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**AGRARIAN CHANGE AND  
AGRICULTURAL LABOR RELATIONS:  
NEPALESE CASE STUDIES**

Shiva Prasad Sharma

**HMG-USAID-GTZ-IDRC-FORD-WINROCK PROJECT  
STRENGTHENING INSTITUTIONAL CAPACITY IN THE  
FOOD AND AGRICULTURAL SECTOR IN NEPAL**

## FOREWORD

This Research Report Series is funded through the project, "Strengthening Institutional Capacity in the Food and Agricultural Sector in Nepal," a cooperative effort by the Ministry of Agriculture (MOA) of His Majesty's Government of Nepal and the Winrock International Institute for Agricultural Development. This project has been made possible by substantial financial support from the U.S. Agency for International Development (USAID) and the German Agency for Technical Cooperation (GTZ).

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## AGRARIAN CHANGE AND AGRICULTURAL RELATIONS:

### NEPALESE CASE STUDIES

Shiva Prasad Sharma\*

#### ABSTRACT

This study analyzes farm labor relations in two Nepalese villages--one in the hills and one in the Tarai. The objectives of the study are to determine the contractual arrangements between agricultural laborers and farm employers, how labor contracts are linked with land and credit contracts, and how contractual arrangements have changed over time, particularly with reference to agrarian changes (growing population pressure and landlessness, the Land Reform Act of 1964, and introduction of modern inputs).

In the Tarai village, hiring of labor is predominantly to supplement family labor. Land reform created a paradox: as legislation was conducive to hiring nonnationals, Nepalese hill laborers migrate seasonally to seek employment in India, while Indians have gained access to land in Nepal. As cultivated land size has been grown, long-term relations between employer and employee have increased. However, with very slow improvements in technology, the increasing labor supply will soon force wages down. Population pressure has caused cropping intensity to double in the past two decades. The practice of sharecropping is disappearing in favor of cash payment.

In the hills, with two-thirds of Nepal's agricultural labor force and less than half the land, family labor is used extensively; under two percent is wage labor. Even less technological change has occurred than in the Tarai, and many more hill residents seek seasonal employment in urban centers. Because of the attractive wages available in the cities, daily wage rates for casual agricultural labor have increased sharply in the last decade. The newly evolved institution of group labor exchange, or perma, helps ensure labor supply while evading caste/religious taboos on wage earning. However, farm productivity is adversely affected by decreasing labor power, and perma is not a long-term solution.

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## INTRODUCTION

The agricultural sector employs over 90 percent of the active labor force in Nepal. A majority of these laborers are self-employed subsistence farmers or family members. The 1981 population census indicates that of an agricultural labor force of 6.3 million, only four percent (0.24 million) work for wages.

In the past two and a half decades, several changes have occurred that have aggravated employment possibilities: growing landlessness and population pressure in agriculture, the 1964 Land Reform Program, and the introduction of High Yielding Variety (HYV) seeds and chemical fertilizer. Increasing landlessness is the result of subdivision among heirs, with the landless concentrated in the Tarai. Even in the mid 1970s, according to the ARTEP Report (1974), 23 percent of the Tarai sample households were landless, while the corresponding figure for the hills was only one percent. The emergence and growth of a class of agricultural laborers far exceeds employment demand, hence rural wage rates have fallen.

The 1964 Land Reform program attempted to restrict landholdings to 18 hectares in the Tarai and four hectares in the hills. It has made provisions for tenancy rights to tillers and regulated rents charged by landowners. These reform measures were expected to have a redistributive impact on both landholdings and income, and increase self-employment. However, as the programs do not regulate owner cultivation, labor arrangements might have undergone significant changes to ensure landowners' demand for labor and to ensure laborers' employment. As sharecropping and fixed rent are alternative forms of labor contracts, their extinction or protection would affect the labor supply and affect labor relations on farms (Rosenzweig, 1978).

HYV inputs have probably affected labor arrangements in similar ways, first by affecting labor demand and supply behavior through impact on landholding size (Rao, 1975; Kikuchi, et al., 1977; Kikuchi, 1980). As the use of modern agricultural inputs usually involves financial transactions, use is concentrated among large landowners who market their surplus. Thus, technology has primarily benefitted large landowners and has stimulated adopters to supplement operational holdings by consolidating the farms of small nonadopters through purchase or tenant eviction. If the polarization effect of HYV inputs hypothesis is true, landlessness might have increased. Second, the use of HYV inputs might have induced landowners to obtain regular labor supply for efficient farm operations; delays in farm operations leads to higher losses for modernized farms than for traditional farms.

Other important aspects of labor relations in rural agriculture are interlinkages with land and credit. The dynamics of labor relations are closely related to respective land and credit markets. Recent evidence indicates that analysis of labor, land, or credit in isolation may not accurately explain these factors and hence, policy implications derived from the analysis may be mistaken (Bardhan, 1977; Bardhan and Rudra, 1978; Wharton, 1962; Binswanger and Rosenzweig, 1982).

The interlinkages between land and labor markets are manifest at least two ways. First, the two markets are connected through sharecropping tenancy. Transaction costs involving labor hiring and supervision encourages landowners to prefer renting-out land to self-cultivation with hired labor. The incentives to use alternative land tenure arrangements increase when, because of various reasons, production uncertainty blurs conventional input-output relations. Laborers prefer land lease to minimize the uncertainty of sustained employment at a given wage rate. (Newbery, 1977; Hallagan, 1978). A tenancy contract also provides laborers with avenues for fuller utilization of not easily marketable resources, such as family labor, draught animals, and entrepreneurial skills (Bell, 1977; Pant, 1981). The land lease market often responds to inadequacies in other markets, especially the labor market.

Second, landowners' relations with labor are often cemented by land and credit relations. Owing to the uncertainty of labor availability in peak demand seasons, landowners (employers) pay a labor premium to ensure supply. Theoretically, payment can be through any means acceptable to the laborer. However, to ensure employment, laborers generally prefer land leasing-in (Sharma, 1981; Rudra, 1982). The landowners' willingness to pay through land leasing-out is understandable as they have excess land. Long-term agricultural labor contracts are often supplemented with lease arrangements between landowners and laborers in Nepal (NIDS, 1984).

Credit relations between agricultural laborers and landowners follow this pattern. As the rural credit market is often imperfect and laborers do not have assets for collateral, landowners are often the best source for credit. For the landowners, labor supply and output from leased-out land serves as collateral to ensure repayment of loans. Several studies indicate that ensuring credit supply to laborers is an important link between factor markets in rural communities, providing extra flexibility to adjust factor prices where factor markets are not well-developed and do not respond to changes in market forces (Wharton, 1962; Bhalla, 1976).

#### OBJECTIVES AND METHODOLOGY

This study documents and analyses farm labor relations in rural Nepal, focusing on the following three questions.

- What are the contractual arrangements between agricultural laborers and farm employers?
- How are labor contracts linked with other contracts such as land and credit?
- Have contractual arrangements undergone changes over time? If so, how have these contracts been affected by agrarian changes?

Secondary information on rural labor contracts was intensively analyzed, as well as literature on a geographical basis to obtain a general picture of rural labor arrangements in different geographic and socioeconomic settings.

The researcher spent ten days in each of two sample settlements: Chepkat village in the Tarai and Changu village in the hills. Primary data was collected from these villages, with much of the researcher's time spent trying to understanding the local social and economic environments. This understanding led the researcher to realize that a prestructured questionnaires was virtually useless, particularly in the hills, where information had to be solicited through discussions with local residents to supplement the questionnaires.

Chepkat is in Aurahi Village Panchayat in Mahottari District in the central Tarai. The village is about 16 miles southwest from the district headquarters, Jaleshwar, and about ten miles south of the east-west highway. Except for a few occupational caste households, agriculture is the only source of employment in the 200 households of the settlement, which combines animal husbandry with farming; livestock being the source of manure, fuel, draught power, and income.

Changu is a hill village in Changu Village Panchayat named after the historic "Changu Narayan" temple in Bhaktapur district within Kathmandu Valley. The village is about three miles north of Bhaktapur. Although agriculture is the predominant source of employment and income, trade and government service have emerged in recent years owing to the proximity with Bhaktapur and Kathmandu. Agricultural laborers also commute to the towns for construction and unskilled labor activities.

From the Tarai, 20 employers and 20 employees were surveyed. Employer farmers were categorized into those who employ only casual labor and those also employing semiattached laborers. Laborers were categorized into semiattached laborers and casual laborers. Samples were drawn equally from these groups. Semiattached laborers were divided into Haruwa (laborers used chiefly for plowing the land) and Jaan (laborers who perform all farm operations except plowing).

From Changu, 16 employers were surveyed of whom ten came from the farmers who supplement their family labor supply only through perma (a labor exchange system). Six farm employers were selected from the group who also supplemented family and perma labor with hired laborers. A systematic sample was not drawn, instead discussions with casual laborers, perma laborers, and group perma participants were held.

## REVIEW OF AGRARIAN LABOR MARKET

### Agrarian Labor Market Attributes

The agrarian labor market has three important attributes: mode of employment, means and level of wage payments, and the division of labor according to sex.

#### Mode of Employment

There are three important modes of employment: time rate, piece rate, and labor exchange. The labor exchange system is similar to the commodity barter system and is restricted between or among households where several things, including farm size, are similar. Exchange may involve an individual or a group. The system can be regarded as characteristic of an underdeveloped labor market. With specialization among

laborers, the system may gradually cease to operate. Particularly with group labor exchange, the community attempts to sustain community self-sufficiency even in terms of labor supply. The caste/ethnic taboos toward a certain livelihood can probably be avoided by joining a group and working for wages. The evolution of group labor exchange, particularly in a community with a high incidence of farm size deterioration, is evidence that rural institutions undergo changes in response to the economic environment of the community.

Time and piece modes of employment, on the other hand, are essential attributes of more developed labor markets. Stiglitz (1975), and Roumasset and Uy (1980) have outlined the behavioral conditions for the choice of mode of employment by the employer. Under a time mode of employment, intensity of work is lessened or quantity of work done is reduced to maximize leisure time as the laborer earns the same wage rate with reduced effort. However, the employer monitors labor to induce maximum effort.

The time mode of contract can be of varying duration. In the agriculture sector, both casual and long-term labor relations coexist, even in the communities. Long-term labor relations, have particularly attracted the attention of labor economists in recent years. The search for insured employment and labor supply by the laborer and employer, respectively, has nurtured long-term labor relations in agriculture (Bhalla, 1976; Bardhan, 1983).

For the piece rate mode of payment, the basis of payment is either by time per piece or output measurement. The time element in output is what the laborer tries to maximize. The laborer is then tempted to reduce the quality of output, unlike quantity of time in the time rate mode of payment. The employer is interested in the quality of work and tries to dissuade the laborer from reducing the quality.

#### Means and Level of Payment

Means of payment to the laborer can be direct or indirect, but the level of payment is a combination of the two. Social rigidity to adjust wages, land credit, and livestock markets are reasons for indirect payment. Indirect payments are used for long-term labor relations.

Direct payments consist of cash, in-kind, and a combination (take-home wage and in-kind to be taken at work site). Food as a component of wage (required to be taken at work) is practiced all over South Asia to ensure that labor maintains a minimum nutritional level. A take home wage in-kind indicates a low level of monetization in the community.

#### Division of Labor

Female laborer's wages are generally low compared to male wages. Many factors, including social and religious taboos, often discourage females from working for wages (Cail et al., 1979; Bardhan, 1979; Rosenzweig, 1978).

## Nepalese Agrarian Labor Relations

Since the onset of planned development in Nepal, one of the government's policies has been to increase the economic well-being of the labor class. In the Fifth Five Year Plan, a separate Ministry of Labor was created and a Department of Labor has evolved. The Department is concerned with nonagricultural laborers; not a single inquiry toward agricultural laborers has been made by the Department. Nor has the National Central Bureau of Statistics ever inquired into the rural or agricultural labor force (except for general information contained in population censuses).

As there is no national level information, the picture of agricultural labor arrangements presented below is gathered from case studies made at different times in different areas of the country.

According to the 1984 population census, 91.4 percent of the economically active population is in agriculture (including forestry and fisheries). The proportion of self-employed workers is 91.1 percent.

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Table 1. Economically Active Population in Agriculture by Employment Status (000)

	Mountain	Hills	Tarai	Nepal
Total economically active	682.3	3279.5	2297.8	6259.6
Employer	1.9	9.4	28.5	39.8
Employee	8.3	52.3	183.6	244.1
Self-employed	634.0	3075.5	1993.7	5703.2
Unpaid family workers	30.0	91.1	42.7	163.7
Status not stated	8.1	51.3	49.4	108.8

Source: Compiled from CBS (1981).

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The strikingly low percentage under "employee" status indicates that formal labor hiring practices in Nepal are limited. Small landholdings and subsistence farming are characteristic of family-based agricultural activities. A greater proportion of the work force are employees in the Tarai (eight percent), which is partially because of the unequal distribution of land.

In the hills, where there is less disparity in landholdings, fewer than two percent of the work force are wage laborers. Here, because farm size and cropped land per laborer are small, family labor and labor exchange are important. Labor exchange is not common in the Tarai; as labor hiring is the most important source of supplementing the family labor supply there.

Several factors, particularly population pressure in relation to land and caste/ethnic composition, are responsible for differences in labor arrangements between the hills and the Tarai. Labor contract arrangements in Nepal can be divided into three broad categories: exchange labor contracts, long-term labor contracts, and casual labor contracts. A survey of the literature on each is presented below.

## Labor Exchange

Labor exchange prevails in the hills, (Ishii, 1982; Acharya, 1980; McDonald, 1967; Prindle, 1983) but not in the Tarai (NIDS, 1984). Wage payments do not occur in this system of labor contract; relationships within the community are the basis of labor exchange. Food is supplied by the employing households at the work-site. Labor exchange relations have the following characteristics.

- The arrangement permits households to earn labor days payable in time of need.
- Irrespective of local socioeconomics, the arrangement functions when labor market is imperfect.

The literature survey indicates the following are basic considerations for entering into an labor exchange relationship.

Caste/ethnic group homogeneity. Social taboos prevent exchange relationships between low and high caste households. The practice of food eaten at the work site also prevents these relationships. Instead of narrow caste lines, wider divisions between touchables and untouchables determine these relations.

Homogeneity in farm size. Farm size is the major determinant of labor demand. Similar farm sizes result in similar labor demand and, if the family labor supplies are equal, these lead to similar magnitudes of labor shortages in the households. This helps evolve labor relations in which the contracting households equally benefit.

Intracommunity. Labor exchange relations are confined among households within a community. Travel time is prohibitively high among hill communities, making intervillage exchange relations nearly impossible.

Ishii (1982) has documented the perma system of hill communities, one with parbate (hill) settlers and another with Newar settlers. In both communities, the exchange system is uniform except in a few arrangements such as exchange rates of male and female labor and relations across caste/ethnic groups. In the parbate community, males and females are equally treated and exchanged on a one-to-one basis. In the Newar community, two female days are exchanged for one male day. In the parbate community, Brahmins usually do not plow the land themselves, thus they maintain farm servants or attached laborers (pakhure) for that purpose. These servants or pakhure work under labor exchange relations, even with low caste exchange partners. However, in the Newar and other caste communities, pakhure relations are not common and relations are usually maintained among male agnatic kin.

Acharya (1980) documented the extent of perma relations in the West Nepal hills with an sample of 80 households. He indicated that the use of perma labor is common, particularly in peak labor demand periods. Regarding paddy cultivation, 12 percent of the digging, 18 percent of the plowing, 18 percent of the sowing, 88 percent of the planting, 38 percent of the weeding, and 62 percent of the harvesting was done using perma laborer by the sample households.

Labor exchange occurs even at peak demand times because the peak periods for planting or harvesting do not necessarily coincide for all households in the community, as type of land and access to irrigation determine the timing of farm operations; and there may be an optimum labor force for each farm activity which is attained by borrowing and paying back labor from others.

#### Long-Term Labor Contract

Long-term hired labor is complicated both in terms of tenure and payment practices. Long-term labor contracts are more common among large landholding groups in both the hills and the Tarai. In the hills, long-term labor contracts are confined to plowing and mostly to Brahmin farm households (Ishii, 1982; Prindle, 1983). Employers and employees usually enter into one-year contracts. A fixed payment of cash or in-kind (or both) is agreed upon and paid on mutually convenient occasions. The laborers are known as jotari, are employed for 75 to 85 days a year and paid two to 5.5 muri (one muri equals 24.02 gallons) of paddy per year, supplemented with meals on work days (Prindle, 1983). The laborers are obliged to work for the employer when plowing is needed. In other periods they are free to work for others and earn wages.

In the Tarai, long-term labor relations are heterogeneous and can be grouped into two types: attached and semiattached. The former is the relationship in which labor is required to work for the employer only when the employer needs him to work. Pyakuryal et al., (1978), Feldman and Fournier (1976), and McDonald (1967) have documented the practice of attached labor relations in the western Tarai.

Laborers are contracted by agricultural year and can be either residential or nonresidential. In the western Tarai, the contract is made during January-February. Laborers are provided with food, clothing, and a fixed amount of grain, ranging from 12 to 20 maunds (one maund equals 37.32 kg) of paddy. Nonresidential laborers, known as kamaiya, are paid 25 to 30 maunds of paddy equivalent in the form of paddy, salt, pulses, and mustard oil. Both of these types of laborers are required to work only for one employer. Payment of bhota, an interest-free loan of up to NRs.500, is given to the laborers before the contract negotiation and is payable at the time of the contract termination. In the western Tarai, a form of bondage prevails where a bhota, in addition to other loans taken by out the laborer, prevents laborers from changing employers.

In the eastern Tarai, on the other hand, semiattached labor relations seem rather common (Sharma, 1981; Katwal, 1982; Sharma and Katwal, 1983). Laborers are contracted for one year, not only for plowing but also for other farm activities. Known as jaan, they are contracted for one year from January-February and are paid on a daily wage basis for days worked only. Daily wages paid to these laborers do not differ from those paid to casual laborers but land, livestock, and credit relations distinguish these laborers from casual laborers.

Land is rented-out by the employers to these laborers to be cultivated on a sharecrop basis. The area rented-out ranges from one-half to one Bigha. The employer's livestock is raised by these laborers, for which they are paid for on a share basis. NIDS (1984) reports that

almost all of the 128 semiattached laborers surveyed in the eastern and central Tarai rented land from their employers. Similarly, the credit needs of these laborers are ensured by the employers, with interest rates averaging 25 percent per year for general loans (the rate for seed loans in-kind is 100 percent).

#### Casual Labor Contract

Casual labor relations, in which laborers are free to choose employers, are practiced throughout the country. Wages are on a daily basis and supplemented with food eaten at the work-site.

Employment for services, such as blacksmithy, is another form of agricultural labor contract in rural Nepal. Agricultural tools used for agricultural purposes are mostly produced and mended locally in the rural areas. These services are provided by the Kami caste in the hills and by Lohar in the Tarai on an annual payment basis. Payment is usually made in-kind and the level of payment is agreed upon largely on the basis of possession of cultivated land by the employer--the usual determinant of the extent of demand for services. Bouillier (1977) and New ERA (1984) state that in the central and the eastern hills, the payments ranges from eight pathi (one pathi equals eight pounds) to one muri of cereal grains (annually by one household, and that one Kami household services 20 to 100 households). As the number of Kami households in the community vary, the households served by each also vary.

#### CASE STUDY OF A TARAI VILLAGE

##### Historical Background of Settlement and Labor Arrangements

The Tarai sample settlement is the Chepkat village in the Aurahi Panchayat in the Mahottari District. The total area of the community is about 500 bighas of which one-fifth is owned by absentee landowners.

Although initially this was a land abundant community, there is now a scarcity of land. In the initial phase of community expansion, migrant hill households encouraged additional migration to meet the labor shortages in the community. The immigrants were dominated by Indians who came and settled virtually bare-handed. After the landlord system was abolished, land was transferred to settlers by the old landlord. This method of attracting labor households continued to such an extent that Chepkat, which had only 25 households 70 years ago, now has four sub-settlements, and about 200 households. There are now 20 households of hill migrants, who are the major participants in local politics and also the major landowning class.

Each sub-settlement has a distinct caste composition and a different history. Bahum Tola (sub-settlement) was settled by hill migrants and a few other original settlers. Malha Tola was mostly settled by fishermen and other Maithali speakers. There are now about 50 households, of which one-fifth own their own land (the average landholding is one half bigha). These landowning households are early migrants who, from savings from labor earnings, bought land from the absentee owners and original settlers. Other households work as agricultural laborers, occasionally supplementing their incomes from fishing. The settlement

has different services castes, such as barber (Haajam), blacksmith (Lohar) and Teli (who run the traditional oil seed crusher).

The sub-settlement of Mushahari has about 120 households. Other than four households of hill settlers, all are 'Mushhar' caste--the dominant labor caste all over the central and eastern Tarai. These households were initially encouraged to settle by the landlords as labor suppliers. Less than ten Mushahar households have their own farm land--the older settlers have managed this from saving wages. Farm size does not exceed half a bigha for any Mushahari household.

A new hamlet--Mirchaiya, emerged comprised of 22 households, less than 15 years ago. All the households are immigrants from India who come with farming and entrepreneurial skills and capital. These households were encouraged to settle by the landlord who provided cheap homesteads where they could work as sharecroppers. They became citizens of Nepal and bought their own land using their savings and capital. Except for five or six newcomers who have very little land, all are owner-cum-tenants. Provision of tenancy rights to tillers according to the Land Reform Act of 1964 led large landholders (who had to rent out land) to encourage non-Nepalese to work as tenants to evade these provisions. However, recent political events, including the referendum in 1980 and the general election in 1981, paved the way for these settlers to receive citizenship. However, poor enforcement of the Act has not hindered the practice of tenancy at will.

#### Labor Contract Arrangements in Chepkat

There are two types of labor hiring arrangements in Chepkat (excluding permanent laborers who are paid annually for domestic work and livestock rearing): casual and semiattached labor. Under casual labor arrangements, laborers are hired on a daily basis and are not obliged to work for a specific employer. Except in plowing, casual laborers are hired by employers for all farm activities.

Semiattached laborers are usually male, contracted for one crop year beginning in January-February. These laborers are paid on a daily basis for the days they have been employed by the employers, but both employers and employees are bound where the farmer must give first preference to engage semiattached laborers, and the laborers have to give first preference to the employer. This bond is strengthened by land, livestock, and credit relations. There are two types of semiattached laborers: plowmen (Haruwa) and Jaan. Jaan perform all farm activities except plowing, while Haruwa plow and are involved in other activities when plowing is not required.

All Brahmin farmers employ Haruwa because religious taboos prevent Brahmins from plowing. Most Brahmin farmers have over ten bighas (one bigha equals 1.67 acres), thus they act as entrepreneurs and supervisors. Non-Brahmin large landholders also maintain Haruwa. In general, for each four bigha landholding, one pair of bullocks and one Haruwa are employed. Each Haruwa is accompanied by one or two Jaan.

Decisions about semiattached labor relations are made during January-March, after paddy is harvested and stored. Through a mutual understanding the prospective Haruwa or Jaan approaches the landowner

employer. On that day both Haruwa and Jaan come to the employers' premises and the particular plot of the landowner (as decided by him) is plowed by Haruwa, and is levelled and spaced by Jaan. Before the plowing and spading, the implements are worshipped by the employer with a prayer for a good harvest. Employees are given one meal and in some cases new clothes.

As employers and employees both belong to the same community, no one is a stranger. The employee knows what sort of direct and indirect relation should be expected from the employer. Similarly, the employer knows what will have to be offered to the employee to maintain the relationship. In some cases, when the laborer decides to leave one employer and join another, the latter is obliged to advance loans to the laborer to repay loans made by the previous employer. However, such loans do not exceed the expected savings of the laborer during the contract tenure.

The terms and conditions usually agreed upon by both the employer and employee are as follows:

- Payment for work is made on daily wage basis, the rate being the same as that of casual workers.
- The employer is obliged to give first preference to the semi-attached laborers.
- The employee is obliged to work for the employer whenever the employer needs his work.
- Some land is allotted to the employee to farm on a sharecropping basis.
- As the employees do not own basic implements and resources to work as sharecroppers (such as plow, bullock, and spade), the employer would rent out required resources for farming, to be repaid later.
- Employer guarantees a reasonable credit for the employee.
- Generally, these terms and conditions are maintained and respected by both parties. Violation of the conditions or dissatisfaction from either side usually results in discontinuation of the relation the next year but not within the year of contract.

#### Dynamics of Labor Arrangements: Employee Respondents

There are two distinct types of labor relations in Chepkat, the daily labor contract and the semiattached labor relation. Haruwa and Jaan are the two types of labor under semiattached laborers, all male. Casual laborers are both male and female and are not landowner specific.

All of the laborers surveyed were local and did not own land except the homestead (size being less than one-half katha and one katha is equal to 0.034 ha). Only half had their own livestock--goats--with none owing more than three. Four of the semiattached and two of the casual laborers raised cattle (one each) for different owners on a share basis.

Direct wages paid to both types of laborers are the same. However, there are several other nonwage relations in the case of semiattached laborers which indicate that laborers with enduring labor relations are better off. The direct wage rate is equal to 4.5 kg of paddy per day including wages paid in terms of food to male workers. Work hours are from 7 AM to 12 PM and after one and half to two hours lunch break, from 2 PM to 6 PM. For females, the work hours are from 11 AM to 5 PM or 6 PM and the wage rate is 2.5 kg of paddy (they work after lunch). These wage rates are uniform throughout the year except in peak paddy planting season (July-September), when casual laborers are often paid in advance or paid NRs.0.5 to NRs.1 per day over the wage rate. For harvesting, wages are paid on a share basis. In general, for all crops (except oil seeds), of 16 (one sorahi) bundles harvested and transported to the farmyard, one bundle is allotted as wage. As harvesting is done under piece rate, young and unfit household members also work, and on average they earn wage twice that of the general wage rate. Harvesting is performed through an output share basis. Under the mode of payment intensity of work is maximum, fetching higher wages per day to the laborers. For about a decade, threshing of paddy has also been performed as piece work. One day is assumed to be sufficient for threshing one sorahi. Threshing is done by using team of eight to ten bullocks and four people, and four sorahi bundles are threshed at once.

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Table 2. Wage Rates in Chepkat Village (in kg of paddy)

	At present			Total	Ten years ago			Total
	Break- fast	Meal	Take home wage		Break- fast	Meal	Take home wage	
Half day (male)	0.5	0	2.5	3.0	0.5	0	2.0	2.5
Full day (male)	0.5	1	3.0	4.5	0.5	1	2.5	4.0
Full day (female)	0.0	0	3.0	3.0	0.0	0	2.5	2.5

Note: Wages are generally paid in paddy. Wage rates in value terms (NRs.) keep changing as the price of paddy fluctuates by month in the year. The price of paddy in the survey year fluctuated in the range of NRs.1.5 to 2.5 per kilogram.

Source: Field survey.

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As seen from Table 2, the real wage rate has increased in recent years. A wage increase was demanded by laborers in 1980, the year of the referendum. The political environment then was conducive to force employers to agree to the increase. This increase is the only increase anyone can remember. At the same time, other conditions were set. The first was to refuel the labor supply. Villagers were required in group agreements to work for villagers first and to employ villagers first. This was a response to the practice of hiring Indian laborers during the peak paddy season, with the local laborers commuting to nearby villages for a month to obtain higher wages.

The second condition was to regulate payment patterns for harvesting. The actual harvesting share before was for higher than the formal

rate--one sorahi bundle out of 16. This condition emphasized uniformity among the bundles, discouraging laborers from making larger bundles for themselves.

Another noticeable change in labor relations is the evolution of a piece-rate mode of payment for threshing late paddy. Threshing is generally done by the semiattached laborers, often supplemented with casual laborers. For late paddy, threshing is done in December-February when harvested paddy fields must be plowed and prepared for wheat sowing. Wheat cultivation is increasingly extended so about half of the total cultivated land in Chepkat is now used for wheat growing. The proportion was not significant a decade ago. After the paddy harvest, land was either left fallow or used to grow winter barley, thus labor intensity was low. With wheat cultivation, the laborers (plowers) and bullocks have to be released from the threshing activity. Hence, these days threshing starts at 1 or 2 AM and finishes by 6 or 7 AM. After threshing with less than an hour's rest, both the human labor and bullock are driven to the farm for plowing. In this way, the laborers make two days wages in the same day. The increased cropping intensity has increased the demand for labor and thus increased total labor income. Whether laborers are better off depends on whether the increased income compensates for loss of sleep and energy.

Land is the major source to strengthen the employer and semi-attached employee relationship, followed by credit and livestock. Allotment of land to the laborers to sharecropped is an indirect way to remunerate such laborers. Income from such land is about 25 percent of total annual income of the Haruwa caste, and ultimately distinguishes the long term and casual relations (Table 3).

Table 3. Annual Income of Laborers From Wages and Land Relations  
(Employment in days, wage in kg of grains)

	Average number of employed	Annual wage earning	Net return from rented land		Total annual earning (with present earning from rented land)
			Now	10 years ago	
<b>Semiattached</b>					
Haruwa	177	797	228	323	1025
Jaan	132	594	133	209	727
<b>Casual</b>					
Male	102	459	-	-	459
Female	75	225	-	-	225

Note: The average yield of two maund (one maund = 38 kg) per Katha has been assumed of which half goes to the employer as the share. Net return to the labor is assumed to be one-fourth of laborer's share. Do not include days employed for performing the harvesting activities. As wage is paid on a share basis, wage rates reported in Table 2 are not applicable.

Source: Field survey.

Changes overtime in these relationships, particularly in the case of semiattached laborers show that land area allocated to the laborers has decreased by 40 percent, while credit and livestock relations remain virtually unchanged. The decrease in land area allotment is equivalent to a decrease in the annual income of laborers by 95 kg of paddy, which is 12 percent of present total annual income from wages.

#### Dynamics of Labor Arrangements: Employer Respondents

Employers of the village were divided into two groups, those who only employ casual labor and those who also employ semiattached labor. Only one household was found employing attached labor for agriculture purposes, although many employers had attached labor for livestock. The households employing attached labor have a farm size of about five bighas and do not employ semiattached labor. Most of the labor demand is met through family and attached labor and only in peak labor demand seasons are a few casual laborers employed for few days.

In general, the semiattached labor employers are large landholders, and do not have family members working as farm labor. Working members in such households work as supervisors of the employed laborers. This is particularly true for Brahmin-Chhetri households. The average number of laborers is 4.5. The average size of landholding of casual labor dependents is 2.8 bighas. Cropping intensity of both the types of farms is about 200 percent, major crops grown being early paddy, late paddy, wheat, and winter barley. No farm mechanization is used--all land is irrigated with locally made and maintained irrigation systems.

The average days required for one bigha of double cropped land is 105 for employers with dependent or casual labor and 92 for employers with semiattached labor. Less labor use by the latter occurs because they generally cultivate less labor-intensive crops than wheat. Large landholders, who maintain semiattached labor relations have 52 percent of total labor days supplied from semiattached labor and 48 percent from casual labor. Small landholders are casual labor dependents. All large landholders indicate that the use of semiattached labor is increasing along with the increase in the use of casual laborers. In fact, both the number of semiattached labor per farm and total labor supply from semiattached laborers have increased over time.

Discussion with local elites indicates that there has been a visible impact of the Land Reform Program on labor arrangements. Large landholders have cultivated the then rented-out land since the 1970s and tenants have become wage earning households. As the landholders resumed self-cultivation, the use of semiattached labor relationships has also increased. Cropping intensity of land has also gone up substantially, with popularization of wheat and early paddy cultivation in the recent years. Increasing self-cultivation of land and cropping intensity has necessitated regularity in labor supply and this has been sought through employment of semiattached laborers.

Talking with employers revealed no shortage of laborers seeking enduring labor relations. This is probably because there are no off-farm employment opportunities in the vicinity, total annual wage earning of enduring relation is high, and access to land and livestock resources avail opportunities to engage family members in productive employment.

Village laborers working under these relations have gained permanent access to land and livestock and have moved from the laborer group to landowning households.

#### Conclusion: Tarai Village Labor Relations

Hiring labor is the predominant source of labor supply to supplement family labor in the Tarai. Historically, the Tarai was a frontier and has been peopled by immigrants from the hills and from bordering Indian states. Immigrants from the hills attracted by greater economic opportunities, education, and health facilities came with capital which gave them access to the land. Immigrants from India came to look for employment. This unabated inflow of Indians was also encouraged by sociopolitical events in the Nepal. For example, the 1964 Land Reform Act created economic reasons for the local landowning class to invite Indians to immigrate. The instant land access for immigrants and evasion of tenancy regulations by the landowners benefitted both parties.

Agrarian relations in the Tarai have been shaped with these factors in the background. However, agrarian change has been very slow in Nepal, even in the Tarai where benefit from technological innovation is potentially high. Legal stipulations aimed at ensuring better distribution of output and land either encouraged big landowners to resume cultivation themselves or to look for tenants who could not claim rights on the land. Both of these responses to land reform increasingly created an environment in the Tarai conducive for benefit by nonnationals rather than hill people. This has created a paradox in Nepal: laborers from Nepal's hills seasonally migrate to bordering Indian states to look for employment and Indians have settled in Nepal permanently and gained access to the land.

Logically, resuming self-cultivation requires hiring more labor. With the augmented cultivated land size, regularity in labor supply is also required. This has led farmers in Chepkat to look for long-term labor relations with increasing numbers of laborers. Growing population pressure in the village has also led to intensive use of land; the cropping intensity in the village has almost doubled in the last two decades. This has been possible because of the availability of new seed varieties and favorable wage rates. As the availability of labor increased, the year-round hiring of labor did not pressure the supply and wages have not gone up. Population pressure led to changes in the cropping system allowing the landowning class to capture higher rents from the land while letting the laborers earn wage rates almost similar to those prevailing a decade ago. With unchanged technology, however, this cannot be expected to continue. The optimal cropping system has been reached and further increase in labor supply will push wages down. The process of downward pressure on wages is visible at least among the semiattached laborers through decreased land area allotted to them for sharecropping. In nearby villages, the practice of providing land to the laborer to sharecrop has ceased and a sum of NRs.500, or about two quintal of paddy, is provided annually to semiattached laborers for the enduring labor relationship instead of land.

## CASE STUDY OF A HILL VILLAGE

Changu is a hill settlement in the Kathmandu Valley, with three subsettlements. To the north of Changu temple, is a Tamang settlement. Tamangs are mid hill settlers in Nepal and are considered Matawali caste. These are original settlers with about 30 households. Most of the households own their own land, but over half the farm sizes are not enough for subsistence. Along with agriculture, wage labor and fuelwood trade are important income generating sources among the Tamangs. Laborers from the community work on a daily wage basis in agricultural activities in Changu, Bhaktapur, and Kathmandu. Fuelwood is collected from the forest one to two hours away to sell in Bhaktapur. One bundle of firewood of 20 to 25 kg fetches up to NRs.20. Firewood collection and sale require a whole day of work and Tamang females usually do this job.

Around the Changu temple is a Newar sub-settlement, narrowly settled and crowded, with about one hundred households. Very few households do not own enough land for subsistence production--trade (retail shop-keeping) being the important source of supplemental income. The evolution of the settlement dates back more than seven hundred years, when a few households from Patan settled to take care of the temple when it was established.

To the north of Changu temple is a scattered Brahmin-Chhetri sub-settlement only four or five generations old. The households came from the hills. A few bought land to supplement income from government service, while others from their original villages were drawn to Changu to benefit from the villagers' access to the capital, Kathmandu. Waste and forest land have also been brought under cultivation in the past, thus the size of landholdings are large and generally not cultivable by family labor only.

### Labor Arrangements in Changu

Labor exchange and casual labor arrangements are the only labor contracts prevailing in Changu. The former arrangement is known as perma or booje among the Brahmin/Chhetri and hola among the Newars. Among the Magars, the labor exchange system is also called perma. Casual labor arrangement is known as jyala. Under perma, labor days are exchanged between two households. Wage payments do not occur within this arrangement; households can accumulate labor days even if they do not have gainful activity on their farms. Perma and casual labor arrangements are very interlinked in Changu. The interlinkage is interesting from an economic and sociological point of view and indicates how social institutions evolve amid dynamic socioeconomic factors.

The perma labor arrangement can be divided into two types: labor exchange between two households and labor exchange among groups. The latter is called group perma and is of recent origin. The former type of perma is practiced all over the Nepal hills a system under which the labor forces of two or more households are pooled to make the size of labor force optimum for a specific farm activity. The relation is reciprocal, based on one-to-one labor exchange. Such relations in general are guided by factors as similar farm size and caste/ethnic homogeneity.

Group perma is predominant among the Newars. Quite often non-Newars also join the group. One person from each farm household get together and form the group of laborers, the eldest person in the group being the team leader. The size of team ranges from 10-14 members and the group works for each member in turn. Priority among group members is decided by mutual consent. If the total effort supply from the group is less than the total requirement for the specific activity, upon mutual understanding the group is paid on the basis of daily wage rate to be shared among the members later. Such group formation is common among both males and females. There were eight male and four female groups in the community at the time of the survey. Females are exclusively used for planting paddy, and about three-fourths of the harvesting is performed by female laborers.

The original reason behind the evolution of group perma is the assurance of timely supply of labor at the period of peak labor requirements. Large landholders also send family members to the group so labor required in peak times is available. The most important reason for such group formation is to facilitate the small landholders to earn and accumulate labor days and finally to earn wages. In fact, for the group formation equality of farm size is not important and near landless or landless households can also join the group. Those who own little or no land but because of social reasons cannot work as wage labor can indirectly earn wages through the group perma. In fact, this system is becoming so widespread that there are 12 groups in the survey village functioning at present and taking the average number of participants as ten, there are 120 laborers organized this way. Of these, more than three-fourths earn wages within the group. The rest do not participate with an objective to make wages but work to ensure the flow of group labor. Those members in the group who receive wages, however, do not work on a daily wage basis, demonstrating that perma has evolved as a surrogate for casual labor service selling.

Under group perma, satisfying the labor need of each member and maintaining effort levels are the two most important issues for management. Heterogeneous labor demand within the group may create discrepancy in effort level by the members among the working days. However, there is a strict monitoring system which minimizes such possibilities. Any noncompliance with rules and regulations within the group is punished with monetary penalties. The proceeds from the penalty are shared equally by group members.

There are no perma group arrangements in Brahmin, Chhetri, and Tamang communities. In fact, Tamangs are largely wage laborers and work under a casual labor arrangement. In Brahmin/Chhetri communities, household-level perma, group perma laborers (wage earners) and Tamang casual laborers are used. The households who join the groups formed among Newars do not have to depend on these sources. However, only two Brahmin/Chhetri households have joined such groups.

#### Dynamics of Labor Arrangement: Employee Respondents

Employment relations in Changu are completely different from the Tarai village. There is dependence on perma labor to supplement the family labor force. Casual labor employment is the next source of meeting the labor demand. However, change has also occurred in the perma

system, with the hiring of a group of perma laborers becoming increasingly important as a method of hiring laborers.

All laborers surveyed are based in Changu. Those working in perma are landowners who work for others to secure equivalent labor supply in time of need. Many households owning small landholdings particularly from the Tamang community work as casual laborers, not however, through group perma. There are few households in the Newar and Brahmin/Chhetri communities who work as casual laborers after the labor borrowed is paid back (under individual perma).

Payment is on a daily basis for both casual workers and hired group perma workers. The wage rates, however, constitute both wages taken at the work site and the take home wage. The take home wage is exclusively cash unlike the payment in the Tarai. Hence, the money wage has increased from NRs.4 a decade ago to NRs.30. The food component of wage, breakfast to be taken about 9 AM, lunch to be taken about 12 AM and again about 3 PM has remained unchanged over time. This food wage component is applicable to all perma labor, group perma hired labor, and the casual laborers, and is same during all seasons. Take-home cash wage varies, however, across farm activities with the wage rates reaching NRs.30 in the peak paddy planting or harvesting seasons.

Women are paid less for similar hours of activities throughout the seasons. Women are employed for specific farm activities--generally employed for planting and harvesting activities only. Although male laborers are employed for the same activities, it is understood that males do more planting or harvesting compared to females and the lower wage is justifiable. Women are paid about 20 percent less than men.

The noticeable change in labor arrangements in Changu is the gradual movement from individual level perma to group perma. Probably group perma has evolved to ease social barriers to work for wages among Newars. Farm size among all these farmers are becoming smaller owing to subdivision of land among the heirs and are not adequate even to engage family labor force. Newars probably do not want to work openly for others because of their past high social and economic status. Tamangs, however, commute to Kathmandu and Patan for work after they are thorough with their own farm work and employment opportunities in the village.

#### Dynamic of Labor Arrangements: Employer Respondents

Changu has different labor arrangements than those in the Tarai village. The labor exchange system is the major source of labor supply to supplement family labor supply. Hired laborers are also used from individuals and perma groups.

Employers of the village were divided into two groups: one supplementing family labor with perma labor only (first group), and the other, supplementing family labor with hired labor (second group). No households had attached or semiattached labor relations with laborers in Changu.

The average farm size of the first group of farm households is ten ropani and that of the second group is 21 ropani (one ropani equals .126 acres). Small farm owners do not hire laborers for farm operations but

depend completely on perma. The proportion of labor demand met through perma is about 40. The second group of farm households meet 30 percent of total labor demand through perma labor and 56 percent through hired labor. Among the hired laborers, hiring the perma group dominates, accounting for 60 percent of hired labor. As the labor receivable through perma (on an exchange basis) depends on the households' supply of labor to other farms, large farm owners depend on hired labor.

Since the last decade, there have been several changes affecting labor demand and supply situations in Changu. All of the farmers mentioned that use of chemical fertilizer and high yielding variety seed are now quite common. However, irrigation has not increased and mechanization is absent. Cropping intensity of the land is nearly unchanged from the traditionally high level of about 200 percent. Like the Tarai village, the practice of land renting-out has nearly ceased.

The growing demand for unskilled workers in Kathmandu Valley seems to have attracted an increasing number of agricultural workers from the area. Wage earners, especially Tamangs, commute to work-sites in Kathmandu, particularly for construction. The villagers estimated that the number of commuting laborers ranges up to one hundred in the premonsoon period, earning NRs.15 to NRs.20 per day. In the agricultural seasons, these laborers work on their own farm and under perma (individual and group). Yet there is a reluctance among non-Tamang wage earners to work in the village as hired laborers. They either work in nonagricultural activities outside the village or work under a perma group within the village. Although exact figures could not be estimated, there is a consensus in the village that the number of hired workers for agricultural activities is decreasing over time.

There has been a noticeable change in the importance of the perma system as the source of labor supply in the past decade. Among the first category of households, perma has assumed greater importance as a source of labor supply. Forty-four percent of labor demand is met through perma which was 31 percent about a decade ago. Among the second category of households, on the other hand, use of hired labor has gained predominance, meeting 54 percent of the labor demand. Group perma is an important channel to supply hired laborers, and comprises 58 percent of hired labor used by the employers.

#### Conclusion: Hill Village Case Study

The hills of Nepal are characterized by an average farm size of less than a hectare. Mobility of the labor force between communities is difficult because of terrain: settlement-level labor self-sufficiency has to be maintained. The landholding size is relatively uniform in the hills compared to the Tarai. About two-thirds of the total agricultural labor force in Nepal reside in the hills with less than half the total cultivated land. The scarcity of land and limited alternate employment opportunities have reinforced subsistence farming in the hills. Less than two percent of the agricultural labor force work for wages in the hills. The wage laborers are mostly from the occupational castes (Damai, Kami, and Sarki) who also are the only groups who have off-farm self-employment opportunities. Labor exchange is an important institutional device to save family labor days for use later, and is an important source of meeting the demand in peak labor seasons. Caste/ethnic taboos

against plowing land among high caste groups is common in the hills, indicating that farm operations are also caste/ethnic group specific.

The hills have remained traditional in farm practices and inputs use, more so than the Tarai. Mounting population pressure on land is also severe in the hills, and about one percent of households migrate to the Tarai annually. Landholding size also faces rapid deterioration in the hills.

Responses to the gradual siphoning of farm laborers by the expanded construction and other unskilled labor activities in the nearby cities have strengthened the institution of group perma in Changu. This new rural institution has helped escape the caste/religious taboos of not working for wages among the farm households. The daily wage rate for casual workers has increased sharply over the last decade in Changu, owing to wage increases in alternate employment opportunities in the nearby cities. In the villages within the influence of urban centers, agriculture has to compete with other sectors such as trade and construction. With unchanged technology, agriculture can spare few laborers and farm productivity is affected. Group perma in Changu cannot be a long-term solution to provide labor supply to agriculture. The active labor force continues to move to the cities for employment opportunities, also minimizing participation in group perma.

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