5. Commonalities and Variations: A Discussion of the Emerging Patterns

Model or Typology

In studies of protection and management of forests, attempts have been made by scholars to develop typologies and models in the past (Arnold and Campbell 1986; Bartlett and Malla n.d.; Fisher 1989, 1991; Gilmour 1990; and Molnar 1981). Fisher has examined typologies of harvesting practices by Arnold and Campbell (1986) and those based on ethnic differences and geographic distribution (Molnar 1981). Before proceeding any further, we will discuss some selected models.

Fisher (1989, 1991) has presented a model based on the organisational forms of indigenous protection and management systems. He calls it a two-tiered model consisting of: i) an institutional base which includes shared values, rules, practices, and defined user groups, and ii) an organisational structure consisting of committees and/or guards. Fisher notes that this model allows a distinction between formal and informal systems. The informal systems lack an organisational superstructure while all systems do have the institutional base. Fisher's model is, therefore, useful in classifying forest protection and management systems according to their organisational forms. But this is only one way of understanding indigenous systems of forest protection and management.

Fisher has also presented a classification of systems based on i)maintenance of user rights (restricting the use of forest products to a locally-defined user group only) and ii)biological goals (concerned with protection and production of certain species and how and when to use the products). This model looks at such systems in terms of management goals (1991:9).

Gilmour's (1990) resource availability model is useful in understanding the responses of people vis-a-vis different resource accessibility or availability scenarios. This model relates the emergence and existence of indigenous systems to the accessibility of forest products. It postulates that the local people develop indigenous systems of forest protection and management when faced with severe shortage of forest products. Accordingly, in a state of ready access to a plentiful supply of forest resources, there is no felt need for a management system "*and the forest may be treated almost as an open access resource*" (Gilmour 1990:147).

Gilmour's model was developed out of experiences in Kavre Palanchok and Sindhu Palchok districts from where cases supporting the model have also been discussed (Fisher 1989, Gilmour 1989, 1990; and Gilmour and Fisher 1991). This model is certainly helpful in formulating hypotheses, "*but should not be applied too mechanistically*" (Fisher 1991:11). Inaccessibility of forest products can make local farmers adopt other strategies too. For example, studies from Kavre Palanchok and Sindhu Palchok suggest that farmers increased the tree cover on their private lands, perhaps in response to the restrictions (limited accessibility) on community forests (Carter and Gilmour 1989; Gilmour 1988; and Gilmour and Nurse 1991). The cases discussed in the present study suggest that the concept of ownership of the forest, perceived equity in product-sharing and distribution, decision-making, and a number of other factors are equally crucial for the emergence and existence of indigenous systems of forest protection and management.

There also have been attempts to group the types of forest management systems in Nepal under such categories as: i) the *Kipat* system, ii) the *Talukdari* system, and iii) indigenous management systems (Bartlett and Malla 1991). Such classifications further bolster our argument about the presence of variety in forest resource protection and management systems and practices in Nepal. The use of a conceptual model in this study is an acknowledgement of the real variations and commonalities among the user groups of forests and their management systems. Thus, we argue that setting up typologies to identify exclusive types is not yet a fruitful approach to a systematic understanding of the systems of forest management in Nepal. Emphasis on models that provide an analytical framework is certainly justifiable for now and for the future.

Developing a typology or a model of forest resource user groups and their management systems is contingent on identifying factors that contribute to the emergence of such user groups and, more importantly, on bringing out the factors that are crucial for their existence, persistence, and effectiveness once such systems come into being. At present, "*gaps in information about management structures (if any), decision-making, dispute*

resolution, goals of management, and even about the nature of the forest resources being managed" (Fisher 1991:22) hinder any such attempts. The case studies from Baitadi and Achham presented in this study certainly fill some of the existing gaps. But more studies are needed along similar lines in other parts of Nepal also, in order to have access to comparative information which is essential for developing a typology of forest resource user groups. Given the present state of "incomplete geographic coverage" of knowledge in this regard, we agree with Fisher that there is "*a major barrier to developing useful generalisations about types of systems, since there is every likelihood that we have missed major types*" (1991:22). Due to these concerns, as well as our contention that variations between systems are just as important as the commonalities, we have a model rather than a typology.

In a recent paper, Fisher (1991) distinguishes between approaches based on typologies and on models. He defines typologies as "*systems of classification that allow individual systems to be placed in more or less separate categories based on distinguishing features*" (1991:22). In contrast, an analytical model can be applied in individual cases, while recognising common features as is true for the conceptual model presented in this study. Our eight case studies provide evidence that people in the hills of Nepal are concerned about protection and management of forests that are accessible to them. These cases vary in terms of the nature of the forests, user group characteristics, and their systems of protection and management as well as their behaviour and practices in regard to the protected forests. In the discussion below, an attempt is made to identify the variations and similarities that allow us to understand the emerging pattern of user groups pertaining to indigenous systems of forest protection and management.

The discussion below is based on important characteristics and criteria relevant to the eight case studies. Table 2 summarises the characteristic features across cases and the two districts. Some important questions which crop up on the basis of the information summarised in this table are: what are the similarities and differences among the eight cases? are user groups more successful under a formal or an informal system? Answers to these and other relevant issues are presented under appropriate headings. The features in the table are of a demographic (user group size, etc), technical (forest area, species, density, etc), and social (organisation, decision-making, etc) nature.

Nature of the Forests

As we can see from Table 2, the forests under study vary in terms of length of the period they have been under protection, the land area under forest cover, altitude, slope, and

species' predominance. Besides, they also vary in regard to the products currently available for use or products that have been used on a regular basis (see product-sharing, use, and distribution below).

Apart from Koti *Gaunko Ban*, where several abortive attempts were made in the past to protect and manage the *sal (Shorea robusta)* and cutch tree (*Acacia catechu*) forests in the area, the rest of the cases have a history of protection and management going back to from 10 (Kuika*ko Ban*) to more than 70 years (Bhatwada*ko Ban*). In Baitadi district, the people of Binashaun, Seli, and Majarkhola reported that they started protection and management of the forests in one way or another after the cadastral survey of 1938 (1995 B.S.)[21]. The land area under forest in these cases ranges from 10 ha in Majarkhola to 65 ha in Bhatwada (Table 2). Species' diversity and variation reflect environmental factors such as altitude and climate and perhaps the needs of the local people. Details on diversity and predominance of species in each forest under study have been summarised in the Annex.

The biological conditions of the forests under study are variable (Annex). The stock conditions of the forests perhaps reflect the effectiveness of the protection and management system. However, the lower density of trees as well as seedlings may be due to population pressure (both human and non-human) on the resources, or the product use and harvesting practices (not removing leaf litter in Binashaun and unsound leaf litter sweeping practices in Seli), as well as the soil conditions in the forest area.

The indigenous management system in most cases seems to be protection-oriented, having little concern for the biological condition of the forest. Regeneration by propagated seedlings does not seem to be a deliberate objective within the local management plan. Most of the user groups and their protection and management systems could be characterised as "restrictive" rather than managing forests for "sustainable use" by choice.

User Group Characteristics

Among the user groups under study, there is also variation in the total number of households, the total population, and the number of settlements as well as the caste composition (see Tables 2 and 3 for details) in each case.

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[21] This points to an important fact which is of methodological significance. Since people in the villages often are not used to keeping track of dates for events that occur in their lives or in the village, events are used as landmarks. Once such events (such as earthquakes, revolts, a cadastral survey, a general election, etc) are identified for reference, it becomes easier to place events under study in a fairly accurate temporal context.

The average household size in all cases under study is more than five persons per household (with the exception of Majarkhola) while the average number of animals ranges from 3.8 per household in Bhatwada to 6.9 in Koti*gaun*. If we relate the size of the forests to the number of user group households or the population, the highest pressure is on Dhami*ko Ban* in Achham followed by Majarkhola*ko Ban* in Baitadi. The lowest pressure is on Seli*ko Ban*, Baitadi, followed by Siddheswori*ko Ban* in Achham (Table 3).

Table 3: Some Characteristic Features of Cases Studied in Baitadi and Achham, 1991

Forest User Group	Hh Size	Animals/Hh	Hh/ha	People/ ha Forest	Animals/ ha Forest
Binashaun	5.92	6.0	4.2	25.0	25.3
Seli	6.50	5.8	0.7	4.5	4.1
Koti *Gaun*	5.83	6.9	2.7	16.0	18.9
Majarkhola	4.59	5.9	9.8	45.0	57.8
Dhami *Gaun*	6.84	5.8	13.5	92.5	78.1
Kuika	5.67	4.8	2.3	12.9	10.8
Bhatwada	6.83	3.8	1.5	10.4	5.8
Siddheswori	5.83	5.4	1.5	8.9	8.2

Hh = household, ha = hectare

Source: Field Survey, 1991.

Ethnic Factor

Ethnic homogeneity is not necessarily an observable reality in many villages in the rural areas of Nepal. However, it is not uncommon to find villages that have a predominance of one or the other caste or subcaste. Of the eight cases under study, Binashaun, Seli, Majarkhola, Kuika, Bhatwada, and Siddheswori have about 80 per cent or more households in them belonging to a single caste or caste group (derived from the statistics presented in Table 2), while the predominant caste in Koti *Gaun* (Bista *Chhetri*) is only 42.7 per cent of the total and that in Dhami *Gaun* (Dhami *Chhetri*) is 57.4 per cent of the total. Koti *Gaun*, with its heterogeneous caste composition also happens to be a case where repeated attempts at protection and management by some individual leaders have failed. Besides, although Dhami *Gaun* has a 60 year history of protection and management, we learned that it had a turbulent history leading to the degraded condition of the forest. However,

Siddhesworiko *Ban* in Achham, with 81 per cent Kunwar *Chhetri* households, also had a turbulent history of protection and management. Thus, it appears that ethnic homogeneity among user group members may be necessary, but this factor is not sufficient for an effective protection and management system. In addition, as indicated above, the actual reality in the villages of Nepal will not necessarily be like those of Seli, Binashaun, or Kuika.

Proximity Factor

The physical distance between the settlements of user group members and the forests under protection and management is an important influence on the participation of individual households in such activities. The physical realities of Koti *Gaun*, where settlements as well as forests are scattered over a wide area, support this statement. For instance, some of the settlements like Harada, Kachyar, and Suni in Koti *Gaun* are several hours' walking distance away from the *sal* and cutch tree forest patches that are by the Sornaya Gad (Sketch Map 3). Besides, if we observe the history of protection and management in Dhami *Gaun*, Kuika, and Siddheswori, in Achham and Majarkhola, in Baitadi, we learn that there have been cases of reduced concern among people in the context of paying in kind (*manapathi*) or being involved actively in protection and management. This is because people feel that they benefit less from the forests as they are farther away from the forests in question. It appears that the primary user group households have to be close enough to the forest under protection to ensure equal interest as well as participation in forest protection and management activities.

Ownership and User Rights. Ever since the enactment of the Private Forest Nationalisation Act of 1957, the Government has been the legal owner of most of the forests in Nepal. However, in all cases under study, it was found that people have been protecting the forest patches as *de facto* owners exercising extra-legal ownership rights over the forest lands[22]. More interesting, however, is to learn that the neighbouring communities (many of whom again have their own protected forests) do recognise the user groups in question as the owners of the forests under study. Even in Koti *Gaun*, where the forest patches are in a state of 'open access', local people claim that they are the owners of the forests of Koti *Gaun*. The Koti *Gaunko Ban* is open access in the sense that there are no internal regulations for use and protection of the forest patches in the area.

[22] This seems to have worked out well for the users in question. A question before us is: how far was the Private Forest Nationalisation Act of 1957 successful in demonstrating to the people that the Government was the legal owner of the forests?

The concept of ownership expressed as *hamro paleko ban* (our protected forest) is crucial for a successful user group forest. According to the definition of the Government's community forestry policy, the forests under study belong to the Government, but the local users have treated these forests as theirs and, therefore, have protected them accordingly.

Genesis and Development of Protection and Management. Apart from in Koti *Gaun*, all cases under study have a history of the genesis and development of protection and management practices[23]. As shown in Table 2, the period they have been under protection ranges from 10 years for Kuika*ko Ban* to 75 years for Bhatwada*ko Ban*.

The reason behind the commencement of local level protection and management practices is different for each case -- some were started by individual leaders while others were started by groups of people from a particular settlement. For instance, the protection of Seli*ko Ban* and Majarkhola*ko Ban* in Baitadi, and Dhami*ko Ban* and Bhatwada*ko Ban* in Achham, was encouraged by individual leaders, either as private forest patches (e.g., Majarkhola) or for common use. In other cases, the protection and management systems were begun by the group, either by recognising a need for it or by learning from the neighbours. The Karki households of *Talla Gaun* in Baitadi joined those in *Malla Gaun* because of the successful protection by the latter. Similarly, the people of Kuika in Achham reported that they had begun protection recently since they not only had a shortage of forest products but were impressed by the protection and management activities of their relatives in the neighbouring villages. History also reveals that in some cases (e.g., Seli) people had made deliberate attempts to remove the less desired species such as pine and replace them with broad-leaved species such as oak *(Quercus* sp.) which is regarded as good for fuelwood, fodder, timber, and for making agricultural implements[24].

Some individuals in Seli and Bhatwada claim to have ceded parts of their marginal farmlands for use as forest land. Such an attempt to expand the forest area is exceptional and perhaps indicates the commitment of the people in these settlements to increase forest cover.

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23 In fact, for Koti *Gaun* too, we have information on the protection and management attempts made from time to time. As noted under a section on recent protection activities (Annex I), the people of Koti *Gaun* too have begun protection and management of their *sal* and cutch tree forests. It is interesting to note that the attention of the people is not directed towards the protection of pine forests in the area, and these have also been misused.

24 A local saying goes: *Banjki bakkad, aurki lakkad.* Literally it means that the skin/bark of oak or *banj* is as good a fuel as wood from other species of trees.

Organisation. The organisational aspects of forestry protection and management systems may have two components, viz., institutional arrangements and organisational superstructure. Fisher (1989, 1991) makes a clear distinction between the two. The first component refers to the rules and regulations that are essential for an effective protection and management system. The second refers to the body of users or user group committees, which may be further classified as formal and informal in terms of organisation. An informal organisation is one that does not have a user group committee. In this kind of system, generally, all the primary user group households are equally involved in protection and management activities. They also will have a mutually agreed upon set of rules and regulations. A formal organisation is characterised by the presence of a user group committee formally recognised by the user group members or by the DFO as well. Another organisational aspect is the presence or absence of a forest guard.

The user groups included in the present study exhibit variations reflecting their different experiences in this respect in the course of their development over the years. In Karki*ko Ban*, people did not have a committee until 1975 when a formal user group committee was formed for the first time. However, this committee did not last for more than three years (the reasons for the disappearance of the committee have been detailed earlier). At present, all the user households are directly involved in protection and management, and the final permission for the removal of trees for timber is given by the priests of the local temples on the recommendation of the user members.

In the case of Karki*ko Ban* at Binashaun, people manage their forest with equal responsibility. People here feel that not having a formal committee eliminates the chances of abuse of power by a few people as committee members. They also think that their system of protection and management will continue in the present form without much problem. Similarly, in Majarkhola, protection and management were carried out without a committee until 1978 -- an individual leader was entrusted with authority in this case. In 1978, amidst a "public oath-taking ceremony in front of a local temple", the then *panchayat* officials of the village were nominated to form a forest protection committee. This committee no longer exists and, for almost two years now, a new committee has not been formed. In spite of this, the protection and management system is working smoothly. People report that it may be better to have a committee to deal with minor cases of violation of the rules and regulations on forest protection and management.

In Seli, people have a committee without a chairman. The research team found that this kind of arrangement was made to avoid imbalance of authority and hierarchy among members. Thus we see that people in Seli feel a need for a user group committee but, at

the same time, are quite sensitive to the idea that abuse of authority needs to be checked or avoided as far as possible.

In Koti *Gaun*, the repeated attempts (e.g., in 1972 and 1985) by some groups of people have not been successful in protecting the *sal* and cutch tree forest. The dispersed nature of settlements and forest patches, together with ethnic heterogeneity, probably have been the factors behind the non-compliance of the public to the isolated calls of some of their leaders. During our field research in this area, people formed a committee and devised a set of rules and regulations for the protection of forests in their area. Whether this will be effective or not will be known only with the passage of time.

In Achham district, all user groups under study have had some sort of connection with the DFO. In fact, in Bhatwada, people are now close to having their user group status formally recognised by the District Forest Office at Mangalsen under a management plan prepared through joint efforts. The people of Dhami *Gaun* and Kuika too have been in close contact with the range Office at Binayak. The forests under study in Achham also have had a forest guard at one time or another appointed by the DFO.

Comparing the two districts, in Achham, the forest guard was paid either in kind (*manapathi*) or by the Government, whereas, in Baitadi none of the user groups under study had a forest guard except for Koti *Gaunko Ban* where there is supposed to be a government forest guard. Intervention by the Government has often disrupted the indigenous systems. For instance, in 1981, Siddhesworiko *Ban* was converted into PPF with the provision of a guard. The villagers report that they stopped their traditional practice of paying in kind (*manapathi).* Besides, illicit felling of trees increased, as people recall. However, after the fall of the *Panchayat* System, people here claimed that Siddhesworiko *Ban* was no more a PPF. They have once again formed a forest protection committee and there is a locally appointed forest guard paid on a *manapathi* basis.

The Kuikako *Ban*--the youngest of the protected forests under study--has also undergone a cycle of degradation. The present forest guard and chairman of the protection committee recalls that this forest was thick when he was young (He is in his late 60s now). He reports that indiscriminate felling of trees, coupled with *khoria phadani*[25], was responsible for the degradation of this forest earlier. When it was already too late, the *khoria* system

[25] *Khoria phadani* is a kind of slash and burn farming. Under this system, generally, a patch of forest or shrubland is cleared and burned. The land is then used as a seedling bed for such crops as rice and millet. Very often, the *khoria* becomes a regular *bari* (non-irrigated land).

was stopped in the 1950s and a *purji* system was also introduced to obtain timber from this forest. About 10 years ago, the villagers started protection of the *sal* forest by appointing a forest guard paid on a *manapathi* basis. In 1990, the Range Office facilitated the formation of a forest protection committee with the elderly forest guard of Thulasen as its chairman.

From the above discussion we learn that a formal users' committee is not essential for an effective protection and management system. Similarly, appointment of a forest guard is good but not essential. It is also clear that government intervention without due regard to the existing practices could bring negative results. We agree with Fisher (1989, 1991) in that rules and regulations are essential parts of any protection and management system. If there is an "institutional substructure" (Fisher's term for rules and regulations) and an agreement among the users to abide by the rules and regulations, the other aspects of the organisation, including a forest guard, are optional.

Decision-making. The user groups under study vary in regard to their arrangements or existing practices about decision-making. In Koti *Gaun*, there was no formal arrangement until a few months ago, while in Dhami*ko Ban*, the decision-making role has been confined to a Dhami family and its leader. In the rest of the cases, the decisions on product use/distribution, punishment of offenders against the existing rules, etc, have been made either by the user group committee (e.g., Seli, Majarkhola, Bhatwada, and Kuika) or a general meeting of the user households (e.g., Karki*ko Ban*). In some of the cases, the *panchayat* officials exercised this role for some years (e.g., in Binashaun, Majarkhola, and Siddheswori). In Seli and Bhatwada, the decisions made by the user group committee are generally endorsed by the user group members.

No women are directly involved in decision-making except in Bhatwada where women have been recently included in the user group committee. However, it is doubtful as to how far the voices of the female members have been heard in the user group committee meetings of Bhatwada.

Product-sharing: Use and Distribution Pattern. The main forest products needed by the local people on a regular basis are leaf litter, firewood, and fodder. Timber for construction is not in regular demand while poles of different sizes and tree branches are more regularly needed. In each study area, 15 per cent (randomly selected) of the households were surveyed to estimate the proportion of the above-named products obtained by them from four different sources, viz., government forest, user group forest, farmland (i.e., trees on farmland), and other sources which include *phagala* (grassland) and

shrublands. The results are presented in Table 4. Forest products currently available and in use from the protected forests are dry fuelwood, leaf litter, fodder, and a limited amount of timber. Grazing is also carried out in some cases but not in all of the user group forests. It is evident that farmers are not fully dependent on the protected forests to meet their forest product needs. They rely on alternative sources such as farm trees, private forest patches, government forests, and shrublands as well (see Table 4). Besides, agricultural residues are also used as fodder during winter months and as supplements for firewood.

In most cases (except in Koti *Gaun*), the people obtain 75 per cent of the required timber from government forests formally (by securing *purji*) or informally (illicit felling). However, the minor timber products required for making agricultural implements are obtained from the user group forests in most cases. Arrangements for meeting such requirements vary (Table 4).

Dry fuelwood can be collected from all the forests under study throughout the year. People collect a substantial proportion of their fuelwood from shrublands, private trees, and other nearby forests (Table 4). Besides, in some cases, the period for the collection of forest resources is specified--which ensures regeneration.

Leaf litter is the most important product which people have been collecting from the protected forests. Apart from in Koti *Gaun* (where there is no protected forest) and Dhami *Gaun* (where the protected forest has deteriorated), at least 50 per cent of the required leaf litter is obtained from user group forests. Another important product is grass, fodder. People have made arrangements for the collection of these items at specified periods. Dhami*ko Ban* and Koti *Gaunko Ban* are open throughout the year for leaf litter, grass and for grazing animals. This perhaps explains why the forests in these two places are not in a very good condition today. Grazing is restricted in Karki*ko Ban*. In Bhatwada, the closed half of the forest is restricted until another arrangement is made, whereas the other half is open for regular use within local regulations.

Generalisations can be drawn from the information on the sources of forest products and use patterns summarised in Table 4. Most of the user groups under study are dependent on government forests to fulfil their timber requirements as and when they arise. Fodder, which is an important requirement, comes mostly from the farmlands (fodder trees or grass fodder on the edges of the farms). Leaf litter seems to be the main product for which the user groups under study are heavily dependent on the protected forests.

Table 4: Sources of Forest Products and Use Patterns (in %) by Case

Forest Products	Government Forest	User Group Forest	Farmland/Other Sources
		Binashaun	
Firewood	50	10	2020
Fodder	-	5	6035
Leaf Litter	-	80	-20
Timber	55	20	25-
Grazing	10	-	-90
		Seli	
Firewood	-	15	1075
Fodder	-	5	7520
Leaf Litter	-	100	--
Timber	25	20	3025
Grazing	-	80	-20
		Koti gaun	
Firewood	90	-	10-
Fodder	40	-	4020
Leaf Litter	70	-	1020
Timber	85	-	15-
Grazing	75	-	1510
		Majarkhola	
Firewood	60	20	1010
Fodder	70	-	1515
Leaf Litter	30	50	-20
Timber	85	10	5-
Grazing	30	50	-20
		Dhami Gaun	
Firewood	80	10	5 5
Fodder	40	5	55-
Leaf Litter	75	5	20-
Timber	90	5	5-
Grazing	-	80	1010
		Kuika	
Firewood	15	5	75 5
Fodder	10	5	80 5
Leaf Litter	30	50	15 5
Timber	90	-	10 -
Grazing	-	80	1010
		Bhatwada	
Firewood	60	10	30-
Fodder	35	-	65-
Leaf Litter	15	80	5-
Timber	15	10	75-
Grazing	10	80	10-
		Siddheswori	
Firewood	-	80	20-
Fodder	-	20	7010
Leaf Litter	-	60	40-
Timber	50	40	10-
Grazing	10	80	10-

Rules and Regulations. As mentioned, there are regulations to restrict product use during certain months in a year. The user groups also have devised control mechanisms to check misuse, to punish the violators, and so on. If outsiders are found collecting restricted products (green fuelwood, timber, poles, and tree fodder) from the protected forests, their baskets and cutting implements (like sickles, axes, etc) are confiscated. However, no monetary fines are imposed on such people. If one of the user group members is found guilty of obtaining forest products by violating the existing rules, a monetary fine is imposed on such people in Bhatwada, Siddheswori, Majarkhola, and Seli. The people of Seli and Majarkhola have created a community fund out of the money collected from penalties. Part of the fund has been used for buying utensils, tents, and other items to be borrowed and used by any household in the community during rituals and ceremonies. The users can also take loans from this fund at a reasonable interest rate.

External Factors. External factors may be observed in terms of the influence of the DFO (in management, issuing *purji,* restriction of product use, etc), conflicts among neighbouring villages, and the demand for forest products by the existing or emerging markets in the area.

In some cases, people have challenged the *purji* issued by the DFO (e.g., Seli), thereby asserting their ownership and user rights over the protected forest. This suggests that it would be unwise for the DFO to issue *purji* to a group of people concerning a forest that is protected and managed by another group.

In Bhatwada and Kuika, the DFO personnel have been involved in people's attempts at protection and management. The Siddhesworiko *Ban* was at one time declared a PPF by the DFO and this disrupted the existing system of protection. People reported that they had stopped paying in kind (*manapathi*), that is, stopped their indigenous system of protection. In other words, they gave up active involvement in forest protection and management for some years. However, after the decline of the *Panchayat* System, the people of Siddheswori once more claimed ownership of the forest and started protection by setting up a forest protection committee.

The people of Koti *Gaun* see the involvement of the DFO as rather negative -- causing further deterioration of the forest rather than protecting it. In fact, the people reported that for several years all the DFO has done is to act as a forest guard. Their attitude towards the personnel from the DFO was expressed by means of a local saying (this was stated by an elderly person in a group interview): *sar kanchha bhani baad halyo, baadle sar khayo.* People do want the involvement of the DFO but not as a policemen or as "the fence that

eats the crops". In Kuika and Siddheswori, there are conflicts over issues of primary user group membership. In particular, in the case of Siddheswori, this was a problem caused by the Government itself when it declared this forest to be a PPF at one time. At present, the local primary users are determined to exclude the rest of the people in the VDC as primary users who claim ownership and user rights on the basis of the forest's earlier PPF status.

In the case of Kuika, since the people of Thulasen (Sketch Map 6) are not the legal owners, the nearby settlements of ward numbers one and two have been claiming primary user rights. On the basis of the present situation, the Siddhesworiko *Ban* and Kuikako *Ban* may face more problems and perhaps the DFO needs to resolve the issues that are there only because of its earlier involvement (by declaring the forests in question as PPF or trying to do so).

Some Pragmatic Strategies. One good example of a pragmatic practice is the "religious fencing" in Binashaun, Baitadi. Use of religion or deities as control mechanisms in Majarkholako *Ban* is another example. In Majarkhola, menstruating women are also restricted from entering the nearby religious forest of Bhapar. Such practices seem to be more common than one would realise. In Achham, there is a forest within about 30 minutes' walking distance from the district headquarters at Mangalsen which also uses *"neja* fencing" similar to the one in Karkiko *Ban*. Due to the religiosity among the people in this region, religious fencing has worked in several places so far. More effective, however, could be cultural fencing -- any sanctions to ostracise someone from the community if found guilty of violating the local rules and regulations of forest protection and management, and this seems to be in operation in some ways in Seli and Majarkhola.

In most cases people have been planting trees on the edges of their farmlands for fodder, fruits, etc, and these also provide minor timber products as well as fuelwood. Besides, people use branches of thorny bushes as fuelwood, thereby demonstrating a conscious effort to protect their forest.

Protection Practices

Forest protection refers to restrictions on the use of forest products by men and livestock. The pressure on the forest is reduced to a great extent by growing multipurpose trees on private *bari* (non-irrigated land). Most of the animals are stall-fed and people have been abiding by the rules of protection and management.

Harvesting Practices

Felling a tree is restricted, apart from for making agricultural implements. As noted above, the forest products that can be harvested commonly are leaf litter, fodder, and dry firewood.

Local communities that have protected forest patches have clearly defined the primary and secondary users. A mutual respect concerning user rights seems to be prevalent among the neighbouring villages, and this is certainly crucial for ensuring an effective protection and management system.

Alternative Sources

Shrublands, other forests, farm trees, and grasslands together meet the actual forest product requirements of the farmers (Table 4). Gilmour has argued that inaccessibility to resources may prompt the genesis of indigenous systems of protection and management (1987, 1990). However, contrary to what is implied, we find that forests have been protected even if the resources are in plenty nearby. That is, the distance factor is not perceived as a real constraint by farmers in the hills of Nepal, and this has been pointed out in another empirical study also (Bajracharya 1983).