

SURVIVAL STRATEGIES AMONG THE PARSAWAL THARUS

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Introduction

The National Committee for Development of Nationalities in Nepal has included the Tharu as one among the fifty nine officially recognized ethnic groups (Ukab and Adhikari 2000). The Committee has recognized them as among the indigenous people of the *Tarai* region. According to the 1991 Nepali national census, the Tharus constitute 6.5 percent of the country's total population and over 13 percent of the total population of the *Tarai* region (see CBS 1993). They primarily live in rural areas and engage in agriculture and livestock raising (McDonough 1985, Rajaure 1977). There is widespread agreement with the assertion that "they have been exploited by government authorities in the past and still to a lesser extent are outmaneuvered by the surrounding non-Tharus" (Pyakuryal 1982: 11). They have also been used as bonded labour by landlords of the region (see Lowe 2001). But have these modes of livelihood been static over periods? What changes have there been in Tharu livelihoods? What have these changes been in response to? In this paper, I discuss some of the survival strategies used by the Tharus of Parsawal village in Nawalparasi district. Specifically, it will focus on changes in the patterns of access to cultivatable land, effects of the forest cover shrinkage on livestock raising, and changes in household labour patterns.

Rural livelihood activities based on land cultivation and livestock raising bring people into contact with the natural resources in their surroundings. This connection between livelihood strategies and natural resources makes it imperative that those livelihood strategies are responsive to changes in local natural resources. Indeed, connections between human relations to nature and human livelihoods have been discussed quite extensively in the anthropological literature. In particular, the ecological perspective has focused on these types of relations. However, this ecological perspective, in itself an assemblage of a wide range of ideas, has undergone a series of transitions in the focus of its analysis of these relations.

In the early phase of development from an ecological perspective, nature was treated as a determinant of all human activities. Gradually, scholars developed a conviction that "physical conditions enter informally into every cultural environment ... not as determinants but as one category of raw material of cultural elaboration" (Forde 1934: 464). Thus, the natural environment was no longer considered the sole determinant of specific actions, but as one factor among a number which prompt human action. Scholars like Boas (1964) and Kroeber (1939) produced ethnographic evidence to show that the Eskimo practiced farming and fishing while the

Siberian Chukchee bred reindeer for subsistence, despite working in similar arctic conditions. This ethnographic evidence supported the notion that human livelihood is not solely determined in response to the natural environment in which they live.

Steward (1955) brought into focus the study of human adaptive responses to the features of their local natural environment. He emphasized that an ecological perspective should be able to explain the links between technology, labour, organization of human culture, and natural resources as they emerge in the process of subsistence resource use. The framework that he explicated permits us to analyze the dynamics of subsistence systems to the extent that they are induced by technological change, as well as the changes in population and resource balances that occur as a result of subsistence production. Steward, however, viewed subsistence societies as closed systems. His theory does not trace the linkages between global, national and regional political-economic forces.

Our present global reality permits no society to stay in isolation. All social and spatial structures—whether they be in tribal, rural or urban settings—bear some link to the nation state. Global, regional and local economic activities interface with each other. National policies affect the share, distribution and use of local level resources. These national policies may strip the resources away from a locality or help its people to improve their productivity. Market forces may create environmental ravages by stripping resources from local communities. They may interfere with people's subsistence practices by forcing them to compete within the pressures of market activities. They may also carve out new income and employment options for local people by promoting new business and industrial activities. Human subsistence strategies are, thus, historically shaped and reshaped (Headland 1997) by changes both in the internal needs of people and the external interests of market and politics (Broad and Cavanagh 1993, Bryant 1992, Bryant and Bailey 1997, Durham 1995, Peluso 1992, Vayda and Walters 1999).

Two theoretical perspectives – political economy and political ecology – illuminate the roles played by power and politics in shaping patterns of human survival. Political economic perspectives critique capitalism and the capitalist state. They seek to explore the various political and economic interest conflicts between classes within a given production system. Political ecology perspectives are off-shoots of political economy perspectives. They also seek to explore the roles of politics, power and interests in production systems. They carve out their separate niches only in the sense that they focus on access to and utilization of natural resources within production processes (Biersack 1999). They study the “manifold articulations of history and biology and cultural mediations through which such articulations are necessarily established” (Escobar 1999: 3). Since rural livelihood strategies

involve the use of natural resources and other means of support, this paper draws on ideas from both the political economy and the political ecology perspectives in tracing dynamics of Tharu survival strategies.

Study Setting and Research Methods

Parsawal is a Tarai village located in Nawalparasi district in the western development region of Nepal. It forms a part of the extension of the broad Gangetic plain of the Indian sub-continent that stretches along the southern border of Nepal. Parsawal village is situated at a distance of seven kilometers north of the district headquarters, Parasi bazaar, and about 4 km. south of the Mahendra Highway that cuts across the district from east to west. It comprises wards 4 and 9 of Amrot Village Development Committee (VDC)¹ of Nawalparasi district.

The village has two settlement sub-clusters. The first sub-cluster comprises the main village. It has 137 households, 17 of which are populations of hill migrants. The remaining 120 households are traditional inhabitants of the plains. This sub-cluster settlement covers all of ward 4 and a major part of ward 9 of the VDC. Among the households of the traditional population, 64 are Tharu and the remaining 57 are various caste groups. Given generations of having lived in the same place and/or region, both the Tharu and non-Tharu people there speak the same language and engage in similar social practices. For this reason, the hill migrants commonly call all of these traditional inhabitants Tharu. This discussion reflects the condition of this entire population.

The second sub-cluster settlement comprises a small part of ward 9 of the VDC. This cluster has emerged quite recently through the process of forest clearing. It is located in the western side of the village and is primarily occupied by ‘landless’ resettlers. A great majority of households in this area are migrants from hill regions, but there are also few households of traditional inhabitants. These households maintain some kinship connections with the households of the first sub-cluster settlement. Therefore, I have taken the first sub-cluster settlement as the primary focus of this study.

Information used in this study was gathered from field investigation conducted during the period from February 2000 to January 2001. I gathered data using participant observation (Spradley 1980), ethnographic interviews (Spradley 1979) and case study (Yin 1984) methods. Participation with the people in their farming activities, animal grazing practices, festivals and life-cycle ceremonies provided first-hand knowledge about their experiences. Through interviews, I elicited information about the historical dynamics of the use, distribution and management of village resources; developmental experiences; as well as information about the growth of nearby settlements and the perceived effects on village resource use. I conducted interviews with village elders, community leaders and local people, both in groups and

individually. I was also able to gather some information while taking part in friendly discussions with the villagers. I could gather data related to the household demography, land and livestock ownership patterns and inter-household differences in economic activities through individual households. For these purposes, I surveyed a sample of 45 Tharu households.

Tharu Survival Strategies

For generations in this area, the major source of Tharu survival support has been the cultivation of crops in the farmlands. Consistently throughout this time, animals have been used as a source of power for traction and as a source of manure for fertilizer. Patterns of land access, associated agrarian relations, crop-livestock integration techniques, and the extent of extra-agricultural sources of employment for the population in the area have, not been static over time. Changing state interests in the control and distribution of farm lands and forests in the *Tarai* region, population dynamics of the region, and processes of urban growth around the area have been the major forces prompting changes in Tharu modes of living. I will discuss each of these issues in greater detail as follows:

Cultivable Land: There have been shifts in the status of Tharu households from tenant-cultivators and/or bonded labourers to owner-cultivators. These changes are associated with governmental land tenure policies. Land has historically represented a major source of government revenue. Prior to the mid-1960s, land tax collection in the *Tarai* region was made under *jimidari* arrangement. In this system, the *jimidar*, who was a tax collection functionary of the government, was responsible for all of the land tax collection within his given jurisdiction. The person received a certain proportion of the tax as a commission and was responsible for any arrears in tax collection. For personal use, he was also allotted a plot of land attached to the *jimidari* holding, from which he could appropriate rent.

The *jimidars* exercised different rights and privileges across the areas presently covered by Nawalparasi, Rupandehi and Kapilvastu districts. They were not simply land tax collectors. Rather, landholding rights were also vested in them for all of the land under their jurisdictions. This technical arrangement was known as the *ukhuda* system of land tenure. The cultivators of this type of land had to work either as tenant-cultivators by paying a stipulated amount of rent for the land, or as bonded labourers on the *jimidar's* personal farm land (Regmi 1976). All of the Parsawal Tharu households had worked in these capacities before the abolition of the *jimidari* system in 1964 (Regmi 1976).

With the abolition of *jimidari* system, a ceiling was imposed on the size of family landholding. Extra lands, above that designated ceiling, were registered in the name of their cultivators. In order to register *ukhuda* land in

their names, however, tenant cultivators were required "to pay compensation to the erstwhile *ukhuda* owners" (Regmi, 1976: 122). Some Tharu households were able to pay this compensation. They thus transformed their status from tenant to owner cultivators of the land. Those unable to pay continued to be tenant cultivators or bonded labourers in the house of their traditional overlords.

While the administrative and economic leadership of *jimidars* in Parsawal continued to erode in subsequent years, their families' consumption behavior changed little. In order to generate income, they resorted to selling their private land to Tharu and non-Tharu households in the area. This change in the dynamics of land holding decreased the need for bonded labour, as had been required in the past to operate larger farms. The bonded labourers thus began to claim *parti* land in the vicinity of the village as a new means of support for their subsistence. These lands were gradually registered to those who cultivated them.

A contemporary picture of the ownership status and land tenure of Tharu households studied is presented in Table 1.

Table 1: Land Ownership and Tenure Status among Sample Households

Ownership Pattern			Tenure Status		
Land Size	Household		Tenure Type	Household	
	No	Percent		No	Percent
No land owned	5	11.1	Self cultivated	16	40.0
≥ 1 <i>bigha</i>	18	40.0	Self cultivated and leased out	4	10.0
< 1-2 <i>bigha</i>	14	31.1	Self cultivated and leased in	15	37.5
<2-3 <i>bigha</i>	4	8.9	Leased in only	5	12.5
<3-4 <i>bigha</i>	4	8.9		--	--
Total	45	100.0	Total	40*	100.00

Source: Field Survey, 2000. * This does not include landless households.

Of the 45 households surveyed for this study, 40 (88.9 %) own some land of their own, although landholding size tends to be quite small. Only 8.9 % of the households own between 3 to 4 *bighas*¹ or between 2 to 3 *bighas* of land. The rest own less than 2 *bighas* of land and the majority own less than one *bigha*. Five households (11.1 %) do not own any private land. Among these 5 landless households, 2 do not cultivate the land, 2 others cultivate unregistered *parti* land. One household hires in a parcel of land under a tenancy arrangement.

Among the 40 landowning households in the sample, 87.5 % are owner-cultivators, of which some also work on leased-in land as sharecroppers. The remaining 12.5 % of the households lease their land out to tenants. Changing family composition has been the primary factor in decision-making about leasing out land. Since there are no substantially large landowning households among the Tharus in the village, it is mainly those households composed of older people, widows, aged couples or those in which adult members are out of the village, that have leased their land out for cultivation.

Transitions from tenant-cultivators or bonded labourers to owner-cultivators and unattached free labourers produced two consequences in prevailing modes of living. On the one hand, it provided a degree of economic independence by allowing them to use their land and labour independent of any external control. On the other hand, it also deprived them of a sense of subsistence security as had been possible for those tenant-cultivators and bonded labourers of the *jimidar*. The *jimidar* used to guarantee a subsistence size of landholding for cultivators. He did this in two ways: either by allowing new land to be cleared in the forest or by redistributing land among farming families to adjust to changing family composition and subsistence necessities. Bonded labourers were hired on an annual basis under clearly defined terms⁴. Whatever securities were provided by these arrangements were lost by the freehold cultivators and the unattached labourers. The owner-cultivators work the land that they own, and must independently find ways to engage their family labour.

Forest Use and Livestock Raising

Like agricultural land, forest resources also assume an important role in Tharu ways of living. Forests are sources of firewood and animal fodder, and are also used for grazing animals. For the Tharus, livestock forms an important component of their farming system. Bullocks and male buffalos are sources of power to drive carts and plowshares. Cows and female buffalos produce these stocks of draft power. They are also sources of milk for sale and household consumption. The animals' manure is used as an organic fertilizer to increase crop production. Goats also enhance household income through their sale in the market. These animals are still raised in the area, but livestock raising as a factor in Tharu survival has declined with the decline of forests available for grazing.

Systematic information is not available to make a time series comparison of the change in size and quality of the forest. However, the fact that settlements have developed around the village within the past two decades confirms the fact that there has been forest shrinkage. The forest settlement, which comprises a part of ward 9, is itself part of the forest shrinkage phenomenon.

This forest shrinkage around Parsawal can also be traced to government land use policies. Before 1950, reclamation of forest for cultivation was a major economic policy implemented to raise revenue for the state. Local tax collection functionaries were charged with the responsibility to implement this policy (Regmi 1971, Regmi 1976). After the 1950s, the government undertook the task to clear forests and encourage settlements. The implementation of the Rapti Valley Development Programme in 1958 was a policy initiative specifically focused on the Tarai region. A Resettlement Company, established in 1964, also served to encourage new settlements in the region. As of 1982, the Company had resettled 1,540 families, having cleared 3,353 hectares of forest in different parts of the region (Ojha 1982). These initiatives, together with malaria eradication and the expansion of road links in the Tarai, made this region an attractive destination for the landless and marginal farm families of the hills.

Those who were absorbed by the resettlement programme were easily settled, while others carved out living spaces by encroaching on nearby forests. To regulate these encroaching settlements, a number of ad-hoc committees and commissions were established⁵ (Kansakar 1979). One such settlement was established in the forest west of Parsawal in 1982 by the High Level Commission for the Solution of Problems Regarding Forest Settlement at Nawalparasi, Rupandehi and Kapilvastu District (Pandey 1984). After the establishment of this settlement (which is now called Daskatha by the villagers), other households flooded in, claiming portions of the remaining forest and hoping to register the land in their names. These developments affected local Tharu households in two different ways. On the one hand, this led to shrinkage of their forest area and resources. On the other hand, they contributed to the degeneration of the remaining forest because of increased human and animal population pressures.

There is no quantitative data with which to make a time series comparison of the quality of forest and the types and number of livestock raised by farmers in the village. Nevertheless, the Tharus recall from their living memories that some 20 to 25 years ago, the village was surrounded by dense forest in north and westward directions. It had luscious vegetation growth which the Tharus used for fodder. It also provided extensive grazing land for their animals. The Tharus recall keeping herds of cows, goats and buffalos. Almost every household produced bulls and bullocks to plow their farm lands, while some households also sold these animals to neighbors. Goat raising was the most important source of cash income. The Tharus could sell goats to nearby butchers, who regularly visited to collect these animals. Some households also sold milk and curd to neighbors, or to milkmen who supplied milk to local shops. Given the forest shrinkage together with the increase in settlements, these economic activities changed.

Forest lands to the west of Parsawal were completely converted into settlement areas. It is only to the north that some patches of forest remain. But even this area is surrounded by a number of other settlements. This remaining part of the forest must bear the pressures of firewood, timber, fodder and grazing needs of human and animal populations in the area. Consequently, it has lost all under-growth and is left with only a thinly distributed stock of old trees of different local varieties. It is no longer a dependable source of fodder and grazing. In order to address this problem, villagers have now started to control animal grazing and other use of products in a portion of the forest.⁶ This has been done as a protective measure, but it also results in immediate increase in the scarcity of forest products for the villagers. This loss of resources for animal fodder and land for grazing has affected livestock raising patterns in Parsawal. Results of a survey taken during my fieldwork period reveal that the Tharus currently have no herds of cattle, buffaloes or goats, as they used to have in the past. Current patterns of livestock raising among the Tharu households are shown in Table 2.

Table 2: Livestock Ownership for Sample Households

Livestock			Ownership Status				Average Animals/ Owner
Livestock Type	Total Animal	Average Animals/ Household	No Ownership		Ownership		
			No. of House-holds	%	No. of House-holds	%	
<i>Draft animals</i>							
Bullocks	50	1.1	21	46.7	24	53.3	2.0
Buffaloes	8	0.2	41	91.0	4	9.0	2.0
<i>Other animals</i>							
Cows/Calves	46	1.0	31	68.9	14	31.1	3.3
Other	21	0.5	34	75.6	11	24.4	2.0
buffaloes	99	2.2	17	37.8	28	62.2	3.5
Goats							

Source: Field Survey, 2000

At the time of my fieldwork, 24 households (53.3%) of the 45 total sample households owned bulls or bullocks, while 14 households (31.1%) had cows or she-calves, and only 4 households had he-buffaloes (draft animals) while 11 (24.4%) owned other buffaloes (she buffaloes and calves). On average, there were 1.1 bullocks, 1 cow or she-calf, 2.2 goats and 0.5 she-buffaloes per sample household. Even among those households who owned these animals, none of the households owned enough animals to form a herd.

Local farmers choose to keep animals based on the degree of the animals' necessity for farming and whether or not they can avail enough crop residues

from their farms to support the animals. Although the bullock is the preferred animal among a majority of the households, farmers have recently found that hiring tractors can be much cheaper than using animal power for plowing.⁷ Tractors cost only when they are hired for specific operations, while raising bullocks requires effort all year long. It appears to be too costly for marginal farmers to raise bullocks simply for the purpose of using them only a few days a year. But, there are also difficulties associated with renting tractors. Farmers claim that tractors do not level the ground effectively. It is also difficult to use tractors on small parcels of farm land; in these cases, it is easier to use animal power. Given that bullocks costs less than he-buffalos in the area,⁸ most of those who keep draft animals keep bullocks.

The decline in livestock raising activities in Parsawal means that animals are no longer produced locally, but are rather imported from outside. Additionally, livestock-based income generation practices have changed. Households which had once kept herds of more than 60 or 70 goats have given it up almost completely. Goat keeping no longer appeared a dependable source of income. Although cows and she-calves were the cheapest, they were the least valued animal species in Parsawal. In fact, only three households were selling milk produced by cows or she-buffaloes.

Labour Patterns: Seasonal agricultural activity is the primary survival strategy that Tharus use. They grow two types of crops a year. During the summer, they grow their major crop, which is paddy. In the winter, they cultivate wheat, lentils, and mustard. Vegetables such as potatoes, cabbage, cauliflower, and beans are also grown in the winter. Table 3 details the timing of agricultural activities in the research area.

Table 3: Calendar of Major Agricultural Activities

Crop type	Major Activities			
	Seed-bed Preparation and Seedling Production	Transplanting and Direct Seed Broadcasting	Weeding	Harvesting
Paddy	2 nd -3 rd week of June	July–Mid-August	3 rd -4 th week of August	Mid-Sept–Oct
Mustard/ Lentil	NA	Mid-Oct–Mid-Nov.	NA	Feb.-Mid-Mar.
Wheat/ Lentil	NA	Mid-Nov–Mid-Dec.	NA	Mid-Mar–Apr.

Source: Field Survey, 2000; NA= Not applicable

The nature of any given household's access to land affects the pattern of its engagement in the above mentioned agricultural activities. An estimated 121 man-days of labour is required for the cultivation of rice and wheat crops

in one *bigha* of Parsawal land. This estimate includes the labour used in seed-bed preparation, plowing, leveling and preparing bunds around the field, transplanting seedlings, weeding crops, and reaping, threshing, winnowing and storing grains. This is a generous estimate⁹ and is based on an assumption that animal power be used for traction. This estimate excludes the labour used to carry manure from the pits to the fields, to maintain irrigation canals and to irrigate the fields. We can assume that these types of labour, added with the labour used in kitchen-garden vegetable cultivation, adds another 25% of the labour estimated for the above mentioned two major crops.¹⁰ This brings the total amount of labour necessary to cultivate one *bigha* of land to 151.2 days, which means about 5 months' work for one labourer.

A majority of Tharu households own less than one *bigha* of land, suggesting that household agricultural labour requires less than the 151.2 days mentioned above. But possibilities for supplementing income through agricultural wage labour are marginal. All land-holding households undertake these agricultural activities virtually simultaneously, thus there is little extra time to engage in wage labour. Additionally, there are very few large landowners in Parsawal who require the service of wage labourers. If labourers are needed, it is generally only for a limited period, which tends to be mainly during rice paddy transplantation and harvesting season. These labourers tend to be recruited from the forest settlement, where they tend not to be landholders themselves and are thus readily available for wage labour.

Changes in crop selection and cropping intensity have also effected changes in labour patterns. The development of road links and the resultant expansion of commercial activities in the area have contributed to this change. Parsawal was brought closer to market networks through the construction of the Butwal-Narayanghat sector of the Mahendra Highway between 1968 and 1973, and subsequent road linkage between Parasi bazaar and this road. This connection motivated farmers to adopt improved rice varieties to bring about higher yields. They replaced *sathari*, *amjhote*, *kalanimak*, *kanajira* and other local varieties of rice with *sarju*, *janaki*, *manasuli* improved varieties. Farmers claim that average yields from the improved varieties have increased by approximately one-fourth compared with those of the local varieties. Small farm households followed suit in adopting these rice varieties. The local rice varieties have disappeared completely, preventing comparative study of productivity between the old and the improved varieties.

Integration with market networks and forest shrinkage has pushed villagers towards cultivation of wheat in larger portions of land. Market networks provided opportunities for selling farm products and forest shrinkage made crop residue an increasingly important source of animal fodder. The farmers claim that before these developments, even the larger

farmers used to grow wheat primarily for household needs. They claim that a large proportion of land used to remain fallow after the paddy harvest. Currently, however, wheat fields cover approximately 60 percent of the farm fields in the winter season. The remaining land is used for mustard, lentil and vegetable crops. Some fallow fields do remain, but these tend to be limited to the large landholders' farms.

Recently a significant proportion of Parsawal labour has shifted away from agriculture towards construction. A number of local changes have precipitated increased construction in the area, thus prompting the need for an increasing number of construction labourers. Wealth created from the Lumbini Sugar Mill along the Mahendra Highway in Sunwal, north of Parsawal, has increased house construction in the area. Additionally the number of market towns east and west of Sunwal has also grown, and Parasi bazaar is also expanding since its conversion from a VDC to a municipality in the mid-1990s. Additionally, the regional Butwal bazaar market is located about 25 km west of Parsawal. Construction work required in all of these areas absorbs a significant amount of Parsawal Tharu labour. At least one member of twenty of the sample Tharu households was involved in construction. Members of eight households were working as skilled carpentry and brick laying labourers. Members from other households were involved in less skilled labour such as loading and unloading of construction materials, preparing cement and sand, and delivering construction materials. Employment in construction, however, is not permanent. My informants claim that these jobs depend upon one's ability to maintain good relations with the contractors. Besides, construction works tend to be available for about six months in a year (i.e., mainly during the dry season). However, it has been an important source of subsistence support, fetching a daily wage ranging from Rs. 70 to 150 per worker (while a person is engaged in such work).

Parsawal Tharus are still not involved in administrative and professional activities. In fact, only one Parsawal Tharu community member works as an employee of a governmental institution, this in the capacity of Assistant Health Worker at the local health post.

Conclusion

The above discussions clearly show that there is a strong relationship between natural resources of Parsawal village and survival strategies of the Tharus who live within it. The Tharus earn a major part of their living through land cultivation. Livestock raising constitutes one important component of their farming system. They use nearby forest as a grazing niche and source of fodder for these animals.

Over the past few decades, there have been changes in the nature of control and distribution of land and forests of the area. Forest land of the area

has gradually shrunken as migrant households from the hill region reclaimed it for cultivation. This has led to a decline in the prevailing pattern of livestock raising and the opportunities of Tharu households to expand their cultivated land. Consequently, there has occurred a shift in Tharu labour practices.

The changes described in this paper that have occurred in the relationship between Tharu's livelihood strategies and natural resources of the area is not simply a local affair. State policies and activities related to control and distribution of land and forest as well promotion of market has highly influenced these patterns and changes.

Change in the nature of control and distribution of land area and forests, and the expansion of markets in the area have led to shifts in Tharu labour practices. Originally attached and tenant cultivators of large landowners, they have become either owner-cultivators or independent labourers in the construction sector of emerging urban areas. Despite these changes, the Tharus are still left at the margin of subsistence production. When there was abundance of land and forest, the landed elite controlled Tharu labour. When the Tharu were set free from feudal control to work independently, the state stripped the forest from their control and forced them to subsist on marginal farms. Many Parsawal Tharus have left agricultural labour for manual wage labour. These transitions are simply from one form of manual labour to another.

Table A-1: Number of Labour Days per Activity for Cultivation of Specified Crops

Activities	Labour Days for Specific Crops	
	Paddy	Wheat
Plowing*	22 (four times)	18 (three times)
Digging/bunding	8	2
Transplanting	15	—
Weeding	8	—
Harvesting**	23	25
Total	76	43

*This includes tasks involved in seed-bed preparation and preparation of fields for seedling transplantation. **This includes all tasks related to reaping, threshing, winnowing, and storing.

Notes

1. Village Development Committee (VDC) is Nepal's local level political/administrative and territorial unit. Nawalparasi district has 73 VDCs. Each VDC is comprised of 9 wards, which are electoral divisions from which people elect representatives to form the VDC's executive body.
2. Fields not registered to any individual.
3. One *bigha* is equal to 0.67 hectares.
4. The contracts were arranged between the employer household and the labourer. The labourer, commonly known as *haruwa*, would bond himself to work for the employer's family for a given contract period. In exchange, he would receive a stipulated amount of paddy, pulse, oil-seeds, kerosene, salt and chilli to support himself and his family.
5. Currently, *Sukumbasi Samasya Samadhan Avog* (The Commission for the Settlement of Landlessness Problems) is handling identifying landless households and providing them land. This commission is an ad-hoc organ, which changes with changes in national governments. This presents some problems in terms of consistency of policy implementation. For example, one commission had distributed landownership certificate to settlers on a provisional basis. Those certificates were not based on maps or land measurement. That particular commission no longer exists. The present commission has its own criteria in defining landless households and is not obliged to work with the provisional certificates provided previously.
6. A few months before the beginning of this research, the villagers organized themselves to protect an approximately 50 hectare part of the forest, in order to encourage regeneration. They open this part of the forest twice a month in order to allow villagers to collect dry firewood, but animal grazing is prohibited. The District Forest Officer revealed in an interview that the directives of the Ministry of Forest do not permit him to provide the villagers with rights to use forest wood products in any way, despite their interest in forest protection and regeneration.
7. Rent for a pair of bullocks ranges from Rs. 150 to 175 per day, while tractors can be rented at Rs. 350 to 375 per hour. A tractor can plow one *bigha* of land in three hours, while it requires 12 days of draft animal labour to complete the same task.
8. Two bullocks cost between Rs. 4,000 to 8,000, depending upon the size, age and health of the animals. A pair of male buffaloes ranges between Rs. 5,000 to 10,000. Additionally, buffaloes are larger than bullocks and consume more food annually.
9. The amount of labour days used to cultivate a particular crop in a particular unit of land is understandably highly affected by the age and health of the workers, the quality of draft power, the size of the farmland terraces, the irrigation status of the land, the availability of water at the time of farming, and most importantly, on the given household's decision about the intensity (e.g., the frequency of plowing, digging, etc.) with which it intends to perform an activity. Plowing, thrashing and winnowing by mechanical means would require less labour than manual operation; however, this estimate covers the use of human labour and animal power in all activities and assumes an average quality of irrigated land. It is based on the experience of three households, as I had observed during my

fieldwork time. The average amount of labour days used by these households specifically in paddy and wheat cultivation activities are as given in Table A-1.

10. Tasks related to dispersal of manure, irrigating the fields and kitchen gardening do not follow a consistent pattern within and between the households. The quantity of labour required to disperse it relates with the quantity of manure itself. It also relates to the distance of field from the manure pit. Irrigation is a regular requirement for paddy. The labour input for this task depends upon condition of rains and availability of water. It may require a few hours of labour a week during dry periods to clear canal and control leakage of water. There is no consistency of the amount of field used for vegetable among household. It is difficult to suggest any precise pattern of labour use for these activities at household level.

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