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INDIGENOUS FOREST AND PASTURE MANAGEMENT SYSTEMS

Introduction

This chapter focuses on the indigenous forest management systems examined in the case study. It also deals with some aspects of pasture management systems, because these throw some light on forest management. There is a very close relationship between forests and pastures in the project area. Frequently pastures are degraded forests. Also frequently, limits are placed on the effectiveness of externally-sponsored systems of forest management by the fact that land which is legally classified as forest is locally used as grazing land.

From the outset it is necessary to explain the use of a number of terms. The term **forest management system** is used in this report to refer to **a set of forest management practices (including protection, utilisation and distribution of products) and the institutional or organisational arrangements by which they are carried out.** In other words both technical and social aspects of forest management are treated as part of a single system. This differs from the common usage of forest scientists who tend to talk about technical arrangements for forest management as forest management systems.

The term "indigenous" is used in preference to "traditional" because "traditional" implies continuity. An indigenous system may be a new development. The crucial difference is between systems which are largely the result of local initiatives and those which are set up by outside agencies (Government or project). The latter are called externally-sponsored systems. In fact, there is not a simple dichotomy between indigenous systems on one hand and externally-sponsored systems on the other. Indigenous systems exist in the context of a wide variety of outside influences and in the context of a powerful nation state. There is a continuum between indigenous systems and externally-sponsored systems. The indigenous extreme is the case of a system which is a local initiative and which continues without external recognition. At the extreme externally-sponsored end of the spectrum are systems which are unilaterally imposed by outside agencies. In between there are interim types including indigenous systems which are recognised but ignored, those which are supported and those which are legally recognised. Thus, depending on the **degree** of external support, given local systems may fit along a continuum from fully indigenous at one end to fully externally-sponsored (imposed) at the other.

Forest Management in the Rana Period

In addition to a classification in terms of indigenousness/external sponsorship, it is possible to classify local systems in terms of time. Some systems are contemporary and others are not. Using these two dichotomies as a basis for classification there are potentially four categories of forest management systems (see Table 2). For practical purposes this report concentrates on contemporary systems (Types A1 and A2) which came into existence in Nepal after the end of the Rana period (1950). It is concerned with earlier systems only in terms of identifying continuities between them and contemporary ones. As far as earlier systems are concerned we have little information on indigenous systems, although we have some information about local forest control through the *Talukdari* System.

Table 2: **Types of Forest Management**

	1 Indigenous	2 Externally sponsored
A. Contemporary	A1	A2
B. Early Systems (i.e., pre-1950)	B1	B2

The *Talukdari* System is often described as "indigenous" (Gautam 1987). However, the system of forest control through these local functionaries during the late Rana Period was, we would argue, a form of externally-sponsored forest management. It represented, locally, the presence of the State and was not, therefore, an indigenous system at all.

Briefly, the *Talukdari* System operated as part of the state revenue administration (Regmi 1978; Mahat 1985). In the hill areas, *Talukdars* were tax collectors, each usually responsible for a number of villages, although a single large village might be divided among several *Talukdars* (Regmi 1978). Among their responsibilities was control of land resources, including forest land. There are a number of other terms for local functionaries, including *Mukhiya* and *Mijar* Regmi points out that *Talukdar* is a generic term covering a number of different local functionaries. Thus the category *Talukdar* included *Mukhiyas* and *Mijars*. The two terms referred to local headmen (the *Mijar* in some Buddhist groups, including the Tamangs and the *Mukhiya* in other contexts). It is quite possible that the original roles of *Mukhiya* and *Mijar* were indigenous ones. The *Talukdari* system recognised and incorporated these roles.

In reference to forests the main task of *Talukdars* was to ensure that fees were collected for all trees cut down. In this role they were often assisted by guards (known by various names including *Chitadar*) who protected particular patches of forest. These guards were appointed by the *Talukdars*. The *Talukdars* answered to the *Bada Hakim*, who was the administrative head of one of thirty-three regions (*Goswara* under the Ranas. They were apparently not paid directly by the administration, but received a commission on revenue collected. The position was hereditary.

Thus, while *Mukhiyas* and *Mijars* were indigenous roles, their official role (as *Talukdar*) was externally sponsored. As local villagers (often influential ones) the *Mukhiyas* and *Chitadars* may have had genuine local support in some cases, but they were the local appointees of the state.

The *Talukdar-Chitadar* arrangement was not, in any useful sense, "indigenous". The arrangement was primarily concerned with extracting taxes, not with protecting or managing forests efficiently. Mahat (1985) and Mahat et al. (1986a) suggests that the process of deforestation in the hills of Nepal is not a recent phenomenon. He argues that a major cause of deforestation was state policy which encouraged the creation of new agricultural land from forests. The main reason for this policy was to increase land tax collection and agricultural production. Thus, generally, the Rana Administration worked, in effect, **against** sustainable forest management, not for it.

There were, of course, exceptions to this. Mahat provides a translation of orders, issued in 1874 by Prime Minister Jung Bahadur Rana, which show considerable concern for conservation of forest resources in Anaikot in present-day Kabhre Palanchok District (Mahat 1985, Appendix 1; Mahat et al. 1986b). This document is a relatively conservative forest management plan allowing both protection and limited utilisation. However, Mahat's general conclusions, and oral evidence from this study, suggest that sustainable forest management was neither a major concern nor an achievement of the Rana Administration.[1] Nevertheless, the practice of collecting fees for forest use presumably had the effect of reducing pressure on forests, at least to some extent.

Types and Spread of Indigenous Forest Management Systems

This section will set out some of the major features of indigenous forest management systems. Descriptions of specific systems are contained in Annex 2 and are identified by case numbers.

How Common are Indigenous Systems?

A major finding of the present research is that indigenous forest management systems are much more common than expected at the commencement of the study. The research team, along with project staff at that time, recognised that indigenous systems existed, but felt that they were rather uncommon. This perception has changed dramatically. Not only has fieldwork revealed a number of relatively viable systems, but greater consciousness of their possible existence has led to the identification of many others by the project.

No quantitative data exist as to the overall number of indigenous systems in the two districts. Given their informality and their generally limited size this is not surprising. It is true to say that they have been identified, in one form or another, throughout the project area since project and departmental staff have begun asking appropriate questions.

The fieldwork for this study focused on settlements, not panchayats. Nevertheless, in examining each settlement the panchayat within which it was situated was examined for context. Table 3 sets out the number of indigenous forest management systems (pasture management systems are excluded) in each of the focus settlements and elsewhere in the panchayats in which they are located. It is important to recognise that selection of settlements and panchayats was purposive, not random. Some settlements were specifically selected because they are areas where forest development activity had been noticeably unsuccessful, while others were selected because forest management systems were known to exist there.

A panchayat-level study carried out by an NAFP officer (Jackson 1987) also provides evidence of the extent to which indigenous systems occur. The study involved an informal examination of all forest resources in a particular panchayat. It identified a variety of systems for a large number of forest patches within the panchayat. The study is summarised in Table 4.

In general, indigenous forest management systems are found in many patches of reasonably healthy natural forest throughout the project area. This is hardly surprising, since there is a

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1. Regmi (pers. comm.) has suggested an alternative view. He argues that the Ranas issued many edicts concerned with forest conservation. Some of these are published in the Regmi Research Series. See, for example, Regmi Research Series, 1981, p 83.

Table 3: **Indigenous (Non-Private) Forest Management Systems Identified within Studied Panchayats**

Panchayat	No. of Indigenous Systems[a]	
	Focus Settlement	Elsewhere in Panchayat
Badase	1	2
Chaubas	-	-
Chillaune	-	2
Mahadebtar	2	1
Majhihead	1	2
Rabi Opi	1	-
Syaule	-	2
Thulo Siru Bari	-	1

Note:

a. Includes *guthi* forests. *Guthi* is a broad term referring particularly to community group or organisation, formed on a religious or clan basis, which jointly owns religious lands/forests and meets on a regular basis for ritual meals. The *guthi* members also have reciprocal obligations during principal life-passage ceremonies - birth, death etc.

causal relationship between the presence of management systems and the existence of healthy forests. The absence of such systems tends to result in forest land degrading into shrubland or pasture. However, while indigenous systems are common in natural forests, they are not evident in very large contiguous forest patches such as high altitude forest areas.

Systems observed in the project area range from structured social organisations based on committees to relatively simple institutional arrangements.[2] Each of these broad types will be dealt with in turn.

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2. For the purposes of this study (as with other studies in the OMRD program) the word **institution** refers to any behaviour which is acceptable and which becomes a socially accepted norm for a specific social group. **Organisation** refers to a social group which has a structure. Rules of forest management may be institutionalised without there being any formal structure.

Table 4: Indigenous Forest Management Systems

Forest Name	Type	Nature
Nangikharka	Plantation	
Pashupati Guthi	Plantation	Guthi land for temple in Kathmandu (non-indigenous)
Chotidaanda	Plantation/ natural	Grass cutting permitted by Panchayat level forest committee
Ramche Chiandaanda	Plantation	
Chiandaanda	-	
Tharkechiandaanda	-	
Gordaanda	-	
Charpatisamundre	Mixed Plantation	
Samundre diopokhari	Plantation	
Chiandaanda	Plantation	Area planted by local people on a Tamang burial site.
Hitti	Natural	Religious forest
Kabhredaanda	Plantation	Open for grass-cutting for 10 families
Nattipani	Natural	Locally protected. Wood products only used for religious ceremony
Pandera	Natural	Locally Protected.
Bhupali		Locally protected. Used only for collection of funeral firewood
Thulakhop	Natural	
Daraune Pokhari	Natural	Religious Forest

Source: Jackson 1987

Formal Organisations

Structured systems typically consist of a defined user group represented by a committee. The committees are regarded as having authority to make decisions about forest use, disputes and so on. In the indigenous systems observed there was little evidence of committees meeting regularly. More commonly, committees meet on an ad hoc basis, when there is a particular need. Although committee-based organisations are at the most formal end of the continuum of types of forest management systems, there is a considerable degree of variation in the formality with which various committees operate. Some keep minute books noting decisions (e.g. Case 1, Nala-ko-Thulo-Ban), others keep no records.

In fact the very use of the word "committee" presents some problems. In Nepali *samiti* is used for "committee". The difficultly is that *samiti* is interpreted by administrators and development agents (including foresters) as an exact equivalent of the English word "committee". Thus, for outsiders, it has connotations which suggest a group which is an elected or appointed sub-group of the user group (or population) and which has some sort of delegated authority to make decisions on behalf of the group. For villagers, *samiti* usually does not have these connotations. Village leaders and a few others with a more sophisticated knowledge of bureaucratic activities may follow this interpretation, but most others use *samiti* as a synonym for *sabha*, which refers to **ad hoc assemblies** of all interested parties, or as many as are able to attend.

This ambiguity in the meaning of *samiti* leads outsiders to be frustrated when very large committees are formed or when new committees are appointed at every meeting. It also contributes to an unrealistic assumption that the decisions of externally-sponsored committees should be adhered to. The problem in such cases is that the committee may have no mandate to make decisions, either from the members' point of view, or from the point of view of other villagers. The committee as a sub-group with delegated decision-making authority does occur in indigenous forest management, but it is relatively rare.

A common feature of formal systems is the existence of forest watchers usually paid by a collection of grain from each user household. Such a collection for payment in kind is called a *manapathi* system. Occasionally, payment is made in cash, but this is not common in indigenous systems. In the case of an indigenous system operating in Nala-ko-Thulo- Ban (Case 1) cash payments are reportedly made only when people cannot pay in grain. Thus cash is paid in lieu of kind, not kind in lieu of cash. The presence of forest watchers paid on the *manapathi* system is usually, but not invariably, associated with the existence of a committee.

At this stage very little is known about the effectiveness of forest watchers (Fisher, 1987). It is not known whether the presence of a forest watcher is itself important or whether the fact that payment to the forest watcher simply gives users a proprietory interest in the forest which is translated into self-disciplined protection. Given that even the most conscientious forest watcher is unable to watch over a forest all the time, the presence of a forest watcher during duty hours cannot be an adequate protective measure in itself.

In Ganeshthan and Maina Bisauni forests of Badase Panchayat (Case 2), there are two patches of natural forest which were until recently protected through a *manapathi* system that employed two forest watchers. The system broke down for a number of reasons. One of these was the fact that another forest watcher was employed for a nearby forest with project funds. Informants reported that they were no longer as careful about using the forest as they had been. In order to reinstate local protection, efforts were being made to reappoint a local forest watcher. The man was old and acknowledged to be not very conscientious. This, however, was not regarded as a major constraint. It appears that the sense of ownership and responsibility involved in paying for a watcher is most important for protection.

Informal Institutional Arrangements

Informal institutional arrangements for local forest management often exist in the absence of any formal organisation. Institutionalised norms and values are essentially a pre-requisite for any functioning system.

The *manapathi* system of paying a forest watcher in Ganeshthan and Maina Bisauni (Case 2) effectively collapsed in 1986. Efforts to revive it were made in 1987. A new committee was set up and a new collection was proposed. Little progress had been made by the time of the second visit by the research team in November 1987.

Nevertheless, there remains a strong consensus that the forests should be protected and used sensibly. Despite some illicit cutting and pruning, sometimes fairly openly admitted, the rules of forest use remain in the form of strongly held norms of behaviour. The system shifted from a structured organisation to an informal institutional arrangement.

Elsewhere in Badase Panchayat two other indigenous systems operate largely on the basis of consensus among users (Banechaap and Harre ko Ban - Cases 4 and 5). Sanctions are, however, applied to those who break the locally agreed rules.

The combination of a shared perception of the problem and a mutually acceptable response, represents a necessary condition for indigenous forest management. Even if no organisational structure grows out of the agreed norms of behaviour, effective protection and controlled utilisation may result. In many cases (Nala-ko-Thulo-Ban, Ganeshthan/ Maina Bisauni and Mahankal Ban - Cases 1, 2 and 3) institutional arrangements have continued to operate in situations where formal organisations have changed, disappeared or gone through periods in which they have ceased to function. It appears that institutionalised norms, based on a degree of consensus among users, are the essence of all indigenous forest management systems. Formal organisations, where they exist, are a superstructure (sometimes inessential) built on to this essential substratum. The absence of a formal organisational structure does not mean that no local system exists; nor does the disappearance of the organisational superstructure constitute the disappearance of the system.

Religious Forests

An important group of indigenous forest management systems pertain to religious forests (*dharmik ban*). The **Forest Act**, 1961, mentions a legal category of religious forests associated with religious sites. Religious forests under that Act are, however, not a separate form of tenure as the forest remains government forest. These are, at this stage, no rules or regulations for religious forest under the Act. There are some forests which, as *guthi*[3] land are provided to a temple or religious sect. In addition to these two legally recognised types of religious forests, these are many other patches of land which are locally regarded as *dharmik ban*. These can exist on land which is technically government land, on private land or in forests which have been formally handed over as Panchayat Forest or Panchayat Protected Forest.

Religious forests sometimes have a formal organisational structure, but those covered in the study do not. The two religious forests in Mahadebtar (Padhyeroko Ban and Jogeswor Mahadeb Mandir Forest - Cases 6 and 7) both operate without a permanent committee. Where decisions are made this occurs at meetings (*sabhas*) called for a specific purpose.

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3. See "note" in Table 3 for definition of *guthi*. Proceeds from the *guthi* land, including taxes collected from farmers, are for the support of religious and social activities.

It should be noted that few religious forests were covered in this study and there are significant gaps in the understanding of the nature of institutional and organisational arrangements for their management. In particular, the role of *pujari* (ritual specialist) in forest management has not been explored.

Features of Indigenous Forest Management Systems

Consensus and Sanctions

We have already pointed out that one of the most important features of functioning indigenous systems is the presence of consensus. In virtually all of the systems identified in the study there was a significant element of agreement among the users about the need for controlling access to common forest resources and about the rights and restrictions which applied to forest use.

This is not to say that there were no conflicts. The fact that rules and practices include sanctions for breach of norms demonstrates that an underlying consensus is not always a sufficient basis for controlled access to forests. Further, there were accounts of conflicts in some of the systems examined. However, a reasonable level of consensus (or at least consent) was a minimum condition for a functioning system. In the absence of a reasonable level of consensus, systems often broke down whether there were sanctions or not.

There is a tendency for different sanctions to apply to people within the user group and people from outside. Case 5 describes a situation in which the sanction for major breaches by users was being reported to the Forest Department. Where outsiders (or those with reduced secondary rights) broke the rules the sanction was seizure of the forest products taken. In other words the rights of the in- group (those who claimed use-rights) were defended by an ultimate resort to violence when these rights were challenged by outsiders.

In some cases (e.g. Maina Bisauni and Ganeshtan forests - Case 2) confiscation of equipment and violence were described as the sanctions against outsiders, but were reportedly never invoked against users because they never break the rules. In fact, what seems to happen is that breaches of rules by users are tolerated within limits. This is partly because minor breaches by those with use-rights are not a serious challenge to the legitimacy of claims. It is probably also related to the fact that application of sanctions within the user group may lead to conflicts which can split the group. In fact, major disputes within a group tend to lead to the breakdown of a system. This happened in the case of Maina Bisauni and Ganeshthan. Thus, **within a user group consensus is far more important than sanctions.**

Consensus about what should and should not be done essentially comprises an institutional arrangement. Institutional arrangements can, by themselves, lead to effective management. Sometimes, however, they are also accompanied by an organisation. Theoretically it is possible to have an organisation which is not institutionalised (Uphoff 1986), but such non-institutionalised forest management organisations tend not to work, simply because no one takes any notice of the rules and practices. **Non-institutionalised organisations are very common amongst sponsored systems (for example, as imposed committees). They do not persist in the case of indigenous systems of forest management.**

User Group Membership

The term "user group" is sometimes used rather loosely as a synonym for users. In this report "user group" refers to a bounded group with specific membership. A user group consists of all people whose claims to use rights are mutually acknowledged. "Users" is simply a descriptive

category describing anyone who uses a particular forest. Those who take products from an open access resource are users. Those who have specific rights to a specific common property resource are members of a user group. A user group exists in relation to a specified resource. People can be members of a number of user groups (each for different resources).

Thus, the crucial issue in defining membership of a user group is the presence of mutually recognised rights. User groups examined in the case study had a number of characteristics:

1. Size: Usually the user group was rather small, typically consisting of thirty to fifty households. The largest known user group in the project area is the user group for Nala-ko-Thulo-Ban (Case 1). For this forest the user group consists of people from ten wards in two panchayats. The exact number has not been ascertained but, working on an average of about fifty households per ward, the potential user group may consist of as many as 500 households. It is, however, very doubtful that all of them actually take products from this forest alone.

   The advantages of small user groups are fairly obvious. They are less likely to be faced with major factions and conflicts and regular face-to-face contact helps to solve problems informally.

2. Basis of Membership: In the project area the principle of recruitment to user groups is usually residence. This is determined in terms of village of residence rather than ward of residence. User groups are usually recruited from one or more villages near the forest for which they have rights. Rights are inherited by those who meet residence requirements.

We will now discuss the nature of use-rights. (Use-rights are defined here as claims to use which other users accept as legitimate). A major problem here is that it is difficult to define the abstract principles behind rights. For example, use-rights may be based on residence, or on inheritance from earlier residents, or on some other criterion. Unless there is a conflict involving forest access by a resident it is may be impossible to obtain clear evidence that the principle is something other than residence.

Allowing for this cautionary statement, our evidence suggests that residence is the primary principle underlying use-rights. However, a lineage basis for inheritance of use-rights may apply to small patches of forest of a semi- private nature.

In Ward 3 of Majhi-Pheda Panchayat there is a large patch of private forest which is described as being owned by a lineage. In fact, the forest is owned by members of a single household, but the sons of the household head are regarded as share-holders. Presumably, when the current household head dies the household will split into several households. The forest could then be used cooperatively, without sub-dividing it into patches. In that sense it will be lineage-based, although the lineage involved will be very shallow in generational terms. In this case something resembling lineage tenure exists, but is merely an extension of private tenure.

As far as this study is concerned, in all cases where forests are locally regarded as communal property the principle underlying user group affiliation is residence. People invariably describe use-rights in terms of residence. They say, for example, "*The people from this ward and a part of that ward are users*" or "*The people from these three villagers are users*". The user groups frequently cross ward or panchayat boundaries and generally include a number of settlements with relatively easy access to a forest. Disputes about rights of access occur between settlements rather than within settlements. Where such disputes are inter-caste disputes this seems to be primarily a result of the differing residence of the various castes. Disputes within settlements tend to be concerned with misuse of rights rather than the existence of rights.

We are arguing that residence is the basis of rights rather than caste or lineage. Yet, to a considerable extent, residence is a function of caste. If all neighbours are *Tamangs*, then how can the possibility that access is allowed on kinship (or caste) grounds be ruled out? People often do not, or are unable to, talk about rights in terms of abstract principles. It is often possible to ascertain underlying rules only when a conflict occurs. However, since there are cases where caste or lineage are clearly <u>not</u> the basis of use-rights, residence can be considered to be the simplest criterion for use-rights.

While use rights and membership of a user group are mostly determined by residence in cases considered within this case study, this generalisation may not be valid everywhere in the project area. Most of the systems examined are in areas with mixed Hindu castes or a combination of Hindus and other ethnic groups (Buddhists). There is some evidence that lineage-based forest management systems exist in pure Buddhist areas outside of the project area (Von Furer-Haimendorf 1975). Further, one or two small systems (Jackson 1987) dominated by Tamangs have been documented in the project area. Although these have not been explored, use rights in these cases may be based primarily on lineage membership.

The boundaries of user groups and the nature of use rights are much more clearly defined when a formal structure develops. This is particularly the case when a *manapathi* system exists, probably because people are much more jealous about their rights when they pay to protect them. Another factor which has an effect on user group definition is whether the system is focused on protection or utilisation. The user group is large and rather loosely defined in Nala-ko-Thulo-ban (Case 1), probably because the main focus of activity is protection. We would expect it to become much more tightly defined when utilisation commences.

Secondary Rights

The concept of secondary rights refers to a situation in which people, apart from the group of people with full rights, have partial rights to forest products. In several systems in the project area, separate users with secondary rights are recognised. In Mahankal Ban (Case 3) the primary user group was clearly defined, but others (all others, in theory, if not in fact) had rights to specific products (grass and fruit) and also had free access to grazing. At one stage the primary user group was clearly delineated by a shared obligation to pay forest watchers.

In *Harre ko Ban* (Case 5) there is a group (specified in term of ward residence) who have a secondary right to collect leaves, but no other products. There are also situations in which land regarded as private is open to others during particular seasons. One example of this is the case of the ritual practice called *bhumi-puja*. *Bhumi-puja* has a major role in the management of some forests and grazing lands. Literally the words mean earth-worship. In the broadest sense *bhumi-puja* is a form of propitiatory ritual, concerned with winning divine favour and obtaining good crops, controlling bad weather and so on. *Bhumi-puja* focuses on the worship of the female principle, the Earth-mother, and is concerned with all aspects of the fertile earth - agricultural fields, forests and pastures. *Bhumi-puja* occurs mostly in *Jestha* (May-June), the month before the beginning of the rainy season. The rainy season brings calamities (landslides, flood, disease). It also increases natural resources (forest, pasture, water, crops). Thus, *bhumi-puja* has a role as a propitiatory ritual. However, in addition to this broad function it has a role in forest and pasture management.

In Ward 6 of Majhi-Pheda Panchayat there is one relatively large patch of forest, locally regarded as private forest, which is owned by a Tamang. In this case the land is claimed to be private, but is not legally registered as private land. The forest is regenerated natural forest on land previously used for agriculture, and has some very big trees and good regeneration. It is striking that an area of almost completely treeless grazing land borders the forest. Within the

forest there are various shrines and trees protected for religious reasons. Other trees are pruned or cut by the owner or by others with his permission. Looking at this forest as an isolated patch of private forest it would be plausible to see the propitiatory role of the ritual as the main function. Here a private individual effectively manages a patch of forest he claims as his own. He performs rituals to provide a supernatural back-up for his skills. It is also possible that *bhumi-puja* is a way of seeking supernatural protection of private land from outsiders.

In Ward 4 at Majhi-Pheda there are substantial amounts of treeless land used as pasture or for growing fodder. Officially the land is owned by the Government, but locally many patches are regarded as private *kharbari* (fields for growing hay). For these fields *bhumi-puja* has a scheduling function. The cycle begins in *Jestha*, just prior to the monsoons. From this time *kharbari* can only be cut by the owner. In fact, however, there is little grass until the monsoons start. Following the monsoons the landowner cuts the grass for hay. Once he has done so others are free to graze livestock on the fields. In a sense the land becomes open-access. The cycle ends at the beginning of *Jestha* as the peak period of *bhumi-puja* occurs. Besides occurring at the time when propitiating the gods seems most necessary (just before the monsoons), the *bhumi-puja* signals that the land is again closed to everyone except the owner. In this sense, then, *bhumi-puja* marks not only a change in seasons, but a change in tenure, or at least access. The notion of land effectively being open for grazing in some seasons and being private in others is seen in a modified form in Chaubas. The land in Wards 5 and 6 of Chaubas is mostly *bari* land, unirrigated or subject to monsoonal irrigation. Water availability remains a very serious problem and, along with the lack of grazing land, was identified as the main problem by villagers. Almost all fodder is supplied through stall-feeding. The only "common" grazing land consists of two small degraded patches at the bottom of the valley near the river. Some grazing land is private land and some farmers allow "neighbours" to use fallow agricultural land. However, the exact basis of access in these cases was not clear. For example, neighbours with cows grazing one plot of such land were of the same caste (*Tamang*) as the owner, but he asserted that they were allowed to use it as neighbours, not because of their caste or lineage. Elsewhere in the area, some people insisted that they would not allow any others (even neighbours) to graze animals on their land. The nature of seasonal secondary rights is open to interpretation. Jodha (1985) refers to seasonal changes in access to grazing land in Rajasthan as a seasonal common property regime. It is also possible to interpret this situation in terms of tolerance on the part of an owner of private land rather than as a recognised secondary right (Fisher 1988).

The Effectiveness of Local Systems

While local systems appear to be relatively common, their effectiveness needs to be analysed separately.

Effectiveness in resource management has two components. The first is production; the second is sustainability. In commercial plantation forestry, effectiveness might be assessed in terms of optimum biomass production. On the other hand, a community forest, the products of which are used for domestic consumption, might be more appropriately assessed on the production of a particular desired product such as firewood or fodder.

In this study effectiveness is defined first in terms of sustainability: is the forest healthy or degrading? (The health of a forest may be indicated by the presence of trees in various stages of regeneration). The second criterion is utilisation. Under this system of classification there are four broad possibilities:

- A degraded former forest with no regeneration and few products for utilisation.
- A degrading forest, with no regeneration and utilisation of more production than is sustainable.
- A regenerating forest with no utilisation of products, i.e. a recovering forest, probably under protection.
- An intact or regenerating forest with controlled and sustainable utilisation of products.

Nowhere in this schema have we mentioned optimum production. This is no more than a gross categorisation for use in rapid appraisal. Within categories three and four it is possible to further classify the effectiveness of systems according to the conservatism of utilisation. In terms of this crude classification, what can we say about indigenous systems?

1. Most of the systems studied fall either into category 3 (regenerating, no utilisation) or a sub-category of category 4 (regenerating, very conservative utilisation e.g. leaves, grass, dry products, but no cutting of green wood). This conclusion tends to suggest that indigenous systems are usually concerned with protecting forests rather than at distributing products. However, it does not suggest that they are unable to do so. The conservatism of the systems observed may be a reflection of the particular point in time at which they were observed. At present there may be very few indigenously protected forests ready for extensive utilisation. In some cases (Hokase Bazaar, Case 3) no usable resource exists. In other cases (Nala-ko-Thulo-Ban, Case 1), a point of transition seems to have been reached.

2. Religious forests are generally in a sub-category of Category 2. Large trees are present, but all other products are used and there is little or no regeneration.

It may be that the conservatism of most indigenous systems relates to the organisational difficulties involved in a transition from one purpose to another, that is, from being concerned with protection of a degraded resource to being concerned with utilisation of a regenerated one. It may also be that awareness of the legal constraints involved in cutting green wood leads to considerable inhibition here. In the case of Nala-ko-Thulo-ban the forest committee has recently approached the DFO for permission to commence pruning. The fact that they have not done any pruning previously may be the result of concerns about illegality. On the other hand, difficulties in establishing a sustainable distribution system for a large and heterogenous user group may have led to these inhibitions. Similar explanations may apply in Mahankal Ban (Case 2), although the reluctance of local leaders to release control may be another factor.

Indigenous Systems and Continuity

One of the most striking findings of this study is that the indigenous forest management systems studied have invariably commenced in the post-Rana period (that is, since 1950). In very few cases is there evidence of formal structures lasting for more than six or seven years. (Case 1. Nala-ko-Thulo-Ban is an exception.) It also appears from interviews with elderly informants that much deforestation had occurred in the later years of the Rana period. After the end of the Rana period there was a period of political chaos in Nepal, which ended around 1958. This seems to have been reflected in a paralysis of local organisation in forestry. Several informants reported near-anarchy in terms of forest protection in the period. Within a few years of the establishment of the Panchayat system (in 1960) there appears to have been an upsurge of interest in forest protection, although this did not often lead to formal structures.

We suggest that the emergence of **genuine** indigenous forest management systems on a large scale in recent years was a phenomenon resulting from specific historical circumstances. These circumstances were political, environmental and demographic. Before outlining this argument, we should emphasise that there is little or no evidence for the existence of genuine indigenous systems before the end of the Rana- period. We have already shown that the systems which did exist were externally-imposed and were, in any case, more concerned with revenue collection than with forest management.

Furthermore, this study found little evidence of major continuity between the old *Talukdari* System and contemporary local systems, although there are some connections. The old externally-imposed system appointed prominent local people as functionaries and some of these prominent people have been involved in later indigenous activity. In Banskharka Panchayat (Sindhu Palchok District) a very strong locally initiated (but to some extent externally-supported) forest protection regime exists. The key mover in this is the *Pradhan Pancha*, who was himself a *Mijar* under the Rana System (D.A. Gilmour, pers. comm.). In Syaule Panchayat the persistence of grazing rights originally held by local *Mukhiyas* has been a major constraint against successful externally sponsored forest development activity. In Phulbari Panchayat (Kabhre Palanchok District) the *Pradhan Pancha*, who is a project employee, has been a prominent leader in forestry development. He is a nephew of the former *Mukhiya*. Thus, while there are continuities with the Rana-System, as far as forest management systems are concerned, the continuities are in the form of a changed role for old personnel rather than structural continuities.

Gilmour (1987) has suggested that the emergence of indigenous forest management systems relates to relatively limited availability of forest resources. He has proposed a model which sets out four stages of resource availability running from easy access to scarcity. The argument is that people in places with easily available forest resources are unlikely to participate readily in forest-related development activities and are unlikely to become involved in setting up indigenous forest management systems. Conversely, the more inaccessible resources are, the more participation in development activity and/or indigenous management is likely. In this context, scarcity of resources relates to the amount of effort involved in obtaining resources not to the absolute quantity of resources. According to the model, people will not react to an inadequate resource until it becomes hard to obtain. A corollary of this hypothesis is that planting of trees on private land is a response to shortage of common forest resources. Another way of looking at the argument is in terms of transaction costs: people are unlikely to invest time and energy in organising access to a readily accessible resource. The hypothesis that participation in forestry development and management is correlated with scarcity is highly plausible, and is supported by considerable evidence from this case study. The evidence is summarised in Table 5.

While this evidence supports the general direction of the model, the model may be somewhat mechanistic. Poor accessibility may be a **necessary** condition for participation, private planting and local institution-building, but it is not a **sufficient** condition. Organisation of responses does not happen automatically, but has sociological preconditions as well as physical ones. For example, such factors as a relatively homogenous group of users, or a strong local leader, are important.

In any case there is considerable evidence from the study that indigenous resource management systems emerged **in response to** perceived shortages. This has been explicitly stated again and again by informants. For example:

Previously there were dense forests here and there. With increasing population and households the existing forest started to degrade. People were cutting down trees as they wished. When the forest started to vanish, then there were only two options, whether to settle in the village or to migrate. Because of that we needed to protect the existing forest. In the same manner we started to protect the forest by employing a forest watcher. (Krishna Bahadur Thapa, aged 39 years, Badase)

If indigenous systems emerged only in the last few decades and particularly in the last ten years, why has this occurred? What has changed? Mahat (1985) and Mahat et al. (1987) argues very convincingly that the process of deforestation in Sindhu Palchok and Kabhre Palanchok has not been a recent phenomenon. With particular reference to the Thokarpa-Chaubas area his interviews with older local informants show that the boundaries between agricultural land and forests have not changed much in this century, although the density of forest within the boundaries may have decreased. Thus, for much of the study area, depletion of the resource pre-dated the emergence of indigenous systems by many years.

Population increase may be one explanation. The shortage of forest resources would almost certainly have been greatly accentuated by increased population. Increased population may have lead to increased pressure on resources, and, consequently to increased concern with forests. However, it is possible that the emergence of relatively effective indigenous management systems occurred only recently because political conditions have favoured them. In the period 1950 to 1958 the political situation in Nepal was chaotic and, according to at least one informant, this had local implications:

After a while, a new trend appeared beginning from the year 2007 [1950]. From that year, everyone felt that they had freedom to do anything they liked. Dacoits appeared in most of the villages. With the appearance of such a trend nobody paid any attention towards taking care of the forests. Thus the forests which started flourishing some time back [in the late Rana period] were destroyed again. In this way the condition of the forest deteriorated. Later, the Government took measures to protect the forest. The afforestation program was carried out sometime during 2015 (1958). (Man Bahadur Thapa, 84 years old, Thulo Siru Bari).

If this is correct, it is only with the increased stability which came with the Panchayat system that the emergence of consensus-based local management systems became possible. This is not to suggest that the Panchayat system set up the conditions for indigenous systems which were not possible under the Ranas. Rather, the argument is that there was no need for such systems in Rana times because there were no major shortages and/or because the externally sponsored system made them unnecessary. Following the fall of the Ranas there was a forest management vacuum. As the chaos subsided the **relative** stability provided by the Panchayat system, combined with the absence of any other effective forest management system, created conditions favourable to the development of indigenous systems.

At this point we would like to make a rather speculative aside. If the resource availability model proposed by Gilmour is applicable (and much of our evidence supports it), then it is possible that a cyclical pattern exists, or could come into being. In this model a shortage of resources would be followed by emergence of local protection. This would lead to an increased resource and local protection would break down. In turn the resource would degrade and the cycle would start again.

There is no evidence that a full cycle has happened in the past. On the contrary, the recent increase in Nepal's population suggests that the present situation is new. It is, however, quite possible that a cycle of this type could evolve. This would be empty speculation, except that a

Table 5. **Applicability of the Resource Availability Model to Settlements Covered in the Case Study**

Panchayat	Settlement	Resource Situation	Responses
Badase	Badase	Relatively scarce forest resources about 1980	Indigenous Management system commenced about 1980. Well protected natural forest by 1987.
Thangpalkot	Chillaune	Accessible high altitude forest within few hours walk	Plantation activities poorly supported
Chaubas	Chaubas Bazar	Very poor resources 9-10 years ago but available in nearby panchayats.	Strong support for plantation activities.
Rabi-opi	Settle-ments near nursery	Large degraded natural forest, relatively accessible	Little interest in plantation activities.
Majhi-Pheda[a]		Shortages in past some areas failed due to disputes over tenure	Support for planta-tion in areas but
Mahadebtar	Mahadevtar Mundagaon	Resources available from altitude forest, but at considerable distance.	Little interest in forest protection and plantation, but local factionalism a barrier to development.
Syaule	Sano Okhreni Phursre	Resources available from nearby high altitude forest	Little interest in plantation; many plantation have failed
Thulo Siru Bari	Settle-ments in Ward 1 & 2	Severe shortages in mid-late 1970's in establishing management agree-ment due to top down approach.	Very successful plantation protection program but problems

Note:
a. Comments refer to Panchayat as a whole.

clear implication of the resource availability model is that a static equilibrium between resource and human population is unlikely since the mechanism linking the two (an institution concerned with forest management) only operates under conditions of scarcity. Fluctuation, around a point of equilibrium, must follow. External factors (such as increasing population, control by a centralised bureaucracy, possible alternative sources of energy in the longer term) will probably prevent these fluctuations from developing into repeated cycles, but, in the shorter term, equilibrium is not likely, whatever form the inequilibrium takes. The implication is that indigenous forest management systems are not self-regulating systems.[4]

Participation, Equity and Distribution

It is often argued that attempts to develop new local forest management systems must take into account women and the poor. This is sometimes argued on moral grounds (Hobley 1987), but can also be argued on practical grounds. The argument is that the people who actually collect forest products must participate in the management process, or otherwise they will not follow unrealistic prescriptions (Fisher and Malla 1987).

This observation should apply as much to indigenous systems as it does to externally-sponsored ones. Unfortunately it is difficult to define just where decision making occurs in indigenous systems. Formal committees are not a necessary feature of indigenous systems but where they occur they tend to be predominantly male (and largely made up of dominant castes) it is doubtful, however, that committees are a major locus of decision-making.

In Badase, *Sarkis* (an untouchable caste) within the user group admitted that they did not know about attempts to reform the local committee, but they were pleased to hear about these attempts and were quite happy to continue contributing to the *Manapathi* system. (There were no *Sarkis* on the committee). Perhaps the committee was not seen to be centrally important.

Equity of distribution products is a major factor impinging on any resource management system. Dani and Campbell (1986) framed the following hypothesis:

> **Increased equity in distribution of resource benefits, within the limits of social acceptability, encourages greater participation by user groups.**

It is also supported by evidence from this study. A crucial difference observed between indigenous systems and externally-imposed ones (see next chapter) was that distribution in externally-imposed system was often biased, whereas few complaints occurred in indigenous systems.

A major exception to this is the case of Mahankal Ban (case 3)[5] . This is an extremely effective protection oriented regime. In fact, protection is almost too effective, in that the forest has great scope for increased utilisation. In late 1988 preliminary efforts to encourage the negotiation of a management plan allowing utilisation of forest products evoked surprisingly little

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4. Acharya (1984) sets up self-regulating systems and open access as alternative models for indigenous forest management in a panchayat near Pokhara. He argues that the situation is somewhere between the extremes. This is almost certainly true, but it misses the point that indigenous systems may be inherently imperfect: systems come into existence because a lack of earlier management has led to a shortage of forest products and they break down after protection has resulted in increased availability of resources.

5. Hobley (1987) discusses another indigenous system in which inequity was a feature.

enthusiasm among some villagers (Fisher and Singh 1988). It was later realised that the villagers who expressed this reaction all came from a dominant faction which apparently benefitted from a conservative protection-oriented system. the reasons for this included the fact that the members of the faction (all relatively wealthy), had trees on private land. Limiting access to products in a "community" forest was probably part of a system which allowed them to dominate poorer villagers. It appears that a major factor here was that they allowed poorer people to cut trees on their private land in exchange for cheap labour. Allowing increased access to products on common land would have reduced their capacity to control labour.

In this situation the required consensus (or, at least, grudging consent) about forest protection was present. While benefits from the forest were fairly equal (little for anybody), it is probably stretching the point to see the **situation** as being equitable, since the result of equal (but low level) access to common property was to enhance the dominance of a few people.

This case, however, does not falsify the view that reasonably equitable distribution of benefits is a feature of effective systems. We suggest, however, that changing the system from protection-orientation to utilisation orientation may drastically alter the balance of power.

Except in the case of Mahankal Ban, there were no complaints about unfair treatment by women or lower caste people within the systems studied. On several occasions people said that exceptions to rules were made (or rules were ignored) to enable poor people to get access to forests. Such statements are difficult to verify, but there does seem to be a high degree of tolerance of the needs of the poor.

All of this sounds somewhat romantic: left to themselves, people work together and go out of their way to help the poor; conflicts are relatively rare, etc. In fact there is no suggestion here that everything works fairly if rural people are left to themselves. We are talking only about **working** indigenous systems. If reasonable consensus and equity are necessary preconditions for the continuation of an indigenous system, then there simply would not be a **working**system where equity and consensus were absent. The importance of consensus was discussed earlier. Maina Bisauni and Ganeshthan forests in Badase show that systems (or at least the formal organisational aspects of systems) can collapse when disputes actually occur.

Conclusions

Analysis of indigenous systems covered in this case study shows that they are relatively common, and that they are often effective, particularly as protection regimes. However, they are recent innovations and are very conservative in terms of product utilisation. It is, therefore, unrealistic to regard them as sacrosanct. They are in a continual process of change and may adapt to outside interventions. Nevertheless, they do provide a model for viable local resource management institutions. The important thing is to ask what makes indigenous system effective and how can we build on them.

The main factors which tend to lead to viable indigenous forest management systems are:

1. consensus that there is a need to protect forests and about the means of doing so.
2. a relatively small and homogeneous user group with mutual recognition of use-rights.
3. relatively equitable distribution of products from the forest.

Two related features of indigenous forest management systems have major implications for agencies involved in community forestry. The apparent tendency for systems to be fairly short-lived responses to shortage and the emphasis on protection suggest that some institutional changes

may be necessary if local management is to involve a balance between protection and utilisation it is probable that the institutional changes required may not be major ones. Possibly, the granting of formal legal authority to harvest forest products to existing user groups may remove some major inhibitions. These issues remain to be explored.