



Mountain Population and Employment

Discussion Paper Series

WOMEN IN HATTISUNDE FOREST MANAGEMENT IN DHADING DISTRICT, NEPAL

Shanta Pandey

MPE Series No. 9

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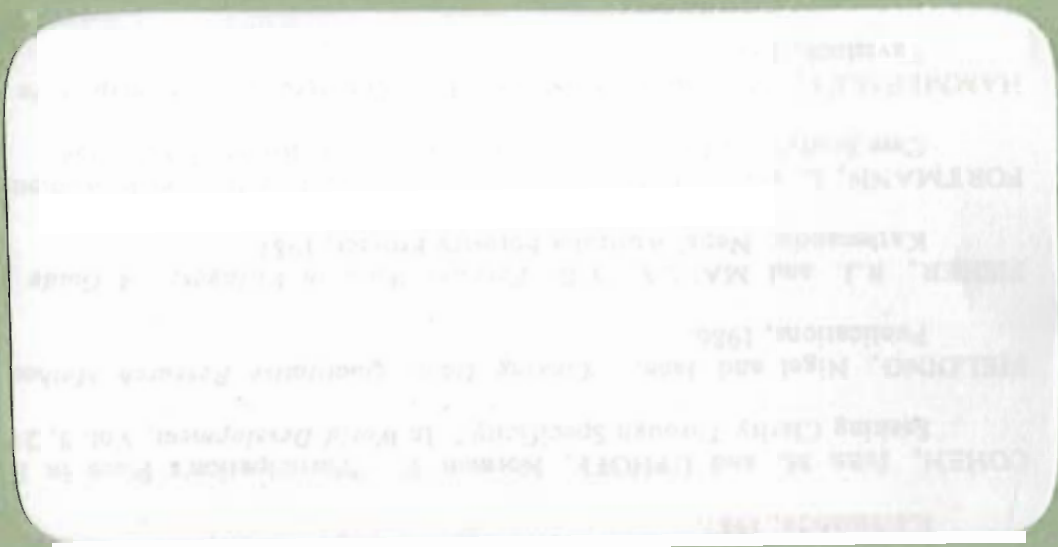
Shanta Pandey

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FOREWORD

The discussion paper presented here by Shanta Pandey, entitled "Women in Forest Management in Dhading District, Nepal", constitutes one of six case studies initiated by ICIMOD in conjunction with the Programme on Organisation and Management of Rural Development.

This Programme focused primarily on the organisational resources and their relationship to the management of natural resources for sustainable development and increased productivity in mountainous areas. Across the Hindu Kush-Himalayan Mountains, rural development projects are relying on different strategies for the achievement of the above goal. These strategies are being implemented within a given macro-institutional and legal framework; presumably with adequate attention given to the sociocultural context. The framework and the context limit, as well as offer, possibilities to development agencies. The purpose of the case studies was to examine innovative institutional strategies implemented in projects (carried out by governmental agencies or nongovernmental organisations) and also to analyse and assess the utility and effectiveness of indigenous resource management systems.

I would like to thank the Aga Khan Foundation for the partial financial support in running the programme. I am also grateful for the assistance we received from the Nepal-Australia Forestry Project, the Dhading District Development Project, the Aga Khan Rural Support Programme and the Pak-German Self Help Project. The programme execution from ICIMOD's side was carried out by Dr. Anis Dani (now with AKRSP) and Dr. Deepak Bajracharya.

ICIMOD was also fortunate to have engaged in collaboration with professionals from various national institutions and project implementing agencies in China, Nepal, and Pakistan. Mutual consultations were held at various planning workshops and orientation sessions in Kathmandu and at the project sites. The participating researchers eventually agreed on the methodological framework and the set of questions that they would try to address. Sufficient flexibility was left, so that, at the discretion of researchers, responses could be made to site-specific situations.

Research Methods. A combination of techniques was used during the course of the research that lasted between six months to one year.

- o Collation and analysis of existing data from government and project records.
- o Selected open-ended interviews with relevant government officials, project personnel, and key resource persons from the region.
- o Field investigations in 8-12 villages within each project area, selected purposively to cover the various strata, the variable impact of development activities, and a range of resource management activities; rapid appraisal techniques were developed and each village was visited two or three times, altogether for about 7 days, to obtain details of specific components after preparation of an initial village profile.
- o Participant observation of project activities.

The key questions that the researchers were trying to address included the following:

- o Under what circumstances do existing resource management systems undergo institutional innovations?

- o What elements of existing resource management systems can intervening agencies build on: tenurial arrangements? property relationships? organizational structures? functionaries?
- o How do different kinds of interventions compare in terms of their ability to generate sustainable development and sound environmental management?
- o How does the user group internalize the benefits and costs of using the resource? How are risks shared ? If benefits are not equally distributed, how are the losers compensated ?
- o How does the user group ration a scarce resource?
- o How does the user group respond to development opportunities and entrepreneurial endeavours?

Influencing Factors. In addition, the following set of questions, which emerged from the reviews and research already conducted by ICIMOD, were also proposed for investigation during the course of the study:

- o Is the propensity of user investment in future returns related to the resource value, i.e., to the perceived value of the resource?
- o Does the tenurial security of the resource to the user influence the time horizon of local resource management?
- o If actual users have more responsibility for management decisions over their resources, are the resources more likely to be managed for long-term productivity at less cost to the supporting agencies?
- o Does increased equity in distribution of resource benefits encourage greater participation by user groups?
- o Will a resource management function be performed more efficiently if the performer is accountable to the local user group?

Women's Role in Resource Management. A third set of key questions, which appear to be of critical importance, deals with the role of women in resource management. These are:

- o What role do women have in resource management?
- o Is the role of women of particular importance in the use of certain resources, e.g., forests, grasslands, and water ? If so, do they have any role in decision-making about, and the management of, those resources ?
- o What are the constraints on women's involvement in resource management?
- o How do women perceive their own role in regard to resource management? How do they feel their participation can be improved ?

While the present study attempts to look into all of the preceding issues, specific attention has been paid to the role of women. The subject matter focuses upon the understanding of the resource management system at local level and learning if gender specific participation had any valuable information to offer in enhancing the management of a resource. This detailed study of the management of a particular forest and the events that initiated its conservation by the community is an example of how indigenous felt-needs are, in the long run, much more effective in the management of local resources than directives coming from organizations that are neither directly involved nor concerned with these resources for their day to day needs.

Readers might be interested in knowing that all the six case studies mentioned above, including the one presented here, are brought out in the Discussion Paper Series of the Mountain Population and Employment Division (i.e., MPE Series No. 6 through 11). We would be happy if you would write to us with your comments and suggestions and join in the discussion on these important issues. ICIMOD is organising an International Workshop on the Role of Institutions in Mountain Resource Management, 1-4 May 1990, in Quetta, Baluchistan, Pakistan, to discuss many of the issues brought out by the case studies and provide a forum for interaction among researchers, development practitioners, and policy makers. The results of the Workshop are forthcoming shortly after the event takes place. ICIMOD is hopeful that these efforts would be useful in generating dialogues on organisational and institutional issues of integrated mountain development.

E.F. Tacke
Director

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The study would not have been possible without the support of the men and women of Hattisunde-Mahadevsthan. They were always willing to talk to me despite their work loads.

Thanks are due to Dr. Deepak Bajracharya, Anis A. Dani, and Dr. Hikmat Bista for giving me the opportunity, encouragement, and latitude to carry out the study in the way I wanted.

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Shanta Pandey

Seasonal Cycles
Social Institutions
Village History

Water Management Systems
Historical Background
Culture, Migration and Historical Perspective
Local Level Water Management: A Study of Hattisunde
Regional Perspective and Its Analysis
Rain, Irrigation and Interim Group

Water System

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SUMMARY OF FINDINGS AND RECOMMENDATIONS

Hattisunde Forest

Hattisunde Forest is protected and nurtured by fifty-three households from four villages of Ward No 2, Nalang Village Panchayat of Dhading District. The four villages are Hattisunde *Gaun*, Kharka *Gaun*, Mahadevsthan *Gaun*, and Khahare *Gaun*¹. The tradition of conserving fodder, fuelwood, and construction wood tree species on private land has existed for generations. A special venture to protect and conserve a forest on public land began a little less than a decade ago. Both men and women were responsible for initiating the protection of Hattisunde Forest. Strict rules have been formulated to control forest encroachment and these are strictly observed. All those infringing on the forest (including the parents of some little children who unknowingly started a forest fire and the father of a twelve year old boy who cut some fodder from the forest) are fined.

Today Hattisunde Forest looks very healthy. The trees include some of the most locally valued species, such as *Sal* (*Shorea robusta*) and *Chilaune* (*Schima wallichii*). These two species are excellent for construction, fodder, and fuelwood. *Sal* is preferred for construction wood, fodder, and fuelwood; and its leaves are used traditionally to make plates and bowls. Its leaves are also used on social and religious occasions such as wedding ceremonies and thread ceremonies; and its wood is used to make ceremonial litters for carrying the dead. Hence although it does not mature as rapidly as pine, it is preferred because of the benefits it provides. In addition to its timber value, *Chilaune* grows faster than *Sal*, provides excellent material for animal bedding, and makes good fuelwood.

The forest is unfenced and does not have a watchman. Even though domestic livestock could easily graze in it and it is very convenient for the collection of fuelwood and fodder, the rules are not violated because of the communities' commitment to protect the forest. It has demonstrated its awareness of decreasing forest resources and thus this community has something very valuable to offer to the forestry program by demonstrating how local people can be involved in the conservation of forest resources. The community has already received the "Jarajuri Award"² but it has to evolve a sustainable management system.

1. *Gaun* means a village.

2. The "Jarajuri Award" is given annually to communities who have conserved the forest on their own initiative by a private group of environmentally conscious people. The award money comes from the royalties received from a book written by Dr. Kk Pandey entitled "Fodder Trees and Tree Fodder in Nepal".

Summary of Findings

The findings of the Study are as follows:

- o Women have contributed to the protection of Hattisunde Forest in the past and they continue to actively participate in protecting the Forest today.
- o Women are instrumental in the conservation of Hattisunde Forest.
- o Women have helped in the protection and conservation of Hattisunde forest by:
 - stall feeding their livestock or finding alternative private or public grazing land;
 - not collecting ground litter, fodder, and fuelwood from the forest;
 - growing and protecting more fodder and fuelwood trees on private land;
 - abiding by the rules agreed to by the villages;
 - keeping a close watch on the forest and reporting violators to key persons in the villages; and
 - paying the fines immediately upon violation of any rule either by themselves or by their family.

Summary of Recommendations

The main recommendations emanating from the study are as follows:

- o Currently Hattisunde Forest is very thick. Local people are concerned and need technical assistance in thinning the forest to improve the trees. A team consisting of a social scientist and a forestry expert should visit the villages on an informal basis and provide advice.
- o Hattisunde Forest is an ideal example of community forestry. Local communities came together in support of a common interest and protected the forest on their own initiative. Intervention from government and development agencies that would disrupt this initiative should be discouraged. Sensitivity to the existing management system is necessary before trying to introduce development activities.
- o The Forestry Department should recognize the existence of people-protected forests and should encourage these communities to protect forests on their own initiative. The Forestry Department can also learn to improve the involvement of local people in community forestry projects from such instances.

- o Since no government money has been spent protecting Hattisunde Forest, the people should be charged less royalty (especially for timber) when they wish to harvest its resources.
- o The forestry office should not permit the felling of wood without permission from the local forest management committee.
- o Currently, everyone in the villages has an equal responsibility for protecting Hattisunde Forest, regardless of age or gender. The more formal the management committee becomes the more likelihood of women being excluded from its management system, because women's role in formal committees is not socially recognized in these villages. Hence, the forest protection and management system should remain informal.
- o Studies of other settlements where people have protected a forest (e.g. Nilakantha Panchayat); should be carried out where resource development projects and local people are involved in forest protection (e.g., Panchayat-Protected or National Forests). This would provide an opportunity to compare and analyze women's involvement in different community forestry projects in Nepal.

DISTRICT AND VILLAGE PROFILES

Dhading District

Dhading District is one of the 75 districts of Nepal and it is comprised of 50 village panchayats. As shown in the Map of Nepal (Figure 2.1), Dhading District lies in the Bagmati Zone of the Central Development Region of Nepal. It is bordered by Rasuwa, Nuwakot, and Kathmandu districts in the east, Makwanpur and Chitwan in the south, Gorkha in the west, and the Autonomous Region of Tibet in the north. It covers a geographical area of 192,600 hectares or 1.3 per cent of the country's area (Agrawal et al. 1985, 43) and has a subtropical monsoon climate. The average annual precipitation is 2,120 mm and the rainy season is from mid June to September.

The district lies between 27° 40'N to 28° 14' N latitude and 84° 36' E to 85° 1' E longitude, and ranges from 500m (subtropical) to 7,500m (the high Himalayas, e.g. Ganesh Himal, 7,409m) with most of the area falling in the 700 to 2,000m region (MPLD/DDDP 1983, 23). The three main rivers are the Trisuli, Budhi Gandaki, and Aankhu *khola*.

Almost 99 per cent of the population is involved in agriculture, a notable proportion of households derive their income from selling livestock, and there is also significant seasonal migration in search of work. People of Dhading District, especially the women, make baskets, straw mats, rope, ghee, and dry vegetables for marketing.

According to the 1981 census (Central Bureau of Statistics [CBS] 1981), the population of Dhading is 243,042 distributed among 50,000 households; the average size being approximately 5 persons. Out of the total population of 243,042, the male population accounts for 50.4 per cent (122,395) and the female population 49.6 per cent (120,647). Population wise, Dhading District is the third largest hill district in Nepal. The population growth rate is estimated at 2.25 per cent. Of the population, 174,763 (71.9 per cent) are above ten years of age (Agrawal et al. 1986, 46). The literacy rate for men is about 27.2 per cent and for women 6.8 per cent (Agrawal et al. 1985, 46).

According to a MPLD/DDDP (1983, 25) report, the caste and ethnic composition of Dhading District is as shown in Table 2.1. Indo-Aryan Caste Groups make up approximately 42 per cent of the total population. Tibeto-Burmese Ethnic Groups are approximately 55 per cent of the population.

Topographically the district is characterized by very steep slopes with limited flat areas on the valley bottoms. Most of the forests are subtropical and contain *Sal* (*Shorea robusta*) and *Katus* (*Castanopsis tribuloides*) species. The major crops are maize, paddy, millet, potatoes, wheat, sugarcane, oilseeds, and barley. Vegetables are also grown on a commercial scale in some panchayats. On land that has irrigation facilities, farmers can grow three crops a year either by growing early paddy, late paddy, and wheat or maize, paddy, and wheat. Approximately 20,000 ha of primary land and 30,000 ha of marginal and very marginal upland is being cultivated (MPLD/DDDP 1983, 25).

FIGURE 2.1:
MAP OF NEPAL

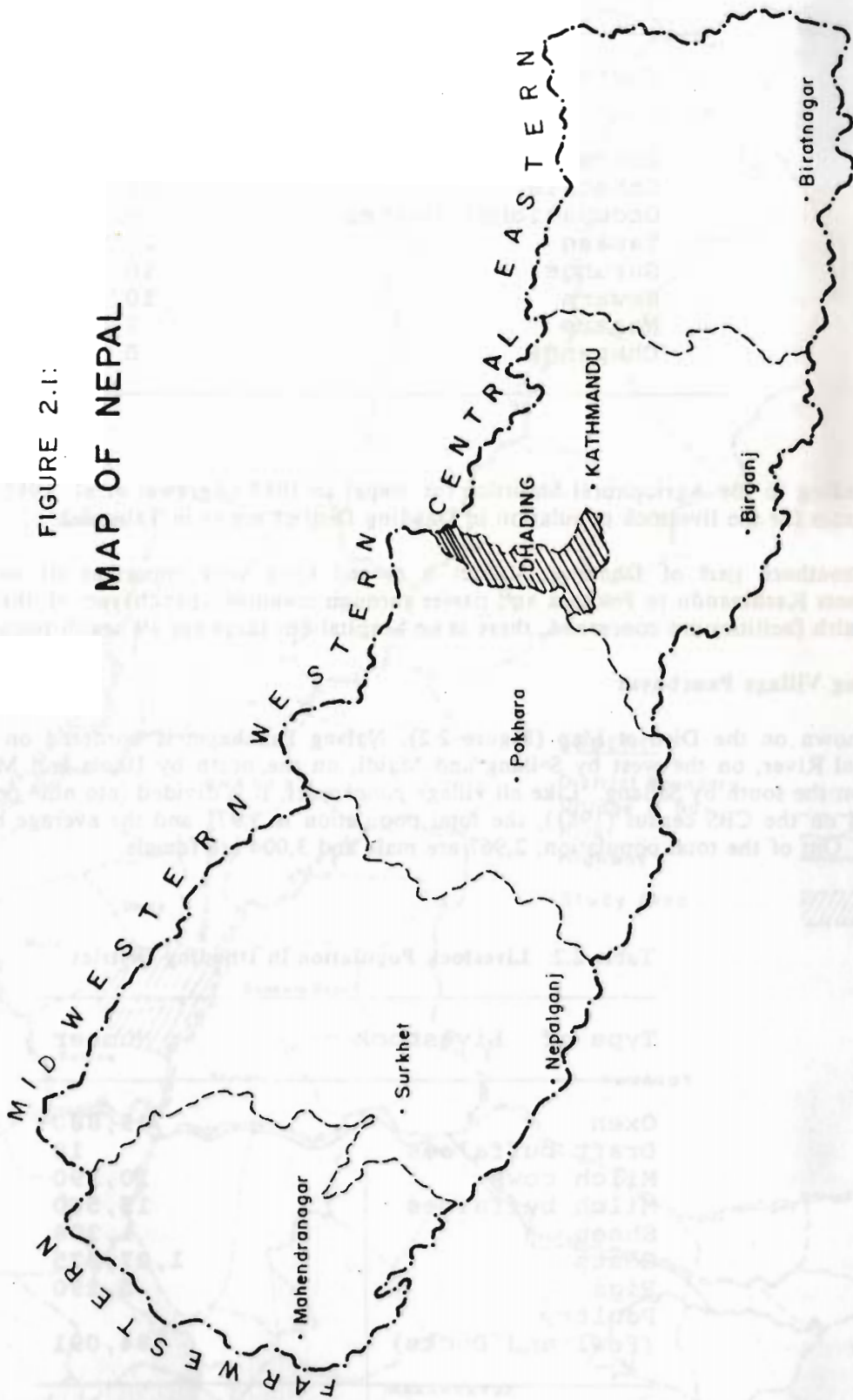


Table 2.1: Caste and Ethnic Composition in Dhading District

Caste	Percentage
Brahmins	19
Chhetris	14
Occupational Castes	9
Tamang	23
Gurungs	10
Newars	10
Magars	7
Chepangs	5

According to the Agricultural Statistics for Nepal in 1983 (Agrawal et al. 1985, 49), the latest estimates for the livestock population in Dhading District are as in Table 2.2.

The southern part of Dhading District is served by a very important all weather road that connects Kathmandu to Pokhara and passes through seventeen panchayats of the district. As far as health facilities are concerned, there is no hospital but there are 19 health posts.

Nalang Village Panchayat

As shown on the District Map (Figure 2.2), Nalang Panchayat is bordered on the east by the Thopal River, on the west by Sallang and Maidi, on the north by Dhola and Murli Bhanjyang, and on the south by Sallang. Like all village *panchayats*, it is divided into nine political wards.

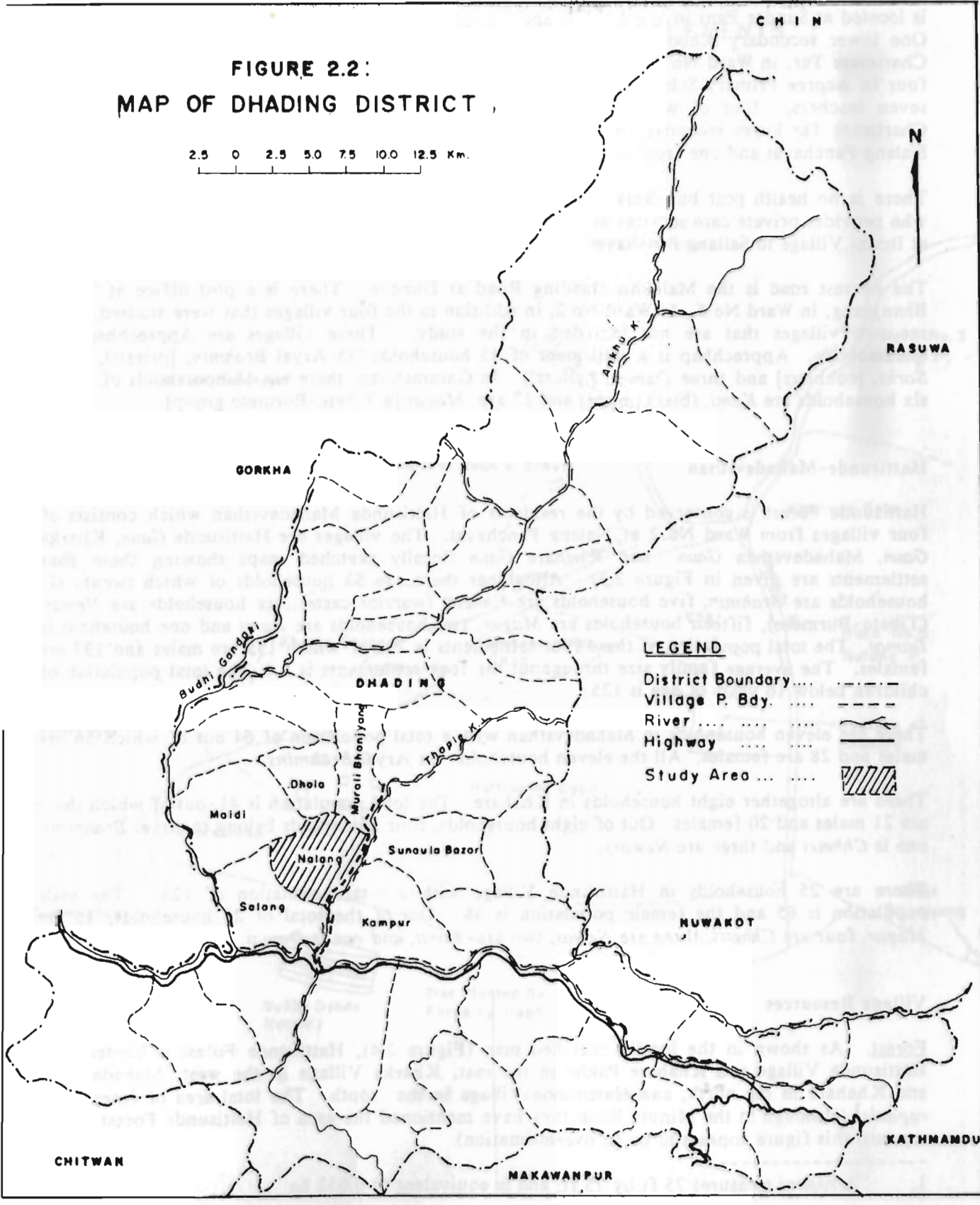
Based on the CBS census (1981), the total population is 5,971 and the average household size is 5.21. Out of the total population, 2,967 are male and 3,004 are female.

Table 2.2: Livestock Population in Dhading District

Type of Livestock	Number
Oxen	49,880
Draft buffaloes	18
Milch cows	10,390
Milch buffaloes	15,560
Sheep	1,398
Goats	1,27,275
Pigs	5,290
Poultry (Fowl and Ducks)	184,091

**FIGURE 2.2:
MAP OF DHADING DISTRICT**

2.5 0 2.5 5.0 7.5 10.0 12.5 Km.



LEGEND

- District Boundary..... - - - - -
- Village P. Bdy.
- River ~~~~~
- Highway ———
- Study Area ▨ ▨ ▨ ▨ ▨

There are two primary schools and two lower secondary schools. Of the two primary schools, one is located at Sundar Pani in Ward No 3, and the other one is located in Aapree *Gaun*, Ward No 4. One lower secondary school is located at Thanti Bhanjyang in Ward No 5 and the other at Charimare Tar, in Ward No 8. There are four school teachers in Sundar Pani Primary School and four in Aapree Primary School. In the lower secondary school at Thanti Bhanjyang there are seven teachers, four of which are from within the Panchayat and three from outside. In Charimare Tar lower secondary school there are seven teachers of which six come from within Nalang Panchayat and one from outside.

There is no health post but there is a health worker from the health post in Sallang Panchayat who provides private care services at Thanti Bhanjyang in Ward No 5. The nearest health post is at Itpani Village in Sallang Panchayat.

The nearest road is the Malekhu-Dhading Road at Dunche. There is a post office at Thanti Bhanjyang, in Ward No 5. In Ward No 2, in addition to the four villages that were studied, there are two villages that are not included in the study. These villages are Apprechhap and Garamchhap. Apprechhap is a settlement of 45 households (35 Aryal *Brahmin*, [priests], seven *Sarki*, [cobblers] and three *Damai*, [tailors]). In Garamchhap, there are 18 households of which six households are *Kami*, (blacksmiths) and 12 are *Magar* [a Tibeto-Burmese group].

Hattisunde-Mahadevsthan

Hattisunde Forest is conserved by the residents of Hattisunde Mahadevsthan which consists of four villages from Ward No 2 of Nalang Panchayat. The villages are Hattisunde *Gaun*, Kharka *Gaun*, Mahadevsthan *Gaun* and Khahare *Gaun* (locally sketched maps showing these four settlements are given in Figure 2.3). Altogether there are 53 households of which twenty six households are *Brahmin*, five households are *Chhetri* (warrior caste), six households are *Newar*, (Tibeto-Burmese), fifteen households are *Magar*, two households are *Kami* and one household is *Damai*. The total population of these four settlements is 292 of which 155 are males and 137 are females. The average family size throughout the four settlements is 5.4. The total population of children below 16 years of age is 125.

There are eleven households in Mahadevsthan with a total population of 64 out of which 36 are males and 28 are females. All the eleven households are Aryal *Brahmins*.

There are altogether eight households in Khahare. The total population is 41, out of which there are 21 males and 20 females. Out of eight households, four households belong to Aryal *Brahmins*, one is *Chhetri* and three are *Newars*.

There are 25 households in Hattisunde Village with a total population of 123. The male population is 65 and the female population is 58. Out of the total of 25 households, 15 are *Magar*, four are *Chhetri*, three are *Newar*, two are *Kami*, and one is *Damai*.

Village Resources

Forest. As shown in the locally sketched map (Figure 2.4), Hattisunde Forest is bordered by Hattisunde Village and Khahare Pakho in the east, Kharka Village in the west, Mahadevsthan and Khahare in the north, and Hattisunde Village in the south. The total area of forest is 25 *ropanis*¹ (although in the Minute Book they have mentioned the area of Hattisunde Forest as 100 *ropanis*, this figure appears to be an overestimation).

1. A *ropani* measures 75 ft by 75 ft, and is equivalent to 0.052 ha

FIGURE 2.3:
 SKETCHED MAP SHOWING THE SETTLEMENTS

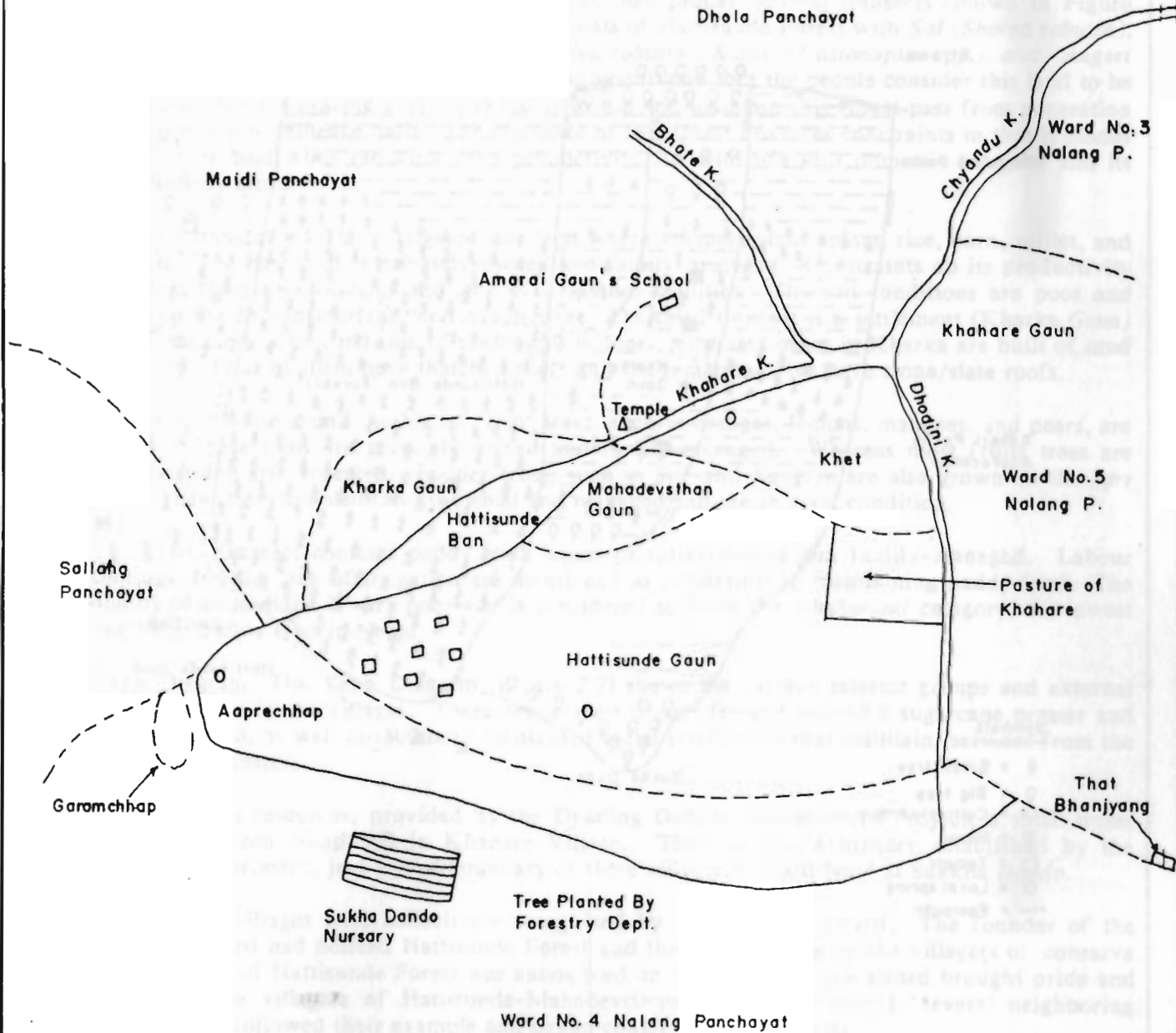
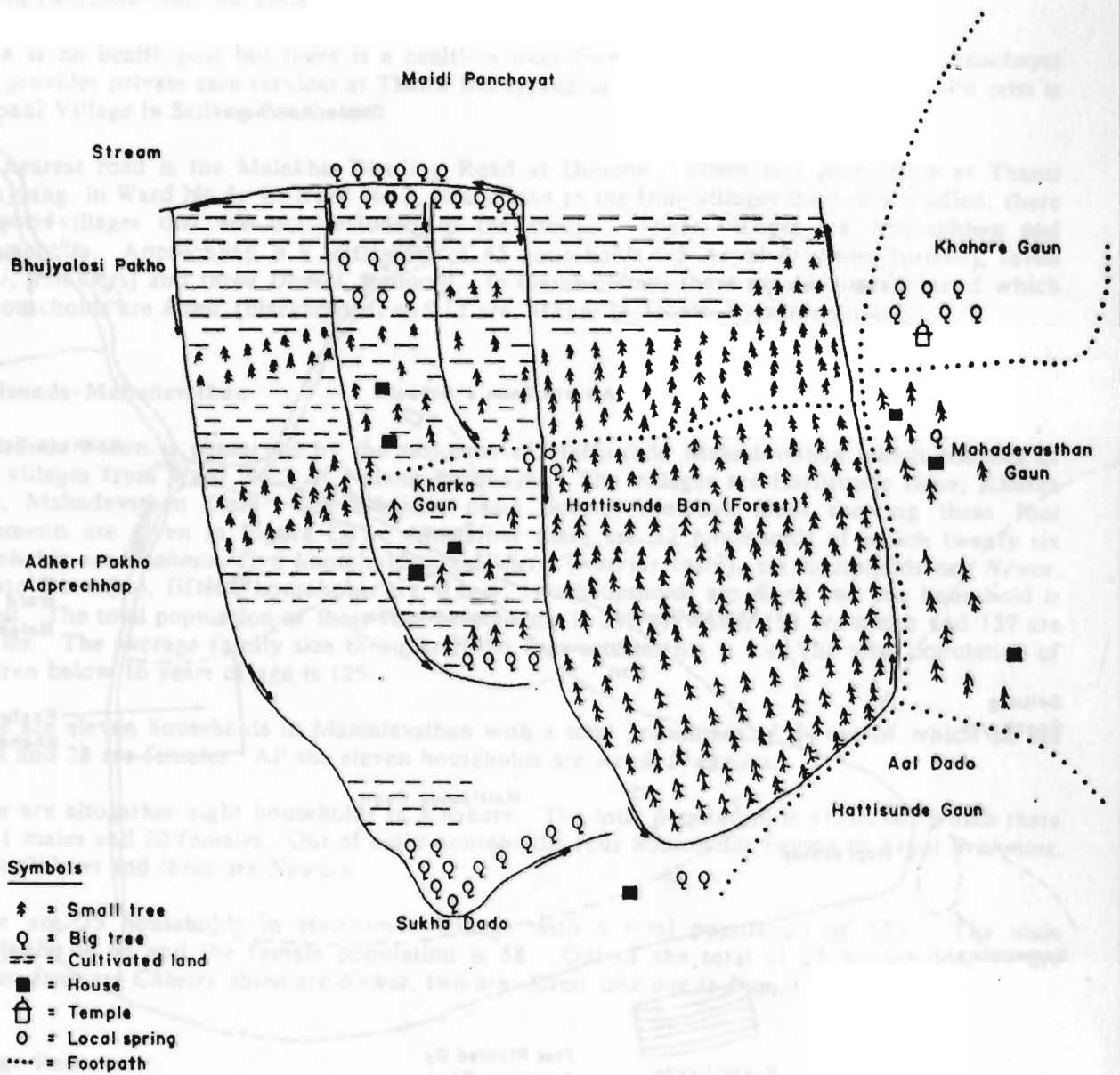


Figure 2.4: Locally Sketched Map of Hattisunde Forest



Arable Land. The area of paddy land owned ranges from one to thirty *ropanis* with an average of nine *ropanis* per household. Villagers also own *bari*² land and the average is fourteen *ropanis* per household (ranging from four to forty-nine *ropanis*).

Village Flow. As indicated in the village flow diagram (Figure 2.5), items such as kerosene, salt, clothing materials, food, agricultural tools, etc are bought from outside. Similarly, items such as peanuts, fruit, livestock, ghee, and human labour are sold outside.

Village Transects. When viewed from Mahadevsthan proper, several transects (shown in Figure 2.6) can be noted. The top most transect consists of Hattisunde Forest with *Sal* (*Shorea robusta*), *Chilaune* (*Schima wallichii*), *Kangiyo* (*Grevillea robusta*), *Katus* (*Castanopsis spp.*), and *Angeri* (*Lyonia formosa*) trees. All these are on government land, but the people consider this land to be a common, former grazing area. The rights to use and maintain this forest pass from generation to generation on a lineage basis. The existence of this forest produces constraints in that it shades private *bari* land, thus reducing crop productivity, its wild life kills domestic animals, and its birds destroy crops.

The next transect is of non-irrigated *bari* land where villagers plant upland rice, corn, millet, and oil seed. The *bari* land is privately-owned and family-managed. Constraints on its productivity include a shortage of labour and lack of irrigation facilities. The soil conditions are poor and villagers do not consider the land productive. The third transect is a settlement (Kharka *Gaun*) on private land. The condition of the houses is poor. All nine houses in Kharka are built of mud and stone. Four of them have thatched roofs and the remaining five have stone/slate roofs.

On the *bari* land around the houses, fruit trees, such as oranges, lemons, mangoes, and pears, are grown. These trees are privately-owned and family-managed. Whereas most fruits trees are healthy, some are infected. Fodder trees, such as *Sal* and *Kangiyo* are also grown on the *bari* land. These trees are also family-owned and managed and are in good condition.

The fourth transect contains paddy land, again privately-owned and family-managed. Labour shortage and the lack of irrigation are mentioned as constraints to maintaining paddy land. The quality of paddy land is very poor and is considered to be in the *chaharival* category; the lowest quality of paddy land in Nepal.

Venn Diagram. The Venn Diagram (Figure 2.7) shows the various interest groups and external agencies active in the villages. There are interest groups formed around a sugarcane presser and a male buffalo, as well as the above mentioned social institutions that maintain services from the occupational castes.

From external resources, provided by the Dhading District Development Project, a small water project has been completed in Khahare Village. There is also a nursery established by the Forestry Department, just on the boundary of these villages in Ward No 4 at Sukkha *Dando*.

All the four villages were collectively recognized by the Jarajuri Award. The founder of the *Jarajuri* Award had noticed Hattisunde Forest and the efforts made by the villagers to conserve it. The name of Hattisunde Forest was announced on the radio and the award brought pride and respect to the villagers of Hattisunde-Mahadevsthan. Since the award, several neighboring villages have followed their example and begun conserving local forests.

2. *Bari* refers to dry cultivable land that is rain-fed but not irrigated.

FIGURE 2.5 : VILLAGE FLOW OF THE THREE SETTLEMENTS

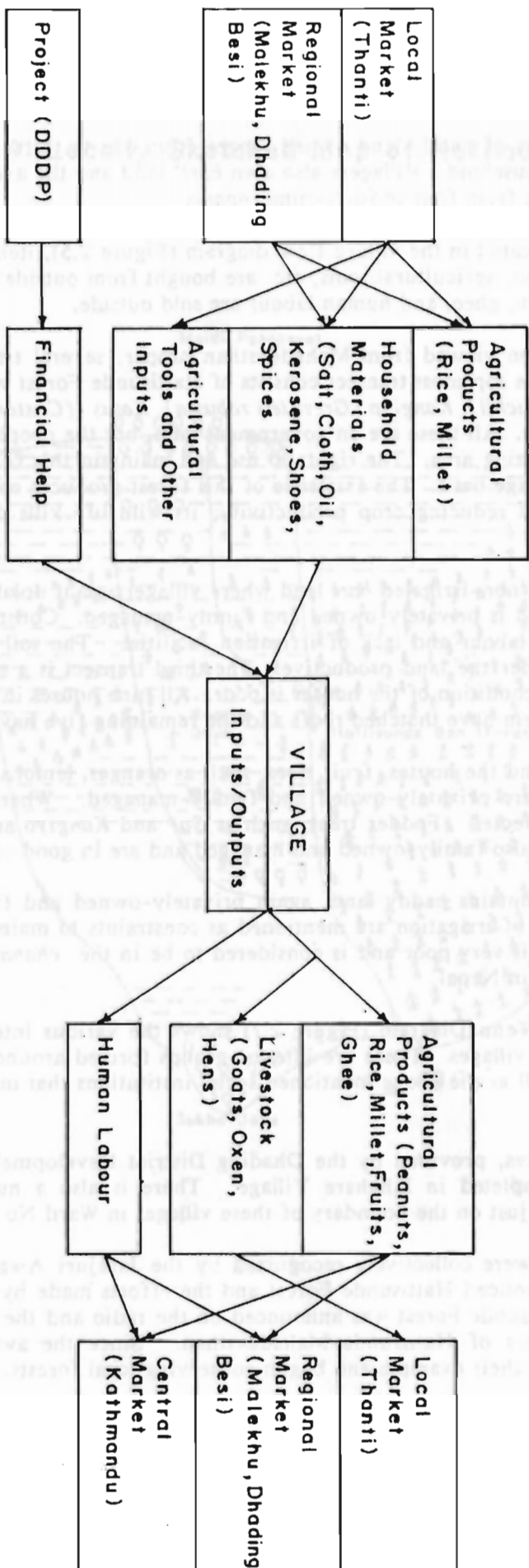


FIGURE 2.6:
VILLAGE TRANSECT (AS SEEN FROM MAHADEVSTHAN PROPER)

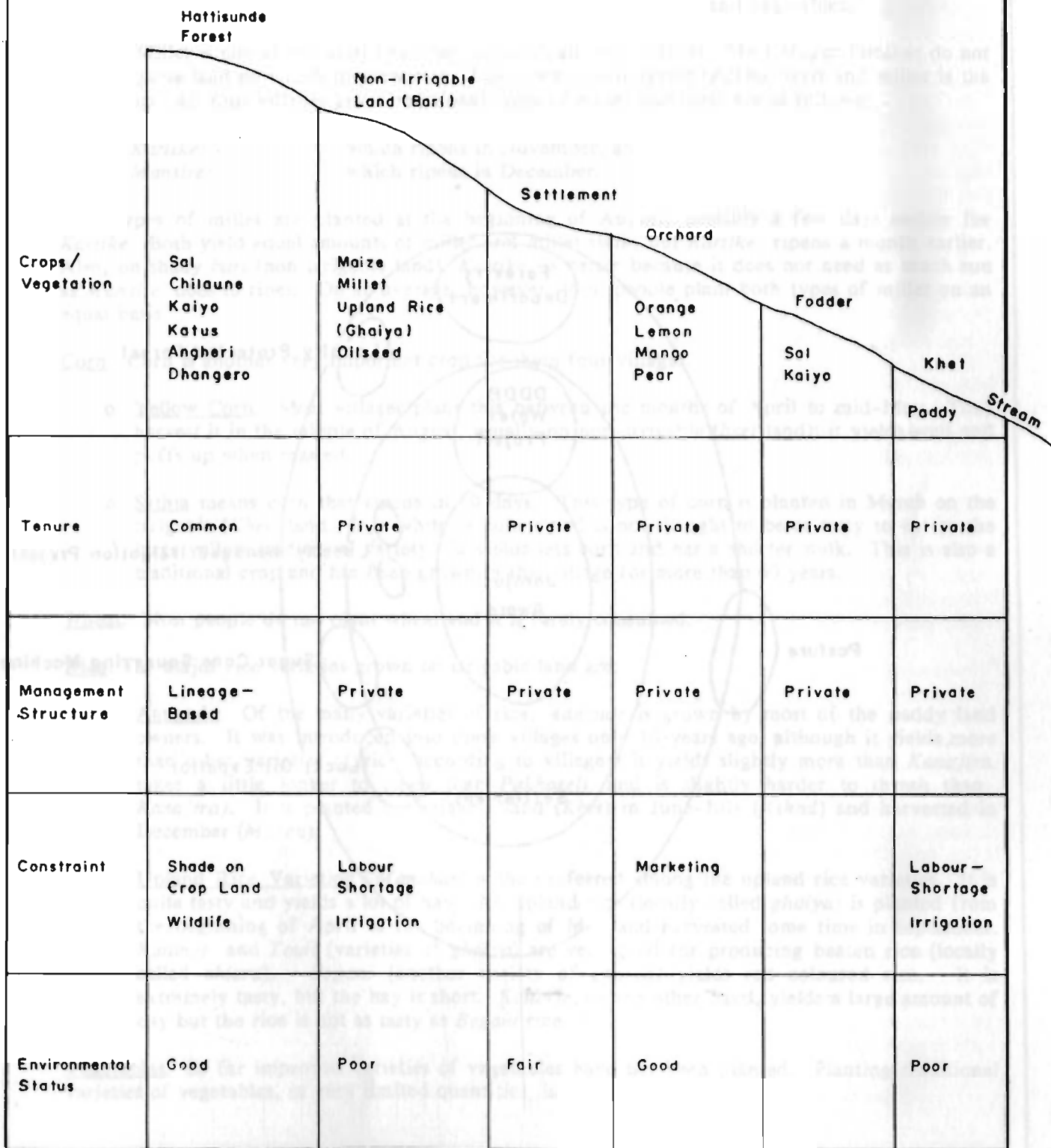
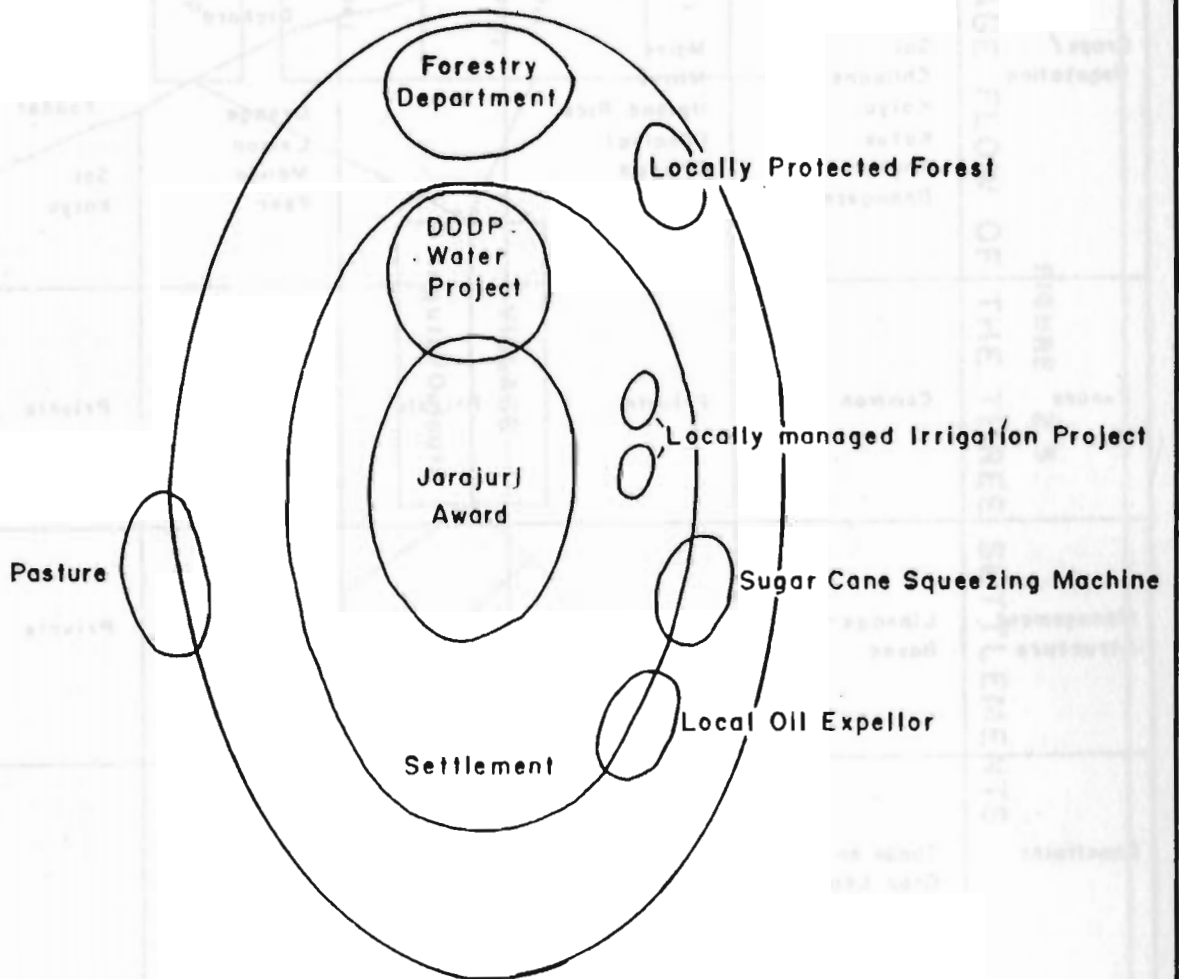


FIGURE 2.7:
VENN DIAGRAM FOR MAHADEVSTHAN



Seasonal Calendar of Crops

The work calendar for the people of Hattisunde, Kharka, Khahare, and Mahadevsthan depends upon the type of crops they plant. They have adopted very few new crops and most of the villagers plant traditional varieties of rice, corn, upland rice, millet, and vegetables.

Millet. Millet is one of the most important crops in all four villages. Most *Magar* families do not own irrigable land on which to grow rice. They own non-irrigable (*Pakho*) land and millet is the main crop. All four villages grow traditional types of millet and these are as follows:

- o *Kartike*: which ripens in November, and
- o *Mansire*: which ripens in December.

Both types of millet are planted at the beginning of August, possibly a few days earlier for *Kartike*. Both yield equal amounts of millet and millet stalk, but *Kartike* ripens a month earlier. Also, on shady *bari* (non irrigable land), *Kartike* is better because it does not need as much sun as *Mansire* does to ripen. On an average, however, local people plant both types of millet on an equal basis.

Corn. Corn is another very important crop for these four villages.

- o **Yellow Corn:** Most villages plant this between the months of April to mid-May. They harvest it in the middle of August, usually on non-irrigable (*bari* land); it yields well and puffs up when roasted.
- o **Sathia** means corn that ripens in 60 days. This type of corn is planted in March on the irrigable (*Khet*) land. It is white in colour and is not thought to be as tasty to eat as the large yellow traditional variety. It yields less corn and has a shorter stalk. This is also a traditional crop and has been grown in this village for more than 60 years.

Wheat. Most people do not plant wheat and it is rarely consumed.

Rice. The major rice varieties grown on irrigable land are:

- o **Aanande:** Of the many varieties of rice, *Aanande* is grown by most of the paddy land owners. It was introduced into these villages only 10 years ago, although it yields more than other varieties of rice (according to villagers it yields slightly more than *Kanajira*, takes a little longer to ripen than *Pokhareli*, and is slightly harder to thresh than *Kanajira*). It is planted on irrigable land (*Khet*) in June-July (*Ashad*) and harvested in December (*Marga*).
- o **Upland Rice Varieties:** *Manahari* is the preferred among the upland rice varieties. It is quite tasty and yields a lot of hay. All upland rice (locally called *ghaiya*) is planted from the beginning of April to the beginning of May and harvested some time in September. *Katunje* and *Touli* (varieties of *ghaiya*) are very good for producing beaten rice (locally called *chiura*). *Begani* (another variety of *ghaiya*) yields red coloured rice. It is extremely tasty, but the hay is short. *Katunje*, on the other hand, yields a large amount of hay but the rice is not as tasty as *Begani* rice.

Vegetables. So far improved varieties of vegetables have not been planted. Planting traditional varieties of vegetables, in very limited quantities, is the norm.

Social Institutions

The local people of Hattisunde-Mahadevsthan maintain a tailor (locally called *Damai*), a blacksmith (locally called *Kami*), and a *Katuwal*. The *Damai* makes all the clothes necessary for certain households and the *Kami* makes all the agricultural tools (such as sickles, ploughs, etc) and sharpens the tools. The *Katuwal* acts as a messenger within the villages³.

Each year the *Katuwal*, *Damai*, and *Kami* are paid in kind by each household. Normally, they are paid just after harvest when villagers have ample food. They are paid in rice in January (*Poush*) and corn in September (*Bhadra*). Since there is little paddy land, each household usually pays a big basket of corn to each of them. The rate is one pathi (about 3 kg) of corn per person in the employer's family. During the *Dasain*⁴ festival, when goats are sacrificed, it is customary to give the tail, feet, and neck to the *Damai*, *Katuwal*, and *Kami* respectively. Such social institutions demonstrate a shared interdependence among the four villages that reduces their dependence on external sources.

Village History

Based on the information received from the local people, it appears that the *Magars* of Hattisunde Village are the oldest residents among all four villages, since they settled in Hattisunde Village about twelve to thirteen generations ago. Not all of the *Magars* of Hattisunde came at the same time. The *Pangmi Magars* from Maida Panchayat seem to have settled first, than the *Gindel Magars* and finally the *Ale Magars* came from Gorkha. The last group to settle was that of the *Khulal Magars* who arrived two years ago from Ukhubari, Maida Panchayat.

They migrated to Hattisunde Village for a number of reasons. For instance, one of the villagers of Hattisunde (Bhim B. Pulami, aged fifty) mentioned that his family "came about 11-12 generations ago because we were heavily indebted and our land was confiscated by the rich of Maida". According to Nil Kantha Aryal (aged seventy two) of Kharka, the first generation of *Magars* were invited to live in Hattisunde by the *Chhetris* of Maida Panchayat (locally called *Rajas* because they consider themselves to be relatives of the present king of Nepal).

Following the *Magars* came the *Aryals* of Kharka Gaun from Apprechhap, Ward No 2 of Nalang Panchayat. Then came the *Brahmins* of Mahadevsthan and *Khahare Gaun* from Amarai Village, Maida Panchayat. Three generations ago the *Magars* invited an *Aryal Brahmin* family to live in their neighborhood and serve as their priests. During that time the area was still covered with dense forest that was under the control of the *Magars* of Hattisunde. Finally, three generations ago came the *Newars* and *Chhetris* of Hattisunde and a year or two ago only the *Newars* of *Khahare Gaun*.

3. When this research team was in the village at 6:00pm one day, a high pitched sound was heard from a point central to the four villages. It was the *Katuwal* asking the villagers to meet at Chautara Dando the next day to learn about the visitors to their villages (us).
4. A ten day national festival in September/October which celebrates the goddess Durga's victory over the devil Mahisasura (a symbolic way of depicting Ram's victory over Ravana in the epic Ramayana).

Village Dynamism

One of the national events that had an impact on the lives of the villagers of Hattisunde was the 1934 earthquake, and this is recollected by older people. They also heard of the 1950 revolution but are not quite sure if it introduced any change within their villages. The general elections held in 1958 are also vaguely remembered, but these events do not seem to have made any difference to the way they live.

In 1960, the *Panchayat* System introduced the structures of District Panchayat and Ward that designated their political boundaries. Under the *Panchayat* System, these four villages merge at the border of Maldi Panchayat. As a result of this, a large part of the forest resources that were being used by these four villages became a part of Maldi Panchayat. Villagers were not sure then how they would get the necessary forest resources if they were not allowed to use the forests that were near their settlements but were demarcated as parts of another Panchayat.

Even though these four villages fall under Nalang Panchayat, they do not consider themselves to be in Nalang. They have a closer relationship with the people of the neighbouring villages of Maldi Panchayat because most of their ancestors migrated from these villages. Also, some of their private land and a small part of Hattisunde Forest extends into Maldi Panchayat.

The Private Forest Nationalization Act of 1957 is believed to have caused distrust in, and suspicion of, the Government among the people (Bajracharya 1983, 233). However, there was no indication of this in these villages. No one is aware of this Act. In other words, the Private Forest Nationalization Act of 1957 did not have any effect on the state of forests in these villages.

The Land Reform Act, introduced in 1964 (2021 B.S.), did not affect the villagers immediately. However, the topographical survey of land conducted in 1977, that followed as a result of the Land Reform Act, was new to them. For the first time, their land was surveyed and legal ownership of land was granted to each individual. Any land not cultivated was considered to be government land and the team did not survey Hattisunde Forest since it was not cultivated land and hence was considered to be government property.

Socioeconomic Status

Resource Use Pattern

Land and water are the major resources of the villages of Nalang Panchayat where this study was conducted. Water from the Dhodini and Khahare streams has been tapped for irrigation. Agricultural production includes maize, rice, millet, vegetables, and lentils. Peanuts and some fruits, such as oranges and pears, are the only products local people sell, because they consume most of the agricultural products themselves. Many households are not able to produce enough food from their own land to feed their families throughout the year. Some rely on wages earned from labour for part of the year. *Brahmins* and *Chhetris* are better off than the lower castes and *Magars*.

Livestock includes buffaloes, cows, bullocks, and goats. Pigs and chickens are also raised by certain ethnic groups and the lower caste groups. A number of *Brahmin* households have begun raising chickens as a means of generating additional income.

Education

None of the married women in these four villages are literate and only 28 children go to school. Two men have completed high school and four students have completed tenth grade; one of the latter is a female. Hattisunde, Kharka, Mahadevsthan, and Khahare have access to four schools—three of them being in neighbouring Maldi Panchayat and one in Nalang Panchayat.

Economic Level

All 53 residents of the four villages are farmers and agriculture is their main source of income. Yet, based on personal observation, it should be stated that food produced from family-owned land does not meet the annual family food requirements in the case of a significant number of households. For instance, food produced from the family land of 15 *Magar* households in Hattisunde lasts not more than three to eight months a year. Every year, men from these households go to other villages or even to urban areas such as Kathmandu, Pokhara, and Narayan Ghat, in order to earn additional income to support their families. Similarly, *Sarkis*, *Damais*, and *Newars* of Hattisunde and Khahare always need additional income to meet their annual food requirements. The *Brahmins* and *Chhetris* of Kharka, Khahare, and Mahadevsthan are slightly better off than the *Magars* of Hattisunde. Most years they do produce enough food to feed their families. A few *Brahmin* households may produce some surplus food during the years when the weather is favourable.

Roofing as an Indicator of Economic Status. Out of a total of nine houses in Kharka *Gaun*, four houses have stone/slate roofs. The others have thatched roofs. Stone/slate roofs are more expensive and are thought to be prestigious. In Hattisunde *Gaun*, five houses out of nine have stone/slate roofs. Out of a total of nineteen houses in Mahadevsthan and Khahare there are four houses in Mahadevsthan and one house in Khahare with stone/slate roofs.

Detailed Household Survey

A detailed household survey of 50 per cent of the total households was conducted to enhance understanding of the socioeconomic status of the villagers. Out of a total of fifty-three households in the four villages, twenty-five households were selected based on their caste/ethnic group and the villages to which they belonged. Women and men of all castes were interviewed ensuring that key people such as school teachers, political leaders, and extremely poor *Magars*, *Damais*, and *Kamis* were included.

From Khahare, members of four households were interviewed. Two were *Brahmins*, one was *Chhetri* and one was a *Newar*. From Mahadevsthan, representatives of five households were interviewed and all of them were *Brahmins*. From Hattisunde, members of fourteen households were interviewed, out of which eight households were *Magars*, two *Newars*, one *Kami*, one *Damai*, and two *Chhetris*. Four *Brahmin* households were interviewed from Kharka village. The villagers interviewed ranged from age twenty-two to seventy-two. Eight of the households interviewed had stone/slate roofs on their houses and the other nineteen households had thatched roofs.

Politically, out of the twenty-seven householders interviewed, two were Ward level *Panchayat* members. One was the chairperson of the forest management committee and the remaining twenty-four villagers interviewed did not belong to any institution or organization. Out of the twenty-seven villagers interviewed, two had graduated from high school (one was a local school teacher and the other was not sure about the occupation he would follow). The remaining twenty-five villagers interviewed were illiterate; two were women and twenty-five were men.

Of the total number of households interviewed, nine households did not own paddy land at all. All nine households belonged to Hattisunde Village. The remaining households also did not own large pieces of paddy land. Paddy land ranged from one *ropani* to thirty *ropanis* with an average of nine *ropanis* per household (twenty *ropanis*=1 hectare). All households interviewed own *bari* land ranging from four *ropanis* to forty-nine *ropanis* with an average of fourteen *ropanis* per household. Almost all households interviewed produced less food than needed or just enough to feed their families from their private land (dependent upon the weather being favourable). Most of the villagers did not own very productive land.

Use of chemical fertilizers is low. A *ropani* of land yields crops ranging from 50 kg to 150 kg, whereas each person requires about 350 kg of food per year. This means that, with an average family size of 5.4, each family requires about 1890 kg of food per year. One family produces an average of only 1350 kg of food per year from privately-owned land.

Of the total households interviewed, seventeen households brought in additional income through wage labour in nearby urban areas or in the towns of Dhading District. Almost all the villagers owned one house with a shed for animals. The size of the houses ranged from very small (nine houses) to small (eight houses) to average (seven households).

Altogether the twenty seven households own a total of 264 livestock, including poultry. Of the total, seventy-eight are goats. Some households have no goats at all, while other households have up to fourteen goats. Forty-eight buffaloes are owned by the twenty-seven households interviewed. Seven of the households cannot afford to own buffaloes. There are a total of forty-one oxen among the twenty-seven households. Six of the households do not own oxen. In addition fifty-seven cows, thirty-five chickens, and five pigs are owned.

Thus, overall, the household survey shows that the people of these four settlements are subsistence farmers. Not a single family stands out economically or politically. Their socioeconomic status is marginal with the *Magars* being relatively poorer than the *Brahmins*. However, it should be noted that the *Brahmins* are not so well off economically.

FOREST MANAGEMENT AND USE SYSTEM

Forest Management System

Historical Background

Hattisunde Forest, as it existed previously, was destroyed by human and livestock intervention. People used the forest for fodder, for construction, and for making local leaf plates and leaf bowls. Until about ten years ago the forest was subjected to excessively heavy usage.

Nanda Prasad Aryal (sixty-two years old) of Mahadevsthan Village, Ward No 2, recalls his father telling him that Hattisunde Forest used to be a dense *Sal* forest. He was told that the forest was so dense that one could walk on tree branches and reach Hattisunde Village from Mahadevsthan without touching the ground. "I don't know how much of what I was told is true because I myself did not see such a dense forest there". He remembers seeing sparsely distributed *Sal* trees with thick fern bushes. Daya Nidhi Aryal (37 years old), from the same village, remembers seeing nothing but fern and the remains of a few *Sal* trees. According to Chhabi Narayan Shrestha (aged eighty), there was a large forest at Hattisunde until about 1918.

Nandi Kumari Magar's name **was** mentioned by several old people in relation to the history of the management of Hattisunde Forest. Nandi was the wife of the then headman, Lale Magar (a head man is locally called a *Mukhiya*). Nandi used to control the use of the forest by people belonging to villages other than Hattisunde, Mahadevsthan, and Kharka (during that time there was no Khahare). Nandi used to harass men and women encroachers by cutting their hemp ropes (locally called *namlo*) and pulling off their baskets; or taking away the fodder, fuelwood, or *Sal* leaves collected by them. Nandi was not afraid to challenge anyone who encroached on Hattisunde Forest and who did not belong to these four villages. Other women were also involved in this voluntary forest protection including Nandi Kumari's younger sister, Tula Kumari, who today is the oldest resident of the villages (she is ninety-six). The women were active in this manner until 1918.

According to Nil Kantha Aryal of Kharka (aged seventy two) Hattisunde Forest was called the King's Forest because the *Chhetris* of Maldi Panchayat claimed control of it. They had initially assigned the *Magars* of Hattisunde to be the forest caretakers. In 1918, Amar Jung Shah, one of the *Chhetris* of Maldi, required wood to renovate the roof of a temple, "Maldi Kot Bhagawati Devasthan" in Maldi Panchayat, and wood was felled from the forest for that purpose by Nanda Kumari's husband, Lale Bahadur, the then Headman. Nandi did not object because the wood was for religious purposes, but the people of Kharka *Gaun* were opposed to the felling of trees from the forest to renovate the temple. The villagers of Kharka *Gaun* believed that Hattisunde Forest belonged to the four villages of Hattisunde, Kharka, Mahadevsthan, and Khahare and that wood should not be taken away to places other than these four villages. The opposition was strong enough to cause the headman to leave the fallen *Sal* trees in the forest and fell *Chilaune* trees from another area called "Aale Sumaro" which during that time belonged to the *Magars* of Hattisunde. This incident seems to have caused some confusion concerning rules and ownership rights. This conflict grew deeper, especially between the *Magars* of Hattisunde and the *Brahmins* of Kharka.

Instead of attempting to resolve the conflict, more and more people cut down trees from the forest and constructed houses, cow sheds, etc. In 1952, Chuda Mani Magar of Hattisunde Village became the village headman. By that time very few trees were left and the practice of felling continued. No visible women leaders with an interest in protecting the forest emerged after Chuda Mani Magar came into power. Women, as well as men, participated in deforestation. Even Tek Narayan Shrestha, the current chairman of Hattisunde Forest Management Committee, admitted that he was responsible for felling trees.

Current Management of Hattisunde-Mahadevsthan Forest

Gauri Devi Aryal of Mahadevsthan developed a concern for the forest at Hattisunde through the protection of *Sal* trees that were growing on her own private land. A few years later, she also began to protect *Sal* trees growing in the Hattisunde Forest area adjacent to her paddy field which is situated below the current Hattisunde Forest. Villagers observed the *Sal* plants growing by the side of this paddy field and Gauri Devi pointed out to them the difference in thickness of these trees and the trees in the remainder of the forest area. It seems to have been from this instance that the idea evolved of protecting the whole of Hattisunde Forest.

Other villagers became instrumental in encouraging forest protection, namely Tek Narayan Shrestha (Chairman of Ward No 2), Nanda Prasad Aryal, and Tek Bahadur Aryal among others. Ten years ago Tek Narayan Shrestha brought up the issue of forest protection at a ward level meeting⁵ held at Kainjele Chautara. There had been extensive destruction of *Sal* trees and villagers were obliged to request Maidi Panchayat to provide wood for construction. With this in mind, the representatives from the four villages of Hattisunde brought up the issue of forest protection. By that time Hattisunde Forest was depleted considerably and this led to serious discussion concerning methods to protect it. The proposal for conservation was easily accepted by both men and women as they did not have much to lose by it. On September 29, 1979, representatives from every household in the four villages met at Chautara Dando. The meeting, held under the Chairmanship of Tek Narayan Shrestha, decided to protect Hattisunde Forest and a plan of action was prepared. One of the understandings of that meeting (which is still strongly shared by the people of these four villages) is that the resources of the forest would be shared among all households on an equal basis. One of the *Damais* played the ceremonial musical instrument called *Narshimha* and the villagers marched around the forest area demarcating an imaginary forest protection line. Symbolically, the playing of this music informed every one in the neighbouring villages that this particular area was under protection from then on and that access to it was prohibited. The villagers also fixed a few red flags to signify the boundary of the area to be protected.

The demarcated area was full of fern (*Gleichenia glauca*), and it was necessary to destroy the fern in order to permit saplings to regenerate. This was accomplished by burning it, and a great deal of community management was necessary to prevent the thatched roofs of the surrounding houses from catching fire. Thus, in April of 1980, representatives from each household arranged a water chain to protect the roofs in question. The fire was set at night so that the sparks flying near the houses could be easily spotted and extinguished. They covered the roofs with green banana leaves to delay the spread of fire, and the fire was started in patches to ensure that it did not spread too quickly. In this way, the fern was burnt down and all the *Sal* wood stumps were removed.

5. This meeting was held on September 23rd, 1979.

By October, the grass had outgrown the *Sal* plants and the villagers decided to clear the grass. The decision to cut the grass was unanimous since grass was needed during the *Dasain* festival to feed the livestock. For three days the villagers were permitted to cut grass and everyone participated equally. In the process of clearing the grass, they ensured that the new *Sal* and *Chilaune* plants were saved. Since then access by human beings and livestock has been banned and strict penalties are imposed upon those who violate this rule.

Local Level Meetings About Hattisunde Forest Protection

A number of meetings held to discuss the protection and conservation of Hattisunde Forest. All the meetings, apart from the first one, were held at the settlement level. The first meeting had forest conservation as one of three items on the agenda. The other two items concerned local trail construction and latrine building. Representatives from the whole of Ward 2 were at this meeting and there were altogether forty-eight participants, thirteen from Hattisunde, six from Mahadevsthan, fourteen from Apprechhap, ten from Kharka, three from Khahare, and two from Garamchhap. Decisions were made to protect Hattisunde Forest, build latrines for each household, and build one of the local trails. Of the three agenda items, only the protection of Hattisunde Forest was successfully implemented.

According to local records, the second meeting concerning Hattisunde Forest was held on January 2, 1980. This meeting was conducted at Chautara Dando, under the Chairmanship of Tek Narayan Shrestha, and thirty-seven people representing thirty-six households were present. This means that there were representatives from all the households throughout the four villages, indicating how important forest protection is to these villagers. During the meeting it was decided to impose the following fines for forest encroachment:

1. Stealing ground litter, *Sal* leaves, or other fodder for animal feeding or for animal bedding; collecting of fuelwood from Hattisunde Forest knowingly or unknowingly - Rs 25 for each violation.
2. Permitting a buffalo into the forest - Rs 10 per buffalo to be charged to the owner.
3. Permitting a cow or an oxen into the forest - Rs 5 per cow or oxen to be charged to the owner.
4. Permitting goats into the forest - Rs 2 per goat to be charged to the owner.

From 1979 (2036 B.S.) to August 1987 only ten violations were reported and each case was charged. In all cases, the violator, or the family concerned, paid the fine. The following cases and responses to the fines, on the part of concerned families, were documented by the study.

Krishna and Thuli Aryal. Krishna P. Aryal (aged thirty-six) and Thuli Aryal (housewife aged twenty-eight) live in Kharka village. Their son, who was six years old at that time, along with three other children, started a fire in Hattisunde Forest. The fire was immediately spotted and extinguished. The families of all the children involved in the incident were charged Rs 1.25 each for failing to discipline their children and for failing to instruct them in forest conservation. The fine was paid at a meeting held the day after the incident.

Bhim Kumari Magar (aged forty-four) and Siba Bahadur Magar of Hattisunde Gaun. About four years ago, the wife collected *Chilaune* fodder from Hattisunde Forest and was spotted felling the fodder. The next day a general discussion was held at Chautara Dando, Hattisunde. The husband, Siba Bahadur Magar, was asked to participate in this discussion and the family was subsequently charged Rs 25 for collecting fodder from the protected forest.

Devi Prasad Aryal (aged sixty-five). Four years ago Devi Prasad Aryal cut *Sal* fodder from one of the trees in Hattisunde Forest. He was seen doing so, and, the very next day, a meeting was called where it was decided to fine him Rs 30 for knowingly violating the rule, as he was one of the leading proponents of forest protection.

Lok Nath Aryal of Kharka Gaun. In 1980, his daughter-in-law (mentally disabled) felled *Sal* fodder from the forest and the family was charged Rs 25 for her infringement of forest rules.

Khanal from Amari Gaun, Ward No 2, Maidi Panchayat. Khanal from Amari Gaun Knowingly felled *Sal* fodder and was charged Rs 30 for this violation.

Two boys from Hattisunde Gaun and Khahare Gaun. Three years ago, two boys of 10 and 12 years felled *Chilaune (Schima Wallichii)* and *Angeri (Lyonia formosa)* fodder from Hattisunde Forest. One of the boys was from Hattisunde Gaun and the other from Khahare Gaun. Their parents were charged Rs 25 each. The parents were charged on the grounds that these children were old enough to know the rules of forest protection and violated the rules knowingly.

A formal local level meeting was also held to resolve a conflict that arose as a consequence of the *Jarajuri* Award. On May 23, 1987, the villagers of Hattisunde, Kharka, Mahadevsthan, and Khahare got together at *Chautara Dando* in Hattisunde and met under the chairmanship of Tek Narayan Shrestha. A seven member Hattisunde Forest Management Committee was formed at this meeting in the presence of nine participants from Mahadevsthan, six from Khahare, four from Kharka, and ten from Hattisunde; representing a total of fifty-three households from Hattisunde, Mahadevsthan, Kharka, and Khahare. It was stated in the minutes of the above meeting that the newly formed Hattisunde Forest Management Committee would call a meeting on any matter that concerned Hattisunde Forest. How this decision was actually carried out is described under the heading below.

Institutional Innovation and its Analysis

The need for a Formal Management Committee was not felt until a year ago, because the villagers simply used to request Tek Narayan Shrestha to act as chairperson whenever they conducted settlement level meetings, and a member of each household acted as the representative on the Hattisunde Forest Management body. Very few people encroached upon the forest, but, if anyone did, the person involved or the owner of the livestock so doing was charged according to the assessment of the villagers and based on the type of violation. They, therefore, never hired a forest guard and fencing was not needed.

On April 18, 1986, Tek Narayan Shrestha, along with a few other villagers, including Gauri Devi Aryal, was invited by the *Jarajuri* Award Office to receive an award of Rs 1,000 for protecting Hattisunde Forest on their own initiative. The money was given to Tek Narayan Shrestha who, however, delayed disclosing the amount received to other villagers for a whole year. Because of this delay on the part of Tek Narayan Shrestha, the other villagers began to distrust him.

To avoid such a situation in future, the local people met on May 23, 1987, and formed a formal management committee to inform all the villagers of any new happenings concerning Hattisunde Forest protection and to share any awards forthcoming equally among all villagers. In that meeting, Tek Narayan Shrestha disclosed the exact amount he had received from the *Jarajuri* Award and an additional Rs 95 that had been used by Tek Narayan Shrestha to meet personal expenses. The villagers decided that he should pay back the principal, whenever money was needed by the villagers, along with the interest accruing. The interest rate set was 20 per cent per year.

Confusions and conflicts arising in the name of Hattisunde Forest were, therefore, resolved at the local level. Even though the latest committee structure appears formal, it has not taken any action after its formation. However, key people in the village cannot recall the names of the seven committee members without looking in the minutes, and this could mean that the committee had simply been formed to resolve the financial conflict.

Rural Institutions and Interest Groups

Hattisunde Forest Protection Plan is not the only rural institution formed in this area. The people from these four villages have several other institutions that have been formed around various interests. Some of them are described below.

Sharing of a Male Buffalo: The people of Kharka *Gaun* purchased male buffaloes for use in their village. Each household contributes a certain amount of money to buy a male buffalo and, once it is bought, it is cared for by one of the villagers. Other villagers bring their female buffaloes to be serviced and pay a *mana* (0.55 Liter) of corn flour in return for impregnation. The keeper of the male buffalo also receives all the manure for raising the buffalo and taking care of it. Villagers from outside Kharka can also use this buffalo on payment of a small amount of cash and a *mana* of corn flour. A male buffalo, once mature enough to fertilize, can be used for about four years.

During this study some people from Apprechhap (thirty-five households) and Kharka *Gaun* (nine households) were planning to buy a male buffalo and share it between the two villages, since the earlier one had died. They were also planning an improved method of management because past experience had showed that the household raising the buffalo had to put in a lot more labour to feed this animal in comparison to the return (of manure) the household received. Hence, a method of ensuring additional support from the user households had been proposed (e.g. provision of hay).

When asked if they had heard of hybrid or improved varieties of buffaloes, the villagers of Kharka *Gaun* replied that they would not buy one for the following reasons:

- o Since female buffaloes are small, they thought that they would probably be incompatible with hybrid varieties of male buffalo.
- o They believed that hybrid varieties were only available with the Livestock Development Office or with a Project. They felt that this process would take a lot of time, patience, and too many bureaucratic procedures and they are too busy to go through such procedures.

- o The want to be independent and feared that their way of raising and sharing a male buffalo among the neighbouring villages might not be the way a project would like them to raise or share it. For them, such a possibility would exist if they received a hybrid.

The above statements indicate that these villagers, given a choice, prefer to remain independent and maximize whatever resources are currently available to them.

Sugarcane Squeezing Machine: Until twenty five years ago, the people of Hattisunde, Kharka, Mahadevsthan, and Khahare villages were not aware of metal sugarcane squeezing machines. They used to make a wooden machine locally and this required a lot of wood. As the wood for construction became more difficult to find, people started to look for alternatives. It was then that they learned that a metal machine was available in Kathmandu. Four people from Ward No 2 contributed money to purchase the machine which was then shared among other households on payment of an hourly rental fee. This machine was broken about 5-7 years ago and three households contributed to purchase another one.

Currently, the price for renting the sugarcane machine is about Rs 25 per day. Since very little sugarcane is grown, the machine is operated manually whereas oxen run the machine in other villages. They plant sugarcane not as a cash crop but to meet their household need for molasses which they use (during festivals) to make desserts and to smoke with tobacco.

The School Building at Amari Maidi Panchayat: The villagers of Kharka *Gaun*, Mahadevsthan, and Amari *Gaun* constructed a school building. They provided free labour as well as money to buy building tools and wood for construction. The School was completed eighteen years ago and is called Amarabati Primary School. It offers education up to 5th grade.

Alternative Forest. Since the protection of Hattisunde Forest began, most villagers have been optimizing the forest resources that are available on their own land. In addition, they collect fuelwood and fodder from, and graze animals in, other forested areas. The people of Khahare, for instance, get their forest products from a forest called *Paleko Ban*.⁶ This used to be a protected forest area years ago which is why it is still called *Paleko Ban* (protected forest). The people of Kharka collected their forest products from *Bhujiya Lose* and *Titre Pani* forests. The people of Hattisunde Village collect their forest products from *Junge Khola* where there are still some trees and the people of Mahadevsthan collect their forest products from Khahare Forest.

Use System

The people do not think that Hattisunde Forest is old enough to be harvested. Hence, rules to use it in a sustainable fashion have yet to be developed. Local people have become flexible in the use of Hattisunde Forest, for minor purposes, during the last year. According to the villagers, Hattisunde Forest is being used, or may be used in the future, in the following manner.

Grazing. At present, most of the trees are tall and livestock cannot damage them easily. The villagers, recognizing this, have stopped charging fines, since last year, for livestock found grazing in the forest. However, the trees are tall and dense and not much sun penetrates, so as a result ground litter is almost absent. This creates a natural barrier to livestock grazing. Further, the villagers themselves discourage livestock from entering the forest to protect them from wildlife.

6. *Paleko Ban* means nurtured (*Paleko*), forest (*ban*).

Collecting Sal Leaves. Women are not allowed to collect *Sal* leaves by pulling at *Sal* trees because it is feared that this might make the trees crooked and unusable as construction wood. Yet, if the women need a small amount of leaves in an emergency they are allowed to collect them free of charge. This practice started in the summer of 1987. Women of all fifty-three households are allowed to collect *Sal* leaves on an equal basis.

Special Occasions. On special occasions, such as weddings, thread ceremonies, etc., the local people require *Sal Linga* (a young *Sal* tree) for ceremonial decoration and are allowed to collect *Sal Linga* for such purposes. Similarly, they are allowed to collect *Sal* wood to carry a dead body. These resources are available free of charge to all villagers.

In and Out-Migration. The people believe that anyone who leaves the four villages will automatically lose the right to use the resources of Hattisunde Forest. Similarly, anyone who migrates into any one of these four villages automatically acquires the right to use the resources of this forest.

Resource Distribution. Local people claim that resources from Hattisunde Forest will be distributed on an equal basis among all the villagers. For example, if someone has five sons and another person has one son, all six boys, when they reach adulthood (eighteen years old), will be eligible for a share of forest products on an equal basis. Their rationale that being a resident of any one of these villages, in itself, makes a young man or woman eligible for equal use of Hattisunde Forest. Some villagers stated that, by the time trees are old enough for harvesting, a price per tree felled might be introduced so that those who wish to build a larger house can buy more wood on payment of cash. However, they are not sure how they will go about harvesting the forest.

Thinning. As the forest, at present, is too dense, the villagers are thinking of weeding out some of the trees that are crooked so that they can be used for fuelwood, fodder, etc. Such thinning will provide more room so that the straight trees can grow thicker. Whatever wood or fodder they get out of the forest, they hope to share among the fifty-three households on an equal basis. If a household does not participate in thinning, then that family will not get a share of fodder or fuelwood. However, they do not know how to go about thinning out the forest and sought technical advice from the research team. The research team was unable to help them.

PARTICIPATION OF WOMEN IN FOREST MANAGEMENT

Factors Contributing to Women's Participation

Women have played an important role in initiating the protection of Hattisunde Forest. They have also actively participated in its management and some of the reasons for their active participation are as follows.

Perceived Relative Advantage

Initially, the women were well aware that the forest resources had very little left to offer them and had begun to explore alternative ways of meeting their needs. For instance, Gauri Devi Aryal and others like her had already begun to protect fodder and fuelwood trees on their private land. Hence, when the issue of forest protection arose, they fully supported the idea.

Women are also aware of the valuable species the forest contains because they are the ones that gather grasses, fodder, and fuelwood. They also use *Sal* resin as medicine for burns and one woman claims that she has saved 20 lives, of those who had been badly burned, by applying *Sal* paste. *Chilaune* too is a valuable tree for fodder, fuelwood, and construction wood.

By protecting the forest, women will save time in fodder, fuelwood, and *Sal* leaf collection. Hence, they are convinced of what is to be gained by forest protection, not only in terms of tangible forest resources, but also in the form of the time saved in collecting these resources. Protecting Hattisunde Forest has also brought a significant amount of popularity and prestige to some women.

Perceived Relative Risk

The villagers trust that they and their children will be able to use the resources of this forest any time they need them. In protecting the forest, they are aware of the chances of increasing wildlife and birds in their fields. They are also aware of the shade the forest produces on their adjacent private *bari* land, thus decreasing the crop yield on that land. As the trees grow, wildlife and the number of birds increase and more and more livestock are lost because of wildlife. Further, the birds are eating their crops. The trees adjacent to *bari* land have produced shade and have made a portion of their land less productive. However, both men and women feel that it is worth having the forest there even though it has caused some problems to them.

Perceived Cultural Compatibility

Women think that the current management system is the result of their own experience. For instance, the villagers have been buying and sharing male buffaloes, sugar cane squeezing machines, etc. among themselves. Several years ago they contributed labour for the construction of a school in Amarai, Ward No 2, Maldi *Panchayat*. Similarly, they have shared the maintenance of a tailor, a blacksmith, and a messenger in these villages. Hence, working together around a common interest is not new to them. Growing a forest on land that belongs to no one only means better utilization of highly eroded government land. The way they have been protecting the

forest is also compatible with the collaborative way they have undertaken other activities. For instance, most of the talks concerning management of Hattisunde Forest and the rules governing the protection of the forest take place in an informal setting and in homes where women are culturally permitted to participate.

Simplicity

The Hattisunde Forest Management System was developed by local people and based on their own experience and knowledge. There are no technical words or statements written; as is probably the case in other development projects or projects managed by the Forestry Department.

Another reason why the management system is simple and easy to understand is probably because most of the villagers, including men, are illiterate. They have made no sophisticated statements that illiterate women are not able to follow. In fact, all the women interviewed understood the forest management system thoroughly. Such accessibility in understanding gives the villagers, and particularly the women, a sense of ownership in the forest protection plan.

Economic/Caste/Ethnic Composition

A *Brahmin* woman, Gauri Devi Aryal of Mahadevsthan, is quite vocal and the most informed among the women of all four villages. This is probably because her husband supported her participation in the discussions. Other than this, there is no significant difference in the involvement of women in forest management based on caste and ethnic composition. All women participate on an equal basis. Economically, although *Magars*, *Sarkis*, *Damais*, and *Newars* own less land than *Brahmins*, there is no significant relationship between a woman's economic condition and her participation in forest management.

Social Support

At the local level, support for the participation of women in forest protection is very strong. Women are expected to share equally in the responsibilities of protecting the forest and in informing others about the control of human and livestock access into this forest. If encroachers collect resources and if the women see the incident, they are expected to report the incident just like everyone else so that the encroachers can be fined immediately. As there is support for women's participation, women actually act as invigilators. Local people are aware of the fact that, without women's full participation in forest protection, the forest would not have been able to regenerate as well as it has. It is the women and children who are normally in the villages during most of the year. Many men, especially those from Hattisunde Village, migrate during the slack season to urban areas to earn an additional income. During these times women remain in the villages. These women neither themselves encroach on the forest nor allow others to do so.

However, women are not expected to attend formal meetings called at the village level. Even if they attend they are not expected to share their ideas at the meetings. Since most of the issues pertaining to Hattisunde Forest Management take place in an informal setting, women can express their ideas without much social pressure.

User Group Identification

The local villagers recognize that forest resources are more important for women because women spend more time collecting these resources than men. It seems that the local understanding is to grow the forest to the fullest extent possible and use its trees for construction purposes. Finding construction wood is a problem for every one, more so for men than women. Women, however, hope to be able to use the forest to gather fodder, fuelwood, construction wood, and *Sal* leaves.

Hence, both men and women are potential forest users. It is probably more appropriate to view a family as a potential user of the forest rather than identify a user on the basis of gender.

Specification of Women's Role

No outside agency is involved in the management of Hattisunde Forest. Thus, specifications of women's role at the agency level could not be studied. The only instance of an outside agency being involved was when the *Jarajuri* Award was presented to the villages. At that time, the group that went to receive the award included both men and women from the four settlements.

At the local level, women's role in the management of the forest is well specified. Women are supposed to warn their children not to encroach upon the forest and they themselves are not supposed to use the forest except for minor purposes on an emergency basis. They are also expected to inform villagers of the protection plan and caution them from entering and using the protected forest. Women are also expected to report any intruder to key persons.

Time, Patience, and Convenience

Most local level meetings are held in the day time between 10.00am and 4.00pm. Of the three important meetings held so far, two were held at Chautara Dando which is easily accessible from all four villages. All the meetings were held during the slack season. This means that women were given an opportunity to attend these meetings if they wished to. Several other village gatherings have taken place concerning encroachment, but these took place in the encroachers' houses. Women and children both participated and expressed their views during these gatherings. They, however, express their views with their families, and whereas some men shared the information they received at the meeting, with their family members, others did not. Therefore, some women are better informed than others. For instance, Gauri Devi Aryal is more informed about Hattisunde Forest Conservation than other women. She also has tried to attend most of the informal discussions held in regard to Hattisunde Forest Conservation.

Family Decision

Women express their views with their families in many households. Women share their opinions with their husbands and neighbours about ways of charging the encroachers and about other matters related to protection.

Assessment of Women's Role in Forest Management

Several studies have concluded that women are the primary users of forest resources in many developing countries. Nepal is not an exception. The Status of Women in Nepal Study indicated that 66 per cent of the time spent in fuelwood collection is contributed by women (Acharya and Bennett 1981, 213). Ninety-five per cent of the fuel energy in the mountain region of Nepal comes from fuelwood. In Nepal, women and girls combined collect 87 per cent of the fuelwood (Fortmann and Rocheleau 1984, 3). A World Bank finding states that women in Nepal spend an average of 60 days per year collecting fuelwood.

Women are also knowledgeable about forestry. For instance, women explain the attributes of trees more clearly than men, they offer valuable information about them, the type of fuelwood they produce, medicinal and herbal uses, and their growth rates. Women informed us that *Sal* trees burn excellently when used as fuelwood because of the resin in the wood. Further, they prepare medicine for curing burns from this species. While these and other findings indicate that

women are the active users of forests and knowledgeable about forest resources, very little information is available on the involvement of women in forest management. In other words, are these women, who are active users and seem to have knowledge about trees, interested in participating in the management of forest resources? Are they in any way involved in the management of forests? What makes women participate or not participate in a forest management system? Would it help to bring back the already degraded forest resources of Nepal if women's participation in forest management was enhanced?

The field study of the four villages that have been protecting Hattisunde Forest indicates that:

- o women are interested in participating in forestry management,
- o women want to participate in forest-related management,
- o women have been actively participating in the protection of forests,
- o women can be good managers of forests, and
- o women like to be consulted about the forest management system

Hattisunde Forest is managed locally by both men and women. Women are active managers of this forest and without their genuine support in this venture, an unfenced forest, located in the middle of four villages and containing such favoured species could not have existed for nearly a decade without a watchman. Women are responsible for the protection of this forest, especially in the slack season, when many men leave the villages in search of work. Hattisunde Forest demonstrates that a forest managed by local people with the support of women is better managed and less expensive to manage than government-managed forests.

Key to Involving Women in Forest Management

Firstly women's participation in forest management cannot be enhanced without improving their access to the benefits of the forest management system. Women, like men, will not participate in any activity if it is not likely to provide them with benefits. Without participating in planning and decision making in various forest management issues, women are not likely to benefit from a forestry program. A sense of confidence in being able to eventually use the resources of a forest is necessary. The women of Hattisunde Mahadevsthan believe that the resources of Hattisunde Forest will eventually be shared among all the villagers.

Secondly, the management system of Hattisunde Forest demonstrates that a congenial social environment is necessary for effectively involving women in forest management. In other words, a management system should be socially compatible in order for women to participate.

Thirdly, rural women are rarely consulted or involved in forest-related projects; especially in those projects in which outside institutions are involved. A nursery and a newly planted area (with the help of the Forest Department) in Sukkha Dando, Ward No 4, of Nalang *Panchayat*, is a good example of the impact of outside involvement. Even though this nursery is located very close to Hattisunde Village, women rarely visit the nursery and they have no sense of ownership in the newly planted area of Sukkha Dando.

Finally, women are considered to be destroyers of forest resources and are excluded from development programmes. Their participation is considered to be unnecessary in forestry programmes. An awareness, on the part of project planners, that women are interested in reversing the current trend of forest depletion in their villages is important for enhancing the participation of women.

DEVELOPMENT ACTIVITIES AND EXTERNAL INTERVENTIONS

External Intervention

Intervention through external agencies or government offices in these villages is minimal. The *Jarajuri* Award brought prestige to the people. After the people of Hattisunde-Mahadevsthan received this award, the neighbouring villagers began protecting patches of land around their villages also. Some of the spill-over effects of this award are as follows:

1. Villagers from Amarai, Ward No 2, Nalang Panchayat, began protecting three patches of forest land, namely "Rato Mate Forest", "Banskote Forest", and "Kali Thupdo Forest", from June 1987. They became interested in forest protection after Hattisunde won the *Jarajuri* Award.
2. Villagers from Apprechhap also began protecting four patches of land namely, "Patal Pakhera" (5 *ropanis*), "Chhap Ko Bhir", (6 *ropanis*), "Thumki Pakhera" (4 *ropanis*), and "Terse Barra" (2 *ropanis*). They also began protecting these patches of land from June 1987 after Hattisunde won the *Jarajuri* Award.
3. A small patch of land, in Ward No 5, is being protected by villagers of Thati Bhanjyang, Ward No 5, Nalang Panchayat. This was also initiated in the summer of 1987 after the protectors of Hattisunde Forest received the *Jarajuri* Award. This protected area is called "Bistar Ko Dando".

Dhading District Development Project

A small water project has been implemented with financial assistance of Rs 11,300 from Dhading District Development Project (DDDP) in Khahare Village.

Forestry Department

A nursery has been established with the help of the Forestry Department. This is just above Hattisunde at Sukkha Dando which falls under Ward No 4, Nalang Panchayat. The Forestry Department has also planted 16,000 seedlings at Sukkha Dando and in neighbouring areas of the four villages studied (but in different wards).

Villagers mentioned that, as trees are being regenerated in the village-protected forest, panchayat representatives, as well as forestry department representatives, have suggested that the forest be handed over to them so that they can put a fence around it and hire a forest guard for invigilation purposes. The villagers neither feel the need for a wire fence nor for a guard to keep an eye on the forest.

The most important point is that they do not want to hand over Hattisunde Forest, protected and conserved by them for so long, to the Panchayat or to the Forest Department. They fear that if they involve the Panchayat or the Forest Department in its protection, the right to make decisions

related to its management and use might go to the Panchayat or the Forest Department. They also do not want to share the resources of this forest with any other than the residents of these four villages.

Constraint Analysis

In the process of protecting the forest, villagers have faced some constraints. For instance, as the forest is growing fast, it is throwing a lot of shade on the cultivated lands that border Hattisunde Forest. As a result, a portion of this land has become less productive. One woman said that her *bari* land near the forest has yielded less every year due to the shade.

Another constraint involves the fear of wildlife. One woman lost five goats in a year due to jackals from the forest. The same woman also complained about the loss of a male calf and this, too, was the complaint of a woman from Kharka. A fourth woman stated that four years previously one of her goats was eaten by jackals. All these animals were attacked in the animal-sheds right outside the houses. However, the villagers prefer to protect the forest because they believe that one day they will be able to harvest it and get a fair share of its resources.

Failure Analysis

So far, no significant failure of any kind has been noticed. Some small conflicts seem to have arisen at the village level. At one point, when some villagers felled *Sal* branches, another villager reported the incident to the rangers' office at Gajuri, Dhading district, before trying to settle the conflict among the villagers. When the villagers came to know about her complaint, they were very upset and immediately resolved the conflict on their own before the representatives of the rangers' office could investigate the incident. As reported previously, there was also a conflict concerning the *Jarajuri* Award that was also settled at village level.

Participation of Women

So far, the development of this forest is the result of village motivation and is not due to outside stimulation. Villagers' participation is genuine and self-motivated. No significant exploitation of women by external agencies is observed. Although women are not expected to attend formal meetings, they do not lose much because most of the meetings are organized in an informal setting. It is likely that, if the management system becomes more formal, women will be excluded from participating in decision making and this is because their participation in formal settings is still not socially accepted.

Remuneration and Equal Pay. Women are paid Rs 10 and men are paid Rs 12 for a day's labour. This is socially accepted because it is felt that women do less strenuous work than men. No wage labour has been used to protect Hattisunde Forest as everyone in the village acts as a guard and strictly follows the rules. Hence, paid labour is not required to protect Hattisunde Forest.

Recognition of Women's Contribution. Women's contribution to forest protection is fully recognised throughout all the villages. As noted before, they have equal responsibilities and equal rights in forest management and invigilation.

CONCLUSIONS

The Uniqueness of Hattisunde Forest Management System

1. Most of the men and women in these four Villages are illiterate. Tek Narayan Shrestha, the previous Ward Chairman and current Hattisunde Forest Management Committee Chairman, is himself an illiterate person. Thus, there is no educational disparity between men and women.
2. Limited exposure to outside villages is another interesting aspect. Even though some men go out of their villages to the nearby towns to seek jobs, they have not introduced new experiences or knowledge into the villages. The women of these four villages are much less travelled. Many women have not been to the nearby towns of Malekhu or Dhading Besi. As a result, people feel a necessity to effectively manage and use the resources that are available to them instead of looking to the outside for help and resources in times of need.
3. Even though there are *Brahmin*, *Newar*, *Chhetri*, *Kami*, and *Damai* families in these villages, they live in harmony and share a sense of interdependence. *Brahmins* serve as priests for *Magars*, *Damais* stitch clothes, and *Kamis* make agricultural implements and supply them to the villagers. *Magars*, with less land of their own, provide labour to others who have more land in order to supplement their incomes.
4. Economically, these villagers maintain no significant social distance among different castes and ethnic groups. This is probably because the land in these villages is of poor quality. Most paddy land has been identified as *chahar* (poorest quality paddy land) by the land survey team. All the residents are subsistence farmers. The average amount of irrigable land (*Khet*) owned by each of the 53 households is 0.3 hectares and non-irrigable land (*bari*) is 0.7 hectares. Very few villagers apply chemical fertilizer or adopt improved varieties of crops on their land. As a result, crop yields are low. Crop yields from 0.05 hectares (1 *ropani*) of land ranged from 50kg to 150kg. On the other hand, according to the villagers, a person requires 350kg of food per year. This means that with an average family size of 5.4 persons, a family requires about 189kg of food per year, whereas, on average, a family produces 1350kg of food per year from private land. Thus, the economic picture of these villages does not record any economically dominant families.
5. There are no dominant political figures in these villages. There are no *Pradhan Panchas* or *Upa Pradhan Panchas* representing these villages and none of the villagers are politically known outside these villages. Since there is no significant educational, economic, or political disparity among the households of these four villages, men and women respect each other and look upon each other as equals.
6. All villagers, including women and children, are knowledgeable about the Hattisunde Forest Management System. Because of their thorough understanding of the management system, they have been able to protect the forest from encroachers and keep outsiders from interfering in the protection plan.

7. The current management system of Hattisunde Forest was developed by the local people themselves. No external source has played any role in its development. Hence, the management system is based on their own experiences, beliefs, and local institutions. Moreover, the system is compatible with their traditions and culture.
8. The villagers trust each other very much. They do not feel a need to fence the forest or hire a watchman to protect this forest. They trust that everyone will strictly abide by the rules in protecting Hattisunde Forest.
9. They normally do not require formal meetings to disseminate information or discuss forest management. They inform each other about management decisions at home or at work. When the researcher was participating in millet planting sessions, men and women discussed the protection plan and clarified any doubts or questions they had through informal discussions. They do not require formal gatherings to act upon their concerns or have their questions answered. On the other hand, no mention was made of the forest protected by the Forest Department at Sukkha Dando until the researcher asked them specifically about it.
10. The women, particularly, believe that Hattisunde Forest has economic advantages for them in the form of forest products. They trust that they or their children will definitely be able to use this forest. Moreover, they believe that it is prestigious to have a forest like Hattisunde.

Hattisunde Forest does not fall under any of the officially recognised categories of forest. Management is neither a Panchayat¹ Forest nor a Panchayat Protected Forest;² it is a forest

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1. Any governmental forest area or any part thereof, which has been rendered waste or contains only stumps, may be entrusted by His Majesty's Government to any village Panchayat on prescribed terms and conditions for reforestation in the interest of the village community and such forests are called Panchayat Forests.

A Panchayat is eligible to apply for an area of up to 125 hectares, in the hills of Nepal, to restore its forest resources. However, to begin protecting a Panchayat Forest one has to follow the formal procedure. (Fisher and Malla 1987) of requesting the government's permission through the Ministry of Forest and Soil Conservation. If the office of the District Forestry Controller feels that the request should be granted, it will give a certificate to the village panchayat to permit them to protect such a forest. The approval procedure may take from one to six months (Fisher and Malla 1987, 36).

2. Governmental forests in any area or part thereof may be entrusted by His Majesty's Government to any local Panchayat on prescribed terms and conditions for the purpose of protection and proper management, and such forests are called Panchayat Protected Forests.

Next, a Panchayat can develop Panchayat Protected forests on barren government land within its area by requesting up to 10,000 *ropanis* (500 hectares) of land. However, to begin this venture, the concerned Panchayat must apply for permission to do so from the District Forestry Controller. The District Forestry Controller's Office will not forward an application for approval by the concerned Regional Director of Forests until it has completed the necessary inquiries and determined if it is appropriate to hand over the government land to the concerned panchayat. The villages can receive 75 per cent of the income derived from timber sales from PPF and the remaining 35 per cent of the income derived goes to the Government (Fisher and Malla 1987).

protected by four villages in Ward No 2 of Nalang Panchayat. It does not even involve all the people of that ward. Hattisunde Forest is being protected by the people on government land at their own expense, in their own time and with their own energy, food, and livestock. The villagers see this as a step towards achieving a sense of independence and self-reliance.

Most importantly, villagers from these four villages have neither applied for nor have received any legal document from the Forestry Department to prove that it is they who have, on their own initiative, protected this forest. The existing forest policy does not have any legal provision to accommodate this kind of forest.

These villagers have made significant sacrifices in regenerating this forest and will continue to do so as long as they are sure that the decision to manage and use this forest will rest with them. The moment some doubt arises concerning their right to use or manage this forest, the villagers might begin to harvest it indiscriminately. The responsibility of planners and policy makers is to make sure that these people continue to have the same sense of ownership regarding this forest.

Any action threatening this sense of ownership will mean destruction of the forest. One must guard against eroding their confidence and initiative to solve their own problems. Negative action on the part of the authorities could destroy the inspiration this forest has generated among neighbouring villages also. This is an important consideration, since the people of Hattisunde-Mahadevsthan do not stand alone in forest protection activities, although they seem to have been the first to initiate a forest management project in Dhading District.

The practice of renewing forest resources through local initiative is less costly for the Forest Department. Villagers of Hattisunde-Mahadevsthan have a lot to offer the Community Forestry Programme of Nepal, especially in enabling people's participation in forestry activities. It is time that policy makers and planners recognized the existence of such local level forests that are truly community managed.

Hence, an amendment should be made in the current community forest policy to accommodate this type of forest. A panchayat or a Ward represents a political boundary of the *Panchayat* System but does not necessarily represent a community. A *Panchayat* and a community are not synonymous. The number of households in a community may vary from a few households in a village to several villages. A community can be composed of homogeneous or heterogeneous caste, ethnic, or economic groups. The four villages around Hattisunde Forest, for example, represent a true community unit in managing this forest. Therefore, to improve the current forest resources of Nepal, there is a need to legalize community forests and encourage more local people to participate in similar activities.

The people should be allowed to harvest the products of Hattisunde Forest without royalty or should be charged a minimum amount only. This view is shared by many other community forestry experts. For instance, in a conversation about community forestry in Asia, one office stated that *"a garden should belong to a gardener who plants and nurtures it."*

The protection system of Hattisunde Forest does not involve any money. In other words, it is based on faith and trust. It is community-based and not panchayat-based. It would be interesting to observe this community to see the type of use system they come up with when the time to use the forest arises. The Community Forestry Programme of Nepal may be able to gain some knowledge on how to go about developing a more suitable use system from these people's experiences.

Main Conclusions

People involved in Hattisunde Forest protection have demonstrated that:

- o participation in development can happen in an informal setting and that formal organization is not a crucial factor for successful participation;
- o even though local people may not be aware of various government policies and know how to go about using them, they do not always need support from the Government or a development project;
- o monetary expenditure is not always necessary to produce good results and development can take place without any monetary help;
- o educated people are not always required to provide knowledge in rural development; illiterate villagers can come up with an excellent method for reversing decreasing resources;
- o even uneducated, poor, and politically powerless people are aware of the decreasing forest resource in Nepal; and
- o local people are not always the users and exploiters of natural resources but also share a sense of responsibility in reversing the current trend of decreasing forest resources.

To sum up, the people of Hattisunde-Mahadevsthan have shown that development can take place even without the intervention of a development project and even without external impetus and monetary help. They have shown that local people can be self-motivated and have demonstrated that they are also aware of decreasing natural resources.

Finally, the existence of Hattisunde, in an area such as Hattisunde-Mahadevsthan, where there is very little external support for rural development activities, shows that there is hope for bringing back the eroded forests of Nepal. However, in order to translate this hope into reality, there is a **need** to develop policies that are field-based; there is a need to recognize the valuable role of women in the **management** of forests; and there is a need to conduct more research in forest-related areas.

ANNEX : RESEARCH FRAMEWORK

Introduction

Several studies have revealed that women are active users of natural resources in Nepal. For example, the Status of Women in Nepal study has indicated that 66% of the time spent on fuelwood collection is spent by women; 87% of time spent on drinking water collection is spent by women; and women spend more time in agriculture related activities than men (Acharya and Bennett 1981). While these and other findings indicate that women are the active users of forest resources, very little information is available on involvement of women in forest resource management. Women have also been found to be knowledgeable about these natural resources. For instance, women can explain the attributes of trees more clearly than men. They offer valuable information about trees, their fuelwood, medicinal and herbal uses and their growth rates. What is not known is whether these women, who are active users and seem to possess considerable knowledge about trees, are involved in the management of forests.

This study was concerned with understanding a resource management system at the local level and learning if gender specific participation had any valuable information to offer in enhancing the management of a resource. The study sought information concerning the management of a resource and those involved in the management process. There is a general consensus that rural women have been and should participate in decision making regarding local resource management. However, not much is known about the extent to which women have been making decisions in such management. In order to understand the potential involvement of women we must first know their current involvement and analyse whether it has been effective. A research methodology was therefore required to study:

1. Who is responsible for the management of a particular resource?
2. How is a particular resource managed?
3. Have women been participating in resource management?
4. How have women been participating in rural institutions and resource management?
5. Why have they participated or not participated in resource management programmes? and
6. If a resource better managed when women share in the management?

The researcher along with two research assistants and an ICIMOD colleague, visited Hattisunde Mahadevsthan of Ward No. 2, Nalang Village Panchayat, Dhading District with the information that the four settlements of Hattisunde-Mahadevsthan have been protecting a forest resource named Hattisunde Forest. A detailed study of the management system of Hattisunde forest was conducted using this instrument. The team spent 11 days in the field (4-14 August, 1987) studying the details of the management system of Hattisunde Forest. The above report is the outcome of this study.

Research Procedure

The major objective of this research was to study the management system of a resource and the involvement of women in its management. The research design included a one time cross-sectional, exploratory, and descriptive study of sample villages. Four adjoining villages surrounding Hattisunde Forest were selected for the purpose.

The interviewing procedure included participant observation, and direct and structured as well as open-ended questions to individuals and groups of women and men. Answers to structured questions were cross checked with observation. Analysis of information collected includes a description of how a resource is being managed, if women have been participating in local resource management; how women have been participating in rural institutions and rural resource management; if any form of participation is more effective in managing local resources than others; and how the level of women's participation in resource management can be enhanced.

Related Questions and Hypotheses

Whereas all the questions asked in the field were not listed in advance, a check list was developed to collect information on women's current role in rural institutions and resource management. These questions corresponded to those developed for the Case Studies on Organization and Management of Rural Development.

Current Management System

1. Who initiated the management of a resource? What role did women play in initiating this management system?
2. Who are involved in decision making for the management of a resource? Do women have any say in such decisions?

Participation of Women in Resource Management

If women participate in resource management programmes, why do they participate? If not, what are the reasons for their non-participation? The following hypotheses were tested to understand women's self-motivation in resource management and development.

Perceived relative advantage. Relative advantage refers to the degree to which participation in resource development and management is perceived by women as economically profitable and time and effort-saving. Relative advantage also deals with the immediacy of reward and dissatisfaction with other existing alternatives. Women are more likely to participate in resource management programmes that they see as offering benefits worthy of their efforts.

Perceived Relative Risk. Women's participation in rural resource development may be affected by perceived uncertainty of benefit, possibility of loss, or any other type of risk involved in participating in such an activity.

Cultural Compatibility. Compatibility refers to the closeness of a resource management system to other traditional activities of women. In a culture where women express their opinion in informal settings, a resource management system that allows participation in formal organization only will not encourage women's active participation.

Complexity vs. Simplicity. Women are more likely to participate in resource management when the issues involved are simple, clear, and easy to understand than when the system is complex and difficult to understand.

Households Headed by Women. Women having greater responsibility and independence at home are more likely to participate in decision-making in resource management than others.

Economic, Ethnic or Caste Factors. Women from ethnic groups are more likely to participate in decision making than women of caste groups.

Research questions concerning these perceived motivational attributes were as follows:

1. Do women think they benefit from participating in a resource management system? What do they think they achieve more resources for household use, time saving, effort saving, etc.?
2. Do women put themselves at risk by participating in a resource management system? What do they think they lose? What type of risks do they have to take?
3. Is the current resource management system compatible with women's other traditional roles? If so, in what way? If not, in what way is it not compatible?
4. Are women clear about the current resource management system? Do they think it is easy or complex to understand? In what way is it complex? How can it be made more simple?
5. Is there a link between women's decision making role in their homes and their level of participation in resource management?
6. Are women of any specific ethnic, social, or economic group more actively participating in resource management?

Rural Institutions and Interest Groups

Sometimes limited resources bring a group of people, men and women, rich and poor together. If there was a group formed around a resource in a village, the form of its organization, etc., was studied. Questions such as the following were asked:

1. Is there a women's group formed to share the common gains from a resource? How do they operate?
2. Under what type of rural institutions is the existing resource management system functioning? For example, formal and informal rural institutions involving women only, involving both men and women, and involving men only?
3. Have some institutions been more effective than others in involving women in resource management? If so, why are they more effective?

Social Support

An important issue to be aware of is that rural women consciously or unconsciously seek support for their actions from their family and friends. The Status of Women in Nepal study also emphasizes that "most Nepali women gain their support from, have their sphere of influence in and share their economic resources with their families" (Hoskins 1982). Nepalese women seek satisfaction from their families. Whyte and Whyte, (1982), in their study of rural Asian women, also mention that Asian women seek greater satisfaction by aspiring towards higher family status and more family happiness instead of aspiring towards individual goals. Hence, family-focused activities are likely to be more effective in involving women in resource management and development activities.

Further, often women do not participate because men professionals alone conduct the meeting. On such occasions, husbands do not encourage the participation of their wives in the meeting. Hence, questions such as the following were raised:

1. What type of local institutions is socially acceptable for women's participation? Are there any such institutions in the village that are involved in resource management?
2. What type of institutions are not amenable to women's participation? Why? Are there institutions of this type?

Emergence of Innovative Behaviour

Sometimes, users of a particular resource system decide to form a resource management system that is more suitable to them. Local people may take such actions for various reasons. For example, dissatisfaction with the existing management of the resource may be one of the reasons why local people look for a change. At other times, local people may be willing to change their behaviour because of the intervention of external agencies. If such action had taken place around a resource management system, questions such as the following were asked:

1. What circumstances made local people look for a change? Did women have any role to play in causing such action? If so, what role did women play?
2. How are these changes affecting women? Do they like or dislike the new ways?
3. Why do women prefer or not prefer a particular change?

User Group Identification

It is essential to know who uses a particular resource and if they are involved in its management. Frequently, even though women are more often users of forestry resources, very few women are consulted or involved in its management. Often it so happens that some villagers are involved in resource management just because they are political leaders. While it may be important to have a political leader playing an active role in resource management, the actual users always tend to be better managers of a resource. Hence, the user's representation must be sufficient enough so that they have a say when a resource is not being managed well or if a better means of management is adopted. Regarding this, the following questions were asked:

1. Who are the actual users for a particular resource? Do women use that resource in any form?
2. Who manages this resource?
3. How are users involved in planning, supervision and implementation of the management of that resource?
4. If women share a resource are they involved in its management? How are they involved?

Diversified Need Identification and Area Specific Programming

It is not feasible to generalize on the understanding generated from a programme or from a village to another programme or a village without knowing the needs and problems of another village. Needs of women may vary from village to village, from ward to ward, from Panchayat to Panchayat, and from District to District. Needs of women can also differ among castes and among ethnic groups. For example, the women of a village may utilise the products of a particular forest to different degrees. Women may have to depend on that forest for all the fodder, fuelwood, and grass. Other women may require forest products only for part of their needs and the remaining resources are obtained from their own land. Still another other group of women may be able to obtain all the forest-related products from their own private land. This differing degree of need from a particular resource was observed in Lamidanda, Chhatre-deurali, Jibanpur, and Kebalpur Panchayats. For instance, most women of Gairi Gaun (Ward No.8) of Kebalpur Panchayat rarely used *Simpani Ko Ban* for fodder, fuel, and grass collection. They have fodder and fuelwood trees on their private land. A few women had to collect some fodder and fuelwood from *Simpani Ko Ban*. On the other hand, women of Sarki Gaun (ward No. 8), Kebalpur Panchayat, had no choice but to collect all their forest resources from *Simpani Ko Ban*. They own very little land and cannot depend on their private land for fuel or fodder. The following questions were asked to assess the differing levels of need:

1. What is the intensity of need for a particular forest resource? How have women been using these resources? Are these resources available in abundance or are they scarce?
2. Have women taken any steps on their own with the support of a village institution, or with the support of an external agency to manage and better utilize these resources?
3. Have external agencies, involved in the development of a village, been able to assess the differing levels of need for a particular resource among the villagers? If so, how have these external agencies been approaching the differing levels of need among villagers?

Exploitation of Women in Development

Sometimes development programmes have disrupted unintentionally women's traditional culture or created additional work without increasing benefits. It is, therefore, essential to know if an agency should follow a specific strategy for reaching local people. Women unknowingly may have been exploited by an intervening agency. In order to avoid such circumstances, a development agency must know what is happening in the field. On the other hand, some other form of intervention may have strengthened women's ability to manage their scarce resources. For instance, women in Ward No. 8, Kebalpur Panchayat, were encouraged to plant fodder and fuelwood trees on their private land as the local forest land was demarcated as Panchayat Protected Forest and Panchayat Forest. They were given seedlings free of charge. Villagers were also provided with guidelines on where and how to plant each species. Planting of such fodder

and fuelwood trees on their private land has reduced women's dependence on public forest resources. The most used public forest, *Simpani Ko Ban* of Kegalpur Panchayat, is now a Panchayat Protected Forest. The following questions about the impact of local and external institutions on women were asked:

1. Have intervening agencies made a difference to women's lives?
2. Has there been any exploitation of women as a result of the intervention of external agencies?
3. How can intervention of an agency correct and upgrade resource management systems without leaving women worse off?
4. Are some types of rural institutions more exploitative of women than others? How and why?
5. How can an external agency strengthen women's role in resource management? How should the external agency intervene?

Remuneration and Equal Pay

1. Are external agencies and local rural institutions giving equal pay to men and women for comparable work in resource management?
2. Do women think their participation in resource management will increase if they are paid at par with men for comparable work?

Recognition of Women's Contribution in Resource Development

Often local men assume that women do not have much to contribute in rural development activities. Local men assume that women are less travelled, less exposed to the world outside their own villages, and illiterate. They tend to associate travel, education, and attending local meetings with knowledge. While this may be true in some ways, women do know a lot more about local resources through experience. When the researcher was gathering information on improved stoves in Dhading District, men would always reply first. Very often when a question was addressed to a woman, her husband, her son, or even a man from the neighbourhood sitting nearby would confidently provide an answer. However, it is important to talk to a woman and get her view as well. Such actions will not only boost the morale of women but also give them confidence that their views are important in development work. The researcher thinks that one of the major reasons rural women are lagging behind in Nepal is because of their lack of confidence. They are unsure if they should express their problems or about whom they should express them to. Often the researcher has heard rural men asking their wives not to talk since they are ignorant of the issues. The task of researchers and development workers is to let these men know that women have valuable information to offer. This can be done by helping women participate in the meetings, by letting them talk, and by listening to their needs, problems and their suggestions. Raising the consciousness of rural men and women about the contributions women can make in development activities is itself a part of development. To understand this perspective the following questions were asked:

1. Are women's contributions to resource management recognized in some form or other by the existing rural institutions and external agencies? If so, how have they expressed this recognition? What steps have the external agencies taken to demonstrate that women are

valuable in developing an effective resource management system? How can women's contributions to resource management be made more productive, more effective, and more visible?

2. Do local people feel that women have a role to play in resource management? Have local rural institutions been able to show this by involving women in resource management? If so how?

Specification of Women's Role at the Agency and Local Level

To encourage the involvement of women in resource development activities, one must provide a suitable atmosphere for their participation. Studies have indicated that programmes, that are meant to involve women, seldom encourage the involvement of women. When a hands-on training programme, on the maintenance of systems, in Taple Panchayat, Gorkha district was organized in early 1984, the water management committees of the Resource Conservation and Utilization Project, were told that women should be encouraged to participate. When all the participants at the training site turned out to be men, it was learned that the training site selected was too far away for women to attend and that men were thought of as better water maintenance persons than women.

Hoskins (1982) pointed out that "...Women are not recognized as having special needs and they seldom have an opportunity to develop leadership roles or to participate in either making decisions or in receiving the benefits of development activities". A need to specifically target women in development activities was also recognized in evaluation reports of the Small Farmers Development Programme (CWD/UNICEF 1986). On the other hand, "when development activities are designed for women only, they are poorly funded and tend to be out of the national development main stream" (Hoskins 1982). One should therefore be careful and yet be able to focus on women's involvement in development programmes. Related questions concerning the specification of women's role in resource management were basically, although not limited to, the following:

1. Have the project policies, planning documents, local institutions and resource management systems specified how women should participate in rural resource management? If so, what are their specifications?
2. Have these specifications helped women's participation? For instance, if there was a locally managed forest, is there a written or a verbal understanding that emphasized how women should participate in its management?

Time, Patience, and Convenience

Women want to participate in planning, supervision, and implementation of development projects. However, in many development-related dialogues, women do not participate due to many reasons. For example, meetings are held at the wrong time of the day, wrong time of the month, wrong time of the season, too far away from home, or women are not informed about such meetings. When the researcher was carrying out a stove survey in Dhading District this year, women were available at almost any time of the day until the third week of April. Then one day, the monsoon arrived, and, from the next day on, women were busy planting corn. From then on, women were usually available at home in the evenings and in the mornings. These incidents emphasize how women may not be able to participate in many development activities

because of their busy schedule and heavy work burden even if they know that their presence in the meeting is important. It is, therefore, essential for researchers and development workers to be conscious of the season and the time of the day in carrying out field research. The following questions provided a guideline for studying this aspect:

1. Do local people organize meetings to discuss issues concerning rural resource management? If they do, how do they decide when and where they should have a meeting? What time of the year, month, or time of the day do they usually meet. Do they consult with women and find out if a particular time and location are acceptable to women? Are these times suitable for women?
2. Are the meetings organized within accessible distance, for women, from the village or away from the village?
3. Are women expected to attend? Do women believe that their presence in such meetings will make a difference? Do other men in the meeting listen to women?

Appropriate Technology

1. What has been the role of women in the following aspects?
 - o Upgrading the existing technology
 - o Adapting or correcting defective technology
 - o Introducing new and relevant technology
2. Are some indigenous Knowledge systems better than others in involving women? If so, what makes them better? Do women prefer a certain type of resource management system? Why and what are they?

Family Decision

Sometimes, women give their opinions through male members of the household. While men attend the meetings, women's concerns may be relayed through men's involvement in decision making. The researcher tried to verify if this mechanism is really at work in the villagers.

Future Research Orientation

The study addressed a number of issues in detail concerning the participation of women. It has not been possible to include the details of these in the current discussion paper because they require more detailed investigations the broad as well as the particular sense. Based on preliminary observations, a number of hypotheses for future research, are however, formulated:

1. The higher the exposure of men to the outside world in comparison to women, the lower the participation of women in decision making.
2. The higher the educational level of men in comparison to that of women, the lower the participation of women in decision making.
3. The more diverse the socioeconomic status among people in a community, the lower the participation level of the entire community in a community project.

4. The more homogeneous the economic status of villagers, the higher the cooperation among the villages in community projects.
5. The higher the level of participation of women in forest management, the more effective is the forest management system.
6. The more the species grown is perceived to be valuable, the higher the participation of people in forest management.
7. The higher the perceived social and economic advantages from a forest, the greater the participation of women.
8. The higher the confidence among women in securing the benefits of a forest project, the greater their participation.

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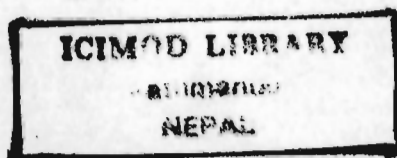
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