

---

**Gender, Class and the Commons: A Case Study from the  
Indian Himalayas in Natural Resources Management**

**Natural Resources Institute  
430 Dysart Road  
The University of Manitoba  
Winnipeg, Manitoba, Canada  
R3T 2N2**

**Gender, Class and the Commons: A Case Study from the  
Indian Himalayas in Natural Resources Management**

**Kerril Davidson-Hunt**

**Department of Anthropology  
University of Manitoba  
Winnipeg, Manitoba, R3T 2N2**

**Shastri Project on Sustainable Development of  
Mountain Environments in India and Canada**

**Technical Report No. 3**

**May, 1995**

## **Sustainable Development of Mountain Environments in India and Canada**

### **Project Overview**

Sustainable Development of Mountain Environments in India and Canada is a project of the Shastri Indo-Canadian Institute supported by the Canadian International Development Agency (CIDA). The project is based at the University of Manitoba, the University of Delhi, and the Indian Institute of Science, and is carried out in cooperation with the International Institute of Sustainable Development. The study team is led by F. Berkes, Principal Investigator; R.B. Singh, Chief Co-investigator; J.S. Gardner, Senior Investigator; and M. Gadgil, Senior Investigator.

The objective of the project is policy development for the use of mountain watershed ecosystems in ways that are environmentally and socially/culturally sustainable. More specifically, the goals of the project are:

- 1) To develop integrated methodologies best suited for the comparative study of land resource management policies in forested mountain watersheds;
- 2) To study the successes and failures of mountain environment resource management policies and their social, economic, and historical context as revealed in case studies;
- 3) To develop cross-cultural criteria for assessing sustainability in mountain environments;
- 4) To interact with policy-makers in resource management and sustainable development, so that policy implications of the study are communicated to the appropriate agencies.

In 1994, the project analysed land and resource use patterns in selected watersheds in the Upper Beas River valley in the Himalayas of Himachal Pradesh State. The joint Canadian-Indian research team, which includes expertise from natural resources, geography and anthropology, has investigated the sustainability of mountain environments and the local socioeconomic system, at a time of rapid economic change in which agriculture, grazing land and forest resource use patterns are adapting in response to various factors, including commercialization and regional/global economic integration. To analyse sustainability in its three major dimensions (ecological, economic and social), the interdisciplinary research team attempted to identify the most important factors and to develop indices that may be applicable in other geographic areas, including the Canadian Rockies.

The present report is the third in the series of technical reports. The others are:

"Sustainability of a mountain watershed ecosystem in the Himachal Pradesh Himalaya: Background and overview", by F. Berkes et al., Tech. Rep. No. 1 (Feb. 1995).

"Tourism and risk from natural hazards, Manali, Himachal Pradesh, India", by J.S. Gardner, Tech. Rep. No. 2 (March 1995).

## SUMMARY

Research carried out in the Indian Himalayas in the state of Himachal Pradesh suggests that a household ownership of land and cattle resources generally corresponds to a household's increased use of village forests, but that the control and management of village commons is influenced strongly by socio-political village dynamics. Data from 33 household interviews in two villages in the Kullu Valley suggest that while the majority (73%) of the women surveyed own from 3-15 bighas of land and 1-3 cattle, 91% of women from the survey use the forest extensively for multiple purposes. Despite the predominant role of women in the utilization of village commons, not all women participate in the women's organization, the Mahila Mandal, that has gained substantial control of village resources. At a macro level, looking at rural villages from the outside the 'poor', rural village people as a collective entity, are those who respond to protect forests from degradation. At the micro level, however, observing internal social, economic and political village dynamics, the 'poor' are often without any power to influence the control or decision making over forest resources.

There are, then, micro and macro levels of stratification and this study emphasizes the dynamics at the micro level. At issue in this paper are two dimensions to natural resources management: the differentiation between women in their use of common property resources, and ways in which women differ in their control and management of common property resources. Although one might expect these aspects of natural resource management to come together, in actual fact, they are reflections to a large extent of ownership of resources the former (use) and one's social-political status through caste in the latter (management and control). This study suggests that social and political stratification of people within village populations needs to be understood in order for policy-making to consider those whom it is empowering.

## 1. INTRODUCTION

Feminist scholars have, for the past decades, brought the study of women to the forefront of academic work and into practical levels of development. Despite the traditional lack of attention to women's roles it has, for quite some time, been recognized that women not only comprise the majority of the world's agriculturists, but are often the managers of natural resources (Chioma Steady 1993; Mies and Shiva 1993; Dankelman and Davidson 1988; Shiva 1988). While feminist scholars have increasingly brought women back into view, after a long history of being neglected and ignored, some feminists have begun to call for a better understanding of not only the 'condition of women' as a homogeneous social group, but the distinctions between women as well (Moore 1988; Mohanty 1991). This "perspective on difference" recognizes that women, while perhaps sharing common oppressions within patriarchal structures, also experience life differently according to the multifaceted way such identities of class, caste, race, ethnicity, sexual orientation, etc. influence a woman's life experience (Moore 1988).

The present study was undertaken recognizing both aspects of feminist research: the general role of women, as well as the ways in which women differ amongst themselves. The study sought to understand not only a basic gender division of labor and the activities of women in the Indian Himalayas, but also aspects of economic and caste differentiation between women's experience in relation to their use and management of common property resources. This study limited its attention of natural resource use to common property resources, or village commons. This parameter allowed for a focus on the collective nature of the use and management of natural resources, as distinct from a more household level management of private lands. This is not to say that "collective management" encompassed singular or unified goals, or groups working towards homogeneous ends. Diversity of position, need, power, interest, are all embodied within a "collective management" process; very much a part of a study of difference in common property management.

At the outset of the study in the Indian Himalayas of Himachal Pradesh, research focused on the general role of women within the forest-agricultural system (Section 4). Women's roles are central to the system as a whole, and Section 4 describes the general

activities women carry out within the Kmalayan system. From this basic understanding of women's roles within common property management, Section 5 moves to a closer analysis of stratification among women, largely in terms of economic status and by caste. One aspect of the project was to look at the management of common property resources and assess the sustainability of village commons management. Section 6 discusses women's management of village commons at the institutional level. At which point, differentiation between women by economics and caste enters into the discussion of women's control of common resources. The Mahila Mandal, a woman's organization found throughout India, is the primary vehicle for women's control of village resources.

In an effort to put the present research into context, it is necessary to identify some of the related literature on common property resources management. Some authors emphasize the importance of village commons to the livelihood strategies of the rural poor (Jodha 1986, 1985; Shiva 1986) and especially poor rural women (Mitra 1993; Agarwal 1992; Dankelman and Davidson 1988;). A definition of 'poor' in these terms incorporates those with less than 2 hectares of land (24 bighas). Within the two villages of the present study, the majority of households in the village have land holdings of less than 2 hectares. Thus, the present study is a micro study of the rural poor, and the differentiation between this classification of 'poor' households, as defined above, within two villages of the Indian Himalayas. Within this classification of 'poor', there is great differentiation between households in how women use common property resources, as well as in women's control of resources. Thus, at a general, macro level, the rural poor are, indeed, those to depend upon and protect village commons. All households of the study sites use village commons in maintaining livelihood strategies, and it is in these rural villages where groups are actively responding to forest degradation. Within these villages, however, the 'poor' are differentiated in terms of power and control of village commons. It is at the micro level where the present study focuses its attention.

The Kullu Valley is located at a substantial distance from the lower Himalayan range of the Uttar Pradesh hills where Chipko villages are active (Guha 1989). However, the middle Himalayas of the Kullu Valley also comprise many of the same elements associated with the Chipko movement. Although there has been a general lack of research

in the area of the Kullu Valley, the Valley may present another dimension to understanding the social, political and economic aspects of forest protection. The Kullu Valley was the site where a small but dynamic organization of women discussed their struggles and visions with the researchers of this study. This group of women brought to life the issues of common property natural resource management, and provided a human component to the systems, cycles and trends that come out of the study.

## 2. THE STUDY

**Objectives of Study.** The present research within the overall project contributed an understanding of women's activities within forest-agriculture systems that are based upon forest and pasture common lands. Beyond a basic understanding of women's use and management of village commons, the present study also sought to examine the ways women of different social and economic status use and manage natural resources, a major contribution of this report to the study of common property natural resources management.

At a very broad level, it is useful to discuss the general role of women in natural resources management. The Himalaya mountain agricultural system is one in which many of the roles of women are visible and easily observable; ideal for a short fieldwork period with a focus on women's roles in natural resources management. The present study, then, moves from examining the general roles of women within forest-agriculture systems, to the specific ways in which women differ in their use and management of village commons. The differences in women's experiences were important for the understanding of the complexity of interaction in social and environmental dynamics. These differences also help understand the differential structures that create the diverse, and oftentimes unequal, nature of use and management of natural resources, or the "political economy" of natural resources management (Agarwal 1992).

Literature on the Chipko movement suggests that women in hill agricultural systems play important roles not only in the actual labor of the system, but in the protection of forest resources. The organizational component of village resource management became a central element in research. It was anticipated that, at some level,

women's influence and control would be present within village affairs (Sharma 1980; Agarwal 1992), although the official and organized actions in forest protection was an unanticipated aspect incorporated as fieldwork progressed.

The next section of this report (Section 3) develops an historical and present construct of the Kullu Valley, as the context for the study in order to put present land ownership and livelihood strategies into socio-historical framework. Section 4 describes the basic forest-agricultural system at a general level, which depends largely on women's knowledge in maintaining links between forest use, cattle rearing and ultimately agriculture (Shiva 1988). The explanation of the basic agricultural livelihood system describes most women's seasonal activities to some degree, although is not meant to suggest that all women pursue this livelihood system exactly as presented. It is presented in order to provide a general understanding of the land use system in all its complexity with emphasis on describing the activities of households with land and cattle; those which draw most heavily upon common property forests and pastures. Each household negotiates a livelihood strategy specific to the household needs and resources. The seasonal cycle as presented is more characteristic of the traditional farming caste of the area, the higher caste Rajputs, but also an increasing number of Scheduled Caste households.

The specific nature of household livelihood strategies is developed in Section 5. The section describes the results of the village surveys undertaken, focusing on variables in caste and ownership of resources in relation to forest commons use. Section 6, incorporating an understanding of differentiation by caste and household ownership of resources, links the household surveys to women's organizational efforts at forest protection. In this section, the *Mahila Mandal* becomes the focus of discussion, and the interactions of caste and economic factors are observed within the organization and control of common property resources. Section 7 draws some preliminary conclusions on the nature of village dynamics of power, economics and politics, as well as discuss the implications of the study for sustainable livelihoods.

**The Villages of the Study.** The village of Chachoga was selected for study because of its strong Mahila Mandal and its work in forest protection (as suggested by the

Forest Department). This aspect of an organized response to forest protection was an unanticipated and interesting development of the study that materialized from the contacts made in the Manali area. The active nature of the women's group in Chachoga provided an exciting local initiative in forest protection.

The second village of the study came out of a desire to work in a second village for comparative purposes. Goshal was the village of one of the translators, and it made most sense to work in the village where he grew up and knew people. Therefore, entrance into the two villages was based on an established research relationship in the former case (Chachoga), and a trust relationship between translator and village in the latter (Goshal).

**Methodology.** The basic empirical component of the research was an informal structured interview. An extensive interview guide was developed based upon literature, and revised continually as research progressed in India. The interview was substantially shortened once in the interview situation, as women simply did not have the time or patience to endure long, lengthy interviews. Discussions in the interview sessions focused on the woman's seasonal activities and the specifics of her situation according to her economic and caste status. With central members of the Mahila Mandal, the discussion would turn to the organization, activities and functioning of the group. All interviews were done through a translator: a female translator in Chachoga and a male translator in Goshal. The translator for Chachoga was not from the village itself, but was quickly and easily accepted by most women in the Mahila Mandal. She was known by one of the main leaders of the Mahila Mandal, and trusted by her<sup>1</sup>.

Caste considerations and restrictions did come into play during interviews. In the village of Chachoga, the researchers were essentially treated as upper caste persons, and entered into peoples' homes, ate and drank tea with almost all of the women interviewed. The situation in Goshal village was different in that some initial problems with older, and more traditional people meant that all interviews were done on the flagstone patios of the

---

<sup>1</sup> On the last day of our research in the Kullu Valley, Kormi Devi (a pseudonym) told me that she knew of our translators' 'secrets', that our translator had a lower-caste Grandmother, but that she considered herself a Rajput. Kormi Devi allowed our translator into her house, even knowing that she had 'questionable' caste status in her family background. This act by Kormi Devi, essentially established with the rest of the village our 'caste status' as upper caste persons, which allowed ourselves and our translator to be allowed into all homes for interviews.

houses, while eating and drinking was carefully accepted with the upper caste Rajput families only. This was mostly to avoid problems going between lower caste and upper caste homes. Having learned from some of the earlier problems, we attempted to adhere to, and respect, the basic tenets of relations between castes.

### 3. THE KULLU VALLEY: HISTORICAL AND PRESENT CONTEXTS

**Pahari Culture of the Himalayas.** The Kullu Valley lies within the Western Himalayan range, with the Beas River originating at the head of the Kullu Valley and flowing out into the Punjab plains (Figure 1). Close by, to the northeast of the valley lies the Rohtang Pass which crosses between Kullu Valley and Lahaul and Spiti, and forms a traditional and ancient trade route to the Greater Himalaya regions of Tibet and Ladakh (Gardner 1995). Crossing over the Rohtang pass into Lahaul and Spiti, one crosses into an area more characterized by Tibeto-Burmese peoples and Lamaistic Buddhism, broadly termed *Bhotiyas* from the High Himalaya (Berreman 1963).

The lower Himalayas form a cultural tradition that spreads from eastern Nepal to western Kashmir (Berreman 1972), embracing the Kullu Valley (Figure 2). The different cultures of the lower Himalaya are collectively termed *Pahari* (literally, 'of the mountains') (Berreman 1970), referring to both the cultures and languages within the area. Pahari languages are derived from Sanskrit, an Indo-Aryan language (Harcourt 1869; Berreman 1963, 1972). The classification of Pahari culture serves to distinguish it from North Indian culture and from the High Himalayan *Bhotian* culture. Pahari as a Hinduized Himalayan culture is both similar to, and unique from, the North Indian culture, although the two share a common history.

Pahari culture is most characterized by a unique, or 'unorthodox', Hinduism (Berreman 1972) and an equally distinct caste organization from that of the plains. Pahari culture is also marked by a small-holder, terrace agriculture in which women play a central role. In a related manner, seclusion or purdah are not a part of the cultural system, nor is dowry traditionally practiced. Caste organization is developed around a basic division between higher castes and lower castes (Scheduled Castes, so called 'untouchables', or *Harijans*). The Rajput caste, and to a lesser extent Brahmins,

represent the higher-castes, but the Rajput caste is dominant both in numbers and wealth (Berreman 1970:75). The Scheduled Castes (untouchables) form the other sector of the population, and are largely service castes with either an indigenous history in the area, or immigrating into the area as laborers, but likely a mix of both. Farm lands are small-scale in nature and dependent upon inputs from common property forest resources, as is the rearing of cattle. In the 1980/81 census, 80% of land holdings in the Kullu Valley were less than two hectares (24 bighas) while 58% were below one hectare (ODA report 1994; Vol II, Annex I).

**History of the Kullu Valley.** Historically, at least back to the first century AD the Thakurs, who now form part of the Rajput caste, and are predominant throughout the Manali area, were the aboriginal rulers of the Kullu Valley<sup>2</sup>. The Rajput caste in the hills has a long history of land ownership and rule. Berreman refers to the two major ancestral stocks of the area; the lower caste, early indigenous groups and the Indo-Aryan speaking group of the *Khasa* (or *Khasiya*, the ancient Thakurs and present Rajputs in the Kullu Valley) who form the higher castes. The Scheduled Castes are associated with occupational specialties while the Khasas were the invading dominant agricultural groups. It is assumed by most, however, that the Scheduled Castes were the "indigenous" peoples of the area, previous to the Thakurian period when the Thakurs (or Khasas) became the local chiefs in the First Century AD (Hutchison and Vogel 1933). Hutchison and Vogel state that:

From the information at our disposal the conclusion seems justified that the rule of the Thakurs and Ranas was the oldest political system in the Western Hills... the Thakur caste which forms the upper section of the Rathi [now Rajput] community, are the principal agricultural tribes in the Panjab Hills...They are all indigenous to the hills or, more likely, indigenous by the half blood with the aboriginal races, and it is more than probable that the ancient Thakur rulers rose to power from among them. These tribes were settled in the hills long before the Ranas, who were Kshatriyas, that is, Rajputs, appeared on the scene (Hutchison and Vogel 1933, Vol. 1:39-40).

---

<sup>2</sup> The history of the area is not well documented or understood, and "the whole field of ancient history of these hills is veiled in dark mist" (Singh Charak 1979:93), and most information comes from the upper castes (Berreman 1972; Negi 1963). The most concise treatment of Pahari history comes from Bereman (1972), and more specific to the Kullu Valley is Hutchison and Vogel's account (1933).

The name of Thakur gains significance when in the Kullu Valley. Thakur was the most common name in the Manali area, and was prominent at village and regional levels. It is clear in the quote from Hutchison and Vogel that the Thakurs are not 'pure' Rajputs, but in present day caste organization, Thakurs have been incorporated as part of the Rajput caste.

An historical understanding of the two major caste distinctions of the area, the upper caste Rajputs and lower caste Harijans (Scheduled Castes), brings some of the present dynamics into historical context. The reference to "agricultural tribes in the Panjab Hills" puts into perspective the predominance of land ownership and forest-agricultural livelihoods amongst the Rajput caste, while wage labor and landlessness (until recent land reforms in Himachal Pradesh), is more characteristic of the Scheduled Castes of the area. The household interviews in two villages of the Kullu Valley suggest a strong pattern of wage labor (agricultural labor, service sector such as carpenters, blacksmiths) amongst the Scheduled Castes especially in the poorer village of Chachoga, while the Rajputs enter very little into wage labor and dedicate themselves to agriculture.

Forest use is also linked traditionally to caste in that forest usufructory rights were given in the 1886 settlement report by the pre-independence colonial government to landholders who were, in the Kullu Valley, from the Rajput caste. Thus, the forest and agricultural cycle is one that has been developed historically among landowners within primarily the Rajput caste, and only with the Scheduled Castes of the area in recent history due to periods of land reform in the 1950's and 1970's (ODA 1993, vol. II, Annex II).

**The Changing Landscape.** In recent decades, an increasingly important part of rural household livelihoods and economies has been the establishment of apple orchards. The Kullu Valley has been transformed from a mixed field crop agricultural landscape to a fruit belt, with apple trees sprawling upwards on the mountainsides, and even within once irrigated rice fields. The area has observed the slow development of orchards over the last 30 years, with apple trees having been planted by almost all agricultural households over the past 10 years. The existence and transformation to orchards brings in a largely unknown element to the use of common property resources and to women's roles within

orcharding livelihoods. Orchards are almost entirely men's responsibility in terms of much of the care of the trees, and although women are involved in some of the labor as well, men control the income from the apple crop. In a meeting with eight Mahila Mandals of the Kullu Valley, the question was asked to a group of over 20 women how they felt about the transition to orchards, considering the male-controlled nature of apple production. One woman responded, "We'll still have to do all the work!!" The rest of the women agreed, and there was no concern on the part of the women that they were losing 'control' or 'influence' by a switch to a male dominated activity. One woman explained that agricultural decisions were made by both the man and the woman, and apple orcharding would be no different.

The changes occurring in the Kullu Valley bring an entirely new dimension into women's negotiations of livelihood strategies based on common property forest use. The area is within a gradual process of change where most households have planted apple trees in the same plots of land where women are still fertilizing and planting crops in the 'traditional' way although eventually crops will be crowded out by large apple trees<sup>3</sup>. When women were asked what they would do without the crops they are presently producing, they responded that they could buy all their food with the cash income from the apple harvest. They also responded that grass still grows below large apples trees, and makes good animal fodder. This suggests women still see animal husbandry as a viable part of their future livelihood negotiations.

The next few years will be interesting in terms of some of women's negotiations in private as well as common property land use. It will also be of interest to watch the development of women's organizations in the face of changing livelihood strategies. It would be prudent to note, however, that this is not the first livelihood shift, and probably not the last, to occur in the valley. During the 1800's, the Kullu Valley was deeply involved in the production of opium and tobacco for national and foreign markets (Harcourt 1871). At present, the 'traditional' system looks much more oriented towards household consumption of beans, corn, millets, amaranth, rice and vegetables. Yet, this

---

<sup>3</sup> Crops and trees can co-exist for about 10-15 years until the tree cover shades out the area underneath, making cropping unviable. Crop production also depends upon the spacing of the apple trees as to how much light can reach the crops below.

was not always the system and clearly the agricultural system of the Kullu Valley has been a dynamic one, responding and continually negotiating with new influences throughout history.

#### **4. A GENDERED USE OF THE LANDSCAPE**

##### **Women's Seasonal Activities**

There are plenty of opportunities for the males in Kooloo to engage in outdoor sports, as for a considerable portion of the year agricultural operations are suspended or are conducted almost entirely by the weaker sex, who do all the rice-planting, and the majority of the house-hold work (Harcourt 1869).

Despite the assertion that women differ in their use of common property resources, it is useful to describe the system and seasonal cycle in its entirety in order to gain an understanding of the whole agricultural livelihood system at work. A description of the system as a whole is not meant to suggest that all women maintain the same activities in identical fashion. Each woman negotiates her own strategy, interacting at different points, for different purposes, and with different intensity, with the forest-agricultural cycle.

All households obtain firewood from the forest. Households with cattle need to bring forest products to animals as fodder and bedding, and any household with agricultural activity needs manure as fertilizer to put into either agricultural land, under orchard trees, or both. Fertilizer comes through the combination of forest produce (evergreen needles and fern branches) as bedding and cow manure. If a household does not have cattle to provide manure for the land, the household will most often have a relationship with someone who does have cattle and provide these animals with fodder and bedding from the forest in return for animal fertilizer.

All household livelihood activities depend upon common property forest resources (Figure 3). In village-based animal husbandry, where women undertake anywhere from an estimated 69% of work (Bhati and Singh 1987) to 80-90% (Sethi 1991) in different parts of Himachal Pradesh, manure from cattle is the essential element that sustains the agricultural system. Fodder needs for cattle were partially extracted from common pastures and forests. 52% of respondents claimed to gather anywhere from 50% to all

fodder needs from forest and pasture lands, and the remaining 48% gathered anywhere from 50% to none of their fodder from village commons. As well, all bedding for cattle came from CPR's, and made up the bulk and complimentary content of fertilizer. All animal fertilizer is put into the soil after having served as bedding for cattle in the bottom floor of a traditional house. Fertilizer is, then, the combination of animal bedding, brought from the forest, and cattle manure that is then stored during the year and throughout the winter and put onto the soil in springtime, following ploughing and planting (Figure 4). Cows are the main source for manure as cows are kept in the village throughout the year for milk. Bullocks are taken up to high pastures during summer months to graze, and brought down into the village only for a brief period during ploughing season.

Grass is cut at designated times of the year from the forest and village pastures and stored for winter fodder. The amount of grass necessary for the winter requires a great deal of collecting. It is dried and stored around the outer porch of a traditional style house, and provides some insulation for the very cold winters. Those with larger land holdings are able to cut much of their daily fodder needs from around their fields during the growing season when women have less time to go up to the forest regularly. For most families, at least some grass from the forest is generally necessary for winter storage. Only 18% (6 of 33 women) suggested they did not gather any fodder from the forest.

In older orchards, women can get some firewood from the pruned apple branches. Fruit tree branches are not sufficient to provide all firewood for a household and therefore every household, regardless of the size of the orchard, will need to get some firewood from the forest. Through the collection of fodder and bedding, the agricultural system is fed by the production of cow manure. Manure, put into crop fields and apple orchards, also aids in the by products of weeds as fodder, and branches from large apple trees that are pruned and used for firewood. In this way, indirectly, the fodder and bedding from the forest goes into the agricultural system in the form of manure and provides for household needs in by-products of firewood and fodder for cows (Figure 3).

In summary, the needs of a household in terms of agriculture and cattle raising are dependent upon common property forests. Without the forest to provide bedding for cows, and the resulting fertilizer that goes into agricultural lands, the soil would be much

depleted and unproductive. Likewise, the grass cut from the forests as fodder for cows provides essential sustenance. It is a system that demands much time and energy to bring resources from the forest, to the animals, and ultimately to the soil. Women do most of the work of collecting animal bedding and firewood.

The trip up to the forest from the village to collect firewood, bedding or grass takes at least three to four hours. It is no small task to trek straight up a mountain, and bring a basket (*Qdlta*) full of firewood back to the village, and women are concerned by the increasing time they spend gathering from the forest. The degradation of the forest is a process that has been gradually affecting women's activities, as women spend much more time now than ever collecting from the forest. Women estimated that a trip to the forest five years ago took only two hours as compared to the four-five hours in 1994. It is in this context that women's organization and commitment to protect village forests gains immense significance.

**The Seasonal Cycle.** Agriculturally based households negotiate cycles between agricultural fields and village forests and pastures (Figure 4). Winter comes with up to two meters of snow, and many of the activities, especially from July to December, are in preparation for winter when no firewood, fodder or bedding can be collected. Snow can last for several months, beginning in January (sometimes earlier) and melting by March (sometimes February). The early part of the summer (March - June) is spent replenishing the diminished store of firewood and fodder and preparing for the agricultural season. The resources from the forests and fields are maximized at times when they are abundant and there is a constant interplay between field and forest activities, utilizing the resources that are available during different moments of forest and agricultural cycles.

In forest gathering and agricultural activities most women are involved in almost every aspect of the cycle (Figure 4), while men help and assist at sporadic points throughout the cycle. There are specific activities for which men are responsible: ploughing and to a large extent orcharding. Likewise, there are some activities for which women are solely responsible: weeding and transplanting rice. Bhati and Singh estimate that 61% of the total farm work is done by women (Bhati and Singh 1987) while Sethi estimates that 75% of the agricultural work is done by women (Sethi 1991). In addition

to the main male activities of ploughing and caring for apple trees, during the months of November and December, men take a large part of the work in chopping firewood from the forest, working in groups to fell trees and transport firewood back to the village. Women will also join these work groups, especially helping to bring the chopped wood back to the village from the forest, although it is seen as 'men's work' at that time of year. In terms of control of resources, men have control of cash income from apples, but women control inter-household trade and manage crop produce. They also keep the income from the sale of milk and from weaving.

The seasonal cycle details the seasonality of women's activities (Figure 4) and the manner in which activities flow between one resource to another, not without a great deal of understanding of forest and agricultural systems. Women are continually mediating and negotiating between the two systems, bringing resources from forest to field, forest to the household, or field to the household. Time is judged and balanced between present needs, availability of resources and planning for winter, illness, pregnancy. When time is not at a premium, women are constantly stocking for times when they may not be able to meet the household needs.

Figure 3 shows a complex and inseparable nature of forest and agricultural cycles. The agricultural system cannot stand on its own without inputs from the forest, or at least not in any long term sustainable sense. Nor can cattle be raised without bringing produce from the forest. For these reasons, the village forest holds immense importance to household livelihood strategies, which involve women to a great extent. The fact that it is largely women, and not men, connecting forest resources to agriculture and cattle raising helps to explain women's interest in organizing to protect common property forest resources (Agarwal 1992; Shiva 1988). Most women view the forest in a multifaceted way, finding it difficult to reduce the utility of the forest to a single resource. Some of the difficulties that arise within the village come from people with conflicting, and singular interests from the forests. For example, some men want the forest for lumber, and are willing to jeopardize other uses of a tree in order to obtain this single value from common lands. Similarly, some women with few needs from the forest also come into conflict with women who have diverse needs from the forest. Presently in one of the villages of the

study, women who need primarily firewood from the forest are conflicting with women who gather for multiple uses from the forest.

To some extent, the differences in forest use can be related to caste. The seasonal cycle is that of an agricultural household. Clearly, households that have little or no land do not follow this seasonal cycle in the same way that households with more land would. The land ownership data (see Figure 5 for charts on land ownership according to caste) for the two villages of the study suggests that in the village of Chachoga, an upper caste Rajput household on average owns nearly twice the amount of land and cattle as a lower caste household. In Goshal, the data are less clear but follow similar patterns whereby the average Rajput household owns marginally increased amounts of non irrigated land and cattle, but substantially more irrigated land, apple trees and sheep than does a lower caste household. There are several things to consider on this point. The data for Chachoga, and to a lesser extent Goshal, reflect historical land ownership within the Kullu Valley. Present figures also reflect of two periods of land reform. Starting in 1963 under the Himachal Pradesh Abolition of Big Landed Estates Land Reform Act, land was redistributed from large landowners. Again 1972 under the Himachal Pradesh Tenancy and Land Reforms Act, and then in 1974 under the Himachal Pradesh Village Common Land Vesting and Utilization Act, village common lands (*Nautor* lands) were allegedly given over to the landless, largely the Scheduled Castes (ODA 1994, Vol. II, Annex I; Sethi 1991). Thus, present land ownership is somewhat more equitably distributed between castes than was historically the case. Much of the land redistributed to the landless during this period was defined as Unclassified Protected Forest. It was primarily land with a high vertical gradient, and thus incompatible with agriculture, although could be used for apple orchards. The end result is that Scheduled Castes now have more land, but it is land that is largely unsuitable for agriculture.

In summary, the seasonal cycle presented in Figure 3 is suggestive of the agricultural seasonal cycle that has historical linkages to the landed Rajput caste. The lines are, in reality, quite blurred between upper caste and lower caste livelihood strategies. Many Scheduled Caste households have become agricultural households, especially in the village of Goshal. While the differences between castes should not be

overemphasized, there are perceptible differences, some of which help to explain the conflicts in forest use and control that occur within the women's organized efforts in forest protection. Caste does not define one's economic situation, nor the use one makes of common resources, but is indicative of a general economic, social and political standing within a village of caste groups. The next section will move away from looking at systems and cycles, and women's activities in generalized form and focus on the household interviews and the ways in which women differ from each other in their use of village resources, and ultimately, in the control of village commons.

##### 5. DIFFERENTIATION IN LIVELIHOOD STRATEGIES

**Informal Household Interviews:** The process. Interviews were undertaken with 33 households in the villages of Chachoga and Goshal. The interviews were conducted in order to understand not only the activities women undertook, but how women differed in their daily livelihood activities. This section focuses mainly on the 19 household interviews in the village of Chachoga, as the relationship with the Mahila Mandal was better established in that village. The 14 household interviews from Goshal are used for comparative analysis and as a cross reference in observing trends and patterns. As will be seen, the two villages are quite different, cautioning against easy generalizations for the Kullu Valley. There are, however, some consistent similarities and differences between the villages that contribute to an understanding of village dynamics in the use and management of natural resources.

Livelihood strategies between households vary from income generation through wage agricultural labor, owning small tea stalls, to intensive farming livelihoods with cattle rearing and orcharding. The household interviews were based upon the social composition of each village. In Chachoga 10 lower caste families and 9 upper caste families were interviewed, reflecting the households in the village where 56% (45/80) of the households were of Scheduled Castes and 45% (35/80) from the upper castes. In Goshal, 9 upper caste families and 5 lower caste families were interviewed. Goshal is by a great majority a Rajput village with 83% (100/120) of the households being upper caste, and 17% (20/120 households) being Scheduled Castes. The emphasis on lower and upper

castes reflects the basic classifications of caste organization in the Kullu Valley. Tribal people do not figure into internal village dynamics in either of the two villages of the study. There were pastoral tribal people who used the high altitude village pasture lands (e.g. Gaddis, Gujjars), but did not live in either of the villages of the study. The main classifications were either as 'Harijan' or 'Rajput'. The household interviews represented 23% of the households in Chachoga, and 11% of the households in Goshal.

**Caste and Ownership of Resources.** Land, trees and cattle are not the only indicators of economic status, although easily discernible ones, and significant indicators of socio-economic status. In this study, land and cattle ownership are the main indicators used to identify a household's economic position within a village, although some households have the ownership of other means of production (e.g. hotels, tractors), also indicative of economic status. A household's economic status is not a direct reflection of caste, and economic status can be changeable within castes.

Changes have, in fact, been occurring over the past decades as more Scheduled Castes have gained some land through land reform, obtained government and teaching positions throughout the country, and as caste status changes with urbanization (Jayaraman 1981). However, centuries of land ownership, control of common lands and village politics by upper castes cannot be eradicated through brief periods of land reform, with social structures remaining well established within villages. Although changes are occurring in land and livelihood patterns, some basic distinctions remain between upper and lower castes. A village by village discussion of caste ownership of resources, and use of common property resources presents the interactions of caste and economic status as linked, although not deterministic of a household's status. Within the context of this study, 'poor' households are defined as holding less than 3 bighas (12 bighas = 1 hectare) of land with an accompanying small ownership of apple trees (less than 60), and 1 or no cows. Small holdings are defined between 3-9 bighas and 1 or more cattle. Larger holdings are those with 10+ bighas of land and more than 1 cattle.

With the data from both villages broken down into three classifications of ownership, 56% Rajputs and 13% of Scheduled Castes had larger holdings (Figure 6). 11% of Rajputs and 47% of Scheduled Caste households fell into the 'poor' household

category. **Small holdings** were represented by 33% of Rajput households and 40% Scheduled Caste households. Therefore, the greatest percentage (47%) of Scheduled Caste households in the survey were 'poor' relative to other households within the village, and the greatest percentage of Rajput households (56%) were of larger land and cattle ownership, most owning large apple orchards (10/12 or 83% of larger land owning households owned 200-800 apple trees). No household in the survey owned more than 4 head of cattle (both cows and bullocks), and 3 cows was the most owned by any household. The real differentiation came in land, and type of land (see Figure 5) wherein all of the small and larger households owned some irrigated land, while none of the poor households owned irrigated land.

**Chachoga.** Chachoga is the poorer of the two villages in the study. Chachoga's population consisted of 56% Scheduled Caste and 44% upper caste households. Even with over half of the population being of lower castes, the village *pradhan* (headman) estimated that the Rajput caste owned 70% of village land. 78% (7/9) of the poorest households in the total survey (Goshal and Chachoga) were from Chachoga and 6 of the 9 poorest households in the total survey were Scheduled Castes from Chachoga. Chachoga, then, and more specifically the lower castes from Chachoga, had a greater proportion of 'poor' households (see Figure 6 and Table 1 for comparisons between caste ownership within different villages).

**Scheduled Castes of Chachoga.** While poverty amongst the Scheduled Castes of Chachoga was more predominant than in Goshal, 40% of the Scheduled Caste households (4/10) had 'small' and 'larger' holdings of land and cattle. The largest of these holdings was 10 bighas of land with 1 cow and 2 bull calves. 3/10 Scheduled Caste households owned over 100 apple trees. All of the 10 Scheduled Caste households in Chachoga in the survey drew upon common property resources for at least firewood, and in 7/10 households fodder was cut from common property forests and pastures, and in 7/10 bedding was gathered from CPR's. 90% (9/10) Scheduled Caste households drew upon wage labor as a livelihood strategy; in 6/10 of these households women worked as agricultural laborers for other people in the village.

Rajputs of Chachoga. One of the more striking differences between the upper and lower castes in Chachoga was participation in wage labor. While 90% of Scheduled Caste households entered into wage labor, only 2/9 (22%) Rajput households had wage labor incomes, and both of these were the women within the household who worked for the village daycare. Of the 9 Rajput households interviewed in Chachoga, 5/9 (56%) had larger holdings of over 10 bighas of land, while 3/9 (33%) had small holdings of 3-9 bighas of land with over 1 cattle. Only one household amongst the Rajput caste fell into the 'poor' category.

Rajput households were predominantly agricultural households, with little wage labor income. This was partially attributed to livelihood security, but was also reflective of social norms amongst the rural Rajput caste that denigrates 'wage labor'. The agricultural nature of Rajput livelihood strategies draws upon common property resources, especially for firewood and bedding for cows. All households obtained firewood, while 8/9 households collected bedding from the forest. 6/9 Rajput households collected grass 50-100% from forests and pastures. The 3 remaining households collected grass mostly from their fields, with some collection also from the forest.

Scheduled Castes of Goshal. The Scheduled Castes made up only 17% of the household population in Goshal. Of the 5 Scheduled Caste households interviewed in Goshal, only one fell into a classification as 'poor', and owned 2.5 bighas with no cattle (Figure 6). The remaining four Scheduled Caste households were of 'small' and 'larger' sized holdings. Three of the five households had small holdings of 3-9 bighas, and 1/5 had a larger sized holding of over 10 bighas of land. All but the 'poor' household had one cow (one household had two) and 2/5 had one bullock. Two of the five Scheduled Caste households had over 100 apple trees (up to 440 trees). Four of these five households gathered firewood and bedding from the forest, while 3/5 gathered grass, mostly from the forest (2/5 gathered mostly from their fields). None of the Goshal lower caste households entered into agricultural wage labor, but all had diversified types of household incomes. For example, one woman wove for others, another was a midwife; in different households one man drove a tractor, another owned a hotel, another was in the military, one was a

tailor, one was the village religious man, and one owned a tractor (see Table 2 for complete summary information on household ownership and employment).

Rajputs of Goshal. The Rajput caste in Goshal made up 83% of the households of the village. 1/9 Rajput households interviewed was considered 'poor' by the standards indicated in the present report. 3/9 households had 'small' holdings, and 5/9 households had 'larger' holdings. 7/9 households had over 100 trees (up to 570 trees). 8/9 households (89%) made use of the forest in collecting firewood and cow bedding. 2/9 households gathered half of their fodder from the forest, while the remaining 6 households gathered grass mostly from their fields and orchards.

Employment outside of the agricultural household was also very diverse amongst Goshal Rajputs, as it was amongst the Scheduled Castes of the village. It is mostly the men who held outside employment: one was a trekking guide, 2 owned stalls in the bazaar, one owned a yak and took it to Rohtang pass for the tourists, and 2 owned tractors. One woman, divorced, sold rice wine and grass collected from the forest.

Ownership of resources and forest use. A compilation of the two villages and the correlation between land ownership, cattle ownership and forest use illustrates some basic points about forest and pasture use (Figure 7). Most of the 33 women interviewed owned more than three bighas of land and more than one cow (24 out of 33, or 73% of respondents) and used the forest in at least four basic ways: collection of firewood, bedding in the form of fallen needles from evergreens (*surd*), bedding in the form of ferns (*barn*), and in collecting grass as fodder (see Table 2 for each respondents use of the forest). Although there were several respondents who did not have much land or cattle (9 out of 33, or 27% of respondents, had less than one cow or bull and three bighas or less of land), 8 out of 9 still used the forest for meeting needs other than simply firewood. 5 of these households, even though they did not own their own cattle, maintained established relationships with people with cattle and brought fodder and bedding to this person's cattle for the benefit of taking used cow bedding to their own fields for manure. The other 4 households of the poorest category collected grass to sell. One other household sold grass, and all of the 5 households that sold grass had less than 4 bighas of land. 3 of the 5 were Scheduled Caste households which had small plots of Nautor land, but this was land

not suitable for agricultural production (steep and rocky). The other two of these households were Rajput women who were divorced and maintained a living on their own. There was only one household in the survey that used forests for the single purpose of obtaining firewood (HH #15). Thus, 73% of the surveyed households had small and larger sized holdings of land and cattle ownership and gathered from common property resources to directly sustain their own agricultural production. Overall, however, 97% of the women in the survey (32/33) used village commons to some extent for the collection of firewood, fodder and bedding, albeit different women gathered for different purposes.

The overall picture is one in which all households represented in the survey in Goshal and Chachoga made use of common property resources in some way or other. 22/24 (91%) of the small and larger owning households used commons for firewood and different forms of cow bedding. 8/9 poorest households of the survey also use commons for firewood, grass and bedding collection either for their own cows, for someone else's cows in exchange for manure, or for sale. Only at the extreme ends of the socio-economic spectrum did households, both very poor and very wealthy, use village commons differently from the majority of households. Two of the wealthier households in the sample paid others to bring resources from village commons for them, and one of the poorest households used village commons for gathering firewood only. Over half (5/9) of the poorer households used CPR's for firewood and for collection of grass from the forest to sell as fodder. 4/9 poorer households made multiple use of common property forests and pastures similar to that made by small and larger owning households, i.e. in firewood, bedding and grass.

Patterns in Forest Use by caste. Patterns of land and cattle ownership by caste within the two villages of the study (Figure 5&6) were similar when looking at a household's ownership of resources in forest use but different in how caste groups use village forests. In the village of Chachoga, the upper caste households averaged 116 days per year gathering in the forest as compared to 95 days for the lower caste households. In Goshal, forest use was reversed, and Goshal Rajputs spend an average of 87 days as compared to 115 days for Goshal Harijans (Figure 8).

The differences between the villages in the use lower caste households make of the forest can be understood in the context of village common land. Goshal has a large forest area (Figure 9) and few lower caste households (17% of village), and the survey suggests that lower caste households in Goshal are better off in terms of ownership of resources than the lower castes in Chachoga (Table 1). The combination of greater access to common lands, as well as owning more private resources, allows the lower castes in Goshal to pursue agricultural livelihoods to a greater extent than in Chachoga, reflected in the caste use of forest resources (Figure 9). Many Chachoga lower caste households have neither the private resources, nor access to common property resources, to pursue intense agricultural livelihoods (see Table 2). Women from Chachoga Scheduled Caste households are more involved in wage labor than women of Scheduled Castes in Goshal. Thus, Scheduled Castes in Goshal make more extensive use of common resources in pursuing an agricultural livelihood. Men of the Scheduled Castes in both Goshal and Chachoga pursue diverse kinds of employment outside of agriculture, while it is mainly women's livelihood activities that are distinct between the two villages.

Looking at forest use in both villages by household ownership of resources and ignoring caste, patterns between the two villages become more consistent. When taking into account land and cattle ownership only (Figure 10), larger land and cattle owning families on average spend more time gathering from the forest in both villages. These data suggest that, by virtue of having more land and more cattle, the need to bring more from the forest in terms of inputs is greater. While there are caste differences in the use of village forests, ownership of resources dictates to a greater degree the use one makes of common property resources.

Both caste and basic economic factors have been taken into consideration in the analysis of the data collected. The data suggest that distinct patterns exist in relation to caste ownership of resources, wherein the Rajput caste consistently owned more resources than the Harijan caste, although this trend was more extreme in the village of Chachoga than in Goshal. There was also a distinguishable pattern in the household ownership of resources in both villages whereby households with more land and cattle spent more time

on average gathering firewood, fodder, and bedding from the forest than did households with little land or cattle (Figure 7). In the village of Chachoga, where the difference between Rajput and Harijan ownership of land and cattle was greater, the Rajput caste spent more time collecting forest resources (Figure 8). This does not mean that households that owned fewer resources did not use village commons, but that they used them differently, and for distinct needs.

In Chachoga, where there were more extreme differences between castes in terms of ownership of resources and subsequently in forest use, there was an active women's organization in favor of forest protection, preserving village forests for agricultural livelihoods. The dynamics of forest protection through the women's organization of the Mahila Mandal forms the content of the next section where economic factors to some degree, but caste to a greater extent, enters into the organization and control of village forests.

## 6. THE MAHILA MANDAL IN PERSPECTIVE

This is our property. If no one protects it, the future is not certain  
(*Mahila Mandal* president, Shnag village).

**The Mahila Mandal.** The Mahila Mandal has been in existence for decades and is an organization found throughout India. Jain and Reddy comment that many Mahila Mandals are less than effective, although the potential is great for a grass roots organization to develop (Jain and Reddy 1979). It was formed during the 1950's (1952 under the Community Development Programme) and strengthened again during the Indira Gandhi administration with the idea of facilitating the involvement of women in the economic life of rural India. As it is stated in the 1979 annual review of Mahila Mandals, the aim is to: "draw rural women into the mainstream of development and to enable them to function as instruments of social change by providing them with programs in which they will have a stake or a sustained interest such as improving their income or productivity and employability or employment" (Jain and Reddy 1979:3).

The Mahila Mandal has the official support of the Forest Department to enforce local control over village forests. In the event that a group of women from a Mahila

Mandal catches someone illegally cutting a tree from the village forest, the Forest Department will back the Mahila Mandal in the prosecution of them. Of the 120 Mahila Mandals in the Kullu Valley, an NGO working in the area estimates that 15-20 are actively working to protect village forests (the NGO works with 8 of them). The Mahila Mandal is most concerned about the trees that are being poached on the steep slopes above the village. Their concern is not only for the actual tree, they are also determined to control the erosion as well as the avalanches that can occur if deforestation is too heavy on the slopes by the village. They are not as vigilant of the forests that lie at the higher elevations, which are also much further from the village.

#### Parallels to Chipko.

As for Chipko, it still exists. But it has migrated from the hills of its origins to seminars and conference halls further south and overseas. It lives in university courses, academic tomes and in articles like this one, which keep the controversy, but not the issues, alive (Aryal 1994).

There are immediate parallels that can be drawn between the Mahila Mandals of the Kullu Valley and the Chipko movement of the Garhwal Himalayas. Clearly the magnitude of the Chipko movement was/is of a different scale, yet many of the issues are the same. Aryal suggests that Chipko is no longer a vibrant part of the Uttarakhand. At the risk of contributing further to the 'mythology' of the Chipko movement, it is worth drawing some parallels between these very distant areas of the Himalaya, yet within a similar cultural and environmental tradition.

Chipko is now well known and established as predominantly a women's fight against the destruction of village forests. Conflicts over village resources have arisen as women challenge government and male-centered decision making process over village forest resources. The most famous examples come from the Garhwal Himalayas where 'spontaneous' actions have occurred against nonlocal contracting companies (Jain 1984; Agarwal 1992). Within villages, women have been involved in taking control of village forests by fining men who were found taking from the forest illegally, but also by guarding the forest and regulating household requirements (Dankelman and Davidson 1985). There is some caution in claiming of Chipko as a 'women's movement', in the sense that Chipko

explicitly acts to change traditional social structures of gender oppression (Jain 1984), or even an 'environmental movement' (Jodha 1986). There can be no doubt, however, that Chipko has primarily mobilized women in a response to threats to the environment.

Many of these same responses to environmental degradation were witnessed within the Mahila Mandals of the Kullu Valley. However, in the Kullu Valley, the struggle over control of resources focuses on conflicts of internal village and inter-village use, and not against nonlocal threats. At present the Mahila Mandals are organized to regulate, guard and enforce the use of common property resources from within and between villages, and it is primarily women acting to protect village forests. Women act in groups, stopping men who are poaching trees illegally from the forest from taking the trees out. They are also involved in establishing rules over the use of the forest.

**Women's Response to Environmental Threats.** In general terms, the everyday relationship women have with the natural environment partially explains women's response to acts that threaten the resources that sustain their livelihood. Discussions with the Mahila Mandal exemplified this point. In a group discussion setting, women explained that "because we go to the forest a lot, we want to protect it. Men do not need to go to the forest much, so don't care as much". The leader of the Mahila Mandal said that if it was not for the women, there would be no one to protect the forest from men who would illegally cut trees for timber (group interview, July 15, 1994).

A gendered conceptualization of village resources was expressed by the leader of the Mahila Mandal in Chachoga, Kumla Devi (a pseudonym). She stated that the men say, when speaking about the village forests, "this is not our jungle; it is the government's" and believed women's and men's perceptions and understanding of village forests to be distinct. The women understand that ultimately the forest belongs to the government, but they consider it to be theirs. In talking about forest rights with Kumla Devi, she made the following comment: If you gave me a house, a nice house, I will take care of it. It's like the jungle; if the government gave the forest to use, we will take care of it". She then added, "But the women feel it is their house". Women, by virtue of interacting intensely with forests and pastures, have incorporated some sense of "ownership" even while recognizing that legal ownership lie with the government. These comments suggest that

village men accept and are more tied to official governmental/political processes/decisions, while women form their opinions and understanding not from meetings with government officials, but from their everyday activities that link them to the forest. By virtue of an intense, multiple use interaction with the forest, many women feel strongly about the importance of the forest, and the need to protect its resources.

**Social Stratification and the Mañila Mandal.** There are some problems in village organization in India in general that are also characteristic of the social organization of Mañila Mandate. Jain and Reddy discuss the social composition of Mahila Mandals across India, and find that they are predominantly composed of, and controlled by, the upper castes. This was a very distinct trait in the Mahila Mandals in the Kullu valley as well. The Rajput caste generally holds not only a stronger economic position, but also has social and political control of village affairs. It is an historic and established pattern that is clearly entrenched in the present social and political setting. The social and political structure of the Mahila Mandals were not any different in this respect from the village social structure as a whole.

Agarwal argues that Chipko is "beginning to confront gender and class issues in a number of small but significant ways" (Agarwal 1992:148). She believes, along with other writers on common property (Jodha 1986; Mitra 1993) that it is poor women, women who hold a close relationship of use and dependency to natural resources, who respond to situations that threaten their livelihood security from the environment. In a situation where a village is pitted against outside contractors, villagers do enter into 'class struggles'. Within internal village dynamics, however, there are different levels of village stratification. Forest protection and control of resources take on dynamics within a village that go beyond class conflict, when diverging interest groups within a village conflict, but from within the same class of rural owners of land as the means of production. In the Chipko movement of the Garhwal Himalayas, internal village struggles for control of resources are presented as gender conflicts, that is, conflicts that arise out of a different gendered use of forests and plants (Agarwal 1992; Jain 1984).

The present study, which looks at internal village organization of forest use and protection, observed a conflict in the control of natural resources not only between village

women and men, but also among village women. Most literature on Chipko recognizes a difference between women and men's relationship and interest in forest resources, although conflict between women's interests within the same village has not been discussed. The gender division of labor that establishes women as the major agriculturists as well as collectors of forest produce brings women into a different relationship of use and need from forest resources than men. Equally, women who work and hold agricultural resources differ in their needs from forest resources from women who depend more on wage labor. Women not only differ in their negotiations of livelihood strategies according to household ownership, but also differ in social and political positions of power within communities according to caste. Agarwal defines 'poor' as the landless and those that hold less than 2 Hectares of land (or the equivalent of 24 bighas). At a macro level of analysis, the poor (rural village people) are those who are prepared to respond with concrete actions in the defense of the natural environment on which they attain sustenance and livelihoods (Agarwal 1992; Shiva 1988; Jodha 1986; Bhati and Singh 1987). However, looking at stratification from within villages and not from regional standards, distinct levels of social, political and economic stratification are clear. From within the village context, it is no longer easy to identify the 'poor' as dependent upon village resources and those to organize to protect them.

Within the villages of the study, the poorest women of the village (women of Scheduled Castes, although not all Scheduled Caste women were poor) held a different kind of multiple use relationship with common property resources. They were, indeed, dependent upon forest resources for firewood, as all women were, but had other needs distinct from households that had more cattle and land. While the 'poor' were perhaps as dependent upon village commons as the others (difficult to assess), their social position within the community made them powerless to respond according to their own understanding and needs of the forest. At another level, 'the poor' is a social category that may not always reflect economic reality. Lower caste women came from the poorest households of the village of Chachoga as well as from households that held equal amounts of land and cattle as upper caste Rajput households, yet were equally excluded from the women's organization that controlled village forests. While some of the interests of poor

rural women were represented, some of the interests of the poor women were not represented in any way within the Mahila Mandal. For example, poor women who needed commons for gathering grass or firewood to sell had no voice in the Mahila Mandal, and their needs were not incorporated into the management of common lands. While the regulatory responses of the Mahila Mandal organization were in favor of protecting the forest resources from depleting at a rapid rate, alternatives for poor women were not incorporated into the women's organization even though one of the stated purposes of the organization was to "help poor women" (leader of Mahila Mandal). The conclusions from both villages based on the data collected suggest that women's response to forest destruction and degradation is not only based in the material reality of a woman's daily activities, but also based upon social and political relations of power.

Management of the Commons: Whose Commons? One might expect that an increased ownership of land and cattle, with an increased forest use would translate into forest protection. This was not entirely the case, although it was true to some extent. The social and political stratification between women of different castes was much more significant than the economic differences between them. This is revealed in the household survey data. In the village of Chachoga, although over half the population was of Scheduled Castes (56%), the upper castes not only held the positions of leadership within the Mahila Mandal, but comprised the large majority of its membership (22/29, 76%). The village of Goshal was different in that although the majority of the Mahila Mandal was Rajput (20/25, 80%), the village was composed of majority Rajput families. Once again, Chachoga presents an extreme situation where village social composition, which is majority Scheduled Castes, is inversely related to the social composition of the Mahila Mandal which consists of majority Rajput women.

There existed a good deal of misunderstanding and mistrust between upper and lower castes. Some conversations with women of lower castes who used to be in the Mahila Mandal conveyed a lot of bitterness towards the Mahila Mandal in the regulation of their use of the forest. When commenting on the restriction of the sale of firewood, one woman's words were: "we are poor, and the Mahila Mandal took that away from us. We make money how we can". There was a lot of resentment of the part of some lower

caste women towards the actions the Mahila Mandal was taking in controlling the forest. The Mahila Mandal has also prohibited the lopping of branches off trees. This was an issue that caused tension as the Mahila Mandal was basically controlling lopping of trees which functioned to preserve the collection of Men needles for cow bedding. The lopping of branches resolves a present need for firewood, but depletes a regular source of animal bedding (spruce needles) and may kill the tree. This is an action that benefits those with cattle, but not those who only need firewood (either for sale or personal use) from the forest.

In the village of Chachoga, Rajput women actually spend more time collecting from the forest than do lower caste women (Figure 8). Rajput families also have considerably more land and cattle than do Harijan families in Chachoga (Figure 5). Taken in direct relationship, these factors would theoretically contribute to the dynamic where Rajput women, through the Mahila Mandal, maintain control over forest resources. In Chachoga, Rajput women hold a more intense interaction with their forest environment, stemming from a long history of caste ownership of resources and political dominance. However, in Goshal, the situation is reversed in terms of how caste groups use the forest: It is Scheduled Caste women who spend more time gathering from the forest (Figure 8). In Goshal, however, the Mahila Mandal is still dominated and controlled by Rajput women, even though Scheduled Caste households hold a similar ownership of resources, and women within these households place a high value on the forest in their estimation of the days they spent gathering. The divergence in the pattern in the use caste groups make of the forest between the two villages (Figure 8) indicates a socio-political dynamic of upper caste dominance in the control of common property resources, regardless of the actual ownership of resources and resultant use a household makes of forests resources.

Essentially two dimensions have been developed in the present gender analysis of natural resources management. A discussion on the use women make of natural resources and how they differ from each other has largely led to a focus on a household's ownership of resources, and the correlation between a household's increased ownership of resources and a more intense use of forest resources. The data from Goshal was distinct enough from the village of Chachoga to question a simple equation that ownership of resources

and more intense activity in forest collection would directly relate to the membership of women in the organization to protect forest resources. The political economy of ownership of resources, caste organization and internal village politics has not only entered into, but been critical in an analysis of the nature of natural resources management.

In reality, caste and ownership of resources cannot be easily separated as there is an interaction between them (Figure 5). The data from the survey indicates that almost all women from both villages depend upon village forest resources. Differences between women exist, and in the most extreme instances the household survey suggests that there is a small, select group of women that does not strongly depend upon forest resources. These women are the very poor, and the relatively wealthy making up only 9% of the women interviewed; both groups are made up of women who secured their livelihoods in ways other than from drawing heavily upon the forest themselves. "When cattle and land ownership were taken into account, people with 'small' and 'larger' cattle and land ownership spent more time collecting from the forest, a pattern established by both villages (Figure 10). However, the Mahila Mandals in the villages of the study were both constituted and controlled by Rajput women even though 40% of lower caste women between both villages held equal or similar ownership of resources as many upper caste households. In the village of Goshal, on average lower caste women actually gathered from village forests more than upper caste women.

All of these factors support each other in the conclusion that there is an interaction of caste and ownership variables but that socio-political factors influence to a great extent the organization and control of natural resources. Ownership of resources influences a woman's livelihood strategy to the extent that those with small and larger sized holdings of land and cattle require steady inputs from forest resources, yet, caste plays a stronger role in the political control of village forest resources. In the villages of Chachoga and Goshal Rajput women are historically those who have farmed the land and held access rights to forest resources. Presently in Chachoga, upper castes are those who maintain a strong agricultural livelihood based on small and larger holdings of land, trees and cattle. In Goshal, agricultural livelihoods are pursued by both lower and upper castes to a great

extent. Within both villages, however, upper caste women's interest in preserving a healthy forest meets with social and political dominance in the protection of forest resources.

## 7. CONCLUSIONS

There is nothing revolutionary about outlining the activities women contribute to society, as it has long been understood that women's activities have not only been overlooked, but that they are central to any complete understanding of social, environmental, political and every aspect of cultural organization. The 1970's and 1980's have been replete with studies of women's roles and balancing the picture that for so long neglected a major gender component of culture and societal workings (Moore 1988). Feminist research is now at a stage where it must look beyond the generalizations made about 'women', to thinking about the differences that exist among women. This is not merely an academic question; it is critical in the understanding of the many levels of oppression that occur within any given society. The gender division of labor has been well established for the Indian Himalaya (Agarwal 1992; Sethi 1991; Guha 1989; Dankelman and Davidson 1988; Bandyopadhyay and Shiva 1987; Agarwal and Narain 1985). However the class, or economic and social dimensions of stratification, cannot be ignored. A poor woman's experience cannot be lumped with the experience of a wealthier woman, simply because they share the same gender. The research presented here, then, has attempted to understand how women differ in relation to themselves.

The present study concludes that, indeed, women do differ amongst themselves not only in economic conditions, but in social and political ways that make the everyday lives of women distinct, each with a unique and different story. This research has not, unfortunately, individualized the lives of the different women that have been incorporated into this paper. My research is, therefore, as guilty as any in creating classifications of women. It has, however, attempted to go beyond generalizing on gender terms, to looking at different women's experiences in relation to the use and management of forest resources. Academic research has the unfortunate consequence of transforming the very lives and souls of people into discussions of economic and political dynamics, tables and

charts, as if these individual people who shared their lives were objects that could be located as entities with predictable responses and reactions. For all this, apologies must be given to the women who are nameless within this research, but I also give my deepest gratitude for their willingness to teach me something of their lives.

In summary, it is clear from the data presented that women differ in both their use and control of village forest resources, but that in overall terms almost all women interviewed made use of common property pastures and forests in some way. The real issues of control revolve around village forests, also where much of the conflict occurs. Household needs are different, reflecting ownership of land and cattle, but, almost all households require access to village commons for multiple purposes. The control of village forest resources, while partially reflecting a more intense use of forest resources, in the end, is more a reflection of village political and social dynamics. The organized actions in forest protection are combined elements of social and political factors that meet with traditional Rajput (upper caste) livelihood strategies as the dominant livelihood strategy to be sustained. Political dominance meets with cultural dominance in the control of common property forests. While many Scheduled Caste households have adopted agricultural livelihood strategies and have increased their use of village commons, it remains questionable whether lower castes as a social group have actually gained any political control over village common lands.

In ecological terms, the traditional farming livelihood strategy historically linked to the Rajput caste is a sustainable one. It is a livelihood that is based on intense interactions between different resources, a diversified system that maintains biodiversity and livelihood security through diversity. It is a cycle that links forests with animals, and then to cropping systems, a wonderfully complex and interconnected system. 73% (11/15) of Scheduled Caste households maintain, in some way, this cycle while the remainder (approximately 1/4 of Scheduled Caste households) maintain other livelihood strategies that depend less on land ownership and intense forest use. Scheduled Castes as a social group, the 'untouchables', have been socially and culturally denigrated and are still marginalized from circles that control "common resources" that are supposed to buffer the 'poor' from destitution (Jodha 1986). In terms of ecological sustainability, the actions of

the Mahila mandal preserve resources for diverse agricultural livelihood systems. In terms of equity in social sustainability, however, women's organizations have fallen short. These women's organizations that have so impressively organized to protect village forest resources at the same time neglect the needs of the 'poorest' within the same village as well as neglecting the inclusion of poor lower caste women's voices into the management and control of common property resources.

India has provided a unique opportunity to observe the workings of political and social processes of control, but these processes are simply more observable and visible in India. The Indian caste system allows one to observe clearly the dynamics of social power and power relations. Power relations are a part of every society at all levels and are not particular to a caste system. Just as caste organization has been central to this study, within any society it is necessary to take into account the political economy of natural resources management. It is not enough to understand what people do with natural resources, if, in the end they are unable to control them.

Research in the Indian Himalayas contributes to an understanding of internal village dynamics, and the essence of poverty. Poverty in India, as in almost any country, is not only an economic reality but also a social and political condition. The management and control of natural resources is not simply a material reality, but rather, a condition based upon social and political processes at work. This research suggests that villages are not homogeneous entities that can be isolated and identified by 'common interests'. Research also suggests that there are many levels of poverty, and differing characteristics of poverty, within any given situation. It seems clear that policy based upon assumptions of village cohesiveness and homogeneity can reinforce power structures within village, and possibly lead to greater social, economic or political stratification. This research has directed attention towards analysis of internal village dynamics in the power structures existent within any community. Without knowledge of these structures, the possibilities for empowerment may well remain with the empowered.

This conclusion does not preclude the possibility for equity within village structures, but argues for analysis of existent structures in order to more fully understand how policies can affect internal village dynamics and power structures. Wieringa writes:

"[t]ransformation itself should never be accepted as a given concept, but be continuously problematized by all actors involved, a process in which conflicting interests are spelled out and temporary coalitions are negotiated" (Wieringa 1994:844). With policy making and development put into this perspective, village organization is but a part of a process of constant negotiation; such a perspective brings the possibility of equity and equality into a processual context wherein the end can never be assumed. Within this context, it is entirely conceivable that recognition of differing interests from village commons could lead to a negotiation and more equitable sharing of decision making over village resources. Recognition of difference also allows for inequities to be acknowledged, and thus, brought into community negotiation rather than being submerged into false assumptions of equity predicated on 'community based' management of common property resources.

## LIST OF REFERENCES

- Agarwal, Bina. 1992 "The Gender and Environment Debate: Lessons from India". *Feminist Studies*. Vol. 18. Pp. 118-58.
- Agarwal, Anil and Sunita Narain. 1985 "Women and Natural Resources". *Social Action*. Vol. 35 (4). Pp. 301-325.
- Bandyopadhyay, Jayanta and Vandana Shiva. 1987 "Chipko: Rekindling India's Forest Culture". *The Ecologist*. Vol. 17(1). Pp. 26-34.
- Berremen, Gerald D. 1970 "Pahari Culture: Diversity and Change in the Lower Himalayas". *In Change and Continuity in India's Villages*. K. Ishwaran, ed. New York: Columbia University Press. Pp. 73-104.
- Berremen, Gerald D. 1963 "Peoples and Cultures of the Himalayas". *Asian Survey III* (1963): 289-304.
- Berremen Gerald D. 1972 *Hindu's of the Himalayas: Ethnography and Change*. Berkeley: University of California Press. Berkeley: University of California Press.
- Bhati, J.P. and D.V. Singh. 1987 "Women's Contribution to Agricultural Economy in Hill Regions of North-West India". *Economic and Political Weekly*. Vol. 22 (17). April 25. WS-7-WS-11.
- Chioma Steady, Filomina. 1993 *Women and Children First: Environment, Poverty, and Sustainable Development*. Vermont: Schenkman Books, Inc.
- Dankelman, I. and J. Davidson. 1988 *Women and Environment in the Third World: Alliance for the Future*. London: Earthscan Publications Limited.
- Gardner, James. 1995 *Risk from Tourism and Natural Hazards*. University of Manitoba. Technical Report No. 2.
- Guha, Ramachandra. 1989 *The Unquiet Woods: Ecological Change and Peasant Resistance in the Himalaya*. Berkeley: University of California Press.
- Harcourt, A.P.F. 1871, reprinted 1972 *The Himalayan Districts of Kooloo, Lahoul and Spiti*. Delhi: Vivek Publishing House.
- Hutchison, And J. P. Vogel. 1933 *History of the Panjab Hill States*. Vol. 1 & 2. New Delhi: Asian Educational Services.
- Jain, Shobhita. 1984 "Women and Peoples' Ecological Movement: A Case Study of Women's Role in the Chipko Movement in Uttar Pradesh". *Economic and Political Weekly*. Vol. 19 (41). October 13, 1984. Pp. 1788-1794.
- Jain, S. P. and V. Krishnamurthy Reddy. 1979 *Role of Women in Rural Development: A Study of Mahila Mandals*. Hyderabad: National Institute of Rural Development.
- Jayaraman, Raja. 1981. *Caste and Class: Dynamics of Inequality in Indian Society*. New Delhi: Hindustan Publishing Corporation.
- Jodha, N. S. 1986 "Common Property Resources and Rural Poor". *Economic and Political Weekly*. July 5. Pp. 1169-81.
- Mies, Maria and Vandana Shiva. 1993 *Ecofeminism*. London: Zed Books
- Mitra, Manoshi. 1993 *The Role of Women in Common Property Resources Management: Experiences from India*. Paper presented at meeting on "Property Rights and the Performance of Natural Resource Systems". Stockholm, Sweden, 2-4 September, 1993.

- Mohanty, Chandra Talpade, Ann Russo and Lourdes Torres, eds. 1991 *Third World Women and the Politics of Feminism*. Bloomington: Indiana University Press.
- Moore, Henrietta. 1988 *Feminism and Anthropology*. Minneapolis: University of Minnesota Press.
- Overseas Development Administration Report. 1993 *Himachal Pradesh Forestry Project: Forestry Development in India and the Project Area*. Vol. 2, Annex 2.
- Overseas Development Administration Report 1994 *Himachal Pradesh Forestry Project: Socio-Economic Setting, Kullu and Mandi Districts*. Volume II, Annex 1.
- Rodda, Annabel. 1991 *Women and the Environment*. London: Zed Books.
- Sethi, Raj Mohini. 1991 *Women in Agriculture*. Jaipur: Rawat Publications.
- Sing Charak, Sukhdev. 1979 *History and Culture of Himalayan States: Himachal Pradesh*. Vol. 11. New Delhi: Light and Life Publishers.
- Shiva, Vandana. 1988 *Staying Alive: Women, Ecology and Development*. London: Zed Books.
- Shiva, Vandana. 1986 "Coming Tragedy of the Commons". *Economic and Political Weekly*. Vol. XXI, No. 15, April 12, 1986.
- Shiva, V. and Shobhita Jain. 1984 "Women and People's Ecological Movement: A Case Study of Women's Role in the Chipko Movement in U.P." *Economic and Political Weekly*. Oct. 13, 1984. Pp. 1788-94.
- Sharma, Ursula. 1980 *Women, Work and Property in North-West India*. London: Tavistock Publications Ltd.
- Wieringa, Saskia. 1994 "Women's Interests and Empowerment: Gender Planning Reconsidered". *Development and Change* Vol. 25:829-848.

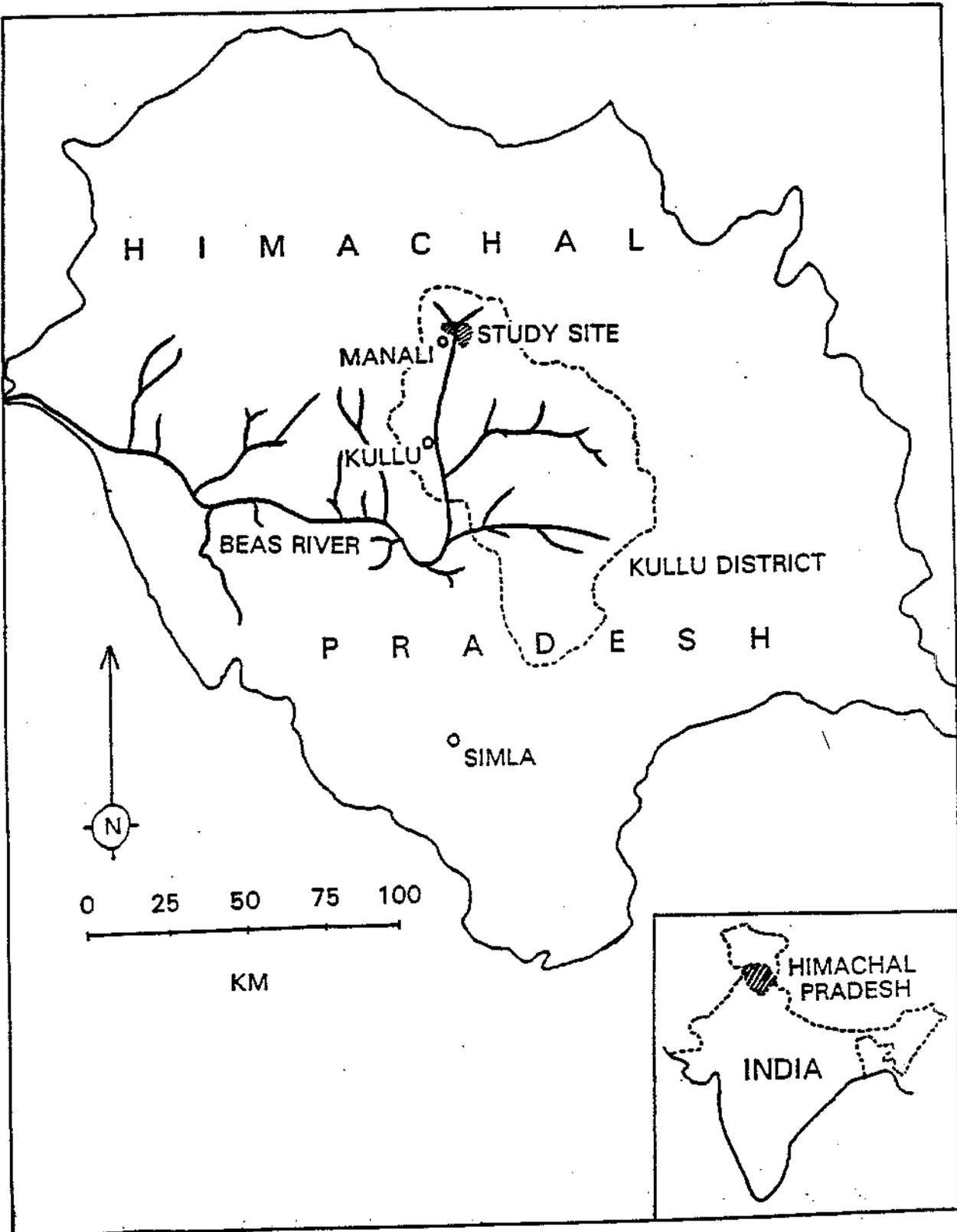


Figure 1. Site of study in context of state of Himachal Pradesh.  
Source: Colin Duffield, 1995



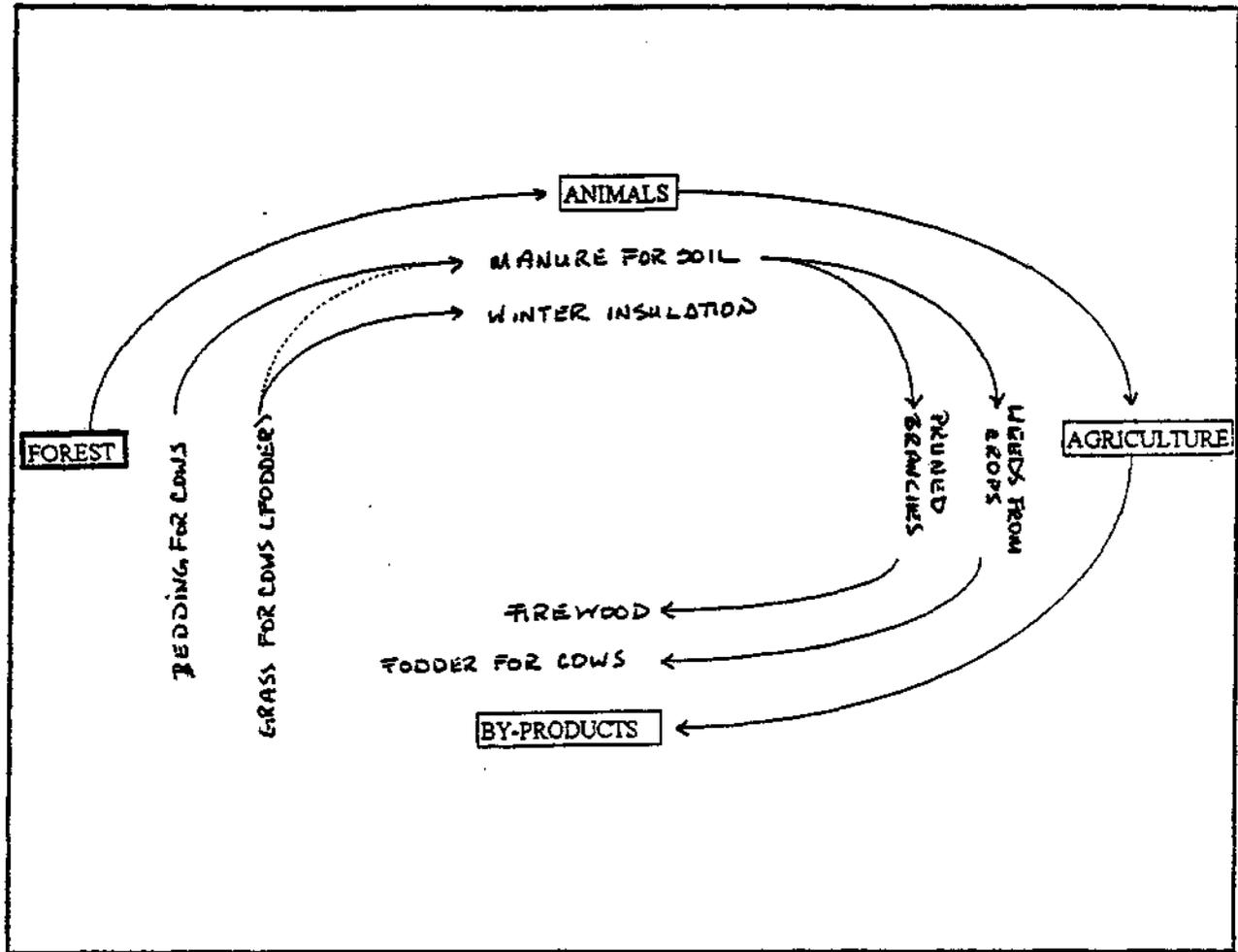


Figure 3. The centrality of forest resources to women's livelihood activities in animal husbandry and agriculture, and by-products stemming from forest-agricultural cycle.

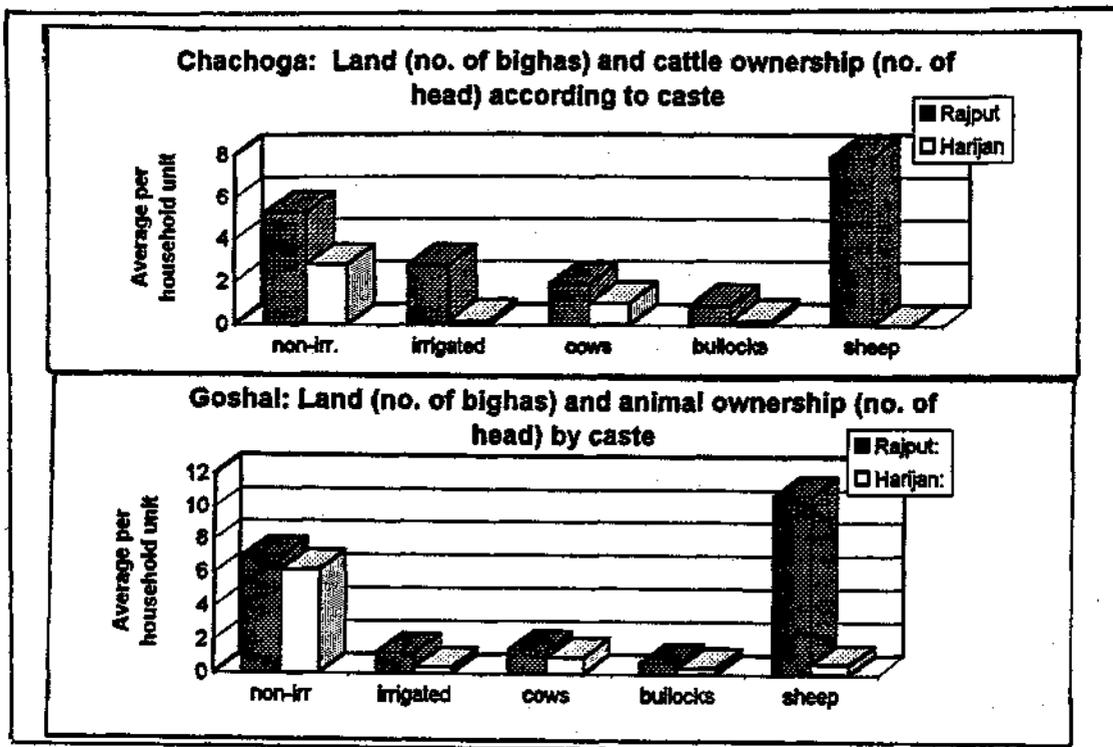


Figure 5. Chachoga and Goshal: Comparison of average land and cattle ownership by caste groups in the village of Goshal and Chachoga (based upon averages by caste).

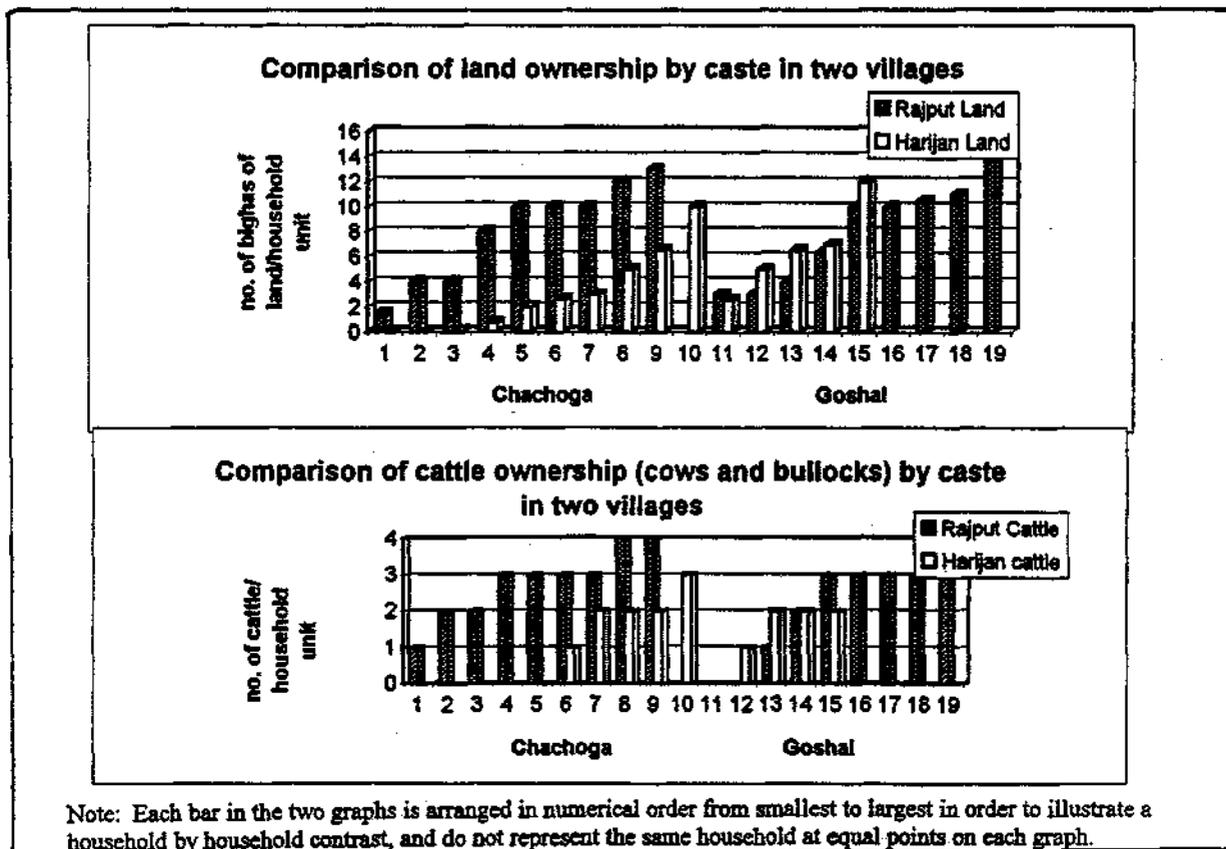


Figure 6. Chachoga and Goshal: Comparisons of household land and cattle ownership by caste (each histogram represents a household).

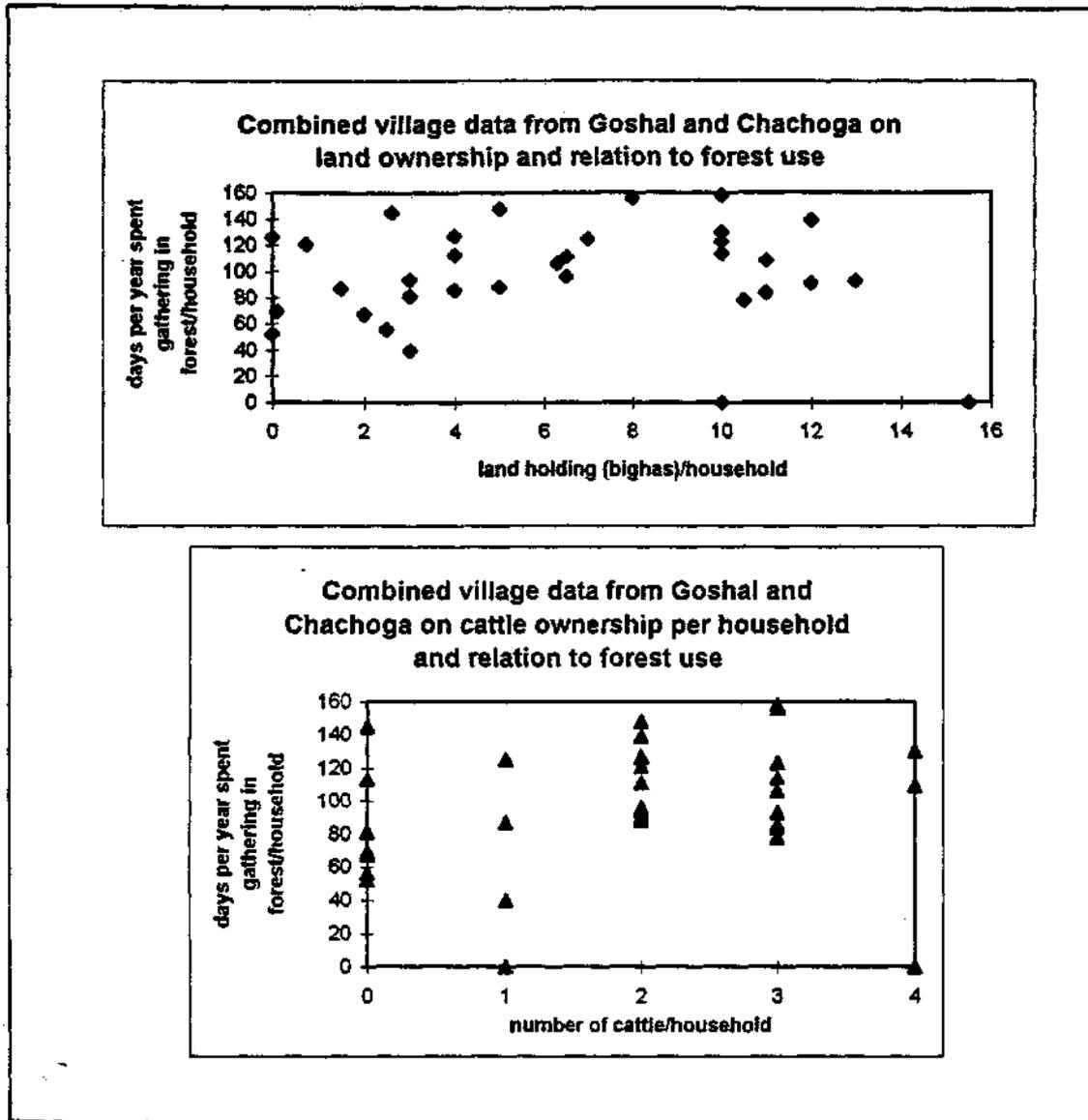


Figure 7. Chachoga and Goshal combined: Household ownership of land and cattle and relation to forest use ('days spent gathering in forest/year').

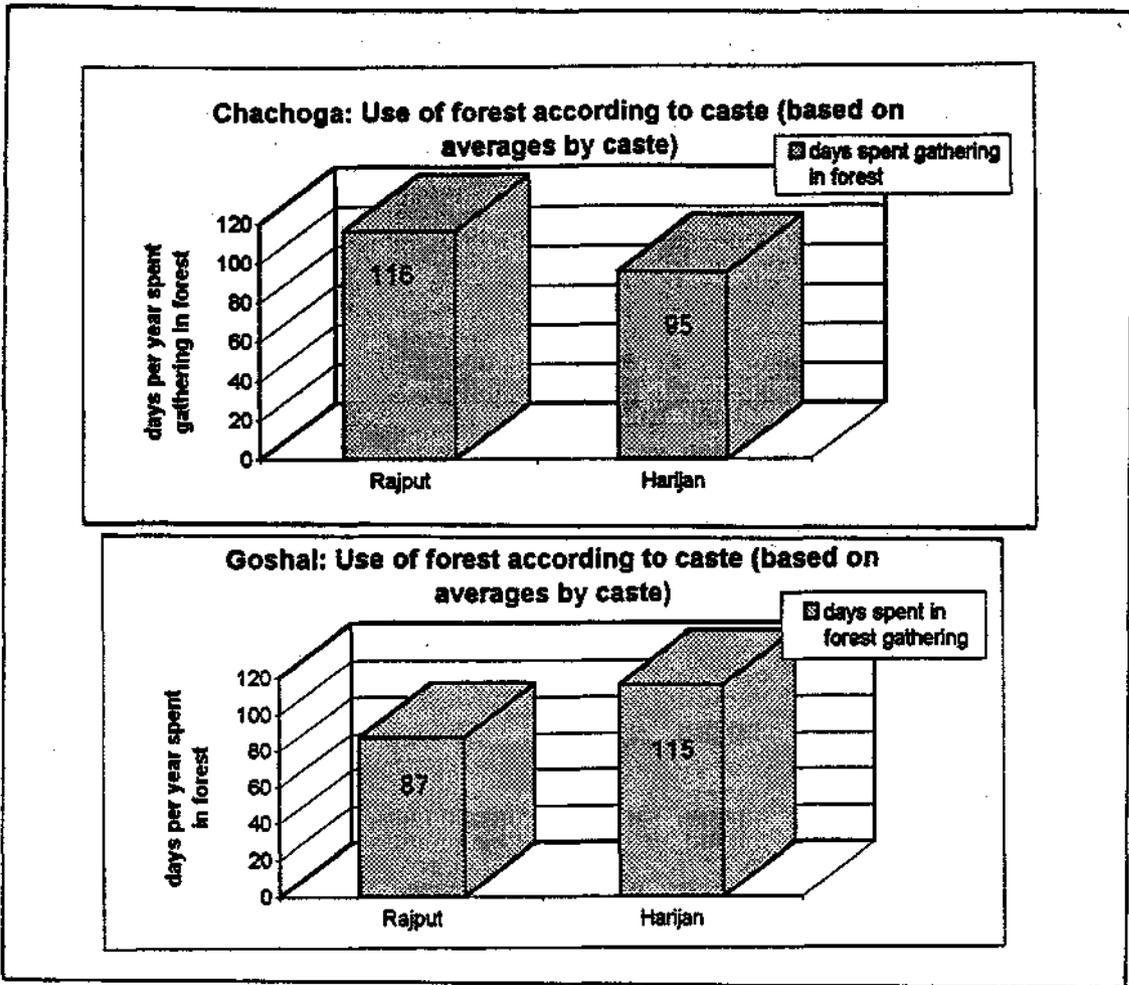


Figure 8. Chachoga and Goshal: Average use (calculated in 'days spent in forest/year') caste groups make of forest resources (based on averages by caste).

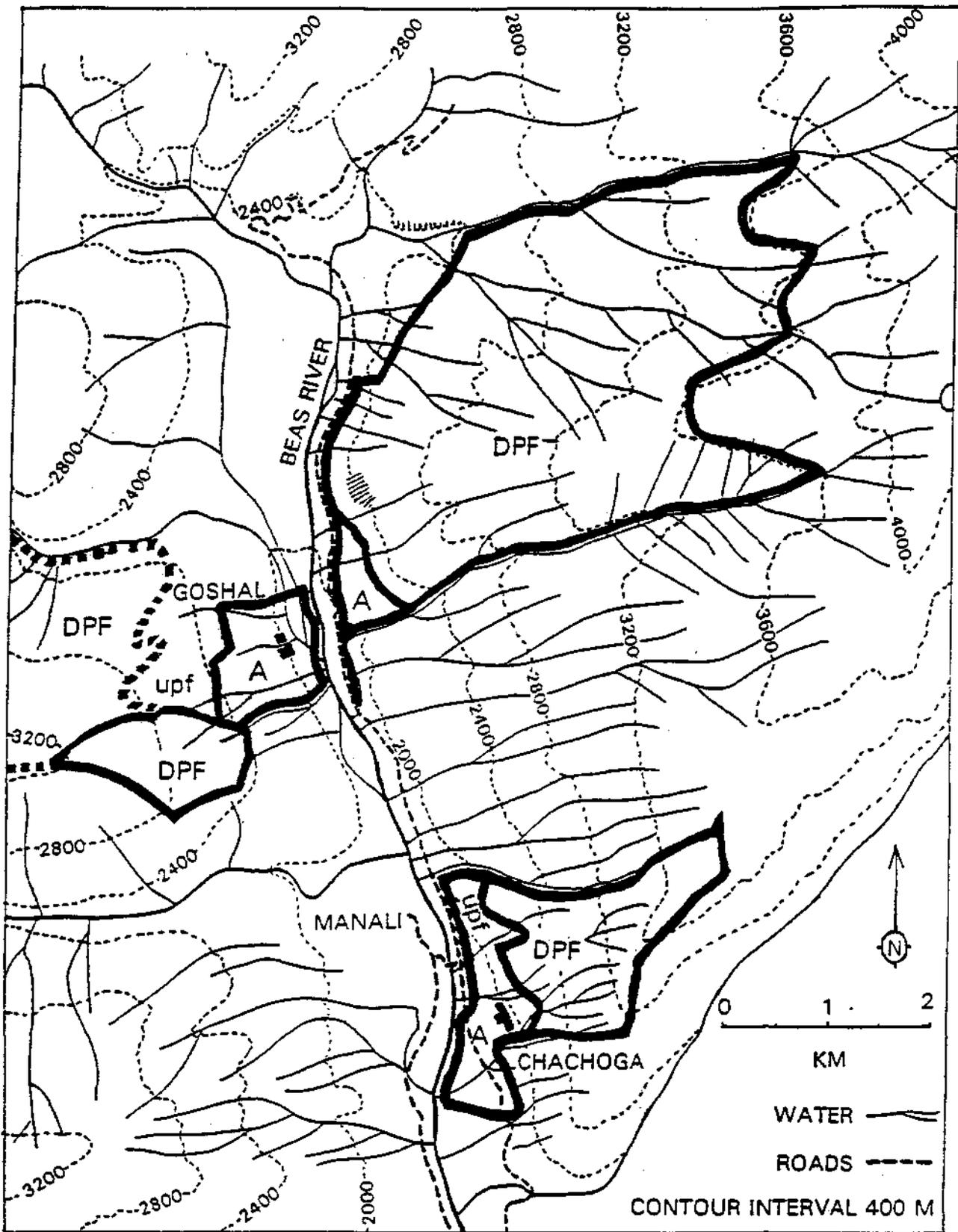
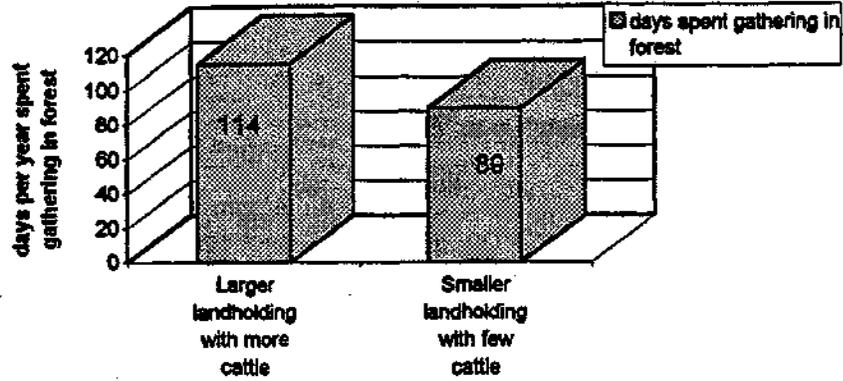
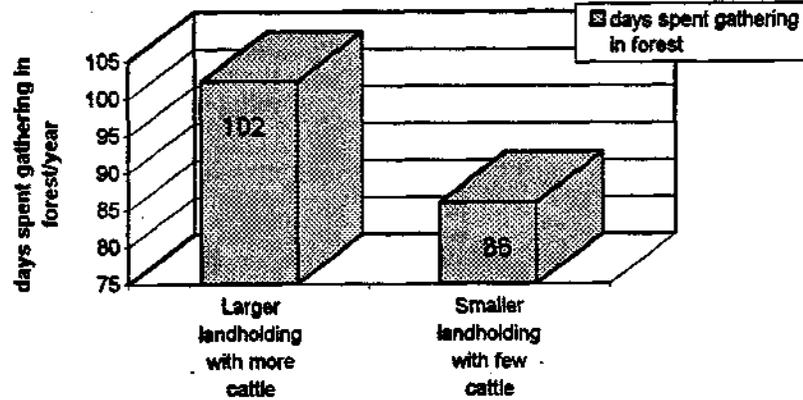


Figure 9. Forest areas for Goshal and Chachoga.  
 Source: Colin Duffield, 1995.

**Chachoga: Household ownership of land and cattle and relation to forest use unrelated to caste status.**  
**Larger landholding = 4-13 bighas with 2-4 cattle,**  
**smaller landholding = 0-3 bighas with 0-2 cattle**



**Goshal: Household ownership of land and cattle and relation to forest use unrelated to caste status.**  
**Larger landholding = 5-16 bighas with 1-4 cattle,**  
**smaller landholding = 0-4 bighas with 0-2 cattle**



Note: 'Larger holdings of land and cattle' and 'Smaller holdings of land and cattle' were established by identifying natural divisions between smaller and larger holdings within each village context.

Figure 10. Chachoga and Goshal: Size of landholding and ownership of cattle in relation to forest use ('days spent gathering in forest/year').

Table 1. Comparison of castes in Goshal and Chachoga  
(based on averages by caste)

	total land (in bighas)	non-irr	irr.	cows	bullocks	sheep	past <sup>1</sup> sheep	large fruit trees	small fruit trees	total fruit trees	days spent in forest
Chachoga Rajputs (9 HH's)	8.06	5.28	2.78	2	0.89	7.89	108.50	190.56	78.33	268.89	103.40
Goshal Rajputs (9 HH's)	8.26	7	1.26	1.44	0.67	10.78	156.67	95.22	144.44	239.67	87.56
Chachoga Harijans(10HH's)	3	2.8	0.2	0.8	0.2	0	1	83.6	46.5	130.1	91.8
Goshal Harijans(5 HH's)	6.6	6.2	0.4	1	0.4	0.6	23	50	111.25	161.25	115.8

<sup>1</sup> Refers to the number of sheep a household owned in the past.

Table 2: Summary Information of household ownership of resources, use of forest and income activities in Chachoga (CH) and Goshal (GO).

Village and house hold	Caste	Total Land owned (irr & non-irr) (bighas)	Total cattle (cows & bulls)	Total apple trees (sm & lg)	days gathering from forest (women) <sup>1</sup>	uses of forest <sup>2</sup>	Outside income (non-household based income) <sup>3</sup>
CH 1	Rajput	10	4	200	130	bgf	F:works in village daycare
2	Rajput	10	4	200	0	--	H:owns saw mill
3	Rajput	4	2	60	127	gsfmb	--
4	Rajput	1.5	1	70	87	smf	F:works in village daycare
5	Rajput	10	3	450	158	fsmbgk	--
6	Rajput	13	3	800	93	bsmgkf	--
7	Rajput	8	3	100	156	sfbmg	--
8	Rajput	4	3	90	86	sfbmg	--
9	Rajput	12	2	450	91	sfgb	--
10	Harijan	6.5	2	60	96	sfrm	FIL: Notary Republic/tea stall
11	Harijan	0.75	0	63	121	sfrm	H:tea stall
12	Harijan	2.6	0	35	145	fsmbg	W:ag labor/tea stall/D:works rug maker
13	Harijan	10	3	335	114	sgf	W:daycare/H:gov't
14	Harijan	5	2	550	88	fsrm	W:ag labor/H:bazaar stall
15	Harijan	0	0	0	52	f	W:ag labor/H:bazaar stall
16	Harijan	2	0	5	67	frm	W:ag labor
17	Harijan	0.1	0	3	69	fg	W:ag labor/H:laborer
18	Harijan	0	2	0	126	fsfb	--
19	Harijan	3	1	250	40	fsmbg	W:ag labor/H:carpenter
GO 20	Rajput	3	0	60	81	fsbrg	--
21	Rajput	6.3	3	182	106	fsbrg	--
22	Rajput	11	4	300	109	fsbrg	S:trekking guide/owns hotel
23	Rajput	15.5	1	350	--	--	H: contractor
24	Rajput	10	3	320	123	fsbrgm	S:stall in bazaar
25	Rajput	10.5	3	570	78	fsbrgm	H:vender/S: bazaar
26	Rajput	4	0	185	113	fsbrg	F: sells forest produce/ rice wine
27	Rajput	11	3	75	84	fsbrg	S: owns tractor (rents out)
28	Rajput	3	2	115	94	fsbrgm	S:takes yak to pass (tourism)
29	Harijan	7	1	440	125	fsbrg	W:midwife/H:drives tractor
30	Harijan	12	2	135	139	fsbrg	S:hotel owner/FIL: military
31	Harijan	5	2	50	148	fsbrg	H: tailor
32	Harijan	2.5	0	20	56	fg	W:weaves for others/H:religious man
33	Harijan	6.5	2	?	111	fsbrg	S:owns tractor

<sup>1</sup> Number of days spend gathering in forest is based upon the main female worker of the household and her activity gathering from village pastures and forests.

<sup>2</sup> Letters indicate the following (same as Table 1):

f=firewood; s=surd (bedding); b=barn (bedding); g=grass (fodder); m=minor forest produce (e.g. mushrooms, tender ferns)

\* k=kadari (goat fodder)

\*found only in Chachoga

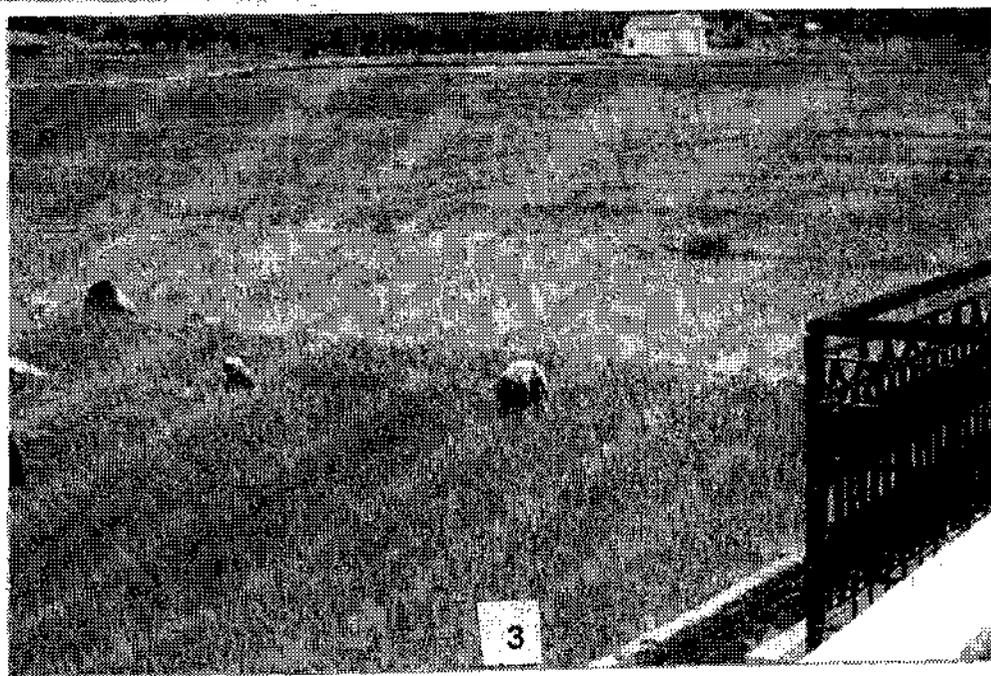
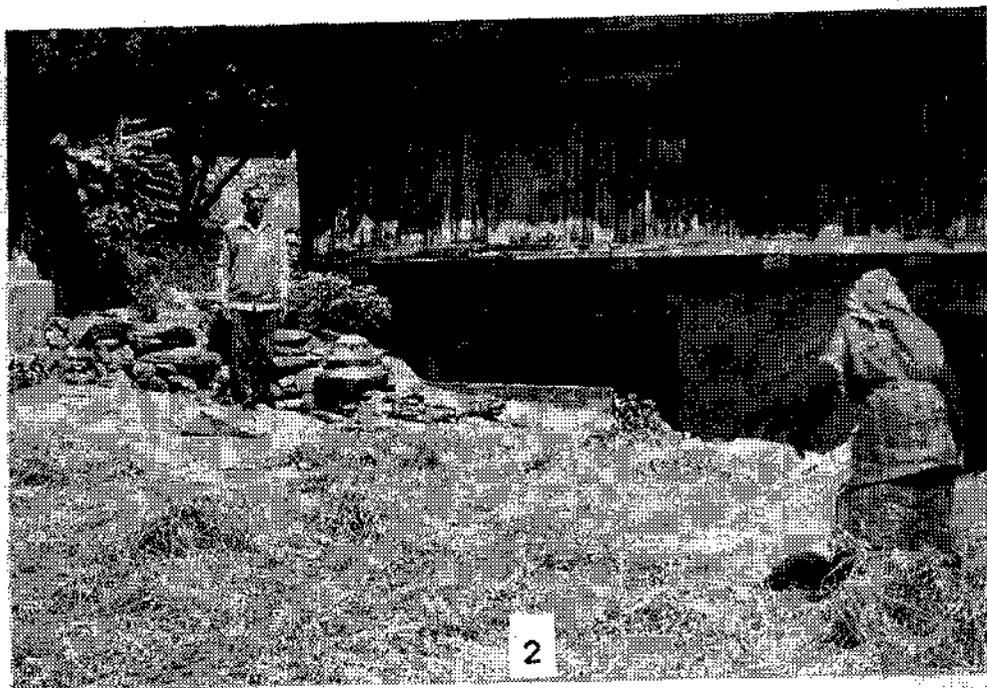
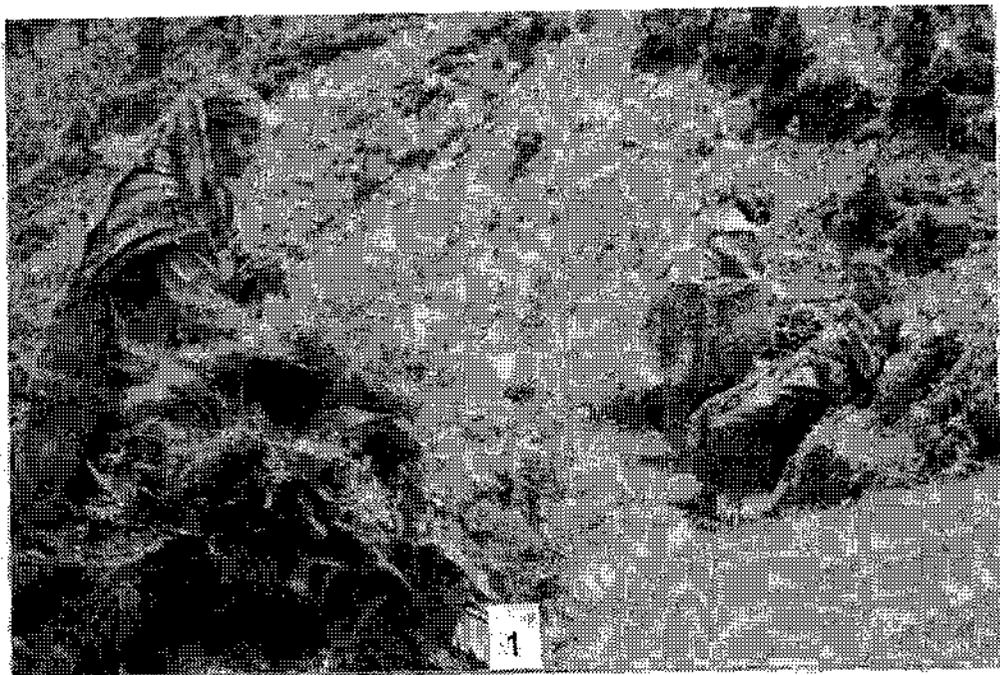
\*\* r=rakti (bedding)

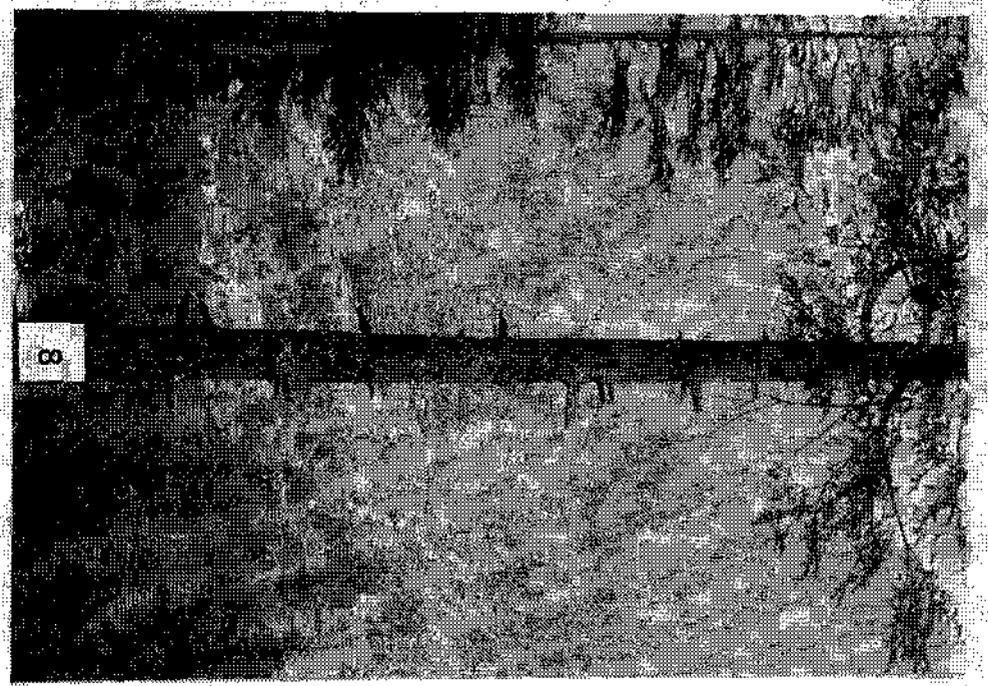
\*\*done only in Goshal

<sup>3</sup> W=Wife; H=Husband; D=Daughter; S=Son; F=Female (single, widowed, divorced).

## Plates

1. Women bringing cow bedding and firewood loads from forest.
2. Drying grass to be stored as fodder for winter.
3. Women working in rice field (weeding).
4. Traditional style house showing stores of firewood and grass (fodder).
5. The women's group of Chachoga, the Mahila Mandal.
6. Talking with consultant, with daughter weaving in background.
7. Bottom of house where cow stalls are located.
8. A tree that was lopped for firewood, a practice prohibited by the Mahila Mandal.





## THE NATURAL RESOURCES INSTITUTE

The Natural Resources Institute at the University of Manitoba was established in 1968 as a degree granting, interdisciplinary unit with a threefold purpose, namely;

- (a) to teach management skills leading to a graduate degree of Master of Natural Resources Management (MNRM);
- (b) to conduct useful research on actual resource problems; and
- (c) to provide a forum for examining problems in resource use.

The Institute exposes graduate students to the realities and practice of natural resource management, and provides access to expertise, within and outside the university, that can be used to deal with vital emerging issues of public concern.

The degree program, of two years duration, is interdisciplinary in nature and provides training in four areas: resources, economics, administration and analysis. Course work is complemented by the practicum - a written research report prepared to address a practical problem or issue in natural resources management.

Through the practicum and through a number of contract research projects, the Institute is involved in a wide range of natural resource areas. Research is conducted in conjunction with government, business and private groups. The Institute's research process allows for sustained involvement of client groups during the course of the research. In addition, the research process provides a valuable outreach function by bringing together university faculty and practicing resource professionals. All research conducted at the Institute is made available to the public.

The Institute's forum function is achieved by circulation of published research and through the organization of conferences, workshops and seminars on diverse resource topics.