

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*, *Salix 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. turkestanica*). 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 Beyer 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 Beyer 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 rupees¹ 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. Secondly, 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 death. 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 *taro* (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 entrapment 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.