Marginal farmers, agricultural practices, and rural poverty in Nepal

Kleinbauern, landwirtschaftliche Praktiken und ländliche Armut in Nepal

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Summary

This paper discusses the situation of poor farmers in three ecological zones in Nepal - mountains, hills, and *terai* (plains) - each with unique agricultural practices linked to soil quality, crop calendar, yields, crop diversity, and different cultural environments. The marginal farmers are divided into three subgroups: sharecroppers and landless agricultural labourers, marginal farmers of western districts with <0.5 h. land, and marginal farmers of central and eastern districts with <0.5 ha land. For each subgroup, the paper discusses the main characteristics of the livelihood strategies pursued, and the sources of poverty and food insecurity. It is argued that, although all marginal farmers suffer from unsustainably small landholdings, the marginal farmers in western regions are worse off than those in the east and those in the mountains (north) worse off than those in the southern plains. The paper identifies areas of opportunities for marginal farmers, and makes a few policy recommendations.

Keywords: Nepal, marginal farmers, agricultural practices, east to west gradient, off-farm opportunities.

Zusammenfassung

Der Beitrag bespricht die Situation armer Bauern in drei ökologischen Zonen Nepals – Bergland , Hügelland und den *Terai* (Ebenen) – jedes mit auf Bodenqualität, Anbaumöglichkeiten, Erträgen, Vielfalt an Ackerfrüchten und kulturellen Gegebenheiten angepaßten landwirtschaftlichen Praktiken. Die Kleinbauern werden in drei Untergruppen

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geteilt: Pächter und landlose Landarbeiter, Kleinbauern im westliche Gebiete mit weniger als 0,5 ha Land und Kleinbauern in den Zentral und Ostgebieten mit weniger als 0,5 ha Land. Für jede Untergruppe werden die Hauptmerkmale der Lebensstrategien, und die Ursachen von Armut und der unsicheren Nahrungsversorgung diskutiert. Es wird argumentiert, daß, obwohl alle Kleinbauern am unhaltbar kleinen Grundbesitz leiden, die Kleinbauern in den westlichen Gebieten schlechter dran sind als jene im Osten und jene in den Bergen (Norden) schlechter dran sind als jene in den südlichen Ebenen. Für die Kleinbauern werden Alternativgebiete identifiziert sowie Empfehlungen für die Politik gegeben.
Schlagwörter: Nepal, Kleinbauern, landwirtschaftliche Praktiken, Ost-West-Gradient.

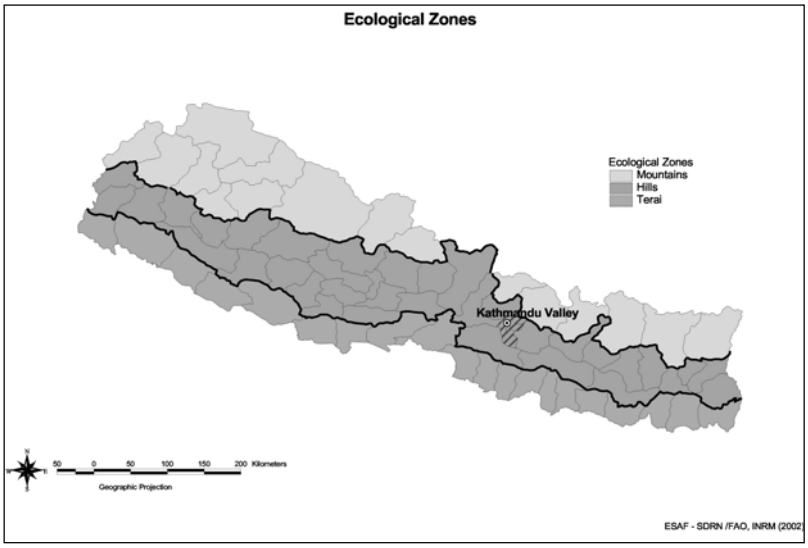
1. Geography and Demography of Nepal

1.1 Geography

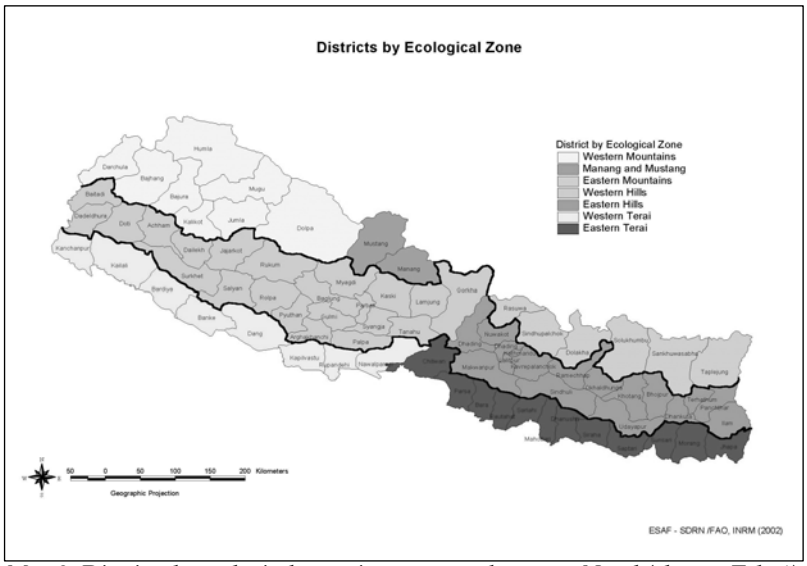
Except for a small strip of flat land in the south, the topography of Nepal is mountainous. The Himalayan range in Nepal's north has the world's highest mountain peaks, which then progressively taper to the plains, or *terai* at 100 metres or so above sea level. Consequently, Nepal contains three distinct ecological zones, the mountains, the hills, and the terai (plains). Each administrative district of the country is identified as a mountain, hill, or terai district, in accordance with the ecologoical zone where it is located. For administrative convenience, each ecological zone has been demarcated on the map as a strip running from east to west, with the mountains in the north, the hills in the middle, and the plains in the south (sees Map 1 and 2).[1] However, the topography is not uniform within each zone. Thus, in what are administratively hill and mountain districts of the country, there may be both low lying valleys and mountain peaks of high altitudes. Also, the

[1] This paper when refering to the mountains, hills, and *terai* refers to the 3 administrative strips of same name, and which only roughly match the physical ecological zones.

northern part of the *terai* swells up to meet the hills, with characterstics more similar to those of the middle highlands, than of the southern plains. In the terai, the northern uplands and the flat plains of the south are roughly divided by the highway that runs from east to west, and are sometimes referred to as northern, or inner terai and southern terai. The mountain and hill districts experience a range of climate types, from subtropical through temperate to alpine climates, with a wide variation in temperature and precipitation. The north-western valleys of the country are rain shadow areas, where only minimal precipitation takes place, and mostly in the form of snow. However, monsoon rains are characteristic of the eastern hills and the terai.



Map 1: Administrative map of Nepal. The three ecological zones are delineated by the black lines running east to west: mountains on the top, followed by the hills, and the plains, or terai, at the bottom. The national capital, Kathmandu, is seen as the large dot.
Source: ESAF/ FAO 2002.



Map 2: Districts by ecological zone, in eastern and western Nepal (also see Tab. 1)
Source: ESAF/ FAO. 2002

1.2 Demography

Nepal is home to two major races, Indo-Aryans who speak languages of the Indo-European family and follow caste-Hindu religious practices, and Tibeto-Burman of Mongloid ethnic origins, who speak languages of the Tibeto-Burman family, and practice Tibetan Buddhism.[2] Only 7% of Nepal's total population live in the mountain districts (CBS, 1991). The population of the hill districts, on the other hand, is approximately 10 million - nearly 43 % of Nepal's total population (CBS, 1991). The *terai* accounts for 23% of the country's total area, and hosts around 50% of the population. Thus, among the three ecological zones,

[2] The communites who speak Tibeto-Burman languages include, among others, Tamang, Gurung, Sherpa, Thakali, Rai, Limbu, Bhote, Newar. People speaking Indo-European languages include, among others, Bhrahmin and Chhetries among the upper castes, and Kami, Damai and Sarki, among lower castes.

the population density is the highest in *terai*.[3] However, the hills have the highest population density with respect to cultivated area, whereas the number of people per unit of cultivated land in *terai* is the lowest in the country (CBS, 1991). As a result, the *terai* has continued to attract migrants from the mountains and hills who wish to practice settled agriculture under more favorable conditions.

There has long been movement of the population from highland areas for permanent settlement elsewhere in Nepal. Earlier there was emigration of highlands people from the arid west to the humid east. For better prospects, Nepali farmers would then emigrate along the hill corridors with mountains to the north and malaria-infested *terai* to the south. However, since the early 1960s, with the control of malaria, Nepal has seen a 'lowland convergence' (GURUNG, 2001). In 1952, the mountain and hill districts accounted for 65% of total population. In 1991, this share was down to a mere 48% (ibid.). This population growth in the lowlands is due mainly to migration from the highlands for permanent settlements in the *terai*.

2. Land Use Patterns and Farming Systems in Nepal

2.1 Land Use Patterns

The majority of land use in Nepal is for agrarian and pastoral purposes. Compared to other ecological zones, only a small area of the mountains is put under farming. The total cultivated area in the mountain districts is 275,945 hectares, only 5.3 % of its total area. The soil is of arid type, and the precipitation in several districts is low. Within the mountain districts, the productivity is highest in the east, and drops sharply in the western districts. The lands and other natural resources in the mountain districts are also used for livestock rearing, forestry and tourism.

The hill districts too are predominantly rural. The agrarian economy accounts for more than 90% of the economic activity, with livestock

[3] The population density is higher in eastern *terai* than in the western *terai*.

accounting for 32% and horticulture 14%. As noted earlier, the population density for each unit of cultivated area is the highest in the hills, and has reached a saturation point.

In the *terai,* agriculture and forests account for most of the land use. Most of the *terai* was put under cultivation only in the past fifty years, and consequently, the land is relatively fertile. However, the *terai* has failed to achieve a green revolution so far.[4]

2.2 Farming Systems

The farming systems in Nepal vary sharply from the higher altitude north to the lower south, and from the wet east to the arid west. In the mountains, potatoes, millets and maize constitute the staple food crops. A variety of vegetables, and fruits (apples and citrus fruits, for example) have been successfully introduced in many mountain communities that earlier did not eat many greens and fruits. However, in rain shadow trans-Himalayan areas and at altitudes above 3000 m, only monoculture farming is practiced (the fewer number of crops is due to low temperatures, and leached out, poor, soil quality). Wheat or barley is typically sown in November and harvested in June/ July the following year. This means that on a typical farm, one crop of the staple crop variety, such as wheat, oat, barley, buckwheat, is grown, and beans and vegetables are harvested as intercrops.

The major cereal crops grown in the hills are rice, maize, and millet. The growing of paddy is practised up to an altitude of 2,000 meters. Pulses and potato are found everywhere in the hills. There are also some location-specific commercial crops such as tea and cardamom in the east, coffee in central hills, and ginger in the west, that produce important cash income. In the *terai,* paddy, wheat, and maize are the main cereal crops. The farmers in the eastern *terai* can grow two crops of paddy in a year. Typical intercropping patterns practised in the

[4] The term 'Green Revolution' is a general one that is applied to the use of successful agricultural experiments in many developing countries. India is one of the countries where it was most successful where it was taken up most intensely in the period between 1968 to 1978. There were three basic elements in the method of the green revolution: continuing expansion of farming areas, double-cropping in the existing farmland, and using seeds with improved genetics.

eastern districts could be paddy-wheat-paddy; paddy-maize-paddy; paddy-vegetable-paddy; paddy-potato-paddy; or paddy-oilseed-paddy. The western *terai* allows fewer crops, with the following combinations: paddy-wheat-fallow; paddy-mustard and lentil; paddy-mustard-fallow; maize-mustard and lentil-fallow; maize-wheat-fallow; or millet-mustard and lentil-fallow. However, as noted earlier, the agricultural productivity in Nepal's *terai* remains lower than its understood potential. Generally speaking, the agricultural land owned by marginal farmers is typically less productive because of the steep topography (in uplands), lack of irrigation, and less amount of manure due to small number of animals that they can maintain.

3. Food Production, Availability and Security

Despite the fact that Nepal depends predominantly on agriculture for its gross domestic product (GDP), the country continues to face acute food shortages. The productivity of major crops in Nepal during the early 1960s was higher than that of other South Asian countries. However, by the early 1990s, Nepal's agricultural productivity lagged behind that of other South Asian neighbours. A number of reasons have contributed to this situation, including a population growth that has outmatched the growth in agricultural productivity. Indeed the agricultural productivity is far below the potential level: farming in Nepal has remained subsistence-oriented and use of high-payoff inputs such as fertilizer, improved seeds, and year-round irrigation is low. Also, commercialization of agriculture is yet to take place. Most of its 55 highland (hill and mountain) districts are food deficit, and several of the districts depend on regular external support involving food imports and subsidies provided through the state's food distribution systems. Currently, all sixteen mountain districts suffer from food deficit. However, the eastern districts, on the whole, yield more variety, and tonnage of crops than the districts in the west. The local food production in the western districts is meagre, the transport networks are rudimentary. As a result, people may lack access to food despite having the money to purchase it. The state's food distribution systems, managed by the Food Corporation of Nepal (FCN) and the World Food Program (WFP) have been supplying food in crisis areas for several

years, particularly, in the mid- and far western mountain districts. Indeed, higher agricultural yields, cash earning capacity and better markets (with infrastructure) are needed if the western population is to have relief from food scarcity.

Many hill districts do produce crops that are sufficient for the resident population. However, a fair number of hill districts remain food deficit, with food balance running a deficit of 448,540 metric tones in 1999. In 1997, *terai*, on the whole, had produced surplus food grains, i.e., the production of food grains exceeded the food requirements of *terai* residents. Generally speaking, farmers in the eastern part of *terai* are able to grow a greater variety of crops, and the cultivation period lasts longer. The region also grows more cash crops, is better connected with markets, and possesses a better infrastructure. However, currently, several districts in *terai* suffer from food deficits.

The food that marginal farmers produce is sufficient only for 3-8 months, depending on location, type and size of land, and seasonal factors (secondary assets, off-farm earning opportunities and remittances from family member working abroad are regularly used to tide the food scarce periods).[5] Locally grown farm crops, livestock, and forest products are the traditional sources of food for most of Nepal. A typical diet for marginal farmers consists mostly of maize, finger millet, and buckwheat. Rice, however, is the preferred food and is eaten with vegetables and lentil soup, when available. The animal proteins come mainly from milk and meat; the latter, however, is eaten infrequently. The diet is monotonous, carbohydrate-rich, and protein-poor. The locally made liquor, from millet, *rakshi* is popular particularly with men. There are several food practices – particularly those that relate to meat and alcohol - that are linked to the community to which one belongs. The leanest months for food availability are the periods before the harvest of crops. In periods of food crises, *dhido* and *aato* prepared from millet and maize flour respectively are commonly eaten. Livestock and its products provide a crucial alternative to crop agriculture. The number of livestock is largest in the west. There is a sizable number of

[5] For example, the farmers in the arid midwestern districts Mustaing and Manang enjoy large secondary incomes from tourism and remittances from migration which serve as key insurances against chronic food insecurity.

sheep, goats and *chauri* that provide considerable income, as well as supplementing the diet. The number of livestock (particularly a pair of bullock) possessed by a family is taken as an indicator of well being of the family. It is commonly held that those who own a pair of bullocks will not go hungry. For example, the decision to marry a daughter to a farmer is often based on whether the household has enough able-bodied men, house (that is, well repaired), land, and livestock. In the western districts, yet another sign of prosperity, at least until the recent past, was the collection of fuelwood on the roof of the houses. The older the wood, better the sign that the household has not had to dip into its 'reserves' for survival (with the introduction of electricity, this feature has become increasingly irrelevant). Forest products also complement the household food needs either on a regular basis or during food stress periods.

4. Marginal Farmers and their Subgroups

Marginal farmers (taken here as those who have landholdings less than 0.5 ha) are vulnerable to food insecurity due to the poor productivity of land that gets coupled with their small or negligible landholdings. For each subgroup, the situation varies according to where people are located -- in the mountains, the hills, and or the *terai.* (Table 1 divides each ecological zone in eastern and western districts, also see Map 2 for the location of districts. Table 2 shows the population for each subgroup of marginal farmers, by agroecological zone, and for the country as a whole). This paper further emphasises the difference between those marginal farmers who are located in the west from those in the east. In addition, it discusses the sharecropping and agricultural labor arrangement in Nepal. The sharecroppers and agricultural laborers are concentrated in the *terai*, and fare worst in terms of food security status.

Table 1: *Districts by ecological zone, in eastern and western Nepal*

Ecological zones	Western Nepal	Eastern Nepal
Mountain districts	Dolpa, Mugu, Jumla, Manang, Mustang, Kalikot, Bajura, Humla, Bajhang, Darchula	Rasuwa, Sindhupal-chowk, Dolakha, Solukhumbu, Sank-huwasabha, Taplejung
Hills districts	Gorkha. Lamjung, Tanahun, Syangja, Kaski, Myagdi, Parbat, Baglung, Gulmi, Palpa, Arghakanchi, Pyuthan, Rolpa, Rukum, Salyan, Surkhet, Dailekh, Ja-jarkot, Achham, Doti, Dadeldhura, Baitadi	Ilam, Panchthar, Ter-hathum, Dhankuta, Bhojpur, Udaypur, Khotang, Okhald-hunga, Ramechap, Sindhuli, Kabhre, La-litpur, Bhaktpur, Kath-mandu, Nuwakot, Dhading, Makwanpur
Terai districts	Nawalparasi, Ru-pandehi, Kapilbastu, Dang, Banke, Bardiya, Kailai, Kanchanpur	Jhapa, Morang, Sunsari, Saptari, Siraha, Dhanusha, Sarlahi, Mahottari, Rautahat, Bara, Parsa, Chitawan

The majority of the mountain population are counted as farmers in the census. Of the total mountain population, nearly 45% are marginal farmers and landless agricultural laborers and sharecroppers. In the hills, approximately 35% of the population are marginal farmers. In the *terai,* 65% of the population is involved in farming, and approximately 48% of all farm households in the *terai* are marginal farmers and agricultural laborers (also see Table 2).[6] The marginal farmers cultivate only 7 % of the total cultivated area in the *terai*. Although the cut-off for marginal farmers for this paper is taken as 0.5 ha, the average land-holding of a typical marginal farmer is much lower at 0.21 ha (but the average size of the holding for all farm households in the *terai* on the whole is 1.23 hectare). Therefore, although the cultivated land is less

[6] The number of farmers in the eastern districts is higher than in the western districts (see Table 2). The marginal farming group (including sharecroppers and agricultural laborers) make up nearly 30% of Nepal's total population, of nearly 23 million people (CBS 1991).

saturated than the Hills (see above), farmers in the *terai* till a smaller amount of land. However, this is compensated by the better quality of the land and shorter agricultural calendar in the southern plains.

Table 2: Composition of subgroups among marginal farmers

Subgroups of Marginal Farmers	**Mountains**	**Hills**	**Terai**	**Total**
Sharecroppers and landless agricultural laborers	19,481	159,060	467,027	645,568
Marginal farmers of western districts with <0.5 ha land	337,725	190,5837	65,4936	2,898,498
Marginal farmers of central and eastern districts with <0.5 ha land	333,902	1,350,756	1,522,085	3,206,743

Source: CBS, 1991

5. Marginal Farmers: The East-West Divide

There is a gradient regarding the food security situation in Nepal. Farmers who do not have their own land and practise sharecropping and/or provide agricultural labor are considered as those who are most food-insecure. The marginal farmers in the western region are the next most food-insecure. Due to poor land quality, lack of precipitation, the farmers in the western parts are considered as worse off than the marginal farmers of the eastern regions (see Table 1). The latter have relatively better economic opportunities due to the existence of a more vibrant market economy, infrastructure, and proximity to Indian markets. In the east, the soil is of better quality, monsoons are timelier, and there are fewer shocks to the farming system (droughts, for example).

In the mountains, the eastern districts not only have longer growing seasons for staple crops but also the cash crops grown in the area (car-

damom and tea) find accessible markets in the neigboring India (it has been argued that the marginal farmers are, however, not the prime beneficiaries of this trade). To cope with drier and less productive land, the farmers in the western districts have built up large livestock bases. However, because of lack of roads, and access to markets, they are deprived of sustainable trade in livestock and livestock products.

In the higher reaches of the Hills districts, the situation is similar to the mountain districts. On the other hand, for the farmlands located at lower altitudes, the farmers in the west suffer a higher proportion of fragmented landownership, a drier climate, and lower productive land. Within the *terai,* there is a notable difference in agriculture patterns between the eastern and the western districts, and between the northern highlands and the southern plains. For one, the rainfall pattern in eastern *terai* is different from the west. The monsoon comes earlier in the east and is more regular than in the west. The west gets less rain, and a significant part of this is in the winter months.[7] In the *terai*, the eastern part is better off in terms of infrastructure and market access.

Generally speaking, due to small size of the agricultural land, marginal farmers are often underemployed, and the crop yield from their own land is insufficient to make them food secure for the whole year. Resultantly, they seek cash-income from working as agricultural labourers, and, in nonfarming seasons as porters, in caste-based occupations, or as petty goods traders (in fruits, and nontimber forest products). However, with the same landholding size, a typical household in the east may be food sufficient for up to 8 months, compared to 6 months in the west (and less than 3 months for agricultural laborers and sharecroppers [discussed below]). In lean months, marginal farmers also rely on livestock and fruit products (mainly citrus fruits), and other income sources such remittances from family members in India, to maintain food consumption levels. However, during winters in households where young men are away working, women, children and older people are vulnerable to any shock that can harm their stock of food.

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[7] Within the *terai*, the southern parts of *terai* have better ground water reserves than the hilly north.

Compared to the eastern districts, the farmers in the western Nepal have poorer access to markets, and off-farm jobs. The farmers in eastern districts face the problems of increased population pressure, progressive fragmentation of land assets, and progressive loss of soil fertility.

5.1 Special Marginal Farming Groups

There are two special farming groups spread across the *terai*, who deserve mention. These are the Chepang community who had traditionally derived the majority of their food from forests and common property resources and have now begun to practise settled agriculture, and the hill migrants who migrated from highlands to permanently settle in the *terai* region. Both groups do not have clear titles to the land they till. There are approximately 15,000 Chepang households and 40,000 migrant farmers from the hills and mountains. They live mostly at the edge of forests (areas that have recently been cleared) and do not have land titles. Compared to the regular *terai* farmers, these two subgroups are worse-off in terms of food security. They could settle only on marginal lands, and the land entitlement is insecure. The forest and other common property resources that were food sources to these communities have become scarce in many areas, and the access is heavily regulated by the government.

6. Sharecroppers and Landless Agricultural Laborers

This subgroup is comprised of agricultural laborers and sharecroppers with no agricultural land of their own. The sharecroppers and agricultural labourers earn part of their living by working for a landlord, with responsibilities of sowing, ploughing, and harvesting in exchange for wages. The wages are mostly in kind, usually a share of the crop produced at harvest, (50% is common[8]). The crop share from sharecrop-

[8] As noted before, the sharecropping households are seldom food secure for more than 3 months. Hence, the 50% share that the sharecroppers receive from the landlords is not only indicative of an exploitative agricultural labor condition, but also that the land that is usually rented out to sharecroppers is of small size, and

ping and agricultural labour is able to feed families for up to three months. For the rest of the year, these farmers earn wages from carrying loads and taking up caste-associated works (many of the sharecropping and agricultural labouring households belong to traditional occupational castes such as Kami [blacksmiths], Damai [tailors], and Sarki [leather-workers]). Another source of income for these families, especially in mountain districts, is the collection and sale of fuelwood, mushrooms, and some medicinal herbs. Women contribute by working at the landlords' households. A few men go to India for seasonal work. The number of seasonal migrants is, however, small, as such practice requires networking and initial expenses (for travel, and stay), which are often not available to the sharecroppers.

The majority of Nepal's agricultural labor force is found in the *terai* (see Table 2). The agricultural labor arrangement in the *terai* is complex and has evolved over centuries. This includes several informal systems of contract formation, payment, and patron-client relationships that have been in place for generations. Three features mark the agricultural situation in *terai*: the agricultural laborers usually come from lower caste groups who have little or no agricultural landholding, labor contracts are informal and made orally, and currently, there are important changes underway in the agriculture sector in Nepal (only recently the bonded labor arrangement has been dismantled, for example). The agricultural laborers in the *terai* are of two types, bonded laborers who until recently used to be locked in long-term contractual relationships with rich farmers, and regular agricultural laborers not tied up in long-term contractual arrangements with the landlords.

6.1 Kamaiya bonded laborers

These laborers are mostly of Tharu community and are called *Kamaiya*, meaning a hard-working person.[9] Over time, however, the term

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the quality of land is too poor to sustain sharecropping households for the whole year.

[9] Tharus are indigenous to *terai*. 97 % of this community in Nepal lives in *terai*, more in the west, and Tharu are one of the few mountain ethnic groups who battled and survived the southern, malaria-infested *terai*.

Kamaiya has come to mean the bonded agricultural labor system of Nepal. The *Kamaiya* system was practiced in the far western districts in the *terai*, Dang, Banke, Bardiya, Kailali, and Kanchanpur, and, to a lesser extent, in the adjacent western districts, Kapilbastu, Rupandehi, and Nawalparasi (see Map 2). Apart from Tharu community, poor households of a few other caste/ethnic backgrounds had also become part of such labor arrangements. The employers, the farm-owning households, on the other hand, are usually richer farmers of hill origin.

Under the *Kamaiya* system, an agricultural laborer makes a contract with his landlord to work for a specific period of time. However, if a *Kamaiya* owes money to the landlord, he cannot leave until he is free of debt. In practice, *Kamaiya*s are kept in debt, and they remain bonded with the landlord household for years, if not life. Landlords can 'sell' any excess *Kamaiya*s to other employers, who in turn pay off the debt that the *Kamaiya* might owe and acquire a cheap labor force. Under this arrangement, a landless and homeless household moves with his family to live on a property leased out by his landlord. Indeed, in such a case, the whole family of a *Kamaiya* becomes bonded with the landlord. The men are responsible for carrying out regular agricultural work. Women, on the other hand, do domestic work in the landlords' households, and children work as animal herders for the landlords.

On July 16, 2000, the government of Nepal freed the *Kamaiya*s from their contractual obligation, and made the *Kamaiya* arrangement illegal. The government has been trying to resettle the *Kamaiya* since then. Since being librated *Kamaiya* have moved to other labor sectors, such as bricklayers and rickshaw pullers. Women have been supported by rural development banks with promise of collateral-free loans. Several *Kamaiya* households complain that their economic conditions have worsened since being freed. There is no security of livelihood; the relief programs have been slow, insufficient, and have not covered everyone. Indeed, although the liberation provided this group prospects of better livelihood options and social status, these have yet to be realised.

6.2 Regular agricultural laborers in the terai

This subgroup is comprised of daily wageworkers who perform various agricultural tasks such as sowing, harvesting, manuring, and col-

lection of agricultural goods. Most people in this subgroup are either landless or have only small plots of land. Some of them own a few animals. An important income source is labor wages earned as seasonal migrants to India and nonfarm work in other parts of Nepal. Migration for other livelihood opportunities has been on the rise. The majority are paid on a daily basis, for example with 5 kg paddy or wheat per person per day. They are also given food, and a daytime snack. In addition, they can cultivate about 0.1 ha of land and keep the produce for themselves. On the other hand, in other areas the laborers can instead get paid in cash or kind on a monthly, quarterly, or even on an annual basis. As an incentive, landlords often give these laborers a small piece of land (about 0.1 ha) for cultivation.

7. Social Capital as a Livelihood Asset

The intra- and intercommunity relationships are put to important use by poor farmers to secure livelihoods and ease food stress periods. The household members take turns looking after community livestock, for example. Also, the intracommunity networks help finding jobs in informal economy sectors (portering, petty trading, etc.). Landless sharecroppers and agricultural laborers help each other with *labour* loans called, *'aicho-paicho'*, and during stress periods, the households exchange credits, in cash or kind. Exchange of gifts between households during times of food scarcity is also common.

There exists a strong base of social capital among the poorest of the marginal groups, the former *Kamaiyas,* or the bonded laborers. The *Kamaiyas* come from tightly knit Tharu communities. Tharu household heads, called *ghardhuriya*, elect for each village a community leader, called *Badghar*, or *Mahato*, carried out in a public assembly called, *Khel*. Although, the *Ghardhuriya* decide how things run in households, the *Badghar* or *Mahato* look after village affairs, including mobilization of labor for employment, community work, and, religious activities. The leaders also help resolve conflicts among community members. The public gatherings provide an opportunity for community members to exchange ideas and develop cohesiveness.

Patriarchy is the common practise in Nepal. Men dominate decision-making, and are the main income-earners. Among relatively better-off

families, women are discouraged from working for others. In Hindu-caste groups, women eat last, once men and children have eaten, and during pregnancy women often do not get sufficient nutrition care. The caste practises are particularly apparent in the *terai,* with inequity being higher in the west. Owing to highland influences, caste differences are lower among the residents of inner, or northern *terai* than in southern *terai*.

Marginal farming communities from lower castes and ethnic groups, in general, practice a less conservative culture than what is standard in rest of Nepal, and there is better gender equity in household decision making. In Tibetan communities, the equity between men and women is better. For example, women of Rai, Limbu, Sherpa communities in the eastern high mountain regions have better access to decision-making in a household. However, men usually make most of the livelihood decisions. They alone migrate to the lower hills, plains, and foreign countries looking for jobs. Women from certain communities (Thakalis, for example), however, have shown exemplary entrepreneurship in running hotels and petty businesses and can work independently of menfolk. On the other hand, some communities practise polyandry, where a woman gets married to two or more men, usually brothers in the same household. The practise is on the decline, and arguably, had helped landholding and other assets to remain within one household, and not be split.

The farming community, in general, is not well represented in the mainstream national politics. Marginal farmers are poor both in socio-economic and political milieus. There is little representation in governance in local and national polity. Field reports indicate that those few from these marginal communities who receive a senior government post tend to behave like other castes and do not tend to the *dalit* issues.

8. Infrastructure: Education, Health, Roads, and Communications

Many parts of Nepal, and particularly the highlands are characterized by inaccessibility and marginality in terms of markets, mainstream

politics, education, skills, diversification, and growth. In fact, most of the line agencies are present in the district headquarters only. Accessibility to an already scarce infrastructure is particularly difficult in mountain districts.

Fortunately, primary education has become increasingly common among marginal farming households. However, children are often employed for labour once they are 12 or more years of age. They often migrate out with the men, and each year their education must suffer this disruption. Illiteracy is very high in the far west. Also, the percentage of girls aged 6 to 15 attending school is very low in the western and central Hills. This number is far higher in the eastern districts.

There are health posts, but they are poorly equipped, in service staff, expertise, medicines, and equipment. Farmers have to fall back on the services by traditional healer methods called *dhami-jhankri*, or village herbalists, etc. Apart from common illnesses, the highlanders suffer from depressed psychological conditions due to isolation among family members left behind during long winters, while the able-bodied men are away to work for long periods. However, an earlier affliction, goitre, is on the wane since the replacement of iodine-lacking salt from Tibet with cheaper and iodized salt from India.

In the *terai* the primary schools, hospitals, health centres, and health posts are located within a few hours of walking distances (except in some hilly parts in the north). However, many parts of the hills and mountains do not have roads, and there is no easy accessibility. Roads, if present, reach only the district headquarters, connecting them to other district, and some major villages. Generally speaking, the road and telecommunications access is greater in the east than in the west in all three ecolgocial zones.

9. Common Problems Faced by the Marginal Farmers

The common difficulties facing marginal farmers are the low value of their assets, exposure to natural hazards (particularly in highlands), few opportunities to diversify in agriculture and other businesses (or profit from existing diversification), and poor clout in the mainstream politics.

9.1 Natural Hazards

The arid condition of the land and lack of irrigation facilities allow farmers only inadequate production from their farms. In addition, shocks such as heavy snowfalls and hailstorms damage standing crops. Similarly, frequent earthquake tremors, floods, and landslides take away their cultivable land, and progressively cause soil structure degradation. The growing season is very long in the upper parts of the highlands; as a result, fewer crops can be grown. As noted earlier, the dry west is poor in both precipitation and soil. In the past, there have been several instances of a late monsoon and prolonged drought also affecting the eastern regions. At several places, there has been marked degradation in the quality of natural resources, particularly forests. Communities such as Chepangs who still draw a high proportion of food items from forests are liable to suffer from this trend.

9.2 Dearth of Nonfarm Job Opportunities

There is a dearth of job opportunities during the off-season within the farming districts. Tourism is in its infancy. The seasonal migration of men that is common has resulted in the 'feminzation' of agriculture, and psychological problems for those who are left behind.[10]

9.3 Infrastructure

The absence of roads creates crop losses, and hampers production of fruits, e.g. apples, that rot due to lack of access to markets. Lack of modern inputs, improved seeds and technology are additional reasons for poor production and poor income. Remoteness from markets does not give farmers information in time to cushion them from price fluctuations. Many household sell their crop produce at very cheap prices to local merchants, because competitive markets are far away.

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[10] The term *feminization* of agriculture has been used elsewhere, for example by the Asian Development Bank. It means women tending to those aspects of agriculture that traditionally were seen as the responsibility of men.

9.4 Indebtedness

Marginal farmers' own produce seldom covers their annual food requirements. They need to resort to loans to tide through difficult periods. However, farmers are unable to obtain formal credit since they do not have lands that are acceptable for banks as collateral against loans. Informal credit that comes mostly from moneylenders is their only option. The household constantly borrows money at high interest rate, which ranges from 36% to 60% per annum. The farmers cannot get loans from the formal system due to a lack of security required for bank loans. The excessive interest rates further aggravate the poverty situation. The banks usually do not provide loans without trustworthy collateral, but marginal farmers do not have trustworthy collateral to pledge. Such a system excludes marginal farmers from benefiting from loan facilities, pushing them into exploitative relationship with local moneylenders and into perpetual indebtedness.[11]

9.5 Armed Insurgency in Nepal

Since 1996, Nepal has suffered the Maoist guerrilla insurgency or 'People's War' that was launched to destroy the constitutional monarchy and with an aim to establish a 'Maoist people's democracy'. Since June 2001, the Maoist uprising in Nepal has intensified, and the country was put under Emergency in November. The clashes continue between the military and the rebels, mostly in the countryside. The armed insurgency has affected the plight of marginal farmers. Many districts are acutely affected. Reportedly, many of the poorer sections (and arguably, marginal farmers) are not only made to play hosts to insurgents but are recruited (including women) into the insurgent groups. The insurgency has left several areas without farming activities, and many forests that served as food and fuel sources for the insurgents have been made off limits by the government.

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[11] The banking situation in *terai* is better than in the highlands. Formal sources of credit include Agricultural Development Bank, Rural Development Banks, and Co-operatives. The farmers have also formed savings and credit groups, such as the Small Farmers Development Program (SFDP), and Production Credit for Rural Women (PCRW).

10. Coping Mechanisms

To get bigger yields, sharecroppers and agricultural labourers work on new lands once they have finished their regular contracts. During the stress months when there is little farming activity, many farming households (particularly women members) collect forest products such as fuelwood, edibles, and nontimber forest products (mushrooms, medicinal herbs) for supplementing their household food sources and to earn petty cash in local markets.

As noted earlier, taking loans at high interest rates (3-5 rupees per 100 rupees per month) is often resorted to. In more severe circumstance, change in food habits to less preferred food such as forest roots, *tarul, bhyakur, gittha* and or flour soups, *dhindo* and *khole*, eating less, and skipping meals are reported. In severe shortages, the farming households may mortgage or even sell land, livestock, and homesteads to raise money or resources for food. Seasonal migration is on the rise (usually by men) to India and other foreign countries to earn cash, usually from selling labour.

11. Areas of Opportunities for the Marginal Farmers

11.1 Use of Forests, Pasturelands, and Water Towers to Better the Lot of Farmers

Nepal has an abundance of pasturelands that is present also in the western districts. Several communities have long traditions of managing large numbers of livestock, such as sheep, goats, cattle (including yaks and dzos). However, there are few markets for livestock and products. Similarly, forests offer a potential source of food and income, especially for those communities who have a history of dependence on forest resources, and can reliably manage their local forests, for example through participatory community forestry committees. The mountains' water sources could also be put to better use to serve the irrigation and electricity needs of the rural households.

11.2 Livelihood Diversification

Both the eastern and the western mountain districts in Nepal have potential for cash crops such as vegetables and fruits. However, it will be important that marginal farmers are able to grow them (during nonfarming seasons for staple crops, for example) and market them for profit. There is also a need to create nonfarm employment opportunities. One possible area is to process and market nontimber forest products (NTFPs). These are currently harvested in an unorganized manner and sent away without processing. Marginal farmers who are involved in collection of NTFPs get lower prices than the actual market price. Both community-based infrastructure to process the collected NTFPs before they are sold to the middlemen and better information on markets will be helpful.

11.3 Agricultural Productivity Improvement in Terai

The *terai* has the potential to benefit from improved agricultural technologies that would increase the productivity of smaller pieces of land that are typically owned by small and marginal farmers. Land productivity can be increased by increasing cropping intensity through better management of water, increasing the use of improved technologies for increasing yields, and growing high-value crops. Also, a greater diversification of farming systems is needed.

11.4 Employment Opportunities in India

The proximity of Nepal to India offers employment opportunities for wage laborers. The relatively recent liberalization on the Indian side has served as an impetus for cheap Nepalese labour to work in India and at the same time has helped create market for goods from India in Nepal. The goods that poorer citizens in Nepal buy seldom, however, use cash that is generated from their primary occupations in the country, instead they are often cash earned in India, or remittances from abroad.

An equitable trade relationship with India is urgently needed. The 1950 peace and friendship treaty between India and Nepal asks for 'equal' treatment for both the countries. Although this makes Nepal an open

free market for Indian goods, thereby gainfully serving the Indian interest, it provides no formal platform to articulate Nepal's needs. Additionally, Nepali do not enjoy rights that, for example, a province in India has, where the Indian government is obliged to aid in development on a par with investments elsewhere. Nepal's traditional occupations have been highly undermined by cheaper Indian products and trade practices.

12. Possibilities for Reducing Poverty and Enhancing Food Security

12.1 Infrastructure Development

As noted earlier, transport systems are most primitive in the mountains. Several 'east to west' roads have now been constructed in the country. However, it is still difficult and expensive to carry goods from the southern regions upward into the mountains. More roads that run north-south need to be developed. The government should try to have service posts equipped with medicines and personnel to attend the cases of epidemics and/ or provide regular medical treatment to both humans and livestock. Similarly, the tourism infrastructure is still in an infancy stage in Nepal. More peaks, and destinations could be opened to cover a larger area. However, the tourism-design should aid the earning power of marginal farmers.

There is also a need to address the indebtedness of farmers. Formal financial institutions could support the needy farmers by providing credit facilities (low interest, timely delivery of loans that are given against minimum collaterals).

12.2 Capacity building

The areas of intervention may also include training marginal farmers in advanced farming techniques, in processing of select crops, and in marketing of both subsistence and cash crops. This, added to the impetus of literacy and general vocational training, should be made popularly available. The literacy rate among women members in marginal farmer households is currently very low.

13. Conclusion

Approximately 30% of the Nepal's total population are marginal farmers, sharecroppers, and agricultural laborers. Most of these live below the poverty line. The marginal farmers work unproductive and unirrigated landholdings that are unsustainably small. They usually own only a few head of livestock and obtain only small earnings from other sources. Lack of awareness, and a high rate of illiteracy preclude these farmers from opportunities that require information and skills. Also, the low social capital that many marginal household have, due to lower caste status, for example, prohibits certain economic activities and their representation in mainstream politics. On the other hand, community relationships are regularly used by poor farmers to share assets for farming and cope during food stress periods. However, the value of their asset is not able to earn them fair loans, which they perpetually need. Consequently, they take out loans from local lenders at very high interest rates.

Nonetheless, the eastern part of Nepal has benefited from better agricultural potential, relatively better infrastructure network and closer marketing and labour relations with neighboring India. The eastern region also has more units of services (health, education) than in the west, since the density of population per square km is much higher. Road networks are denser and closer to hamlets than in the western region. The advantages of the *terai*, such as better markets, roads, cash crops, etc., on the other hand, have often failed to benefit the small farmers there. Several well-meaning policies and welfare programmes for marginal farmers have had limited impact, if any at all. This paper recommends higher crop production, equitable use of natural resources, welfare and empowerment for farmers, a better agricultural trade arrangement with India, and welfare policies and programs that are handled sensitively and sustainably.

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