

Food Insecurity and Vulnerability in Nepal: Profiles of Seven Vulnerable Groups

**Food Security and Agricultural Projects Analysis
Service (ESAF)**

ESA Working Paper No. 04-10

May 2004

Agricultural and Development Economics Division

The Food and Agriculture Organization
of the United Nations

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Italy

Contact: Christian Romer Lovendal
e-mail: christianromer.lovendal@fao.org

Abstract

This report documents the main findings of vulnerable group profiling work in Nepal. It identifies the characteristics and investigates the vulnerability for seven particular livelihood groups, notably marginal farm households in the Terai, in the hills and in the mountains, agricultural labour households in the Terai, porters in the hills and mountains, rural service castes, and poor urban workers in the informal economy in the Kathmandu Valley. Based on this analysis, it considers how these people cope during times of insufficient food production and/or earnings, and proposes actions that could be taken to reduce their vulnerability to becoming food insecure in the future.

Most of the research on poverty in Nepal during the past decades has focused exclusively on determining the poverty line and calculating the proportion of people living under this line, rather than unmasking the characteristics, particularly the locational aspects, of poverty other than the rural and urban distribution (Sadeque, 1998). This report therefore contributes to new knowledge by identifying and characterising particular vulnerable groups of people in broad geographic areas based on their livelihoods. The knowledge and insights gained through this process is intended to complement existing assessments at the household/community and national level, and to help bridge the gap between local knowledge and national level decision-making. It is hoped that this study will draw attention to the need for greater policy and programme support to food security in Nepal. In this context, the findings could inform the design of a food security policy (as recommended in the UN progress report on implementation of the Millennium Development Goals in Nepal), as well as the development and strengthening of other policies and programmes that reduce vulnerability and increase food security for a larger share of the population in the country. In particular, it could be useful in supporting implementation of the Government's recently formulated Poverty Reduction Strategy Paper (PRSP) which received cabinet endorsement in May 2003.

Key Words: Vulnerability, Food Insecurity, Vulnerable Groups, Livelihoods Profiling, Nepal.

JEL: Q18, Q19, O20.

This study was prepared by the Food Security and Agricultural Projects Analysis Service (ESAF) in the Agricultural and Economic Development Analysis Division (ESA) of the Food and Agriculture Organization of the United Nations (FAO). FAO also provided funding for this study, which was undertaken as part of the International Year of the Mountains (2002) initiative.

In Nepal, ESAF wishes to express its gratitude to the His Majesty's Government of Nepal (HMGN) for its interest in, and support to, this work. In particular, the role of the Ministry of Agriculture and Soil Conservation (MoASC) in facilitating the research process and co-organizing meetings is gratefully acknowledged. A number of consultants led the research process, and were responsible for analysing and documenting the findings. Specifically, ESAF wishes to recognise the leading role of Manish Tiwary throughout this process, as well as the support provided by Ganapati Ojha, Shyam K. Upadhyaya, Krishna Hari Maharjan and Ammeena Shreshta.

Several non-governmental organizations (NGOs), including Lumanti, Child Workers in Nepal (CWIN), Save the Children, International Porters Protection Group and the National Labour Academy, also provided valuable inputs. In addition, ESAF also wishes to thank Arjen Rotmans (International Centre for Integrated Mountain Development), Jamna Gurung (Annapurna Conservation Area Project), Sarah Laughton and Bishwa Tiwari (World Food Programme), and Dr. Harka Gurung for sharing information and guidance at various stages of this work. Assistance provided by Sujan Pradhan (United Nations Development Programme), Amit Kumar and Kesang Tseten is also gratefully acknowledged.

Thanks also go to all the individuals and organizations that participated in national and sub-national seminars organized during this study. A special acknowledgement is due to Uday Sharma, Tirtha Man Maskey and Krishna Paudel for their assistance with the national seminars. ESAF also wishes to recognize and thank all those people in the vulnerable groups profiled who graciously provided their time and shared crucial information and insights during this process. Finally, ESAF would like to thank the staff of the FAO Representation in Nepal, principally Winston R. Rudder (FAO Representative) and S. Thirugnanasambanthar, for their support and guidance during this study.

This study draws heavily on earlier methodological work by ESAF staff particularly Fabio Pittaluga and Barbara Huddleston. Guidance from Professor David Seddon (University of East Anglia) and Karim Hussein (Overseas Development Institute) was useful in clarifying some methodological questions during the research process. Thanks are also due to several individuals at FAO for their contributions and comments on earlier drafts including Kinlay Dorjee, Margarita Flores, Günter Hemrich, and Luca Fé d'Ostiani, as well as Thomas Hofer, Daud Khan and Animesh Shrivastava. In addition, Kinlay Dorjee, Naoko Horii, Marco Knowles, Alice Carloni, Geneviève Couillet; Francoise Trine; Marijke Drysdale; Mark Smulders; Kanchan Lama, Dipti Thapa, and Christian Romer Løvendal made observations to improve this document. Finally, ESAF recognizes Christian Romer Løvendal (Economist, ESAF), responsible for guiding and coordinating the vulnerable groups profiling work, and Marlynne Hopper (Consultant) for synthesising and editing the seven profiles into this final document.

The designations employed and the presentation of material in this information product do not imply the expression of any opinion whatsoever of the part of the Food and Agriculture Organization of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

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Abbreviations

APP	Agricultural Perspective Plan
CBS	Central Bureau of Statistics
CWIN	Child Workers in Nepal
DFID	Department for International Development (UK)
ESAF	Food Security and Agricultural Projects Analysis Service (FAO)
FAO	Food and Agriculture Organization of the United Nations
FIVIMS	Food Insecurity and Vulnerability Information and Mapping System
GDP	Gross Domestic Product
GNI	Gross National Income
ICIMOD	International Centre for Integrated Mountain Development
HDI	Human Development Index
HMGN	His Majesty's Government of Nepal
MoASC	Ministry of Agriculture and Soil Conservation
NGO	Non-governmental organization
NRs	Nepalese Rupees
NTFP	Non-timber Forest Product
PRS	Poverty Reduction Strategy
VGP	Vulnerable Group Profiling

1. Introduction

1.1 Purpose and structure of the document

By providing a thorough and disaggregated understanding of vulnerability to food insecurity, the purpose of this document is to inform policy and programming interventions for reducing vulnerability, experienced by different groups of people.

Section 1 includes an explanation of key terminology and concepts used in the document and of the methodology applied during data collection. This is followed by a description of the overall food security and vulnerability situation in Nepal and a detailed explanation of the characteristics of the vulnerable groups identified and the sub-groups within them, including their livelihood activities, food security status, location, asset holdings, intra-household food distribution practices and population size. Trends, shocks, policies and underlying structural factors making different livelihood groups vulnerable to food insecurity are described in section 3, followed by an explanation, in section 4, of how these different groups seek to maintain their food security when confronted with these negative forces. On the basis of these findings, the opportunities for reducing vulnerability are described in section 5.

1.2 Concepts and terminology

Concepts of food security, vulnerability and vulnerable and food insecure groups are sometimes used with different connotations in the literature and among practitioners. For the purpose of this paper, key concepts and terms are used as follows:

Food security

As defined by the 1996 World Food Summit, food security “...exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.” (WFS, 1996 para. 1)

This definition integrates *access to food*, *availability of food* and the *biological utilisation of food* and the stability of these. These factors are interrelated. Having access to food means little if poor health status impinges on people’s ability to utilise the food they consume. Likewise, earning income to purchase food (access) matters less if insufficient food is available in markets. And, a well-stocked market is irrelevant to those who do not earn income to purchase food. Hence, developing policies and interventions to increase food security requires an understanding of each of these factors, their inter-relations and their relevance to particular groups of people.

Vulnerability

The “at all times” aspect of the food security definition refers to the stability of the other three food security factors over time. This can be understood through the concept of vulnerability. In the food insecurity context, this refers to the propensity to fall, or stay, below a pre-determined food security threshold¹ in the future. Vulnerability is a function of exposure to *risks/shocks* and of *resilience* to these. Risks/shocks are events that threaten people’s food access, availability and utilisation and hence their food security status². Resilience in the food security context is determined by the effectiveness of risk management strategies at different levels (through prevention, mitigation and coping) and by the resources (household, community, extra-community) that can be drawn upon. Vulnerability correlates positively with the probability and impact of a shock and negatively with resilience and its determining factors.

Potentially food insecure, chronically food insecure and vulnerable groups

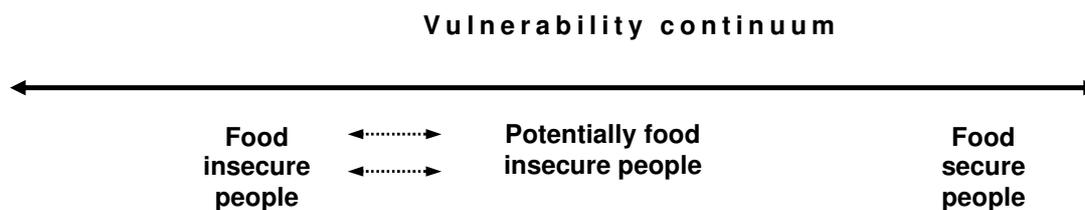
In the context of this paper, the term “**vulnerable groups**” is used to refer to both the potentially food insecure and the food insecure. Looking at both segments allows to take into account the dynamic nature of food insecurity (and poverty), and the fact that over time move people in and out of food insecurity, as shown by numerous studies (for example, Baulch, B, & Hoddinott, forthcoming; Dercon, 1999; Gaiha, & Deolalikar, 1993; Townsend, 1994) Although outcomes differ, factors making people potentially food insecure or maintaining people in food insecurity are often the same (CFS, 2000). **Potentially food insecure groups** include people who are “living on the edge” of food security. Although they are not food insecure at the specific point in time at which their food security is assessed, it is highly probable that they will become so. People in this group face a risk of being exposed to a negative shock/trend that, given their risk management capacities, make them food insecure. Those able to recover from such shocks are considered **transitory food insecure**. **Chronically food insecure groups** are comprised of people who already today are below a food security threshold and who are unlikely to emerge from this in the foreseeable future. The potentially food insecure and the food insecure can therefore be considered to form a non-discrete food security continuum. Moves along this (i.e. from food insecurity to potential food insecurity and vice-versa) are highly dynamic (see Box 1).

¹ Although food security is a multidimensional concept, various measurements exist for establishing a threshold. For international comparison, minimum daily intake of food and measured as calories/caput/day is often used.

² Given the focus on food insecurity, this paper mainly focus on downside risks. Risks with positive effects are in this paper referred to as opportunities.

Box 1: Vulnerability continuum

Vulnerable people are extremely sensitive to shocks and transitory food insecurity. Seasonal events (such as floods or limited food availability in the pre-harvest period) or unforeseen circumstances (like work-related accidents or illness) cause them to become food insecure temporarily when their ability to manage a shock is weak. When potentially food insecure people can no longer meet their minimum food needs, because the negative influences they face are too high and/or their risk management capacity is weak, they become food insecure. The transition from potential food insecurity to food insecurity (and from food insecurity to potential food insecurity) is very dynamic and can occur rapidly.



adapted from FAO, 2002

A livelihoods approach to food security analysis

A working definition of livelihoods, provided by Ellis (2000: 10) is:

“...the assets (natural, physical, human, financial and social capital), the activities, and the access to these (mediated by institutions and social relations) that together determine the living gained by the individual or household”.

The vulnerable group profiling technique presented below specifically draws from the sustainable livelihoods approach (SLA) developed by DFID. The SLA provides a lens for analysing how people go about maintaining a livelihood. It helps in analysing how people combine the different assets to which they have access in order to pursue activities to attain a livelihood objective, within the policy and vulnerability context within-which they are embedded. The SLA is a multi-sectoral approach that allows to take into account the multidimensionality of factors that determine food security. It provides a way of looking at the macro-, meso-, micro linkages, thereby accounting for the fact that household food security is determined by household-level factors such as a household's food production but also by macro-level factors such as inflation, devaluation, changes in world markets etc. In this way, the appropriate type and best level of interventions for improving food security can be identified. The participatory principles underlying the SLA mean that through its application the perspectives of different stakeholders, including those whose food security is being analysed, are included in the analysis. This contributes to increasing the ownership and accuracy of findings and thereby the success of the ensuing interventions.

1.3 Methodology used to identify vulnerable groups in Nepal

In understanding the causes of vulnerability, the VGP approach allows to focus attention on people and on how their livelihood systems impinge on their vulnerability. Taking into consideration that the resources available for building and maintaining food security information

systems are not unlimited, the methodology applied represents a relatively inexpensive approach to understanding vulnerability.

National-level workshop

The first step involved organising a national brainstorming workshop, hosted by FAO and the Ministry of Forestry and Soil Conservation (MoFSC), in Kathmandu in December 2001. Stakeholders and experts with knowledge about poverty and food security issues in Nepal, including from Government ministries and departments, multilateral and bilateral organizations, research and scientific institutions, and international and national NGOs, participated.

During the workshop, participants were asked whom they perceived as the major vulnerable livelihood groups in the country, their location, their broad livelihood systems and the causes of their vulnerability. Livelihood systems were used as the criteria for organising the groups since this variable is considered key in determining vulnerability. The output of the workshop was a classification of seven vulnerable groups, and their major characteristics.

Review of literature

After the workshop, a multidisciplinary team (comprised of officials from the MoFSC and national researchers) cross-checked the categorization developed at the national workshop using secondary information (such as publications, project reports, diagnostic and impact assessment studies, articles and data from local information systems) and individual interviews with those who had participated in the workshop. In this way, the research team was able to make effective use of information that was already available and was able to focus data collection on filling key information gaps.

By combining the information collected through the national-level workshop, the review of secondary information and key informant interviews, the team prepared preliminary profiles for the seven vulnerable groups.

Sub-national workshops

Sub-national workshops (one in the mountains, one in the hills and another in the Terai) were held in January 2002, which allowed to tap into meso-level information that was not available centrally. At each of the workshops, participants included representatives from a large number of local government offices, NGOs, cooperatives, grassroots associations, community groups, primary health centres and schools.

Since each of the 7 vulnerable groups represented intra-groups differences in terms of causes and degrees of vulnerability, during the workshop the categorisation of these groups was refined by dividing each group into sub-groups based on a high level of homogeneity in terms of livelihood strategies and perceived position along the vulnerability continuum. Additional information on the livelihoods of each of these groups was collected, using the Minimum Information Set³, which allowed to ensure that key information related to the livelihoods of each of the sub-groups was collected.

³ The Minimum Information Set, developed by FAO, describes typical characteristics of households within a particular vulnerable group and provides information about the various factors that affect their food security situation and household members' access to food, as well as their health status and uptake of food (FAO, 2000).

Focus group discussions at the community level

Communities in the mountains, hills, Terai and Kathmandu Valley were visited in order to collect primary data for ground-truthing findings, filling information gaps and obtaining the views of people from the vulnerable groups. The communities to be visited were purposively sampled so as to ensure that the different vulnerable groups would be represented.⁴ Data collection tools included open-ended and semi-structured discussions, key informant interviews and short questionnaires using Likert scales.

Enumeration of the number of people in each group

The vulnerable groups were matched with the occupational categories in the 1991 national population census. Data from this census, together with district profiles, labour surveys and national agricultural statistics were then used for estimating the number of people in each of the vulnerable groups. Although the estimates produced by this approach should be treated cautiously also because of the age of the census data, this was considered a viable approach for gaining an understanding of the relative size of each groups, required for national-level policy and programming decision making.

Analysis of information

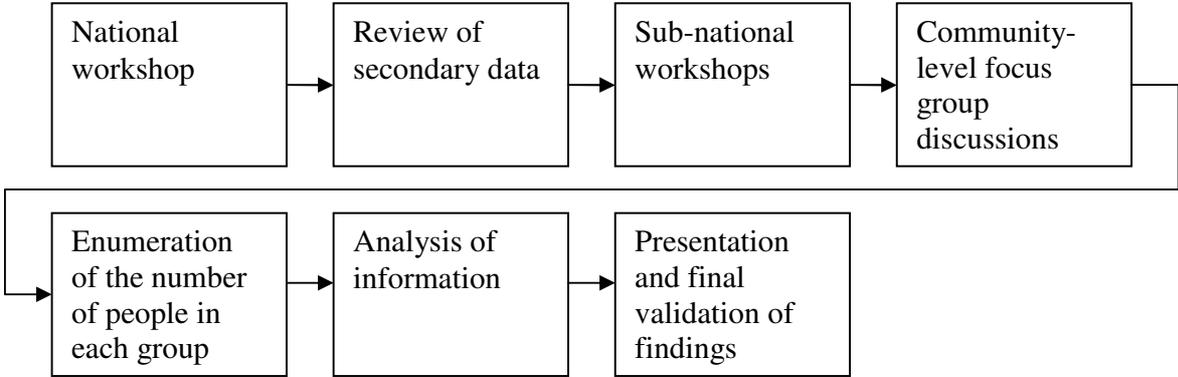
A tabular information sheet was drawn out for structuring the information collected, which was then analysed by identifying the strengths, weaknesses, opportunities and threats for each sub-group.

Presentation of findings

Once the profiles were compiled, a national seminar was organized in Kathmandu (November 2002) by the MoFSC and the International Centre for Integrated Mountain Development (ICIMOD). Key informants and institutions involved in the process attended this seminar to review the finalised profiles of the seven vulnerable groups and, on the basis of this information, discussed policy and programming implications, including interventions required to reduce the vulnerability of people in these groups to remaining or becoming food insecure in the future.

⁴ Due to security concerns related to the armed conflict between insurgents and the state military, the research team was unable to visit the western districts. Information on the western districts was gathered from secondary research and brainstorming sessions in Kathmandu.

Figure 1: Key steps in profiling



2. Who is vulnerable to food insecurity in Nepal?

2.1 Context of food insecurity and vulnerability in Nepal

Nepal is among the poorest countries in the world with an annual per capita income of approximately US\$230. The level of absolute poverty is among the highest in Asia, and has increased from 33 percent of the population in 1977 to 42 percent in 1995/96 (Gill, 2003). More than nine million people, accounting for about 40 percent of the population, are currently estimated to live below the national poverty line which is set at approximately Nepalese Rupees (NRs) 4 400 (\$77) per capita per annum and based on calorie intake, housing and various non-food standards (ADB, 2002). Despite improvements in

economic and social indicators over the past two decades, human development indicators remain low. The Human Development Index⁵ (HDI) rank of Nepal in 2001 was 143 out of 175 countries indicating a low life expectancy at birth, low educational attainment and a low standard of living (UNDP, 2003).

Poverty and food insecurity are closely related in Nepal. With approximately 85 percent of the total population living in rural areas, poverty is much more prevalent, intense and severe in rural districts (see Table 1). Within rural areas, poverty is worse in mountainous areas, especially in the most remote mid- and far-western hill and mountain districts where as much as 70 percent of the population is poor and local food production sometimes covers just three months of annual household needs. In some cases, due to the rugged terrain and lack of roads, people cannot access food even when they can afford to buy it. Households in some areas face seasonal food shortages every year; conditions of famine are frequently and regularly reported from the north-western Narnali Region (UNDP, 2002).

Persisting poverty and faster growth in population than food production have exacerbated food insecurity. The number of hungry people rose from 3.5 million (19 percent of the population) to 5 million (23 percent of the population) between 1995 and 2002 (FAO, 2003). Nutritional deficiencies affect 40 percent or more of the population and approximately 36 percent of Nepalese people were estimated to consume less than the minimum daily caloric intake in 1997. Hill households, urban residents, and mountain people consume less food than the recommended

Box 2: Nepal at a glance

Population (2003): 24.2 million
Population growth (% , 1997-03): 2.2%
Poverty (% of pop. below poverty line, 1996): 42%
Urban population (% of total pop.): 13%*
Life expectancy (years): 60%*
Child malnutrition (% under 5): 48%*
Illiteracy (% pop. aged 15+): 55%*
Gross National Income per capita: US\$240
Agriculture (% of GDP, 1993): 41.3%
Exports of goods & services (% of GDP, 2002): 16.1%
Imports of goods & services (% of GDP, 2002):28.8%

* Most recent estimate (latest year available, 1997-03)

Source: <http://www.worldbank.org>

⁵ The HDI is a composite summary indicator of development, including longevity (measured by life expectancy), knowledge (measured by a combination of adult literacy (2/3 weighting) and mean years of schooling) and standard of living (measured by national income per capita) www.undp.org.

daily allowance (UN, 1999). Within the population as a whole, certain groups – particularly women and girls, children, tribals and members of lower caste communities – are especially vulnerable to food insecurity.

Table 1: Poverty in Nepal⁶ (1996)

Area	Share of population below the official poverty line (%)	Increase in household income needed to rise above the poverty line (%)
Ecological zone		
Mountains	56	18.5
Hills	41	13.6
Terai	42	9.9
Sector		
Urban	23	7.0
Rural	44	12.5
National average	42	12.1

Agriculture represents the largest sector of the Nepalese economy and provides the principal livelihood for over 80 percent of all working adults (CBS, 1996). However, agriculture is characterised by low-productivity subsistence production and has been in relative decline since the 1980s.⁷ Per capita cereal grain availability has fallen from 198 kg in 1991 to an estimated 186 kg in 1997 (UN, 1999), and many districts have large food deficits (see Table 2). All 16 mountain districts are classified as food-deficit, a problem that is exacerbated by their rugged terrain and lack of transport infrastructure, which makes it expensive and difficult for food to reach them from outside. Although the situation in the hills is not as severe, there are also serious availability problems in hill districts. Given the constraints in agricultural production, wage labour and remittances from family members working in urban areas and abroad provide an increasingly important source of support for poor rural households.⁸

⁶ Data based on the 1996 Nepal Living Standards Survey (NLSS). The official poverty line stands at NRs 4 404 per person per year. It is based on a food consumption basket of 2 124 calories and an allowance for non-food items of about two thirds of the cost of the food basket (CBS, 1996). The increase in household income needed to rise above the poverty line is expressed as a percentage of the poverty line money income. This measure is also known as the depth of poverty (ADB, 2002).

⁷ The agricultural sector grew by 2.5 percent during the 1990s against 4 percent in the 1980s. The share of agriculture in the GDP has fallen from 66 percent to 38 percent during the last twenty years (UNDP 2002).

⁸ Remittances from Nepalese working abroad have increased significantly and were estimated at approximately US\$855 million in 2002/03 (World Bank 2003).

Table 2: Cereal production-consumption balance by region (mid 1990s)

Region	Production (‘000 MT)	Consumption (‘000 MT)	Surplus/Deficit
Mountain	163	290	79.0% deficit
Hill	1 340	1 831	36.6% deficit
Terai	1 895	1 761	7.1% surplus
Nepal	3 398	3 883	14.3% deficit

(Gill, 2003)

The global economic slowdown, political instability and an escalation of violence and civil insecurity linked to the insurgency, growing fiscal instability and diminishing export markets (especially in the garment sector) have all contributed to a decline in the national economy since 2000 (UNDP, 2002) and intensified food insecurity. However, in spite of the January 2003 cease-fire and some recovery in tourism, transportation and garment exports, the economy remains weak (World Bank, 2003).

2.2 Vulnerable groups in Nepal

Food insecurity in Nepal manifests itself in terms of: i) insufficient per capita availability of food resulting from own production. This may be due to low productivity, bad weather or the small size of holding - a high proportion of rainfed farmers has holdings too small to produce enough calories to feed the family and a substantial proportion are sharecroppers who must give half or more of the harvest to the landlord; ii) insufficient access to food because of lack of purchasing power/poverty; and iii) poor nutrient utilization (especially among expectant and nursing mothers and infants) as a result of diseases and lack of micronutrients. Although food insecurity is of concern for the majority of people in the country, this research identified groups of people with particular livelihoods and in specific agro-ecological areas (see Figure 1) who are already food insecure or potentially food insecure (Table 3). Taken together, these groups comprise approximately 38 percent of the national population.

Table 3: Vulnerable groups in Nepal

Vulnerable group	Number of people	Share of national population (%)
Marginal farm households ⁹ in the Mountains	691 100	3
Marginal farm households ¹⁰ in the Hills	3 415 600	14
Marginal farm households in the Terai	2 644 000	11
Agricultural labour households in the Terai	934 054	4
Rural service castes	1 337 667	6
Porters	167 498	1
Urban poor involved in the informal economy in the Kathmandu Valley	8 919	0
Total vulnerable population	9 198 838	38

Marginal farm households in the hills and Terai represent the largest vulnerable groups, followed by rural service castes, agricultural labour households in the Terai, marginal farm households in the mountains, porters and poor urban households in Kathmandu Valley. Within the vulnerable groups identified, women, children (particularly girls), tribals and members of lower caste groups are among the most food insecure.

Food insecurity among women is not simply a matter of resources but a reflection of the rigid socio-cultural norms and practices (caste, ethnicity and religion) inherent in Nepal's patriarchal society (see Box 3). Even in food secure households, women do not necessarily have enough to eat; they usually are the last to eat within the household and their portion is determined by the amount left over by other family members. Children, particularly girl children, are another group at extremely high risk of food insecurity. The level of malnutrition among children has hardly changed over the past two decades. As illustrated in Table 4, approximately 50 percent of children under the age of five are stunted and 10 percent are wasted.

⁹ Including landless labourers and sharecroppers

¹⁰ Including landless labourers and sharecroppers

Table 4: Nutritional status of children¹¹

Indicator		
Under-5 mortality rate (2001)		91
Percentage of children with low birth weight (1995-2000 ¹²)		21
Percentage of children under five (1995-2001 ¹³) suffering from:	Underweight (moderate and severe)	47
	Underweight (severe)	12
	Wasting (moderate and severe)	7
	Stunting (moderate and severe)	54

Source: www.unicef.org

Box 3: Gender inequality in Nepal

Women in Nepal face substantial gender disparities. The Gender-Related Development Index* (GDI) rank of Nepal in 2003 was 119 out of 175 countries. The literacy rate for women (25 percent) is less than half the rate for men (54.5 percent). More than 90 percent of women are engaged in agriculture, compared with 75 percent of men. However, land holdings of female-headed households are consistently lower than those of male-headed households. Although women head around 13 percent of all households, no farms are owned by women. Women have extensive work loads with dual responsibility for farm and household production. They play an active role in livestock production and forest resource use. However, their work is becoming harder and more time consuming as a result of increasing ecological degradation which requires them to walk further to find fuel wood, non-timber forest products and grazing land for animals. In addition, the increasing migration of men (especially from the hills and mountains) from rural households to engage in wage labour in the Kathmandu valley and India is increasing the burden on rural women and contributing to the feminisation of agriculture.

* GDI is a composite index measuring average achievement in the three basic dimensions captured in the human development index—a long and healthy life, knowledge and a decent standard of living—adjusted to account for inequalities between men and women.

Source: www.undp.org; www.fao.org; UN 1999.

¹¹Underweight: Moderate and severe is below minus two standard deviations from median weight for age of reference population. Severe is below minus three standard deviations from median weight for age of reference population.

Wasting: Moderate and severe is below minus two standard deviations from median weight for height of reference population.

Stunting: Moderate and severe is below minus two standard deviations from median height for age of reference population.

¹² Data refer to the most recent year available during the period specified.

¹³ Data refer to the most recent year available during the period specified.

Tribals and members of lower caste groups are also particularly vulnerable to poverty and food insecurity. These households are deprived of opportunities in virtually all aspects of daily life and have lower levels of human and physical capital (see Box 4). Many have large food production deficits or are involved in occupations with low and very unstable earnings, which reduces their access to food. The incidence of poverty is higher among ethnic minorities (such as the *Limbus*, *Tamangs*, *Magars*, *Tharus* and *Mushahars*) and tribal groups (such as the *Chepangs* and *Raute*) than for the population as a whole (ADB, 2002). Although existing outside the Hindu hierarchical caste-based system, ethnic groups and tribals are regarded as inferior (though not “untouchable”) by the upper caste population and treated in the same way as lower caste Hindus.

Box 4: Caste inequalities in Nepal

Despite the anti-discrimination provisions in the 1990 Constitution, caste discrimination remains ingrained in Nepalese society. Caste discrimination constitutes a form of racism in which people are categorically relegated to subordinate social positions, and are denied equal access to social, economic, political and legal resources. Wealth and power are disproportionately distributed to favour higher castes, restricting social mobility and the possibility of intergenerational change, because caste is based on lines of descent.

Dalit (means oppressed) refers to the lowest caste group, traditionally known as the Shudra, in the Hindu caste hierarchy. Traditionally *Dalits* have been relegated to doing dirty, menial work and, as a result, have been considered unclean and “untouchable” by higher-caste groups. Although recent laws (including the 1990 Constitution of Nepal) have banned untouchability and affirmed the rights of all citizens, irrespective of caste or gender, to equal treatment, discrimination based on caste persists.

Dalits account for one in five people in Nepal. Their per capita income was just US\$39 in 1991 (compared to a national average of US\$210) and about two-thirds of *Dalits* currently live below the poverty line. The share of *Dalits* with cultivable land is just 1 percent. In 1996, the literacy rate among *Dalits* was less than 15 percent (compared with 47 percent for upper caste groups) and female literacy only 3.2 percent. Life expectancy for *Dalits* is currently estimated at 42 years compared to a national average of 60 years.

Source: National Dalit Preparatory Committee of Nepal for the World Conference on Racism (www.msnepal.org), Global IDP project (www.db.idpproject.org), ADB 2002.

2.3 Marginal farm households in the mountains, hills and Terai

Marginal farm households (including landless agricultural labour households and sharecroppers in the hills and in the mountains) are a heterogeneous group of farm households from all castes and ethnic backgrounds living in the mountains, the hills and the Terai. In this study, marginal farm households are defined as having less than 0.5 hectares of land¹⁴. The incidence of poverty among households with less than 0.5 hectares of land is 1.7 times higher than that among households with more than one hectare of land. However, households with over 0.5 hectares of land may also be vulnerable to food insecurity depending on their asset base, endowments and location. As a group, marginal farm households account for approximately 28 percent of Nepal's total population (CBS, 1991). The vulnerable group profiling methodology classified marginal farm households as vulnerable to food insecurity according to their location in the mountains, hills and Terai (see Table 5).

Table 5: Marginal farm households

Marginal farm households (including landless labourers and sharecroppers)	Number of people in these households	Share of population in region (%)
Marginal farm households in the Mountain Region	691 100	45
Marginal farm households in the Hill Region	3 415 600	35
Marginal farm households in the Terai Region	2 644 000	48

In addition to differences in food insecurity and poverty between agro-ecological zones, there are also differences and inequalities along the east to west gradient (please see Map 1 and Table 6 for a clarification of which districts are referred to as east and west). In general, marginal farm households in western districts are more vulnerable than similar households in central and eastern districts of the country. Western districts tend to be the most isolated and least developed in terms of infrastructure, communications, transportation and markets, and are located further from job opportunities and markets in India. Western districts also have less productive soils, a shorter growing season, and less and more erratic rainfall. Population growth rates and malnutrition are higher in the west than in the east. In contrast, indicators on human development and gender equality are better in the East than in the West

¹⁴ It is recognised that this cut-off point does not take into account differences in the productivity of land, depending on factors including location, access to irrigation etc. However, for the purposes of this study it would have been impractical to take into account all variables affecting land productivity and using this to create categories across a wide geographic area. The validity of population figures calculated using this cut-off was confirmed since it closely matched with the percentage of farming population that the ADB had calculated as being below the poverty line.

Table 6: Districts by ecological zone, in eastern and western Nepal

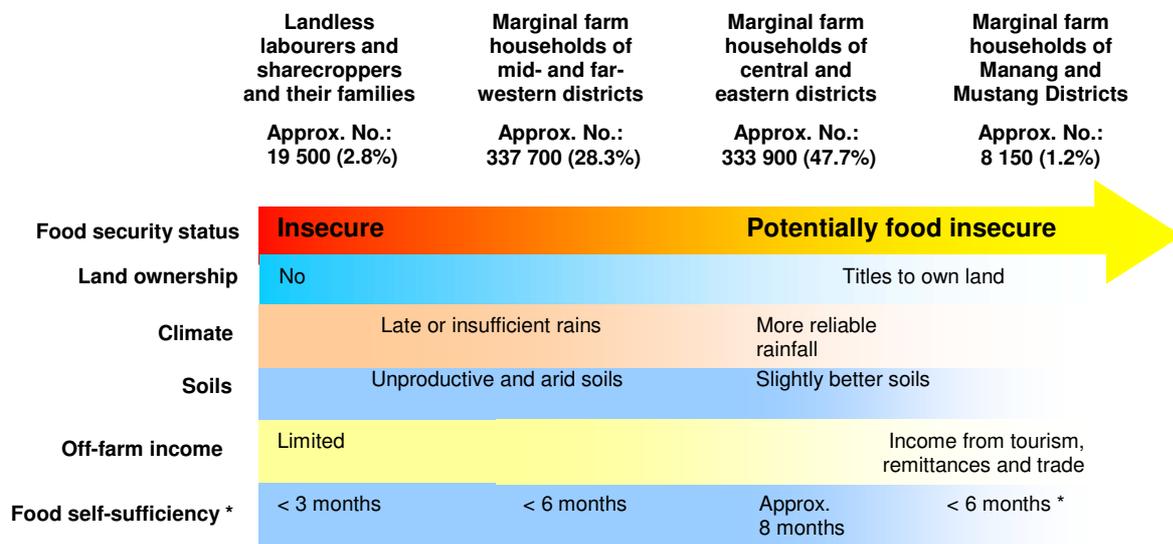
Ecological zones	Western Nepal	Eastern Nepal
Mountain districts	Dolpa, Mugu, Jumla, Manang, Mustang, Kalikot, Bajura, Humla, Bajhang, Darchula	Rasuwa, Sindhupalchowk, Dolakha, Solukhumbu, Sankhuwasabha, Taplejung
Hills districts	Gorkha, Lamjung, Tanahun, Syangja, Kaski, Myagdi, Parbat, Baglung, Gulmi, Palpa, Arghakanchi, Pyuthan, Rolpa, Rukum, Salyan, Surkhet, Dailekh, Jajarkot, Achham, Doti, Dadeldhura, Baitadi	Ilam, Panchthar, Terhathum, Dhankuta, Bhojpur, Udaypur, Khotang, Okhaldhunga, Ramechhap, Sindhuli, Kabhre, Lalitpur, Bhaktpur, Kathmandu, Nuwakot, Dhading, Makwanpur
<i>Terai</i> districts	Nawalparasi, Rupandehi, Kapilbastu, Dang, Banke, Bardiya, Kailai, Kanchanpur	Jhapa, Morang, Sunsari, Saptari, Siraha, Dhanusha, Sarlahi, Mahottari, Rautahat, Bara, Parsa, Chitawan

2.4. Marginal farm households in the Mountain Region

The Mountain Region has 7.3 percent of the country's population but only 0.3 percent of its arable land (Gill, 2003). Approximately 700 000 people belonging to marginal farm households in the mountains, equivalent to 45 percent of the population of this region, are estimated to be vulnerable. They include landless labourers and sharecroppers, and marginal farm households spread across the mountains from west to east (see Figure 2).

Depending on the altitude, rainfall, soil type and infrastructure, a variety of staple food crops (like wheat, maize, potatoes, barley, oats, buckwheat), cash crops (such as cardamom), and vegetables are grown. However, the cold climate lengthens the growing period for crops so that it can take 10 to 11 months to grow a crop of wheat in mountain districts compared to five to six months in the *Terai* and around seven months in the hills. In 2000, all sixteen mountain districts suffered food deficits ranging from 21 558 metric tonnes in Bajhang District to 193 metric tonnes in Manang District. Given the shortage of land suitable for cultivation, pasture land used for raising livestock and forests that are rich in non-timber forest products (NTFPs) are extremely important. There are approximately five people in an average farm household in mountain districts.

Figure 2 : Vulnerability continuum for marginal farm households in the Mountain Region



* Although marginal farm households in Manang and Mustang produce less food than farm households in central and eastern districts, they are less vulnerable to food insecurity as a result of their higher cash earnings.

Among farm households in the mountains, *landless labourers and sharecroppers* are most vulnerable. Lacking any land of their own, households in this sub-group work as sharecroppers or labourers, mainly in agriculture. Sharecroppers (concentrated in a few districts especially Taplejung and Sankhuwasabha) and agricultural labour households are less numerous in mountainous districts than in the hills and Terai. Some have livestock that provides an additional source of food and income. The collection and sale of fuel wood, mushrooms and various medicinal plants provides an important secondary source of income. Some households in this sub-group once owned land but lost it following fragmentation of land after inheritance, successive failure of crops or natural disasters such as a landslide. Sharecroppers access land (usually of poor quality without irrigation) in exchange for a share – usually around 50 percent – of the harvest. Their share of the harvest is sufficient for less than three months of their annual food needs typically covering November to January. The planting season (from June to August) is the most acute lean period for sharecroppers; at this time they have to plant their fields but lack a substantial source of income.

Box 5: Diet of marginal farm households

The diet of marginal farm households is monotonous, rich in carbohydrates and low in proteins. Maize, finger millet and buckwheat are the main food items eaten. However, rice is the preferred food and is consumed, when available, with vegetables and lentil or legume soup. Milk and meat provide the main source of animal proteins but are rarely eaten. Alcohol produced from millet (*raksi*) is popular, especially with men.

Agricultural labour households are usually paid in cash and/or in kind. Most receive food during employment as well as a portion of the harvest in exchange for their labour. Given their limited earnings, many agricultural labour households and sharecroppers have to borrow to survive, and most have to sell some of their food earnings to repay loans taken out during difficult times. As much as 90 percent of sharecroppers' income is spent on food and clothing. Households depending on sharecropping and agricultural labour consume the typical diet of marginal farm households (see Box 5). However, their diet is deficient in green vegetables and animal proteins, and most people eat just two meals each day (rice, lentil soup and vegetable curry in the morning and snacks in the afternoon). Malnutrition affects more than 65 percent of people in these households.

Marginal farm households in western mountain districts¹⁵ (with the exception of Mustang and Manang Districts) live in an isolated and harsh mountainous environment characterised by adverse weather conditions (including late or insufficient rains), infertile soils and erosion, inadequate infrastructure (such as a poorly developed road network and lack of irrigation) and limited market access. In some cases, markets selling food are a 15-day walk away from villages so that even when families have a little money to buy food, food is unavailable locally. Small landholdings coupled with low yields mean that household production is sufficient for just six months of the year. During the rest of the year, particularly in the pre-harvest period (June and July) when food is in scarce supply or when faced with severe shocks (such as natural disasters or the death of a wage earner), these households are vulnerable.

Most marginal farm households in western districts own some livestock (sheep, goats and *chauri*) and poultry, which provide an essential source of food and income. Additional sources of income are derived from short-term migration to work as unskilled labourers in the Terai and India, as well as the collection and sale of forest products (such as mushrooms and medicinal plants). About 80 percent of household earnings are spent on food. Income from livestock helps to cover expenses related to health care and education. During the lean season, these households have few options other than to hope for food aid provided by the Government or international institutions. Although these households have a slightly higher intake of vegetables and livestock products than sharecroppers and agricultural labour households, their calorie intake is still inadequate and deficient in proteins. Moreover, households in the north-western Karnali Region regularly face famine conditions.

Marginal farm households in mountainous central and eastern districts¹⁶ have more productive land, live in better climatic conditions (rainfall is more reliable than in the western mountains), have better infrastructure and market access, and a greater variety of livelihood opportunities than marginal farm households in the western mountains. A typical household in this sub-group is able to produce enough food for up to eight months. Most households in this sub-group own some livestock and poultry. Although these households live closer to markets (which improves access to seeds, fertilizer and agricultural knowledge and provides an outlet for selling or bartering cash crops like cardamom, oranges and *chiraito*), many households live up to seven days away by foot from towns with larger markets. Households in this sub-group earn additional income by selling citrus fruits and sweet root tubers at local markets, and by portering goods. The peak period for

¹⁵ Including Dolpo, Jumla, Mugu, Kalikot, Bajura, Bajhang, Humla and Darchula Districts.

¹⁶ Including Taplejung, Sankhuwasabha, Solukhumbu, Dolakha, Sindhupalchok and Rasuwa Districts.

portering is between January and March before farm activities begin. Men working as porters can earn NRs 4 000 - 6 000 per season.

About 65 percent of household income goes towards food and clothing. Children from these households regularly attend school but drop out rates among children over 12 years are high. Although people in this sub-group are less vulnerable to food insecurity than households with a similar asset endowment living in western districts (due to the better soils, climatic conditions and market accessibility in the centre and east of the country), they have a high exposure to hazards associated with their environment such as hailstorms, floods, ill-timed snowfall and landslides. During food deficit periods, marginal farm households in this sub-group rely on livestock and fruit (oranges and lemons) and non-farm sources of income such as remittances from family members working in India. Although marginal farm families in eastern and central districts generally have a higher production of food per unit of land and consume some more vegetables, meat and dairy products, their diet remains unbalanced.

Although *marginal farm households in Mustang and Manang Districts*¹⁷ have a similar asset base and agro-ecological conditions to farm households in other western districts, many have sufficient food for most of the year due to their income from tourism and trade, as well as remittances received from family members working abroad. State subsidised development programmes have further helped to reduce poverty and food insecurity in these districts. As a result, these households are the least vulnerable among marginal farm households in the Mountain Region. However, given their limited asset base, women, children and elders can become food insecure following shocks that affect their food reserves during winter months when young men from the household have migrated in search of work. In addition, households that have been unable to generate income from tourism and trade are significantly more vulnerable.

The majority of marginal farm households in Mustang and Manang Districts have some livestock and poultry. Many have also been able to diversify into higher-value crops, for example apples and vegetables, which are sold to trekkers. Wage labour in apple orchards provides a relatively new source of work and income for some households in this group. Yet despite their more diversified production, the diet of marginal farm households in Mustang and Manang Districts has remained simple and monotonous. Meat is mainly consumed during festivals, and millet-based alcohol is popular among men. Malnutrition among women and children remains high.

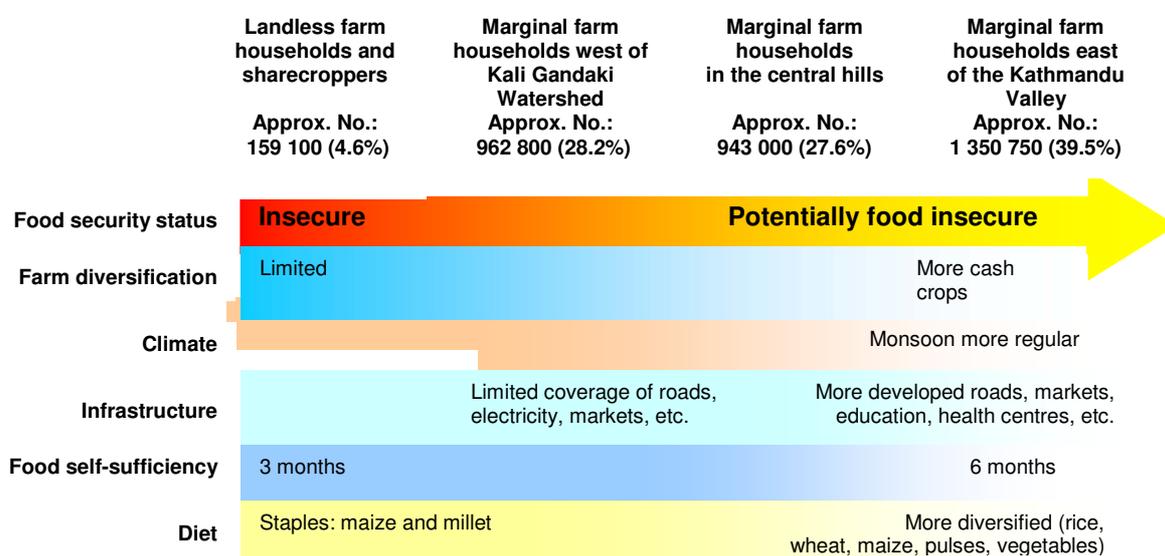
Marginal farm households in the Hill Region

Approximately 10 million people, nearly 43 percent of the total population of Nepal, live in the Hill Region. The density of population with respect to cultivated land in the hills (9.6 persons per hectare) is higher than that in the mountainous districts (8.8 persons per hectare) and Terai (6.6 persons per hectare) and has, in places, reached a saturation point. In spite of the existence of urban centres including Kathmandu and Pokhara, the economy of the Hill Region is predominately agrarian, with agriculture (46 percent), livestock (32 percent) and horticulture (14 percent) accounting for the major share of income. Although some districts produce enough crops to satisfy their food needs, many are food deficit. Even within food surplus districts (such as Parbat), a significant share of households only produce enough for about three months of their annual food needs.

¹⁷ Mustang and Manang Districts are located in Western Nepal.

Some 3.4 million people living in marginal farm households in the Hill Region, equivalent to 35 percent of the population of this region, are estimated to be vulnerable. They include landless farm households and sharecroppers, as well as three sub-groups of marginal farm households living on hilly elevations along the west to east gradient (see Figure 3). Although marginal farm households in the western and eastern regions have the same primary livelihood and similar asset base, those in the west are substantially worse off based on their agricultural yields, secondary assets and access to infrastructure. Ethnic minority households – such as the *Tamang*, *Sherpa*, *Magar*, *Thami*, *Danuwar*, *Majhi* and *Bhote* – are among the most disadvantaged households in the hills.

Figure 3: Vulnerability continuum for marginal farm households in the Hill Region



Landless farm households and sharecroppers are spread across the 39 hill districts and, regardless of their location, are the most food insecure. Many are *Dalit* households that abandoned their traditional occupations to earn a living through agriculture. Lacking land ownership, they either work as sharecroppers on rented land or as agricultural labourers providing help with sowing, ploughing and harvesting.

Sharecroppers have different kinds of contractual arrangements with landlords¹⁸. Most of them earn a share of the harvested crop for their work. The harvest is usually divided between the landlord and sharecropper with each receiving about half of the harvest. Sometimes sharecropping and landowning households also share the use of farm animals. Based on the amount of food earned through sharecropping or agricultural labour, farm households in this sub-group are able to cover their household’s food needs for no more than three months of the year.

¹⁸ It is important to note that not all sharecroppers are poor households who sharecrop land from landowners. In some cases, landowners sharecrop land from poor households who do not have the means for cultivating it.

During the remainder of the year, members of these households look for other kinds of paid work, usually in their local area. Men usually carry loads or take up work (metal work, tailoring, leather work, etc.) traditionally associated with lower castes. Women may work as domestic servants for landlords, care for livestock or gather fuel wood. Although men occasionally migrate to India in search of seasonal work, most households in this sub-group lack the cash (for travel and accommodation) and networking skills to enable a family member to migrate over longer distances in search of wage labour.

During the agricultural season, households in this sub-group eat whatever their employers provide. Households interviewed reported that the replacement of millet and maize-based foods (such as *dhido*) with rice has reduced the nutritional content of their diet. Given their low cash earnings at other times of the year, most households cannot afford an adequate diet. Local alcohol (*raksi*) made from millet is popular, particularly among men.

Marginal hill farm households include households located west of the Kali Gandaki Watershed¹⁹, households in the Central Hill Region²⁰ and households east of the Kathmandu Valley²¹. Food production among marginal farm households in the hills is sufficient to cover annual consumption needs for no longer than three to six months of the year. Land holdings are so small (and usually on steep slopes and not irrigated) that these farm households are often not fully employed during the agricultural season. Productivity is low; maize yields are about 1.5 tonnes per hectare against the national average of 1.8 tonnes per hectare (ABPSD, 2000).

Maize, wheat and finger millet are the main crops grown. Households with some terraced land can also produce rice and higher-value legumes (mostly black gram). Marginal farm households have secondary sources of income from wage labour (including portering and caste-based occupations) and petty trading (such as fuel wood and medicinal herbs). However, in response to security concerns linked to the insurgency, the Government has restricted the collection of NTFPs in local forests. During the non-agricultural season, marginal farm households in these sub-groups look for paid work, usually in non-farm activities such as the construction of roads.

Box 6: A typical hill farmer in Nepal

has a family of six and lives in a small hamlet of about 30 households on terraced slopes in the lower hills of the Himalayas. The family home is made from mud, bricks and straw, and has dirt floors. There is no running water or sanitation. The family's land is fragmented into several plots at different elevations. Since sons inherit equal shares of land, per caput farmland has declined and many farmsteads are too small to support families.

The family usually owns some simple farm tools, some livestock and one draught bullock. Most family members share the heavy workload, but women tend to work longer each day (11 hours) than men (8 hours). Children also work between 4 and 7 hours each day doing household chores and weeding. Maize and millet is cultivated on rain-fed uplands and rice and wheat on irrigable terraced land. Crops are grown intensively using a lot of labour and organic manure. The amount of terraced land a family has, depends on its wealth. However, the family is unable to produce enough food for their annual needs. To be able to buy food when own production is exhausted, the father or sons in the household sell their labour in the village or far away in Kathmandu, or even India.

Source: FAO, 1995.

¹⁹ Includes Pyuthan, Rolpa, Rukum, Salyan, Surkhet, Dailekh, Jajarkot, Achham, Doti, Dadeldhura and Baitadi Districts.

²⁰ Located between the Kali Gandaki Watershed and the Kathmandu Valley, the Central Hilly Region comprises Gorkha, Tanahun, Lamjung, Kaski, Syanga, Parbat, Baglung, Myagdi, Palpa, Gulmi, and Arghakhanchi Districts.

²¹ Includes Pachthar, Ilam, Dhankuta, Tehrathum, Bhojpur, Okhaldhunga, Khotang, Udaipur, Sindhuli, Ramechhap, Kavre, Bhaktapur, Lalitpur, Kathmandu, Nuwakot, Makawanpur and Dhading Districts.

Although some families in this sub-group raise livestock for sale, and/or sell animal products (like milk), most households do not own much livestock and lack sufficient manure for fertilizer. In other cases, households are able to sell small amounts of cash crops to earn income to buy food grains and other necessities. Remittances from seasonal and permanent migrant members of the household provide an important source of income for many marginal hill farm households.

Marginal farm households living in western districts are the most vulnerable due to their limited access to, and lower quality of, capital endowments. The western hills are the least developed in terms of infrastructure (such as roads and electricity) and services (such as health care and schools). In the central and eastern districts, infrastructure, services, market access and off-farm job opportunities are somewhat better. Traditional agricultural markets (*hatia*) take place every week in many districts. Land is less steep with more developed trekking routes. As a result, an increasing number of marginal farm households in central and eastern districts have begun to diversify their production into higher value crops (including cardamom, ginger, potatoes, broom grass and mandarins) for the market. Households living near famous peaks can sell animal products, fruit and vegetables during the tourist season. Some households in eastern districts also collect non-timber forest products for sale, and keep animals that produce milk and eggs to sell as a secondary source of cash. However, insufficient fodder due to frequent hailstorms and the increasing conversion of pasture into community forests present difficulties to many households involved in rearing livestock.

The diet of marginal farm households in the eastern and western hills resembles that of sharecroppers and labourers. Rice is the preferred food and is eaten with vegetables and legume soup, when available. Some food practices are linked to particular communities. For example, *Limbu*, *Rai*, *Tamang*, which are the dominant ethnic groups in the hills and occupational castes such as the *Kami*, *Damai*, *Sarkis* eat pork and drink alcohol. *Sarki* eat beef. *Gurungs* and *Newars* drink alcohol but do not eat pork. During times of food crises, *dhido* and *aato* made from millet and maize flour are typically eaten. The diet of marginal farm households in the hills is high in carbohydrates (particularly maize, finger millet and buckwheat), low in proteins and deficient in micro-nutrients, iron, iodine and Vitamin A. Malnutrition is high at over 50 percent. Within households, children under three years, and pregnant and lactating women are most malnourished.

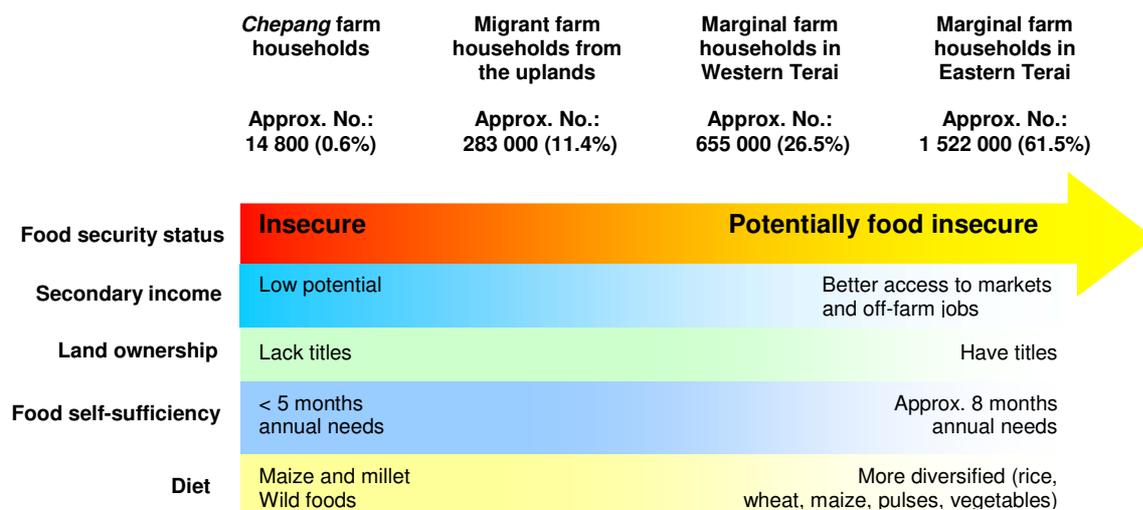
Marginal farm households in the Terai

Approximately 2.5 million people in marginal farm households in the Terai, equivalent to 48 percent of people in the Terai, are estimated to be vulnerable (see Figure 4). They include tribal *Chepang* households, migrant farm households from the hills and mountains, and farm households in the western and eastern Terai. Marginal farm households in the Terai are characterised by their very small land holdings, limited asset base, poor human and social capital, and highly inequitable income distribution. The number of people in these groups was estimated using 1998 and 1997 data provided by the Nepal South Asia Centre (NESAC) and the International Centre for Integrated Mountain Development (ICIMOD).

Although the Terai is relatively fertile with good ground water reserves, farming is subsistence-oriented, little use is made of fertilizer, irrigation or high-yielding seeds, and agricultural productivity is low. Cultivating just 7 percent of the total agricultural land in this region, the average size of farm holdings among marginal farm households in this group is just 0.2 hectares,

much less than the average size of holdings in the Terai (1.2 hectares). A relatively high share of land in the Terai is forested and officially protected.²² Compared to districts in the hill and in the mountain regions, the Terai has better developed infrastructure, roads and transportation, markets and more accessible social services including health centres and schools. However, significant inequalities exist between the eastern and western districts of the Terai.

Figure 4: Vulnerability continuum for marginal farm households in the Terai



Chepang farm households, living in isolated hilly areas of Chitawan, traditionally derived most of their food from common property resources and shifting cultivation, and only recently moved into settled agriculture. However, their production of maize, millet and barley covers only about 5 months of annual consumption needs and hunting small wild animals and gathering wild fruits and vegetables remains an important source of food. Selling goats, baskets and non-timber forest products provides a considerable share of cash income. Some households also sell chickens and home-produced alcohol. Few *Chepang* people are employed as wage labourers. *Chepang* households do not have legal rights to the agricultural land. The literacy rate among the *Chepang* is low (26

Box 7: Migrants from the hills

After a series of floods and landslides in the mid-1980s devastated the livelihoods of many marginal farm families living in the eastern hills, some decided to move to lower-lying areas in search of a better life. They eventually settled in Saptari District where they cleared patches of forest and built small houses using materials from the nearby forest.

These households now make their main living by cultivating their small plots of land (between 0.05 and 0.07 hectares). But without titles to their land or house, they are afraid they could be evicted by forest department officials at any time. Their only hope is that NGOs will be able to help them register their land. In addition to registration, they hope that one day they will be able to access loans to buy livestock, to find work locally and to find markets for the wooden baskets made by women in the household.

Source: Interviews in Saptari District (Jan. 2002)

²² Including the Koshi Tappu Wildlife Reserve, Parsa Wildlife Reserve, Royal Chitawan National Park, Royal Bardiya National park and Royal Shuklaphanta National Park.

percent). Children drop out of school at an early age (often around 10 years) to start working in the household. The diet is based on millet and maize, supplemented with various kinds of wild vegetables, flowers, insects and wild animals (such as bats, wild goats and pigs). Rice is not usually eaten but fish and meat are consumed when they can be afforded. Food is divided equally among their family members.

Most *hill and mountain migrant farm households* moved away from poverty and harsh living conditions in adjacent hill and mountain districts to settle permanently in the Terai (see Box 7). Living on marginal lands at the edge of recently cleared forests, they lack legal titles to their land. Paddy, wheat, lentil and gram are the main crops grown. However, agricultural production provides enough food for only about four months of the year. Seasonal migration to India and work in wage labour (including on farms and in construction) provides a secondary source of income that helps to cover household needs. In the past, the “commons” used to provide an additional source of food for this sub-group, however, over-exploitation and new regulations limiting access has reduced the availability of these food sources. The ethnicity and caste of migrant farm households resembles the adjacent hills and mountains. Reflecting their area of origin, migrant farm households regularly eat foods made from maize and millet (including *roti* and *dhindo*) and prefer black grams to lentils. Gastric illnesses and fevers are common and stunting is high among children.

Marginal farm households of the Western²³ and Eastern²⁴ Terai depend on agriculture as their primary livelihood. However, household food production is inadequate to meet annual consumption needs, and wage labour (locally and sometimes seasonal migration to India) and sharecropping provide important secondary sources of income. Occasionally, some members from these households find work in white-collar jobs such as teaching, local government agencies and NGOs. The ethnic background and caste of households within these two sub-groups is mixed. Although caste inequalities are prevalent in both areas, they are higher in the west.

Marginal farm households in the Eastern Terai have relatively diversified farming systems due to their more productive land, superior growing conditions and better access to markets. By comparison, marginal farm households in the western Terai have less fertile land, worse growing conditions and reduced market access, which reduce opportunities for farm diversification (including vegetable production). However, marginal farm households in the Western Terai have better employment opportunities than *Chepang* and migrant farm households and, because of their titled landholdings they are, in principle, eligible to receive credit from formal financial institutions.

Marginal farm households in the Eastern and Western Terai typically consume rice, pulses and vegetables, and sometimes wheat or maize. Animal products (such as milk, *ghee* and sometimes meat) are eaten regularly. Households in the Eastern Terai have a more diversified diet. Alcohol consumption is common, particularly among men and people belonging to lower-caste groups.

²³ The Western Terai comprises eight districts: Nawalparasi, Rupandehi, Kapilbastu, Dang, Banke, Bardiya, Kailali and Kanchanpur. About about 30 percent of all marginal farm households in the *Terai* live in western districts (1991 Agricultural Census).

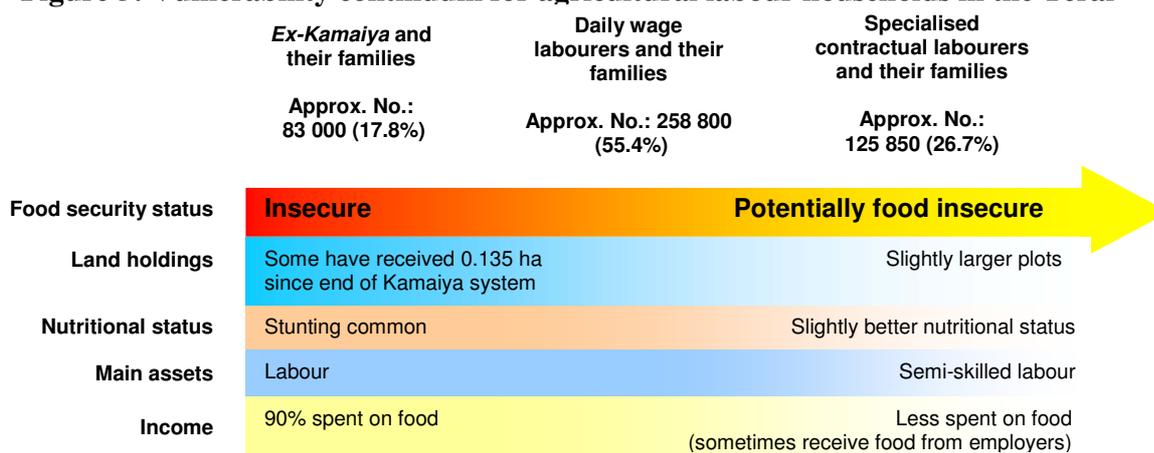
²⁴ The Eastern Terai comprises 12 districts: Jhapa, Morang, Sunsari, Saptari, Siraha, Dhanusha, Sarlahi, Mahottari, Rautahat, Bara, Parsa and Chitawan.

Wasting is common among children of households in the Western and Eastern Terai and stunting is prevalent in hillier areas. Although the majority of school age children from marginal farm households in the Eastern and Western Terai attend school, the drop out rate after the primary level is high. In comparison to the highlands, the availability and quality of health services is relatively good, particularly in the southern and eastern districts, but the use of traditional healers and midwives remains important.

2.5 Agricultural labour households in the Terai

Approximately 467 000 agricultural labour households, equivalent to 18.5 percent of the population of the Terai, are estimated to be vulnerable (see Figure 5). They include bonded labourers with long-term contractual agreements (ex-Kamaiya), daily wage labourers and specialized labourers on short-term contracts. Estimates of the number of ex-Kamaiya were derived from a 1996 survey by the Department of Land Reform. Estimates of the number of daily wage labourers and specialized contractual labourers in the Terai were derived from agricultural census data (1991) on the total number of people (aged above 10 years) who work on land belonging to other households on a temporary or permanent basis.

Figure 5: Vulnerability continuum for agricultural labour households in the Terai



The majority of agricultural labour households in Nepal live and work in the Terai for larger landowners. Most come from lower caste groups and have little if any land holdings. Literacy is low and the dropout rate of children from school is high. These households spend as much as 90 percent of their income on food. Agricultural labour households in the Terai consume the traditional diet of rice, pulses and vegetables, as well as maize and millet-based soups. Most of these households eat meat and fish when they can afford it. Both men and women drink alcohol. Many people in this group have a poor nutritional status and wasting (low weight-for-height) is common. However, stunting is also high among lower-castes and tribals living in northern parts of the Terai.

Although officially released from bonded labour contracts by Government decree in July 2000, ex-*Kamaiya* (see Box 8) are among the poorest and most marginal households in the Terai, and remain extremely food insecure. Since the official end of the *Kamaiya* system, some labourers in this sub-group have found employment on food-for-work programmes. Others have been able to find employment as bricklayers and rickshaw pullers. However, although the end of this system enhanced their social status and created potential opportunities, many ex-*Kamaiya* households report that their economic well-being has deteriorated since *Kamaiya* ended. Many have been unable to participate in relief and resettlement programmes supported by the Government, donors and NGOs. Those ex-*Kamaiya* households that receive food rations in exchange for labour reported that it is not always enough to feed their families.

Box 8: The *Kamaiya* system

Concentrated in western districts, *Kamaiya* (mainly tribal *Tharus* without legal rights to land) were bonded labourers under long-term contractual agreements with landlords. Most *Kamaiya* households entered time-bound (usually annual) labour contracts with landlords and lived on property leased by the landlord. Men from these households carried out agricultural work for landlords, women performed domestic work and children worked as animal herders. However, most *Kamaiya* households did not make enough to cover their needs and were forced to take loans from their landlord. Unable to repay these loans, most of these households were unable to break their contracts and became locked into bonded arrangements with landlords for years, if not life. *Kamaiya* (and their debt) could be sold by employers to other landlords.

Daily wage agricultural labour households in the Terai work for landlords without long-term contractual obligations. They perform various kinds of work such as sowing, harvesting, applying manure and collecting agricultural goods. Many of these households are landless, though some have small plots. Some own a few animals, the type of which reflects their caste/ethnicity. Higher caste groups usually raise goats, cattle and buffaloes. Households from lower castes also raise poultry and pigs. Most households raise animals with richer households on a *bataiya* (sharing) basis.

Labourers in this sub-group make on average NRs 60 to 80 per day. Income earned through seasonal migration to India and non-farm work in other parts of Nepal is also important. A growing number of households in this sub-group are migrating in search of other livelihood opportunities. Food security is highly dependent on work availability and the number of working adults in the household. Food security is best at times when most work is available, especially at the peak agricultural periods including planting (June to August) and the harvest (November to December).

Specialized contractual labour households provide particular kinds of labour, such as ploughing and care of cattle, on short-term contracts. Only one member of the household enters into a contract with an employer and other family members can look for work elsewhere, however many also work as unskilled labourers for the same employer. These labourers are able to change their employer at the end of their contract provided there are no debts. In general, these specialized workers have better wages and working conditions than labourers in other sub-groups. However, in some cases, these labourers work for the same landlord for many generations under the *Haliya* and *Haruwa* systems, which in some cases can be regarded as debt bondage.

The type of payment varies by location and employer. Most specialized agricultural labourers are paid on a daily basis, such as 5 kg of paddy or wheat per person per day. Many also receive food during work days, and have access to small plots of land (about 0.1 hectares) which they can cultivate for themselves. In other areas, labourers get paid in cash or kind on a monthly, quarterly and, sometimes, annual basis, and also can access a small piece of land for household use. Other sources of food and income include sharecropping, seasonal migration to India for agricultural wage labour and non-farm work in other parts of Nepal.

Specialized agricultural labourers come from all caste and ethnic backgrounds. However, the majority come from lower castes and caste-related prejudices persist. Although households of specialised labourers are less likely to become food insecure than other sub-groups in this group, many have difficulties in covering their food needs during slack agricultural periods (especially from July to September) when they borrow grain from their landlords.

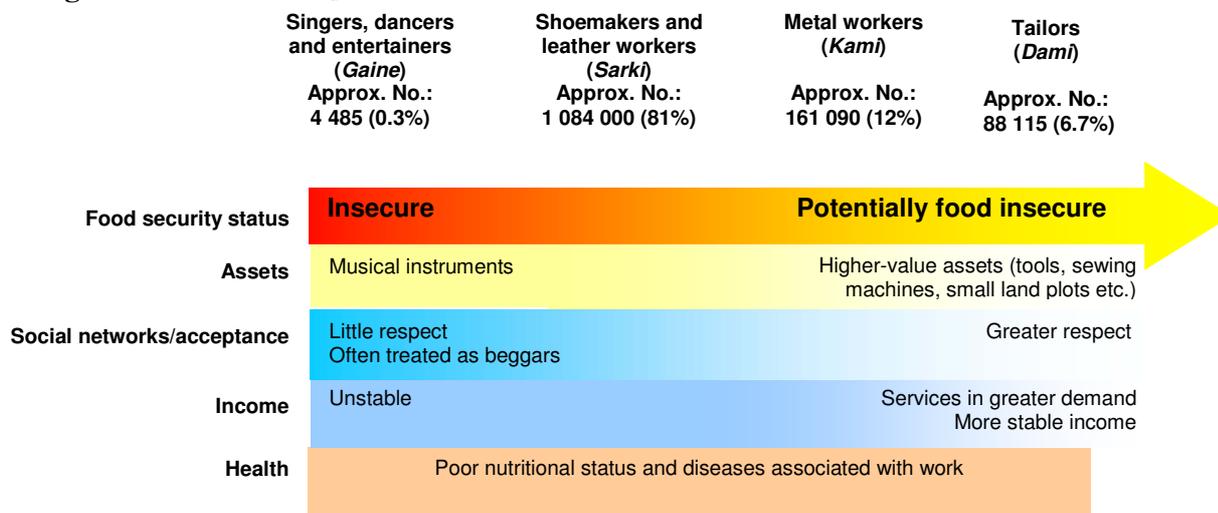
2.6 Rural service castes

Approximately 1.3 million people in households depending on traditional caste-based occupations are vulnerable. They include singers and entertainers (*Gaine*), shoemakers and leather workers (*Sarki*), metal workers (*Kami*) and tailors (*Damai*)²⁵. These caste-based rural service providers live throughout the country. They suffer from various kinds of discrimination and prejudices related to their position at the bottom of the caste hierarchy, and have low literacy and other human development indicators.

In this study, rural service castes were categorized on the basis of: i) available assets; ii) social network (clientele, stability); iii) social acceptance; and iv) access to other employment opportunities (see Figure 6). This categorisation found that *Gaine* are the most food insecure, followed by *Sarki*, *Kami* and *Damai*. By contrast, the generally accepted order (descending) of these communities within the caste system is *Kami*, *Sarki*, *Damai* and *Gaine*.

²⁵ Other rural service castes also exist in Nepal including prostitutes (*Badis*) female dancers (*Nautch*) and pot makers (*Kumal*). However, given their relatively small number and resource limitations for the study, they are not included in this study.

Figure 6: Vulnerability continuum for rural service castes



Rural entertainers (*Gaine* caste) have traditionally moved from village to village to sing, dance and play music in exchange for food and money. Concentrated in the Gandaki Watershed, mainly in the hills and Terai, globalisation and increasing access to modern communications (including radio and television) has gradually reduced demand for their services. Increasingly, they have few opportunities other than to migrate or try to find work as agriculture labours or porters. Rural entertainers usually have very small plots of poor quality land in the uplands that is often unregistered. However, their production of staple crops and vegetables is normally only sufficient for one or two months. The largest share of money earned from entertainment (as much as 70 to 80 percent) is spent on food, leaving little for other basic needs.

Responsible for the disposal of dead animals in their villages, *leather workers* (*Sarki* caste) have traditionally made shoes and various other leather goods (such as leather string and strips for ploughs, porter’s baskets and musical drums) used by farm households, porters and rural households. Increased availability of cheaper imports and factory produced goods has had a serious impact on the livelihoods of *Sarki* households. As a result, less people of *Sarki* caste are involved in their traditional occupations. *Sarki* households who continue to rely on their traditional occupation are usually engaged in repairing existing products, which is less profitable than producing new products. One study has estimated that just 6 percent of *Sarki* households continue to be involved in leather and hide-related work, and that only 17 percent of them have enough earnings to sustain themselves (Chhetri, 1999). Most *Sarki* households who moved out of their traditional livelihoods rely on work as agricultural labourers, porters and non-farm labourers. Some live off small marginal farms, and a smaller number have migrated to urban areas or started small-scale enterprises. Women have historically been involved in carrying manure and fertilising fields, or collecting and selling fuel wood.

Kami households have historically worked as *metal workers* (*Lohar Kami*), *carpenters* (*Od Kami*) and gold smiths (*Sunar*) producing agricultural implements, tools, knives, vessels and jewellery according to their specialisation. While *Sunars* are better-off, *Lohar Kami* and *Od Kami*

households are potentially food insecure. Some 60 percent of *Kami* households live in the hills and 30 percent in the *Terai* (CBS, 2001). Many *Kami* households have given up their traditional occupation. In the Hill Region, only 20 percent of *Kami* continue to depend on their caste-based occupation and the majority do not earn enough income to meet their needs through this work. Most metal workers earn additional income through agricultural labour, sale of forest timber and portering. Women also work as agricultural labourers in planting, weeding and cleaning and carrying of crops.

Men and women in *Damai* households have traditionally worked as *tailors* producing traditional and modern adult's and children's clothing in exchange for payment in cash and kind (regular clients normally pay in a share of crops immediately after the harvest of summer crops). In addition to making clothes, *Damai* households have also traditionally played music during festivals. Although historically regarded as the lowest in the Dalit caste hierarchy, *Damai* households tend to have higher incomes than other types of Dalits. In comparison to other types of rural service castes, a greater percentage of *Damai* (some 45 percent) continue to rely on their traditional occupation, of whom some 37 percent earn enough to support their household needs (Chhetri, 1999).

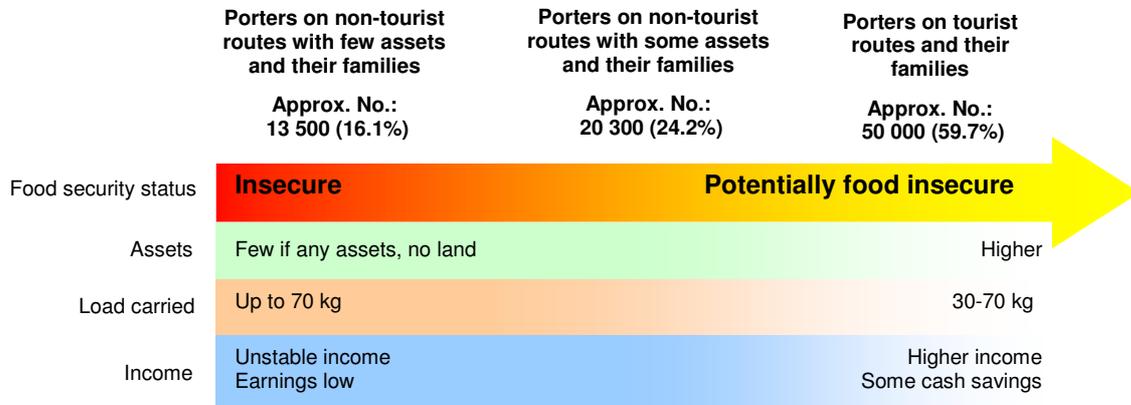
The diet of rural service castes varies by geography and season. In the eastern and central districts, maize is the staple food in higher areas and rice at lower elevations. In the west, the diet is based on wheat. Butter milk, pulses and vegetables are also sometimes eaten. Meat is only available occasionally, usually during festivals and village ceremonies like weddings. Sugar, salt and foreign foods (such as instant noodles) are considered luxuries. Rural service castes have an unbalanced diet and seldom consume fruit and vegetables. Malnutrition is widespread and stunting among children is common. Food insecurity among rural service castes is seasonal and reflects the availability of income and food production in the communities in which they earn their living (since they depend on rural clients for payment). In terms of food access, their best months are after the summer harvest, from November to January, when food is most plentiful and rural customers pay in kind. At other times of the year when their earnings are low, the diet of these households is deficient in terms of both quality and frequency of meals.

2.7 Porters in the Mountain and Hill Regions

Approximately 84 000 people depending on portering for their livelihoods, equivalent to about 5.3 percent of the total hill and mountain population of Nepal, are vulnerable. Both men and women work as porters for rural clients and tourists. Porters were classified as full-time porters on non-tourist routes with few alternative income opportunities, porters on non-tourist routes with a secondary source of income and/ or food, and professional tourist porters.

Porters are not included as a separate group in the national census or labour survey and therefore accurate data on porters is unavailable. The figures provided below for the number of non-tourist porters are rough estimates that have been extrapolated from statistics on marginal farm households. Approximately 7 percent of marginal farm households in the central and eastern districts were estimated to work as porters, and 3 percent of marginal farm households in western districts. The estimates on the number of tourist porters have been derived from figures received from the Annapurna Conservation Area Project in Pokhara.

Figure 7: Vulnerability continuum for porters in the Hills and Mountains



Households of *full-time porters on non-tourist routes* with hardly any assets and few if any secondary sources of income are the most food insecure. Many see portering as the only option to manage a living (see Box 9). Porters working in rural communities carry very heavy loads for small payments. These households usually live from one day to the next, and a lack of work for even a short period can be devastating. Although some of these households may be able to supplement their earnings from agricultural labour or the home production of food, work is scarce and most have very little if any land. At times when work is scarce, they are obliged to borrow so that a large part of subsequent earnings is spent on debt repayment. Development in the form of road construction and the introduction of mules and helicopters for portering is having a critical impact on their livelihoods and earnings.

Porters on non-tourist routes with some assets earn their living from a combination of portering and farming. Many of these porters have some agricultural land, usually of poor quality, where the cultivation of crops like maize or millet or livestock raising provides a small but crucial secondary source of income and food. Normally the food produced can cover the household's food requirements for just one to three months of the year. Some porters on non-tourist routes earn an additional income by transporting and trading goods at weekly markets. Whenever possible they barter goods produced in their home area (such as cardamom and medicinal plants) for rice, salt

Box 9: Farm households without land to farm

Most porters come from farm communities. Many see their work as a way to put food on the table for their families. If they had better access to land, most porters reported that they would gladly switch to full-time farming. But most have extremely small plots, if any land at all, and few opportunities to work even as agricultural labourers or sharecroppers. For most porter households, portering is one of the few options to ensure survival.

A non-tourist porter's income depends on the weight and type of goods carried, as well as the distance covered and seasonal conditions. Rates for goods that are risky to carry like corrugated sheets, machinery parts and other bulky materials (approximately NRs 18 per kg) are higher than rates for normal consumer goods like grain (approximately NRs 14 per kg).

Source: Interviews with porters in hill and mountain districts.

and chillies grown in more low-lying valleys, and transport and sell agricultural or manufactured goods from the lowlands in their home area.

Households in highland areas that depend on portering as their main livelihood are among the poorest and most vulnerable in the Hill and Mountain Regions. Most porters on non-tourist routes consider themselves food secure only when they are under contract to carry a load. Usually there is little work during the summer period (June to August) when heavy rains reduce demand and the harvest is not yet ready. At such times, porters try to find work as agricultural labourers or in the construction of houses and roads. The best months for earnings, and therefore access to food, are from December to March, and in the months after the harvest. Stunting and wasting of children is common among households of non-tourist porters.

Tourist porters carry lighter loads, have better working conditions, including better gear and food, and earn higher wages (approximately NRs 250-300 per day depending on the number of meals provided) than porters serving local people. Food (including both traditional and foreign processed foods) is a negotiated part of the contract for most tourist porters. After expenses, a tourist porter might be able to save up to NRs 10 000 from a 10 to 20 days trip. In a trekking season, porters usually hope to make two to three long trips and can be away from their village for up to 20 to 45 days at a time.

Payment is made on the basis of contractual arrangements, however, strong competition for jobs weakens bargaining power and weather can limit job availability without warning. Most tourist porters come from eastern and central districts, as well as districts like Pokhara, Lamjung and Surkhet. They often own some farm land, livestock and have cash savings.

Work on tourist routes is seasonal (peak periods are from September to November and March to May) taking men away from the household for long periods at a time and leaving women, children and elderly family members to manage the household. During the portering season, food is often purchased on credit from village shopkeepers and repaid later when men return. During the rest of the year, tourist porters usually return home to farm or work as labourers. However, a minority continue to work as porters in the low season. Others earn additional income through petty trading in livestock and poultry. Women often supplement earnings by making and selling mattresses, baskets and fences woven from locally produced bamboo. Families of tourist porters usually have enough cash savings to avoid hunger. However, unexpected shocks sometimes erode their coping capacity and increase the chances of them falling into food insecurity. Work-related accidents and illnesses, a drop in the number of tourists or a raise in the supply of porters are real risks that can reduce earnings and drive even households with some savings into food insecurity.

Box 10: "Trekking" porters

Tourist porters mostly come from the middle hills and are typically poor farm households who need the cash. They often carry above the tree line into snow conditions, at altitudes up to and above the height of expedition base camps (>5000 metres). As a result they are at high risk of hypothermia, frostbite and Acute Mountain Sickness. They earn between US\$ 2 and 5 a day.

Source: International Porter Protection Group, www.ippg.net

Food consumption among portering households is based on the typical highland diet of rice with lentil soup, spinach and vegetable curry. However, potato, millet, maize and locally grown vegetables are also regularly consumed. Meat is rarely eaten. The diet of porters reflects their elevation and the types of clients served. Porters working at lower elevations tend to buy rice or maize, often with their advance allowance, while those working at higher altitudes usually carry millet flour and collect fuel wood to prepare soups along the way. They only occasionally eat at local restaurants. Porters often buy locally fermented millet liquor along their route, believed to boost energy and stamina, however, high altitude tourist porters are forbidden from drinking stronger alcohol. During low season when there is little work and money, portering households consume maize or maize-based soups (*dhindo-gundruk*), gourd and spinach.

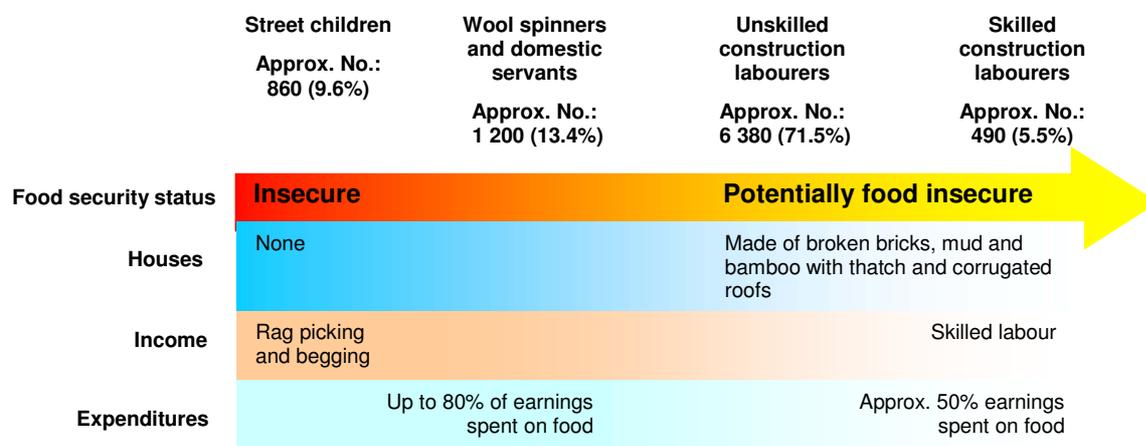
As much as 60 to 90 percent of the money earned by porters is spent on food and clothing for the household. The remainder is allocated to travel, health care and education. When porters receive a share of their earnings in advance, they are able to buy food for their family. Otherwise, they have to borrow from local moneylenders. However, at some times of the year, particularly April and May, even getting a loan from a moneylender is difficult. Both non-tourist and tourist porters have a high exposure to shocks (such as natural disasters that wash away trails or leave them unusable, road construction and decline in tourism, diseases and injuries) that can reduce their earnings (and food access) and in some cases result in serious accidents and/or death.

2.8 Urban poor involved in the informal economy in the Kathmandu Valley

Half of the total urban population of Nepal lives in the Kathmandu Valley, where the population density is 1843 persons per square kilometre compared with the national average of 157 (CBS, 2001). Attracting an increasing flow of impoverished rural people with few livelihood options in their area of origin, the Kathmandu Valley continues to grow. Migrants have occupied vacant public lands, establishing squatter communities where they lack legal rights to the land on which they live. However, land for new squatter settlements has become increasingly scarce and most new migrants are unable to build their own home and must rent rooms in existing slum or squatter communities.

Some 9 000 poor urban people involved in the informal economy in the Kathmandu Valley are vulnerable. They include wool spinners and domestic servants (mostly women), unskilled and skilled construction labourers, and street children who depend on begging and rag picking (see Figure 8). Most have migrated from rural areas and live in slum and squatter communities or are homeless. Figures on the size of the population in each sub-group were estimated based on data obtained from NGOs including Child Workers in Nepal (CWIN) for street children and Lumanti for labourers (particularly using the 2000 household survey on labourers in slum and squatter settlements).

Figure 8: Vulnerability continuum for urban poor in the informal economy in the Kathmandu Valley



More than 60% of *street children* in the Kathmandu Valley are food insecure. Most street children depend on jobs picking reusable materials (rags, plastic, etc.) and begging, especially in tourist areas, to meet their basic needs (see Box 11). Children are paid NRs 8 per kilogram of plastic or rags and can earn up to NRs 50 to 60 on good days. However, during the rainy season, finding dry materials is difficult and earnings are considerably lower. Children who are able to work as waiters, dishwashers, helpers on auto rickshaws, porters, house servants, shoe keepers and garden boys have higher earnings than beggars and rag pickers. Jobs open to street children are unsteady so they frequently have to switch jobs to survive. Although some children are driven to illegal activities (such as pick pocketing, drug trafficking, prostitution, theft and burglary, where they can earn up to NRs 10 000 a month), the majority work as rag pickers and beggars.

Although the daily income is low and unpredictable, most of these children make enough to purchase food from cheap restaurants (an inexpensive meal costs about NRs 8) every day. Sometimes, they receive free food from temples, NGOs and private benefactors. When they have less cash, they eat on credit. However, in cases of prolonged low earnings, some children are reported to go hungry for several consecutive days. Street children generally have little knowledge about nutrition and many prefer to eat junk food bought from street vendors rather than more nutritious foods.

Box 11: Street children in the Kathmandu Valley

Approximately 860 children in the Kathmandu Valley live and/or work on the streets and are vulnerable to food insecurity. The majority (over 95 percent) are boys. Some are as young as 7 years old, however the average age is 13. Most have few options other than begging or rag picking. Life is a daily struggle and the risk of hunger is ever present. Although about half of street children were once in school, most dropped out before they learned to read and write. Most street children come from families of poor farm households or agricultural workers that have their origins in rural districts throughout the country. A large number are homeless and live, eat and sleep on the streets. Many ran away from home to escape poverty or abuse and have few, if any, links with their family. Other children use the streets as their working place and return to their families in slum or squatter communities at night.

Source: CWIN www.cwin-nepal.org

Wool spinners and domestic servants are usually women, who are responsible for supporting an entire family. Spinning wool is a tiring occupation with poor returns. Most wool spinners work through contractors who have agreements with the factory owners to supply woollen threads. Payment is based on the weight and quality of the wool produced. A typical wool spinner will earn about NRs 900 to 1200 per month (the average rate is NRs 20 per kilogram of spun wool and most women spin 1.5 to 2 kg of wool per day). A growing number of women also work as maids for wealthy families. The average wage is NRs 500 per month per household, though many of these women work in more than one house.

Unskilled and skilled urban labourers depend on daily wage labour, normally in the construction sector. Unskilled labourers perform various jobs (including carry loads of building materials, break stones, mix cement, portering at wholesale vegetable markets or for urban households) for which they earn about NRs 100 to 150 per day. Skilled labourers carry out more specialised tasks (such as building and plastering walls, electrical wiring and whitewashing houses) and earn approximately NRs 200 to 250 per day. Labourers in both sub-groups who have good relationships with city contractors usually have a more regular supply of work. However, ensuring sufficient employment is a constant challenge for skilled and unskilled labourers, especially during the rainy season, or when there is a slump in the construction industry. At times when construction work is in short supply, many labourers switch to portering or agricultural labour whenever possible. Women in these households often work as house servants, wool spinners or at construction sites (waxing floors, carrying loads of bricks, sieving sand or breaking stones) to supplement household income. Some families of labourers also sublet part of their house to seasonal migrants to generate additional cash.

Very few of the urban households that depend on casual labour (usually only those living near river banks) have any land on which to grow vegetables or keep small livestock. Without the means to produce food, the majority of these people depend on the market to satisfy their needs. Their food security depends on the availability of work and their purchasing power. Most of these households spend a majority of their income (60 to 80 percent) on buying food. Yet their basic diet, consisting of cooked rice (*bhat*), pulse soup (*dal*) and one vegetable, is monotonous and low in nutritional quality. These households also experience periods of lower food access. At times when income is low (due to insufficient work or the inability to work), people in these households eat just two food items (rice and pulses cooked together is preferred) instead of three. Sometimes wool spinners, domestic servants and unskilled labourers depend on *dhindo* (maize and millet based soup) which is less preferred and viewed as a poor person's food. Women in these households, especially pregnant women, have the worst nutritional status. They often eat least and last and reduce the size of their own portions so their children can have more. People in this vulnerable group spend any money that remains on children's education, health care, clothes and other basic needs. The majority of households in the sub-groups of wool spinners, domestic servants and labourers send their children to school. Whilst having limited private physical access, they benefit from the availability of public transport and other public infrastructure including health centres run by the Government and NGOs.

3. Why are people vulnerable to food insecurity?

Food insecurity in Nepal is closely related to poverty. At the household level, the main factors contributing to food insecurity include the high dependence on low-productivity agriculture, the small size of land holdings, limited opportunities for wage employment, low wage rates and low income, and social exclusion. At the individual level, low education and skills and high morbidity also contribute to food insecurity (UNDP, 2002).

A household's vulnerability to becoming food insecure is a function of the seriousness of the risks (see Box 12) to which it is exposed and its ability to cope, which is highly dependent on its asset base. Households in Nepal that are most vulnerable to food insecurity have insufficient livelihood assets (human, social, natural, physical and financial) with which to produce enough food and/or earn sufficient income to purchase food and manage shocks, and consequently cannot meet their essential food and non-food consumption needs. In addition to their meagre portfolio of assets, these households usually have a high exposure to shocks and stresses that reduce their income or food production and require additional expenditures. However, the lack of options and flexibility in their livelihood strategies constrains their ability to make positive livelihood choices and reduces their ability to withstand or adapt to shocks and stresses.

One of the objectives of this study was to investigate why people with particular livelihoods are especially vulnerable. In this context, this section discusses the various factors – occurring at the household, meso and macro level – which cause some livelihoods to be particularly vulnerable. While some of these factors are specific to particular occupations, several are relevant for each of the vulnerable groups profiled.

Box 12: Idiosyncratic and covariate

An idiosyncratic risk (such as a house fire, work injury, girls being withdrawn from school) only affects individuals and households. The probability of one household being affected is largely independent of whether other individuals or households are affected.

A covariant risk is a risk (such as a flood or drought) which affects many people at the same time.

Source: Heitzmann, Sudharshan Canagarajah, & Siegel, 2002

3.1 Limited quantity and quality of livelihood assets

The quantity and quality of livelihood assets (human, social, physical, natural and financial) available to certain groups of people in Nepal is a critical factor in their vulnerability to food insecurity.

Vulnerable groups have low human capital

Even by South Asian standards, human development indicators in Nepal are low. Almost two thirds of the adult population cannot read or write, only 71 percent of people have access to safe drinking water and about half of children under five years of age are underweight (ADB, 2002). Available evidence suggests that less than 20 percent of the entire workforce has been to school

and of these only about 3 percent have passed high school (UN, 1999). There are large disparities in these indicators along regional, gender, caste and socio-economic lines. The human development index of all 75 districts shows that 17 of the 25 least developed districts are in the far- and mid-western hills and mountains. Illiteracy is highest in mid- and far- western districts of the hills, mountains and Terai (see Table 7). Compared to a literacy rate of 69 percent in the Kathmandu District, Humla and Kalikot Districts in the Western Mountains have literacy rates under 20 percent. Similarly, infant mortality is 32 per 1 000 live births in Mustang, but 201 in Mugu District in the Western Mountains (Sadeque, 1998). Although some progress was made in increasing access to education, health and drinking water during the last decade, human capital remains particularly weak among the vulnerable groups profiled, constraining their ability to make best use of other types of capital available to them. Poor health and low educational levels reduce return to labour productivity, which in turn lowers household incomes.

Table 7: Regional disparities in literacy and enrolment 1995/96

	Incidence of poverty	Illiteracy (share of population %)	Gross primary enrolment rate (1-5)²⁶	Gross lower secondary enrolment rate (6-8)
Terai	42	69	80	46
Eastern Terai	42	62	120	61
Central Terai	38	77	109	57
Western Terai	40	69	131	61
Mid- and Far-Western Terai	53	72	82	39
Hills	41	58	115	59
Mountains	56	75	79	49
Eastern Hills and Mountains	28	59	90	73
Central Hills and Mountains	67	66	59	30
Western Hills and Mountains	40	54	92	50
Mid- and Far-Western Hills and Mountains	72	73	85	50
Nepal	42	64	94	54

Source: World Bank, 1998.

²⁶ Gross primary enrolment rate represents the ratio of all primary school students to all primary school aged children in the population. Enrolment rates above 100% are explained by the large number of over-age children (i.e. those repeating grades) in primary school.

Rural service castes, porters, marginal farm households and the urban poor are all at a disadvantage in terms of education and skills. Prohibited from reading or writing until 1951, almost all of the older Dalit generation is illiterate and many continue to lack access to adult literacy programmes. Education and skills are also low among marginal farm households, particularly in the most isolated far-western and eastern highland districts, and among women and girls. Among men and women landless marginal farm households in the hills, illiteracy is as high as 70 percent and 87 percent respectively. Tourist and non-tourist porters have little if any formal education and limited bargaining skills, which reduces their ability to bargain for better wages of working conditions. Tourist porters with some cash savings generally lack the knowledge and expertise to diversify into other profitable enterprises. Although literacy is higher in urban areas, most people depending on casual occupations lack the skills or knowledge to improve their employment prospects or ensure their economic and social rights.

Box 13: Breaking rocks rather than going to school

Mainya has been breaking rocks since she was eight years old, along with her mother and brother. Her family moved to Kathmandu four years ago, but her father left town to work for a timber company. Mainya works 12 hours every day. She and her mother prefer to collect their pay monthly rather than daily. Sometimes they are lucky enough to be taken to a building site where they can each earn NRs 50-80 per day. But this doesn't happen often. Mainya's family frequently takes loans from the contractor for up to NRs 900. Mainya's family lives in a shack by the site. She was once admitted to school but had to leave when her father got an eye illness - probably an injury caused by fragmenting rock - and was laid off. That's when Mainya began to work. "I don't want to go to school now. After all, what good is schooling for the likes of me?"

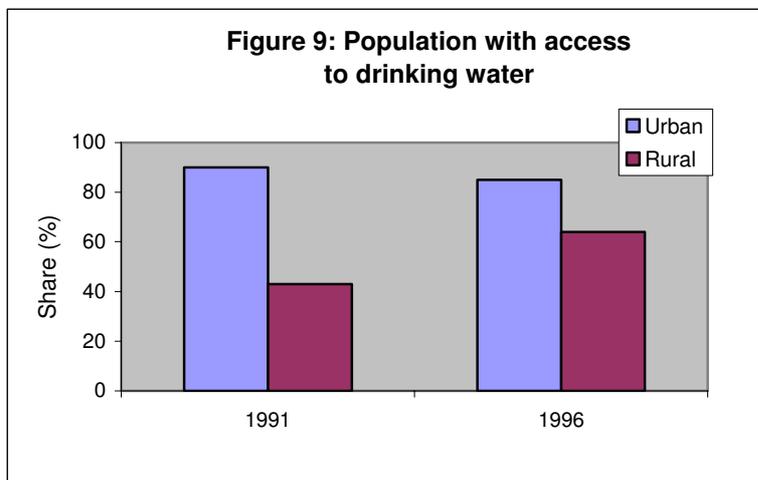
Source: CWIN, Voice of Child Workers (Issue No. 9, 1990) in UN 1999.

Access to primary education also remains unevenly distributed by region and district, caste status, income level and gender even though the distance to primary schools (often regarded as a key variable influencing access) has been reduced. The enrolment rate is particularly low at 60 percent (1999 data) for the Terai region as a whole (UNDP, 2002). A large number of children belonging to families in the vulnerable groups studied drop out of school before completion of the primary level to start working in agriculture or as wage labourers (see Box 13). Girls in marginal rural households often drop out of school early to get married.

Health and nutritional status is also low among vulnerable households, reducing their ability to maximise the returns from their labour. Iron Deficiency Anaemia is by far the most common nutritional problem in Nepal and women and girls are particularly at risk. In 1998, the overall prevalence of anaemia in women of reproductive age was 68 percent and the rates among pregnant women even higher (Gill, 2003). Besides the overall low quality of health services (inadequate medicines and equipment and poorly trained workers) in rural areas, lack of access is a major constraint for marginal farm households, porters, agricultural labour households and others living in rugged and isolated districts. Several vulnerable groups also experience increased risks to certain illnesses associated with their occupation or location. Porters have a high exposure to health risks associated with their work, including respiratory diseases, high altitude sickness, hypothermia, frostbite, skin diseases and disability due to accidents, which reduces their earning potential. People living in the highlands regularly suffer from depression due to their isolation and loneliness following the seasonal migration of male working-age members of the

household for wage labour. Among rural service castes, the incidence of tuberculosis, bronchitis, anemia, stunting and malnourishment and occupation-related health problems is also high. Sarki are particularly at risk of anthrax (linked to their work with cattle carcasses) and Kami are at high risk of swine fever.

Problems of inequitable food access are compounded by poor food utilisation (Gill, 2003). Standards of sanitation and hygiene are low, as is access to safe drinking water. Although access to drinking water has increased rapidly since 1990 (see Figure 9), some households – particularly Dalits and rural people living in the mid- and far-western districts of the mountains, hills and Terai – continue to have a high exposure to water-borne diseases such as typhoid, dysentery and diarrhoea, which reduces their labour productivity and earnings (UNDP, 2002).



Poor people in urban areas also suffer from inadequate access to safe drinking water, poor sanitation and waste disposal, which results in poor food utilisation and serious nutrient loss. The dumping of untreated sewage and industrial toxic waste into rivers that they use for bathing, washing clothes and swimming increases their exposure to water-borne diseases, which contributes to low nutritional status, missed days in school, reduced labour productivity and adds to women's work (particularly when they have to care for sick children and walk further in search of clean water sources (UN, 1999). Diarrhoea, which is often a direct result of unsanitary conditions, is the second leading cause of death of young children in Nepal, claiming more than 38 000 lives annually (UN, 1999). Although people in the Kathmandu Valley have better access to medical centres and hospitals, poor urban workers normally cannot afford the costs and instead usually depend on advice from friends, relatives and, sometimes, traditional healers.

People exposed to social exclusion based on their caste, gender, origin, and/or livelihood are more vulnerable

Subsistence in the harsh and fragile environment of isolated mountain communities in Nepal depends on collective support and adherence to community rules regarding the management of scarce natural resources. In general, rural communities in highland areas, such as marginal farm households, have thick levels of social capital. Many share labour on an exchange or rotation basis to repair houses and care for livestock. However, the availability of social capital is closely confined within ethnic and caste boundaries. Such disparities are pervasive in Nepal where economic and social exclusion²⁷ plays an essential role in increasing the vulnerability of certain groups.

Given their place at the bottom of the caste hierarchy, rural service castes (from the Dalit caste) are discriminated against in many aspects of daily life, which limits their ability to become involved in many economic activities.²⁸ In addition, the level of social unity among these occupations is lower than among agricultural-based occupations (Information Table). Lower caste groups are only marginally represented in politics and in the Government. Although they officially have equal access to schools, drinking water, health centres and other community facilities, in practice their access is less than equal.

In addition to rural service castes, other people in Nepal are exposed to social exclusion and prejudices related to their livelihood, origin and/or gender. In the Kathmandu Valley, the urban poor are discriminated against on the basis of their rural and ethnic backgrounds. Poor urban workers reported that they are frequently exploited by employers and often blamed unfairly for pollution, crime and illegal activities. As explained in Section 2, landless agricultural labour households, including the ex-Kamaiya, continue to face social risks (such as exclusion, loss of social capital) related to their lack of assets and job opportunities.

With few exceptions²⁹, women from the vulnerable groups profiled are marginalised in most aspects of economic and domestic life, increasing their risk of malnutrition and insufficient food. Women account for 50 percent of the agricultural labour force, yet they are generally excluded from decision-making processes within the household, and have less access to credit, land and technical inputs (UN, 1999). According to the 1996 Living Standards Survey, women's wages in rural areas were just 80 percent of men's wages. In many households, particularly Hindu ones, women eat only after men and children have finished eating. When there is not enough food for the whole family, women are the ones to remain hungry. When men from marginal farm households and families depending on portering move away in search of work, women stay at home to take care of agricultural work in addition to other household chores. However, this feminisation of agriculture has increased the burden on women and elders within the household. In general, gender equity is better in marginal farm households from lower castes and ethnic groups and communities in eastern mountain districts. Caste-based practices are particularly

²⁷ Social exclusion occurs when a group is excluded "from rights or entitlement as a citizen, where rights include the social right to a certain standard of living and to participation in society" (UNDP. Human Development Report 1997).

²⁸ Social customs prevent *Dalits* from touching drinking water, milk and cooked food and entering temples, houses, shops, cowsheds, hotels and other public and private places, which excludes them from many jobs (such as selling milk, and running tea shops and restaurants).

²⁹ In certain communities, notably among the *Thakali*, women have started successful small enterprises, including shops and small hotels targeted at travellers and tourists.

strong in the Terai where inequity is highest in western and southern areas. Indices of child deprivation, gender discrimination, women's empowerment and concentration of disadvantaged groups are very low in the Terai (Sadeque, 1998).

Some vulnerable groups have shrinking access to natural capital

Research carried out for this study underlined that access to natural capital is an essential source of food and income for rural people with low food production and earnings. However, it also indicated that these people are suffering because natural resource and environmental endowments are at risk. Private use of common property resources has been on the increase over the last two decades reflecting the falling productivity of agriculture (UNDP, 2002). Rapid population growth has increased competition for available natural resources, while intensive agriculture and improper management has lowered soil fertility, and the expansion of industrial activities has polluted rivers and reduced fish stocks utilised by poor agricultural labour households and marginal farm households.

Over-exploitation has caused a marked degradation in the quality of natural resources in many areas. In hill and mountain districts, the Government estimates that soil losses range from 5-10 tonnes per hectare on well-managed land to high rates of 40-200 tonnes per hectare on degraded land, and that these losses are raising riverbeds in the Terai by 15-30 cm per year and increasing the risk of flash flooding in the low-lying plains (UN, 1999). Deforestation has reduced access to an important source of food, fuel wood, fodder and income for vulnerable households in the Terai and Hill Region, contributing to increased vulnerability to food insecurity. The total accessible forestland in Nepal fell from 5.8 million hectares in 1985/86 to 4.6 million hectares in 1992/93 (UNEP, 2001). As a result, rural people have to travel further to collect forest products thereby reducing the time available for other productive activities. People living in the far-western districts – which have experienced the highest rate of loss (31 percent between 1978 and 1991) – have been most affected (UNEP, 2001). The migration of people from the hills and the conversion of forest land into agricultural land has been a major factor in the reduction of forest areas in the Terai. During the three decades from 1961, the Terai received about three quarters of all internal migrants, expanding its share of the national population from 35 percent in 1952 to 47 percent in 1991 (UNEP, 2001). Given the role of forests in providing about 80 percent of total fuel needs and 50 percent of fodder requirements, as well as their contribution of approximately 15 percent towards total GDP through NTFPs, deforestation is therefore of critical concern.

In addition to the declining quality of natural resources, security concerns linked to the insurgency and increasing control of natural resources by the Government have reduced access for some groups of people. The establishment of new national parks, the banning of slash and burn cultivation and the conversion of open access resources in community forests has further reduced the availability of resources traditionally used by tribals (Sadeque, 2000). Marginal farm households, including agricultural labour households and the Chepang, who depend on common property resources for a high proportion of their food and income, have been most affected. According to interviews with Chepang households in the Terai, the establishment of community forests, giving non-Chepang households access, has reduced Chepang access to their traditional forest resources and reduced their informal ownership.

Vulnerable groups have weak access to physical capital

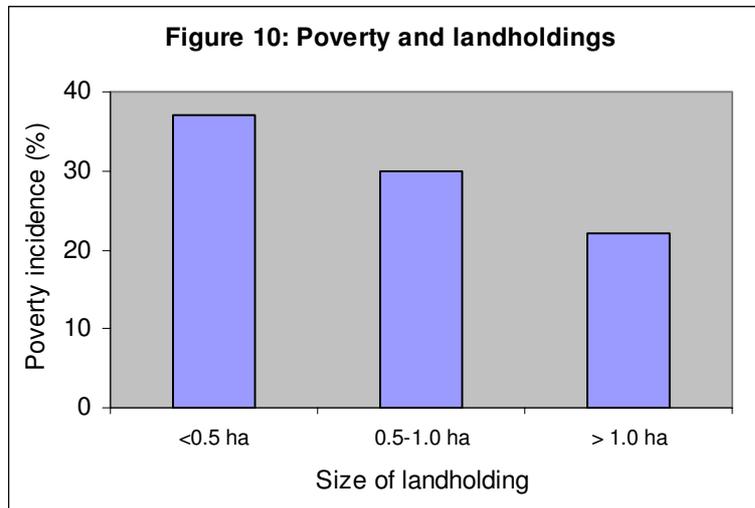
Both food secure and vulnerable groups have poor access to publicly-owned (e.g. roads, schools, health posts) physical capital. However, the former have the assets with which to partly overcome these constraints, for example by sending children to boarding schools in less remote areas. Vulnerable groups also have lower ownership of private physical capital (e.g. land, houses, livestock, agricultural equipment, means of transport). Food insecurity in some areas of the Hill Region and almost the whole Mountain Region, particularly in the western districts, is exacerbated by severe transportation difficulties. The scarcity of roads impedes normal marketing channels and increases the price of food sold in these areas. Some households reported that the price of sugar can reach NRs 50 per kg (more than five times the normal price) at certain times. Difficult access to markets reduces options for the cultivation and marketing of higher-value crops. Remoteness from markets and related information makes it difficult for farm households to adapt their production in response to price fluctuations. Many households sell their produce at low prices to local merchants, because markets are far away. Inadequate access to seed distribution systems, irrigation, storage and markets are particular difficulties reported by marginal farm households in the hills.

In spite of progress made in expanding access to health, education and drinking water during the past decade (UNDP, 2002), the quality of health and education services remains low and some groups appear to have less access than others. Some groups, including marginal farm households in the Terai, porters and rural service castes, reported that health centres were poorly equipped and not accessible during times of need. Vulnerable households in the Kathmandu Valley reported that effective access to modern health care was often limited by their inability to pay for these services.

Inadequate access to productive assets, particularly land, is a critical factor influencing the vulnerability of households to poverty and food insecurity (see Figure 10). In a country where agriculture remains the principal means of livelihood for approximately four-fifths of all working adults, land is the basis of wealth and power. However, the pattern of land holdings is highly unequal. The bottom 40 percent of agricultural households operate only nine percent of the total agricultural land area, while the top 6 percent occupy more than 33 percent of all agricultural land (UN, 1999). Among the vulnerable groups profiled, land holdings are exceptionally small (if existing at all), fragmented and low in productivity. Although marginal farm households were defined as having less than 0.5 hectares of land in this study, many have less than 0.2 hectares. Besides being small in size, this land is often fragmented in scattered parcels and located on slopes or at higher elevations with low moisture retention capacity and no irrigation facilities. Households that depend on agriculture as their main livelihood can usually only produce enough to cover a small proportion of their annual needs.

In addition to the limited availability and poor quality of land, some types of marginal farm households – especially sharecroppers and migrant marginal farm households on recently cleared forest land, and women-headed households – have insecure tenure over the land on which they depend, reducing the incentive for them to invest in their land, which in turn limits improvements in agricultural productivity. Many shareholders reported that they live in constant fear of eviction and changes in the tenancy law (see section 3.4) have only served to increase their concern. Migrant farm households from the hills who farm small plots of unregistered land on the edge of forests also see their lack of land titles as a key factor of their vulnerability. Considered as illegal

occupants by district officials in many areas, these households also operate under the threat of eviction.



Source: Sharma & Chettri, 1996

Livestock provide a crucial source of food and income for vulnerable rural households. Over half of cattle, buffalo, goats and sheep are owned by households in the hills, about one third by households in the Terai and the remainder by households in the mountains (FAO, 1998). In general, households that are the most vulnerable own the fewest animals (goats, pigs, cows, buffalo, etc.) and poultry. Agricultural labour households, who are either landless or have very small land holdings, reported that they had few if any livestock and poultry, thus leaving them dependent on fewer income sources and, for example, reducing the availability of dairy products which could improve household nutrition.

Lack of collateral and remoteness means vulnerable groups have limited access to financial capital

Households in the vulnerable groups have very limited access to financial capital which restricts their opportunities to invest in their livelihoods, diversify their production base or cover unexpected cash needs. The absence of assets to offer as collateral is a major problem for these households. Marginal farm households experience difficulties acquiring loans from formal sources since they lack land, which is the form of collateral accepted by banks. Weak access to credit is also a significant constraint for porters (particularly non-tourist porters) and poor urban workers with few or no assets to provide as collateral. A lack of collateral also prevents rural service castes from taking loans from formal banking institutions to invest in their services and respond to changes in market demand. Low wages and a shortage of cash reduce the opportunities for agricultural labour households to migrate seasonally to places where wages are higher or to develop small enterprises.

In comparison to the Terai, where a relatively large range of credit sources are available (including the Agricultural Development Bank, rural development banks, cooperatives and savings and credit groups like the Small Farmers Development Programme and Production Credit for Rural Women), the number of formal financial institutions is much lower in hill and mountain districts. Given their lack of access to formal credit sources, most households in the vulnerable groups profiled take out loans from informal sources, usually at high rates of interest, when they need cash urgently. These loans absorb a considerable part of their future cash earnings and keep many of these households in a perpetual state of debt.

3.2 Trends increasing the vulnerability of some households

As indicated above, a sustained flow of migrants from the highlands to the plains, coupled with high fertility rates, has caused *rapid population growth in the Terai* since the early 1960s. This population increase has reduced the area's overall carrying capacity, contributing to a reduction in soil fertility and crop yields, and a rise in landlessness as landholdings, passed from one generation to the next, become smaller and smaller in size until they are no longer viable.

A *downturn in the carpet and textile industry*³⁰, coupled with increased global competition and a gradual shift to mechanised processes in labour-intensive subsidiary industries (such as increased use of machine-made threads), has negatively affected poor urban workers in the Kathmandu Valley, particularly women. The export of hand-knotted woollen carpets, which used to be the largest foreign currency earner and employment generator after agriculture, declined by more than 25 percent during the first 9 months of 2001-2002 fiscal year and 12 percent during the same period of the 2002-2003 fiscal year (The Kathmandu Post, 22 April 2003). This has significantly reduced the availability of work for unskilled women workers, reducing their earnings and ability to purchase food. Given their limited skills and increased competition in the job market, many wool spinners and other garment workers have had difficulties finding alternative paid work.

Insufficient wage labour opportunities and increasing competition has further reduced the availability of skilled and unskilled work in both rural and urban areas. In rural areas, a lack of wage labour is pushing more and more people with low asset base to cover their basic needs and few income-generating options to migrate to urban areas. In urban areas, the wages for unskilled workers and domestic servants has been negatively affected by the steady flow of seasonal and permanent migrants from rural areas, including young boys and girls, who are prepared to accept

Box 14: The impact of the development of transport infrastructure on porters

Although welcomed by many, the construction of a road from Tumlingtar airport to Khandbari dealt a harsh blow to porters in the area and their families. Many porters used to earn their living by carrying luggage and cargo from the airport to small towns in Sankhuwasabha District. But the construction of a road and the delivery of a motor vehicle (airlifted into this remote area) dramatically reduced the need for human porters. Although a few porters got jobs helping to load the new passenger vehicle, most could no longer find enough portering work to feed their families. Many had no choice but to leave the area in search of better opportunities elsewhere.

Source: Interviews in Sankhuwasabha District

³⁰ The output of the carpet industry dropped by 25 percent in 2001 compared to 2000 (Kathmandu Post 2001).

lower wages. Skilled labourers increasingly have to compete with Indian immigrants with a good reputation for skilled masonry and other construction-related jobs.

Rising population and increased fragmentation of land has not been offset by a rise in the availability of off-farm employment opportunities in the Terai. Wages for agricultural labourers have remained low, while their lack of education and vocational skills limits their ability to diversify their livelihoods, agricultural labourers receive low wages compared to labourers in the off-farm sector, and although a minimum wage has been set, it is rarely implemented. Most contracts are oral and labourers have little protection when their payment is late or less than what is due.

Modernization (including greater access to radio and television) and the increased availability of cheaper factory-produced goods (such as shoes, tools, clothes, etc.) in rural areas have reduced the demand for rural services traditionally provided by caste-based singers, metal workers, leather workers, etc. In urban areas, people from other castes (not *Dami* or *Gaine*) have become involved in entertainment and set up tailor shops. With the exception of households depending on tailoring, a growing number of people in these caste-based occupations are unable to earn a living from their traditional livelihood, yet have few skills, assets and opportunities to diversify into new occupations.

Increasing pollution of the Bagmati and Bishnumati Rivers has been detrimental to poor workers living in slum and squatter communities in Kathmandu who lack adequate access to other water sources and depend on these rivers for bathing and household activities. The use of polluted waters negatively affected health conditions and thereby biological utilisation of food and ability to work.

3.3 Shocks pushing vulnerable groups into food insecurity

Covariant shocks

Increasing political instability and violence, linked to the Maoist guerrilla insurgency since 1996 (a state of national emergency was declared in June 2001), has had a negative influence on vulnerable groups in many districts. Armed conflict has damaged rural infrastructure, disrupted farming activities and reduced access to traditional sources of food and fuel wood in forests since the Government prohibited entry to forests allegedly used by the insurgents. Killing, extortion, forced recruitment and infrastructure destruction have created fear in the most affected areas, resulting in increased migration, decreased agricultural production and a decline in living standards. Hostilities and instability linked to the insurgency lowered the number of new tourist arrivals and restricted access to some popular trekking routes, which reduced demand for tourist porters. Given the absence of alternative income generating opportunities in these areas, many porters have seen their earnings shrink.

Although efforts to reduce isolation and promote development in remote mountainous areas and eastern hill districts through ***road construction*** (and the introduction of motor vehicles and animal-drawn vehicles) has been beneficial for many rural people, porters working in these areas have seen the demand for their services drop, and many have lost their main means of income generation (see Box 14).

Marginal farm households and porters living in hill and mountainous areas of Nepal are at **high risk of exposure to natural disasters** such as flooding, landslides, drought, hailstorms, heavy snowfall and earthquakes (see Box 15). In the districts of Kabhre and Sindhupalchowk, landslides are common, threatening the livelihoods of many households (Sadeque, 2000). Relatively small earthquakes (ranging from 4 to 5.5 on the Richter scale) occur frequently increasing the likelihood of landslides along the mountainous belt, especially in far- and mid-western districts. Heavy snowfalls cut off marginal farm and porter households in some of the most isolated and food deficit areas, especially in the west of the country, preventing them from accessing external sources of food or assistance for several months during the winter. Marginal farm households in some villages reported that regular loss of wheat and maize crops due to unexpected and ill-timed hailstorms before the harvest was an important factor causing food deficit periods. Prolonged and torrential rains reduce the availability of work for porters, increase the hazards and length of journeys and reduce earnings.

Idiosyncratic shocks

Work-related accidents increase the vulnerability of many households with no savings and few assets. Given the dangers and health risks inherent in their work, porters have a particularly high exposure to work-related accidents. Most are uninsured and

when accidents or illnesses unexpectedly reduce their earnings and demand cash to pay for emergency health care, the remaining members of their households have few if any resources on which to draw.

Diarrhoea, dysentery and other common illnesses linked to a chronic state of malnutrition and inadequate access to safe drinking water cause calamities for households in the vulnerable groups profiled. These illnesses prevent adults in the household from working, thus shrinking earnings. They also result in a deterioration in health status and consequently food uptake. In cases where such illnesses result in the death of an income earner in the household, the impact is devastating.

Box 15: Landslides sweep away land

About 25 years ago, a family of four in the mountainous northern part of Sankhuwasabha District lost their small plot of agricultural land and house in a large landslide. With no means to acquire land locally, they migrated to the main district town where they found land to rent. However, after working as sharecroppers for two decades, the family remains worse off than before the landslide.

Yields are lower on their rented land. The landlord gets half of the meagre harvest as rent every year, leaving only enough to cover the household's needs for three to four months. During the rest of the year, they survive by collecting and selling fuel wood or selling their labour and the use of their bullocks to other farm households. However, recently the household has faced new difficulties. Bad weather reduced the size of their last harvest and access to the local forest has been restricted by the introduction of new security measures against insurgents. The family has borrowed money from a money lender but remains worried that there will still not be enough to eat. If the next harvest is bad, they also worry that they might be evicted.

Source: Interviews in Sankhuwasabha District

3.4 Some policies and institutional schemes have had a negative effect on vulnerable groups

The *abolition of tenancy rights* in 1999 has had a negative impact on sharecropper households, most of whom are located in the Hill Region. Under the previous system, sharecroppers had some tenancy rights to the land they worked and landlords could not sell or change the use of the land without the tenant's consent. Since 1999, the removal of tenancy rights has eliminated these basic rights and increased the risk that landlords evict sharecroppers without their agreement.

Although the *abolition of the bonded labour system* has given ex-Kamaiya back their freedom and enhanced their social status in the community, many of these households paradoxically report that they are worse off than before. Although the Government has a policy to resettle and support ex-Kamaiyas focusing on land distribution, the provision of timber for house construction and development of income generating programmes, coverage has been limited and some households have only received partial assistance (see Box 16). Many ex-Kamaiya have reportedly been unable to participate in this programme and, with limited livelihood options, are in more vulnerable positions before.

Some agricultural labour households have reported *difficulties obtaining citizenship certificates*, which restrict their access to loans and the use of public services since citizen certificates are required to obtain loans from formal banking institutions and for placing one's land as collateral.

In contrast to households in slum communities in Kathmandu who are able to request legal rights to their residence, *households in squatter settlements are unable to get legal titles* to their houses and plots. Urban renewal schemes in some neighbourhoods, such as the area around Pashupatinath temple, have already made some squatter households homeless, and many more live in fear of eviction.

The Government's *withdrawal of subsidies* on agricultural inputs (including fertilizer) in 1999 has increased production costs for marginal farm households in the hills and Terai.

Box 16: Resettled ex-Kamaiyas in Banke District

Approximately 140 ex-Kamaiyas households (typically with 2 to 12 people each) have been living in Muktinagar since April 2001. Resettled by the Government after they were freed from bonded labour, most of these households have received 0.12 hectares of land. Although resettled families should also receive NRs 10 000 and 75 cubic feet of timber, ex-Kamaiyas in Muktinagar have not received this yet. Families have built small huts using sticks and tree branches for the walls and plastic for the roof, but better housing is considered a priority. These families depend on food-for-work programmes for their living. Workers typically earn about 4 kg of rice per day and families have to find other ways to cover non-food expenditures. Few own poultry, pigs, and goats. Only five families own cattle. Very few people from these households have found well-paid non-farm jobs or migrated to India. Some households belong to a local savings and credit group. They contribute NRs 10 per month and can borrow from NRs 200 to 400 at an interest rate of 1 percent per month. These households are happy to be freed from bonded labour but worry about how they will survive in the future. Their food security status depends on the availability of food-for-work programmes and the health of working members of the family.

Source: Interviews in Banke District

Table 8: Vulnerability factors by group

	Marginal farm HH the Mountains	Marginal farm HH in the Hills	Marginal farm HH in the Terai	Agricultural labour HH in the Terai	Rural service castes	Porters	Urban poor
<i>Low access to assets</i>							
Human capital	x	x	x		x	x	x
Social exclusion				x	x		x
Natural capital	x	x	x	x			
Physical capital	x	x	x		x	x	x
Financial capital	x	x	x	x	x	x	x
<i>Trends</i>							
Population growth			x				
Downturn in the carpet and textile industry							x
Insufficient wage labour opportunities and increasing competition				x			x
Increased fragmentation of land				x			
Modernisation and availability of cheaper factory produced goods					x		
Increasing pollution of the Bagmati and Bishnumati rivers							x

	Marginal farm HH the Mountains	Marginal farm HH in the Hills	Marginal farm HH in the Terai	Agricultural labour HH in the Terai	Rural service castes	Porters	Urban poor
<i>Shocks</i>							
Political instability and violence	x	x	x			x	
Natural disasters	x	x				x	
Work-related accidents						x	
Diarrhoea, dysentery and other common illnesses	x	x	x	x	x	x	x
<i>Policies</i>							
Abolition of tenancy rights		x					
Requirements for citizenship and residence				x			x
Withdrawal of subsidies on agricultural inputs		x	x				

4. How do vulnerable people attempt to maintain their food security?

Households that are vulnerable to food security adopt different strategies to reduce, mitigate and cope with risks and shocks that affect them, based on the options offered by their internal asset structure and their access to external assistance. However, the range of strategies available to households that are most vulnerable is extremely limited by their asset portfolio, and quickly diminished in times of severe or multiple shocks. Many of the short and long-term strategies adopted by households (or individuals within them) to reduce, mitigate and cope with risks entail serious long-term costs. Women often eat less so that there will be more food for men and boys in the household, contributing to a decline in their nutritional status, gynaecological problems and the birth of underweight babies, and reduced labour productivity (see Box 17). Other short-term strategies adopted to cope with a severe crisis can deprive a household of its most valuable assets, seriously affecting their future livelihood options.

While family and community provide some support to vulnerable households facing shocks and stresses in mountainous areas, support from national or international organizations is rarely available for people living in more remote and isolated mountain districts (Sadeque, 2000). Safety nets provided by the state are almost nonexistent in many mountain areas. Seasonal famines plague the remote mountain districts of Humla and Jumla almost every year, yet there is no long-term plan to help these households cope with the impact of seasonal changes in food availability.

Box 17: Nepalese women's efforts to cope with reduced food availability

Women's strategies to cope with food insecurity are often detrimental to their health and nutritional status. Faced with insufficient food in the household, women in Nepal often:

- reduce their food intake and the intake of their daughters;
- switch to food that expands in the stomach (such as gruel) especially for themselves;
- cook food only once a day and use side dishes in order to reduce the fuel used and time spent cooking (freeing time for income generating activities);
- consume processed foods that keep without special storage (dried vegetables, flour of mango kernel);
- purchase cheaper staples to replace costlier and more nutritious items; and work harder and for longer on productive activities to earn cash to buy food.

Source: www.ifad.org/hfs/learning/11.htm

This chapter reviews the types of coping strategies adopted by vulnerable groups in Nepal in response to the various risks that threaten their production and/or access to food. Understanding the nature of their risk management strategies is important to identify areas of risk management that reduce long-term costs on vulnerable groups. It is also essential to enable the identification of options through which the Government and its partners can better support these households to more effectively cope with the risks faced and thus reduce their vulnerability to food insecurity.

Changing expenditure and consumption patterns:

Many households in the vulnerable groups profiled alter their expenditure and consumption patterns as a short-term strategy to cope with food deficit periods and times of hardship. Intra-household allocation changes, meaning less food for women and female children, are frequent. Marginal farm households, porters and poor urban workers reported that they eat fewer meals, and consume cheaper and less preferred food items (such as *dhindo* or *khole* instead of rice) when food and/or cash is scarce. During such times, porters and marginal farm households also eat roots (such as *tarul*, *gittha* and *byakur*) collected in forests. Some households, including the *ex-Kamaiya*, reduce expenditures on alcohol and social functions. Households in the Kathmandu Valley, including wool spinners and domestic servants, reported that they withdrew their children from school to reduce household expenditure and increase income through their children's labour.

Box 18: A negative spiral of debt

Nara Bahadur Rai, his wife and their three daughters, all under the age of seven years, live in Kote village, several hours from the main town of Khantbari in Sankhuwasabha District. With a small plot of land and a pair of old bullocks that they rent to neighbouring farm households, the family managed to produce and earn enough to cover their basic needs until their harvest was totally destroyed by a hail storm four years ago. To cope with the calamity, Nara took out a high interest loan from a local money lender. However, when more bad weather destroyed the household's crops during the following three years, the family was plunged into debt, and Nara was eventually forced to mortgage his family's land and house. Without any land to farm, Nara has had to look for work as a porter. His wife tries to supplement their income by collecting and selling fuel wood, and renting their bullocks to other farm households in the area. But ensuring enough to eat is a struggle, and any small shock threatens to destabilise the household's fragile balance.

Source: Interview in Sankhuwasabha District.

Borrowing money and food: In the absence of other alternatives, many households in the vulnerable groups profiled resort to borrowing grain, money or labour to cope with food deficit periods. Sometimes households borrow grain from other households (mainly from members of similar castes or from relatives) in the village. In the Mountain Region, some marginal farm households reported that traditional loan systems (*perma*) provided in-kind help in the form of labour from neighbours. In the Hill Region, marginal farm households reported that loans from neighbours (*aincho-paincho*) are sought during times of stress. The urban poor reported that they borrow food and money from neighbours, relatives, shops or moneylenders. In some cases, poor urban households are also able to access credit schemes operated by NGOs, and domestic servants receive leftover food and used clothes from their employers. During times when all other strategies are exhausted, some people (particularly *Gaine* among the rural service castes and street children in Kathmandu) have few options but to beg for food and money donations.

When relatives and neighbours have less to share, households often borrow grain from private traders, landlords or moneylenders. Taking loans from local moneylenders was the most important coping strategy reported by porters and marginal farm households interviewed during this study. Due to their lack of assets that can be used as collateral (that is required by formal credit institutions), households from the vulnerable groups profiled have to rely on informal credit sources with high interest rates. In the hills and mountains, the absence of formal credit institutions forces even farm households with officially recognised land titles to borrow from money lenders. Interest on loans of cash and food received from moneylenders and traders is often between 30 and 60 percent, pushing many households further into debt (see Box 18).

Selling assets: Selling any remaining assets (including stored rice, livestock, land or homesteads) to cope with emergencies and the unexpected need for cash is another coping strategy at times of severe food shortages, particularly when other options have been exhausted.

Intensified use of common property resources: Forests provide an important source of food and other non-timber forest products for rural households. Among marginal farm households in the Mountain and Hill Regions, the collection of forest products (such as fuel wood, roots, mushrooms and medicinal herbs) provides a vital and customary source of food and income, particularly during the difficult months from February to April. In the Terai, marginal farm households and agricultural labour households also draw on forests and rivers to supplement their diet and earn additional cash by selling fuel wood. At times of misfortune, such as after crop failure or when wage labour is scarce, most rural households intensify their use of common property resources in an attempt to avoid hunger.

Migrating in search of wage employment: Many households from the vulnerable groups profiled depend on seasonal and/or long-term migration to supplement their traditional source of income. In most cases, working men from the household migrate to other parts of Nepal or India to find employment as wage labourers. Some individuals from a minority of households (including tourist porters) with the means to finance relatively large initial expenses have also migrated to the Gulf States.

Among the seven groups profiled, rural service castes, marginal farm households, porters and agricultural labour households all indicated that seasonal and/or long-term migration is important to their survival. Men and boys from marginal farm households in the hills and mountains often migrate to the Terai and India in search of paid agricultural and off-farm work. However, although migration helps generate additional household income, it places additional demands on household members (women and the elderly) who stay behind. While their husbands and sons are away, women have an increased work load but often do not have enough to eat during the lean period.

Changing livelihoods or seeking employment locally as wage labour: Vulnerable groups are obliged to switch occupations, sometimes on a long-term basis, when the availability of work in their traditional occupation is limited. In addition to migration to other areas, households with insufficient agricultural production or income to make ends meet also look for local wage opportunities. Some marginal farm households try to rent additional land for cultivation as sharecroppers once they have met the obligations of their regular contract. When faced with periods of reduced or low demand for their services, many rural service castes and porters search for work as daily labourers.

When times are tough for tourist porters, they change to new tourist trekking routes, spend more time farming their own land (normally managed by other members of the household) or look for portering work on non-tourist routes. In the Kathmandu Valley, men who usually work as construction labourers try to find odd jobs portering in markets or look for work as agricultural labourers when the construction sector is quiet. Street children switch to other jobs when their usual type of work is scarce.

Some types of rural service castes, particularly *Sarki* and *Kami*, have changed their main livelihood to agriculture or wage labour to cope with reduced demand for their services. Following the abolition of the *Kamaiya* system, some of these households have found work as agricultural labourers, bricklayers, carpenters and off-farm labourers (sometimes under food-for-work programmes), while those who received small plots of land under rehabilitation programmes are now engaged in agriculture as their main livelihood.

Changing social identity: Traditional surnames associated with caste-based occupations (*Damai*, *Kami*, *Sarki* and *Gaine*) in Nepal reveal the social status of individuals and uphold discriminatory behaviour. In response, some rural service castes reported that they changed their surname to reduce the stigma associated with their caste and increase their livelihood options when they moved to a new area. Typical new names adopted include Koirala, Pariyar, Sanchuary, Gadal and Sava.

Table 9: Risk management strategies by group

Risk management strategy	Marginal farm HH the Mountains	Marginal farm HH in the Hills	Marginal farm HH in the Terai	Agricultural labour HH in the Terai	Rural service castes	Porters	Urban poor
Changing expenditure and consumption patterns	x	x	x			x	x
Borrow money and food	x	x			x		x
Selling assets	x	x	x	x	x	x	x
Intensified use of common property resources	x	x	x	x			
Migrating in search of wage employment	x	x	x	x	x	x	
Changing livelihoods or seeking employment as wage labour	x	x	x		x	x	x
Changing social identity					x		

5. Opportunities for reducing vulnerability: policy and programming options

The vulnerable group profiling research identified transitory and structural factors that contribute towards food insecurity (Section 3) and examined the ways in which vulnerable households in Nepal cope with risks. The recommendations proposed in this section are based on this analysis. They identify a range of options in areas of potential intervention by the Government, international organizations and NGOs, etc. to help vulnerable groups to maintain and expand their asset base, and strengthen their capacity to cope with shocks and adverse trends. Effectively addressing the needs of vulnerable groups will be essential to enable these households to improve their income and nutritional well-being, and accelerate a reduction in food insecurity and poverty at the national level.

The following section proposes a number of areas in which support is required to reduce vulnerability to food insecurity in Nepal, as well as specific recommendations for each of the vulnerable groups identified and analysed in this study.

5.1 General recommendations for decreasing vulnerability

Capacity building to enhance the human capital of vulnerable groups

Research conducted for this study underlined the limited human capital among all the vulnerable groups, particularly people in low caste households and women. Improving the human asset base through education and health improvements will be critical in enabling these people to make better use of their other assets, diversify their livelihood options and obtaining higher-paid employment. Interventions are required to increase literacy and upgrade vocational skills, keep rural children (especially girls) in school for longer through the development of incentives (such as school feeding programmes) to increase enrolment and graduation, and improve the quality and affordability of health care. Extension services to train marginal farm households in advanced farming techniques, as well as marketing of both subsistence and cash crops, would also be important. Adult education and vocational training targeted at urban workers in the informal economy living in slum and squatter communities would enable them to improve their earning power and increase their livelihood options at times when the availability of unskilled jobs is uncertain.

Correcting gender imbalances

The study revealed that although Nepal has committed itself to international conventions for women's economic, social and political advancement, gender imbalances persist and are increasing women's vulnerability to food insecurity. Gender-focused policy reforms and development programmes for improving reproductive health and child health need to be developed and implemented.

Reduce exclusionary cultural traditions based on gender and caste

As illustrated throughout this report, many of the poorest and most vulnerable households in Nepal face deep-rooted discrimination and social exclusion as a result of their caste, ethnicity or gender. Although some progress has been made to eliminate some of these negative traditional practices (with the 1990 Constitution and the elimination of the *Kamaiya* system), further efforts (such as education) are required to reduce discrimination and enable everyone in Nepal to take advantage of existing opportunities.

Support the diversification of livelihoods

Given their inability to produce enough food and/or earn sufficient income through their existing asset base and livelihood strategies, vulnerable marginal farm households should be supported to diversify their livelihood options to higher and more stable incomes. Opportunities exist to support marginal farm households to produce and market higher-value cash crops, and to process non-timber forest products for greater profit. Efforts to improve local infrastructure, develop new skills and enhance access to information on market prices and demand will be important in this regard. Efforts are also required to help non-tourist porters to diversify into alternative livelihoods, particularly in the context of proposed infrastructure developments in highland areas.

Attention should also be paid to developing non-farm employment opportunities in which agricultural labour households, porters, rural service castes and other households with few assets can participate. Development of indigenous cottage industries offers potential but, in order to participate in these opportunities, vulnerable households require better access to credit as well as targeted support in market research and marketing. Increasing access to employment through the expansion of public works programmes during the agricultural off-seasons could help to improve earnings, improve food security and also reduce the incidence of indebtedness, which is high among households in vulnerable groups.

Further development of tourism has the potential to provide additional employment for poor workers in Kathmandu, as well as to increase opportunities for vulnerable rural households (including marginal farm households and porters) living in famous mountain areas. The opening up of peaks and destinations that are currently off limits would enable a larger number of people to participate in the potential opportunities (such as small guesthouses, portering, small shops, sale of vegetables, fruit and milk products to tourists).

Improve agricultural productivity

Marginal farm households in Nepal are characterised by the low productivity of their production. Potential exists to increase yields (crops and livestock production) of subsistence farm households in the Terai, hills and mountains, and thereby enhance their earnings and food security, by improving security of tenure and increasing access to cost-effective inputs and support services (such as higher-yielding seeds, appropriate technologies, extension and veterinary services etc.). In many places, cropping intensity could be increased through better management of water resources. The Government's 15-year Agricultural Perspective Plan (APP)³¹ recognizes the need to commercialise agriculture, promote high-value agricultural commodities and open up marketing facilities. Increased support to implementation of this plan along with specific attention to the needs of marginal farm households is required to enable them to benefit. Improving the productivity of small-scale livestock and poultry production – through better breeding and improved feeding practices and support services – would also benefit marginal farm households and portering households, many of which already raise some farm animals.

Improve infrastructure in rural areas

Although several roads have been constructed across the country (from east to west), there are few roads from the southern plains of the Terai into hill and mountain districts, which constrains market access, increases the price of food items brought into these areas and limits opportunities for diversification.

Increase access to financial capital

High levels of indebtedness among marginal farm households, porters and agricultural labour households exacerbates the difficulties faced by many poor rural households and often causes them to lose their few remaining assets when faced with severe shocks. The Government has recognized the importance of expanding access by the poor to formal financial institutions. However, further attention is required to addressing factors that reduce their access to credit. Credit and savings schemes (e.g. Kalika Savings and Credit Group) operated by NGOs in some hill districts to provide financial services to marginal farm households without collateral could be replicated in other areas. Similarly, existing credit and savings groups targeting small and marginal farm households in the Terai (such as the Small farmer Development Programme and the Production Credit for Rural Women run by government institutions and NGOs) could be expanded.

Implement policies and programmes in favour of marginal and vulnerable groups

Poverty reduction has been the declared principal developmental objective of the Government since 1997 and a number of programmes have been launched in this context to support agricultural development, expand access to basic education, primary health, drinking water, communications, and so on. However, in spite of the magnitude of under-employment, policies to promote the development of viable employment opportunities have been inadequate. Employment opportunities (such as through food-for-work programmes) for people in vulnerable households need to be continually expanded, addressing the constraints faced by particular sub-

³¹ The Agriculture Perspective Plan (APP) under implementation since 1998 aims to increase the agricultural growth rate from less than 3 percent in the past twenty years to 5 percent during the next 20 years, and to increase per capita food production from 277 kg to 426 kg by 2017. It also seeks to prioritise investment in production pockets to transform subsistence-based agriculture into commercial agriculture.

groups. Increased attention is required to developing policies that provide marginal rural farm households with the rights to their land. Secure access to land will facilitate access to credit, promote greater investments in labour and agricultural inputs, and increase yields. Leasehold forestry programmes are also an effective way of developing self help capacity of the most vulnerable groups living close to forests. Programmes that support a greater number of people from marginalised groups like *Chepangs* and *ex-Kamaiyas* to participate in development processes are necessary. New policies are needed to address the lack of legal entitlement to land among households in squatter communities, a crucial factor of their vulnerability.

Develop targeted welfare programmes and social safety nets

Targeted welfare programmes and social safety nets are needed to protect households with limited assets and few viable coping strategies from hunger. Policies and strategies need to be developed to address the needs of the most food insecure in areas where severe annual food deficits cause famine and help households living in these areas to better manage the risks faced.

5.2 Recommendations to reduce vulnerability for people in the vulnerable groups

Specific options to improve food security, targeted at the vulnerable groups identified in this study, are summarized below:

Marginal farm households in the mountains and hills

- Improve access of people in hill and mountain districts to acceptable health services, needs-based vocational education and training, and rural financial services with particular attention to women, girls and individuals from marginalised ethnic and caste groups, and provide health and nutrition education.
- Support marginal farm households in the mountains to develop livestock production (sheep, goats, yaks, etc.) in high altitude pastures for sale (milk products, etc.) to outside markets.
- Increase access to training, technology, extension services, marketing support and improved transportation links to enable marginal farm households in the mountains and hills to grow high value cash crops (including horticulture, fruits, cardamom, ginger, lemon grass, medicinal herbs, etc. in which these areas have an advantage) as a second crop.
- Providing training and support to marginal farm households to enable them to strengthen systems for the sustainable exploitation, processing and marketing of non-timber forest products.
- Provide support to develop and improve the profitability of indigenous cottage industries (such as basketry, weaving, knitting, pashima shawls, etc.) through attention to design, quality and marketing.
- Reduce the isolation of farm households in remote mountain and hill districts and increase their access to markets through the construction of roads linking highland districts with the Terai.
- Promote tourism development and enable marginal farm households to participate in these opportunities.

Porters in the mountains and hills

- Provide information, training (e.g. on enterprise development, marketing, negotiations, etc.) and related support (such as credit) to enable non-tourist porters to diversify their income-earning opportunities and add value to portering (e.g. development of small enterprises, trading), and to support tourist porters to improve their working conditions and wages.
- Recognise the role and status of porters by including porters in census counts.
- Provide specific targeted assistance to the families of porters to improve their access to acceptable health services, needs-based vocational education and training, and rural financial services.
- Support women from portering households to develop indigenous cottage industries (such as basketry, weaving, knitting, etc.) through assistance with design, quality and marketing.

Marginal farm households and agricultural labour households in the Terai

- Develop needs-based programmes to improve basic education, literacy and vocation skills of vulnerable people in the Terai, with particular attention to women, girls and individuals from marginalised ethnic and caste groups, to enable them to diversify their livelihoods, improve their agricultural production and take advantage of higher-earning labour opportunities (locally and through migration).
- Increase the productivity of marginal farm households through increased diversification into higher-value crops, livestock and poultry, and improved access to extension services, technologies, rural finance, etc.
- Increase the availability of non-farm employment opportunities in the Terai and expand work programmes that provide marginal farm households, sharecroppers and agricultural labour households with opportunities to ensure an income during the off-season, whilst developing their asset portfolio.
- Improve security of land tenure for migrant marginal farm households.
- Expand the coverage of programmes targeting particularly vulnerable groups including the ex-*Kamaiya* and *Chepangs*.

Rural service castes

- Provide vocational and skills training, access to technology and marketing support to enable rural service castes to improve and expand the range of their services and products (e.g. modern music and songs, leather jackets and bags, agricultural machinery repair, traditional and modern clothes, etc.) and access markets outside their local area.
- Support activities to reduce discrimination and enable rural service castes and other low caste households to have equal rights as written in the Constitution.

Urban poor in Kathmandu Valley

- Provide vocational training and skills training for poor men, women and children in urban areas to enable them to take advantage of alternative sources of employment (for instance in tourism) and improve their income.
- Support programmes to end and prevent unequal labour practices (including child labour, exploitation of workers, hazardous working conditions, lower wages for women, etc.).
- Increase the availability and quality of rehabilitation centres that provide street children with access to (and incentives to use) basic education, skills and vocational training, health care, shelter and other support services.
- Accelerate implementation of the Kathmandu City Development Strategy (which formulates laws related to slum and squatter communities for the first time) and improve access to drinking water, electricity and sanitation services for people in slum and squatter settlements, and ensure their tenure rights.

6. Conclusions

Food insecurity is clearly a priority concern in Nepal where as much as 40 percent of the national population is vulnerable to hunger. Yet given the lack of progress made to date in reducing the number of vulnerable households, the prospects for halving extreme poverty and hunger by 2015, as foreseen in the Millennium Development Goals, are not encouraging. Despite considerable attention to agriculture development through the APP, food security is not an area that has received adequate policy and programme emphasis from the Government (UNDP, 2002). In order to reverse this situation and accelerate progress towards improved food and nutritional security for more people in Nepal, an effective policy framework and targeted interventions are urgently needed to begin to address the constraints that vulnerable groups face in terms of food availability, access and utilisation.

This study has examined seven groups of people with particular livelihoods that are vulnerable. Located in the mountains, hills, Terai and Kathmandu Valley, the majority of these vulnerable groups face similar constraints including very limited assets (especially land), scarcity of wage labour available, low education and skills, and poor health conditions. Those who depend on agriculture for their living cannot produce enough to cover their household's needs for most of the year. Those who depend on exchanging their labour or services for payment (including agricultural labour households, wool spinners, street children, construction labourers, porters and rural service castes) lack stability of income. While these people are located throughout the country and belong to different caste and ethnic groups, this study finds that people from tribal and lower-caste groups, women and girls are clearly among the most vulnerable to food and nutritional insecurity.

Based on an analysis of who these people are, where they are located, why they are vulnerable and how they cope with changes in their household's availability of and/or access to food, this study proposes a number of specific policy and programme interventions at different levels to address the needs and concerns of these vulnerable households. These proposals could help to ensure that programmes and initiatives implemented under the Government's Tenth Plan (2003–8), and its associated Poverty Reduction Strategy Paper and Medium Term Expenditure Framework, effectively address the heterogeneity of vulnerable people in Nepal in order to bring about real improvements in food security for a larger proportion of people in the country, thereby bringing the achievement of the MDG one step closer.

References

- ABPSD. 2000. *Statistical information on Nepalese agriculture 1999/2000*. Kathmandu. Agri-Business Promotion and Statistics Division (ABPSD).
- ADB. 2002. *Poverty reduction in Nepal: issues, findings and approaches*. Manila. Asian Development Bank.
- Baulch, B, & Hoddinott, J. Forthcoming. "Economic Mobility and Poverty Dynamics in Developing Countries." *Journal of Development Studies*. In World Bank. 2001. World Development Report 200/2001: Attacking poverty. Washington. World Bank.
- CBS. 2001. *Statistical year book of Nepal 2001*. Kathmandu. Central Bureau of Statistics.
- _____. 1996. *Nepal Living Standards Survey Report, 1996 (Volume I and II)*. Kathmandu. Central Bureau of Statistics
- _____. 1991. *Census report*. Kathmandu. Central Bureau of Statistics.
- CFS. 2000. *Finding out who the food insecure are, where they are located, and the causes of their food insecurity*. Rome: Committee on World Food Security.
- Chhetri, G. 1999. A sociological analysis of Dalit occupational caste groups in the hills of Nepal. In Chhetri, B. & Gurung O. (Eds.). *Proceedings of an international conference: anthropology and sociology of Nepal: cultures, societies, ecology and development*. Kathmandu.
- Dercon, S. 1999. "Vulnerability, Seasonality and Poverty in Ethiopia". Oxford University, Centre for the Study of African Economies. In World Bank. 2001. World Development Report 200/2001: Attacking poverty. Washington. World Bank.
- Ellis, F. 2000. *Rural livelihoods and diversity in developing countries*. New York, USA. Oxford University Press.
- FAO. 2003. *Mixed progress in hunger reduction in Asia and the Pacific: south Asia trails*. Kathmandu. FAO. (available at www.fao.or.th/Rap02-16.htm)
- _____. 2002. *Understanding Food Insecurity and Vulnerability: FIVIMS Tools and Tips*. Rome. FAO. (available at www.fivims.org).
- _____. 2000. *Who are the food insecure?*. Rome. FAO. (Submitted to the 26th Session of the Committee on Food Security). (available at www.fao.org/docrep/meeting/x8018e.htm)
- _____. 1998. *Country pasture forage resource profiles for Nepal*. Kathmandu. FAO. (available at www.fao.org/waicent/faoinfo/agricult/agp/agpc/doc/Counprof/Nepal.htm#2).
- _____. 1995. *Dimensions of need*. Rome. FAO. (available at www.fao.org/docrep/U8480E/U8480E00.htm#Dimensions%20of%20need).

Gaiha, R. & Deolalikar, A. 1993. "Persistent, Expected and Innate Poverty: Estimates for Semi-arid Rural South India, 1975–1984." *Cambridge Journal of Economics* 17(4): 409–21. In World Bank. 2001. World Development Report 200/2001: Attacking poverty. Washington. World Bank.

Gill, G. 2003. Food Security in Nepal. In ODI. *Food security and the Millennium Development Goal on Hunger in Asia*. Annex 7. Working Paper No. 231. London. Overseas Development Institute.
(available at www.odi.org.uk/publications/working_papers/wp231/wp231_annex7_Nepal.pdf).

Heitzmann K, Sudharshan Canagarajah R and Siegel PB. 2002. *Guidelines for Assessing the Sources of Risk and Vulnerability*. SP Discussion Paper No. 0218. Washington. World Bank.

Sadeque, S. Z. 2000. Poverty and social exclusion in the south Asian highlands. *Issues in mountain development*. No. 1. Kathmandu. International Centre for Integrated Mountain Development (ICIMOD). (available at www.icimod.org.np/publications/imd/imd2000/imd00-1.htm)

_____. 1998. *Poverty mapping in Nepal: district statistics and policy options*. Arendal, Norway. UNEP/GRID. (Paper presented at the International workshop on poverty mapping Norway, October 14-16, 1998.)

Sharma, S. & Chettri, D. 1996. *MIMAP research on poverty in Nepal: a synthesis*. Kathmandu. MIMAP Project, Agricultural Projects Services Centre (APROSC) and International Development Research Centre.

Townsend, R. 1994. "Risk and Insurance in Village India." *Econometrica* 62 (3): 539–91. In World Bank. 2001. World Development Report 200/2001: Attacking poverty. Washington. World Bank.

UN. 1999. *Common country assessment for Nepal*. Kathmandu. United Nations.
(available at www.un.org.np/res_cor/un_reform/cca/cca1999/cca1999.htm)

UNDP. 2003. *Human development report 2003: fact sheet Nepal*. New York. UNDP.
(available at www.undp.org.np/publications/hdr2003/hdr03_Factsheet_Nepal.pdf)

_____. 2002. *Millennium Development Goals in Nepal: progress report*. New York. UNDP.
(available at <http://www.undp.org/mdg/countryreports.html#Nepal>)

UNEP. 2001. *State of environment Nepal*. Nairobi. UNEP.
(available at www.rrcap.unep.org/reports/soe/nepal/soe.cfm)

World Bank. 2003. *Country assistance strategy for the Kingdom of Nepal*. Report No. 26509-NEP. Washington DC. World Bank.

_____. 1998. *Poverty in Nepal at the turn of the twenty-first century*. Washington DC. World Bank. (available at www.worldbank.org).

WFS. 1996. *World Food Summit Plan of Action*. Rome. World Food Summit.

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Agricultural and Development Economics Division (ESA)

The Food and Agriculture Organization
Viale delle Terme di Caracalla
00100 Rome
Italy

Contact:

Office of the Director
Telephone: +39 06 57054358
Facsimile: + 39 06 57055522
Website: www.fao.org/es/esa