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.