of the tourism potential of the valley through technical and management improvements. In particular, Raikot Valley should not be allowed to develop into another Naran or Kalam, dotted with pagoda-like concrete structures, catering to an affluent and lazy class of tourists and providing employment and revenue for non-valley residents.

Nature's beauty is finite and Fairy Meadows is one of its national, indeed global, endowments. It is high time the government and/or an outside donor woke up to the grim possibility of its irrevocable loss and did something about it.

Annex 5

Zauti Members

Members of the Zauti

Members	Families
Fazal Khan	Nagirai
Abbas Khan	Raeesai
Taimur Khan	Hajjatai
Ahmed Ali	Loainh
Mantaas	Mujetai

ICIMOD

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 focusses on the specific, complex, and practical problems of the Hindu Kush-Himalayan Region which covers all or part of eight Sovereign States.

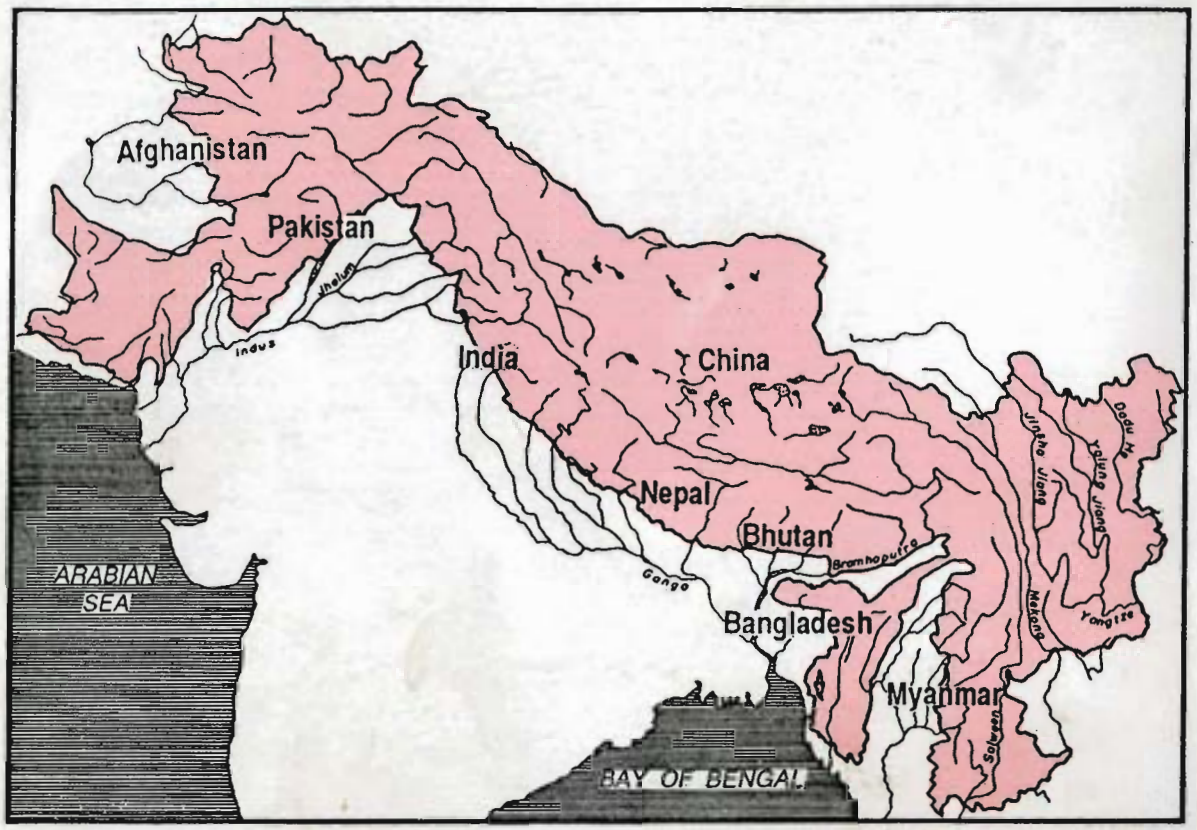
ICIMOD serves as a multidisciplinary documentation centre on integrated mountain development; a focal point for the mobilisation, conduct, and coordination of applied and problem-solving research activities; a focal point for training on integrated mountain development, with special emphasis on the assessment of training needs and 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 Enterprises and Infrastructure Divsion

Mountain Enterprises and Infrastructure constitutes one of the thematic research and development programmes of ICIMOD. The main goals of the programme include i) gainful enterprise development and income generation; ii) harnessing mountain specific advantages; iii) infrastructural development (social and physical); iv) sustainable energy resources for mountain development; and v) capacity building in integrated mountain development planning.

Participating Countries of the Hindu Kush-Himalayan Region

- Afghanistan
- Bangladesh
- Bhutan
- China
- India
- Myanmar
- Nepal
- Pakistan



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