

# “Easy Money”

**Name:** Silvia Prince  
**Student number:** 3481980  
**Date:** September 19, 2011  
**Supervisor:** Dr. P.H.C.M. van Lindert  
**Programme:** MSc International Development Studies 2010-2011

**A market-based livelihoods research among smallholder farmers within SNV's Inclusive Business project for chiuri in Surkhet, Nepal**



**Utrecht University**





## Executive Summary

This thesis is designed around the High Value Agriculture – Inclusive Business Pilot Project for chiuri (a non-timer forest product) in collaboration with SNV Nepal in order to identify its strengths, weaknesses, opportunities and threats and to give recommendations on the larger High Value Agriculture project to be implemented in 2011. The pilot project is executed in Surkhet district, part of the Hill areas in the Mid-Western Development Region of Nepal with the main goal as “*to contribute to the reduction of poverty and vulnerability of women and men in selected villages in the project area of the Mid-Western Development Region, to the improvement of their living conditions and to their food security*”. It has been designed around the Inclusive Business principle that aims at mutual value creation for business and low-income segments and implemented by means of contract farming. The underlying literature includes theories around value chain coordination and in particular contract farming and its different forms and possible (dis)advantages for smallholder farmers. The value chain analysis is combined with a livelihoods research, based on the Sustainable Livelihoods Framework, including livelihood assets, activities, strategies and the related vulnerability context. The research aimed to conduct a value chain analysis of the chiuri value chain, identify the major livelihoods characteristics of the households in the project, and to assess the role of the value chain in these households’ livelihoods as well as its sustainability. The methods used were a) a desk study, b) household surveys conducted among 73 chiuri collectors, c) three focus groups, d) key informant interviews, and e) three life history interviews. The value chain knows three main actors, the collectors, the cooperatives acting as middlemen, and Alternative Herbal Products Pvt. Ltd. as the contractor and is characterized by low bargaining power on the cooperatives’ side while the firm reaps the highest benefits. The collectors belong to the Bottom of the Pyramid population segment as they are part of rather marginalized households. However, they are unlikely to get indebted or experience agribusiness normalisation since chiuri collection does not require any investments or inputs. It is a pro-poor value chain, increasing the inclusiveness of smallholder farmers without imposing any obligations due to the absence of a formal agreement on their side. Moreover, selling chiuri seeds generates an *additional* income rather than a livelihood strategy due to the product’s seasonality and limited income earning opportunities (3.25 percent of total income). What the value chain provides for the collectors are market access and price certainty as this project created the market and set a fixed price. As the quality of the seeds is difficult to specify the cooperatives *are* vulnerable to (disguised) contractual hold-up by the contractor as they have a formal agreement with the firm. Moreover, the value chain is unlikely to be sustainable due to lack of mutual trust, mutual dependency, and contract enforcement mechanisms. Also the institutional environment hampers the development of the value chain through market policies. Due to the product and contract characteristics it is difficult to evaluate the value chain as a contract farming agreement as several (dis)advantages of contract farming for smallholder farmers are not applicable. Neither does the project contain all key element of Inclusive Business. At last, the research results are combined in a SWOT analysis of the project to give recommendations for the High Value Agriculture project.

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## Abbreviations and acronyms

AEC	Agro-Enterprise Centre
AHP	Alternative Herbal Products Pvt. Ltd.
APP	Agriculture Perspective Plan
BNA	Beautiful Nepal Association
BoP	Bottom of the Pyramid
CEO	Chief Executive Officer
CF	Contract Farming
CFUG	Community Forest User Group
DDC	District Development Committee
DFO	District Forest Officer
FAO	Food and Agriculture Organization
FNCCI	Federation of Nepalese Chambers of Commerce and Industry
GDP	Gross Domestic Product
ha	Hectare
HDI	Human Development Index
HVA-IB	High Value Agriculture – Inclusive Business pilot project
HVAP	High Value Agriculture Project
IB	Inclusive Business
IEE	Initial Environmental Examination
IFAD	International Fund for Agricultural Development
kg	kilogram
LCB	Local Capacity Builder
MAPs	Medicinal and Aromatic Plants
m	metre
mm	millimetre
MNC	Multinational Company
MOAC	Ministry Of Agriculture and Cooperatives
MoU	Memorandum of Understanding
NGO	Non-Governmental Organization
NPR	Nepalese Rupee
NTFP	Non-Timber Forest Product
PRSP	Poverty Reduction Strategy Paper
Pvt. Ltd	Private Limited
SEACOW	School of Ecology, Agriculture and Community Works
SLC	School Leaving Certificate
SLF	Sustainable Livelihoods Framework
SNV	SNV – Netherlands Development Organization
SWOTs	Strengths, Weaknesses, Opportunities and Threats
VC	Value Chain
VDC	Village Development Committee

## Introduction

Approximately 77 percent of Nepal's population is living in rural areas, and agriculture provides for nearly 80 percent of the employment in the country. Most of them engage in subsistence farming on small plots and about half of the population lives under the poverty line of \$1.25 per day. Especially women and ethnic minorities in remote areas are the most vulnerable groups. Cash crop production is one of the activities they can engage in for generating income. Therefore, many development organizations in Nepal focus on this sector to accomplish poverty alleviation. In the Mid-Western Development Region of Nepal, the High Value Agriculture Project (HVAP) for the Hill and Mountain Districts is currently being implemented. SNV Nepal is one of the main partners and provides technical assistance and plays an advisory role (SNV 2010, p.3). Since 2009, SNV Nepal has carried out a pilot project in order to provide lessons learned to be included in the larger HVA Project. This pilot was carried out for three cash crops, being chiuri, organic apples and vegetable seeds (SNV 2010, p. 6 and 16). The pilot projects are developed around the Inclusive Business principle. This fairly new concept aims at mutual value creation for business *and* low-income segments. This research is conducted in cooperation with SNV Nepal and focuses on the chiuri value chain as present in this pilot and which is organized in the form of contract farming (CF). Its objective is "to identify challenges and opportunities in the chiuri value chain of SNV's HVA-IB Pilot Project and to give recommendations on the larger HVA project for optimizing its benefits for the target group and its potential for sustainability". In this context, the research aims to evaluate the project beneficiaries' livelihood characteristics in order to identify the effect of this newly developed value chain on their employed strategies. This is combined with a value chain analysis for identifying the underlying problems associated with the interactions on higher levels. It also aims to provide an idea of the value chain's potential for sustainability over time.

What follows is a description of the country and project characteristics relevant to this research. The next part of the thesis consist of the related theories and includes value chain theory, contract farming, and the Sustainable Livelihoods Framework (SLF), as well as a chapter on the purpose of combining these theories. Thereafter, the conceptual framework and research objective and questions for the research follow and this part of the thesis concludes with the description of the methodology. Next are the findings and results that assess the chiuri value chain and the livelihoods of the collectors. It continues by evaluating the role of contract farming in the beneficiaries' livelihoods and the potential for sustainability. This part closes with a discussion, putting the results within the wider context of the literature and discussing the Inclusive Business and contract farming nature of the project. The final part of the thesis consist of the conclusions of the research and recommendations for the host organization and project continuation.

- 2 -  
The Country

The country of research is Nepal and SNV's HVA project is situated in the hill and mountain areas of the Mid-Western Development Region and the HVA-IB pilot project for chiuri is based in Surkhet district. Since the research focuses on the agricultural sector, this chapter will have a similar focus and is particularly relevant to the research topic. General characteristics of the country are described, but also regional specifics are pointed out. The following sections will describe geographical and physical, agricultural, demographic, economic, poverty, social and cultural, and political characteristics of the country. The chapter concludes with a description of the project to which the research is related.

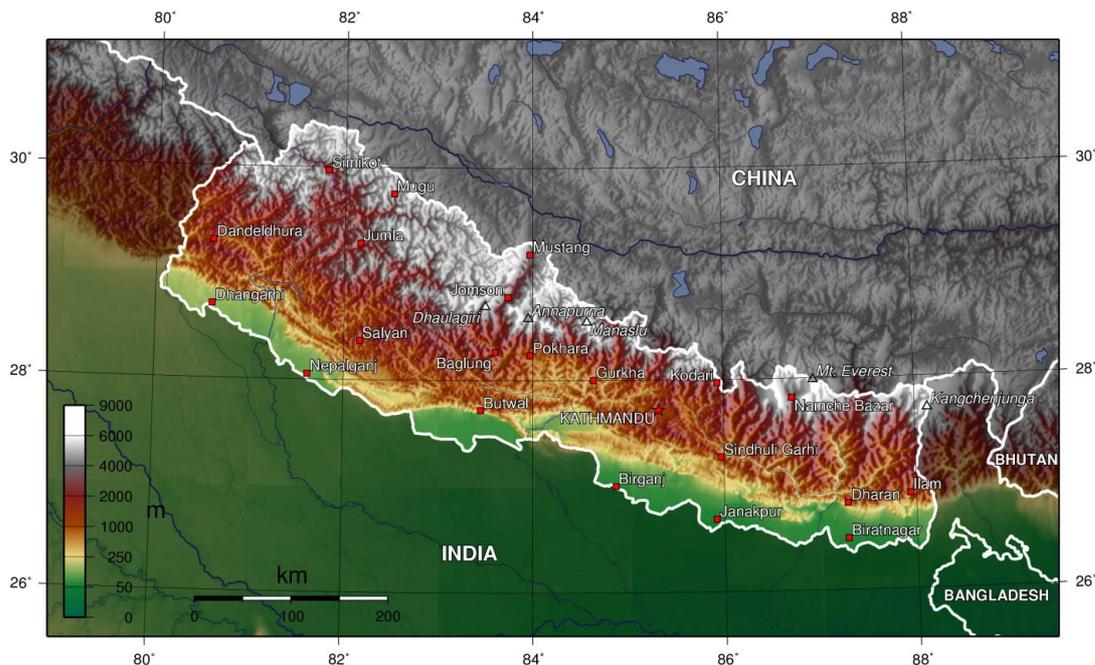
<b>Country name</b>	Federal Democratic Republic of Nepal
<b>Surface area</b>	147.181 km <sup>2</sup>
<b>Population</b>	29.3 million (2009 estimate)
<b>GDP (nominal)</b>	\$14,721 billion (2010 estimate)
<b>GDP (nominal) per capita</b>	\$522 (2010 estimate)
<b>Elevation</b>	70m – 8848m above sea level
<b>Languages</b>	Nepali (official); 11 recognized regional languages; and another 100 indigenous languages
<b>Capital</b>	Kathmandu
<b>Cities of residence</b>	Kathmandu and Surkhet
<b>Region of research</b>	Mid-Western Development Region, Surkhet district
<b>Human Development Index</b>	0.428 (2010), 138 <sup>th</sup> of 169 countries
<b>Currency</b>	Nepalese Rupee (NPR) NPR 1 = €0.01

*Table 2.1 Basic figures of Nepal*

## 2.1 From Jungle to Mt. Everest

Nepal is a land-locked country between India and China (Tibet). No direct access to the sea makes Nepal dependent on neighbouring countries, particularly India, for port facilities. Due this land-locked situation, Nepal has experienced difficulties when it comes to trade and development (Karan and Ishii 1996, p. 4).

As depicted in figure 2.1, the country consists of three ecological belts: mountains (36 percent), hills (42 percent) and Terai (22 percent) and lies between 70m and 8848m (mt. Everest) above sea level. Hence, the climate is very diverse and ranges from extremely cold in the mountain areas to a subtropical and humid climate in the Terai region. Surkhet, the district of research, is located in the hills in the Mid-Western Development Region, approximately 100km north of Nepalgunj between 1000 and 2000m above sea level.



**Figure 2.1 Elevation of Nepal**  
Source: Solar Navigator (2011)

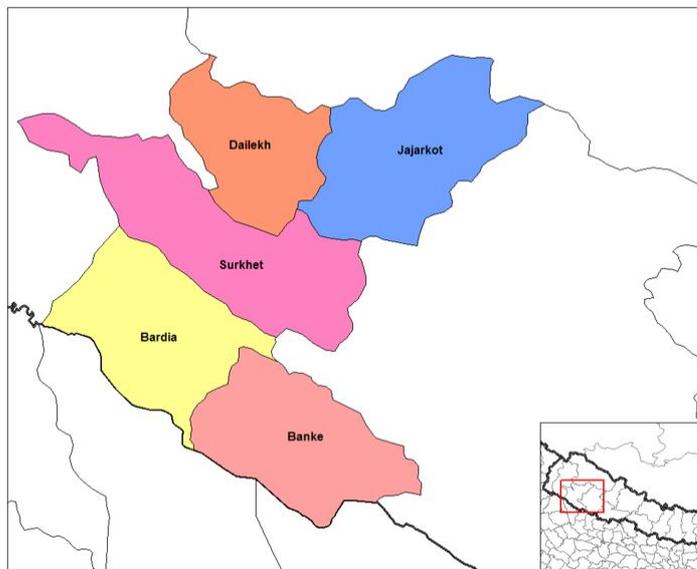
Annual rainfall lies between 250 and 5000mm for Nepal in general (Karan and Ishii 1996, p. 28). However, the variability in altitudes affects annual rainfall patterns. Up to about 3,000 meters of altitude, annual total rainfall increases as the altitude increases; thereafter, annual rainfall decreases with increasing altitude. Besides the differences in rainfall at different altitudes, rainfall is uneven during the year and 80 percent of annual rain falls during the monsoon between June and October. Western Nepal receives the least annual rainfall, with an average of about 1,250 mm. However, the influence of local topography means that in some pockets of the Mid-Hills average annual rainfall is higher than 5,000 mm and risks of floods are high in the rainy season (World Bank 2009, p. 31 and 40).

Due to the hilly and mountainous terrain of the country, transport facilities are marginal in Nepal. Especially the mountain and hill areas, like Surkhet, have limited road access although the road

network in the hills is improving. Road networks are particularly concentrated in the Terai region and railways are absent in the entire country. Hence, air transport plays an important role in the connection between various areas (Karan and Ishii 1996, p. 228). Due to these transport constraints difficulties with respect to national integration exist (Karan and Ishii 1996, p. 26).

## 2.2 Administrative Division

The country is divided into 5 development regions, 14 zones, and 75 districts. Surkhet is a district in the Mid-Western Development Region. Each district is headed by a permanent chief district officer who is responsible for maintaining law and order and coordinating the work of field agencies of the various government ministries (Karan and Ishii 1996, p. 101). The Surkhet district lies in the Bheri zone in the Mid-Western Development Region.

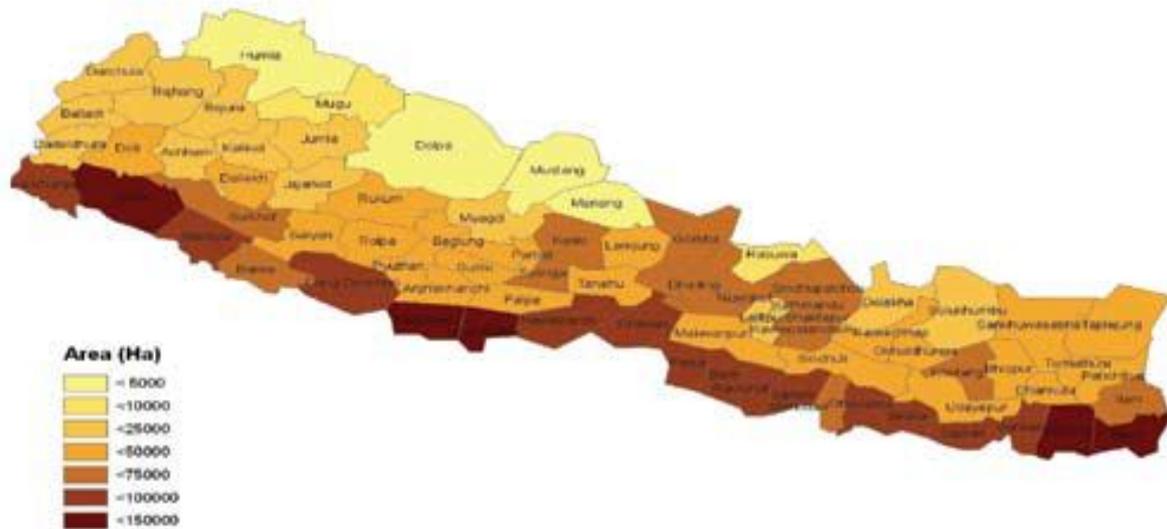


*Figure 2.2 Location of the Bheri Zone and Surkhet*

## 2.3 The Role of Agriculture

Approximately one third of the country is forest and one fifth is crop land. The rest of the country's land surface (50 percent) is occupied by pasture, barren land and perpetual snow and ice (Karan and Ishii 1996, p. 19). Only around 20 percent of the land surface is suitable for farming of which the biggest part is located in the Terai (see figure 2.3) due to the mountainous terrain, inadequate precipitation, low temperatures and thin and unfertile soils in the rest of the country. Commercial agriculture is almost only possible in the Terai and in a few valleys in the middle mountain areas. No more than 25 percent of agricultural production are cash crops cultivated on 10 percent of the cropped area (0.3 million ha). These are mainly sugar cane, oil seeds, tobacco and jute (Karan and Ishii 1996, p. 78; World Bank 2009, p. 33). The most cultivated food crops include rice, maize, and wheat. Because of the uneven rainfall during the year, two main cropping seasons are identified as the wet summer season and the winter

season, when cultivation is highly dependent upon irrigation (World Bank 2009, p. 33). However, only one third of agricultural land is irrigated and the majority of the farmers are exposed to climatic uncertainties associated with rain-fed agriculture (World Bank 2009, p. 9).



**Figure 2.3 Average cultivated area by district between 2004 and 2007**

Source: World Bank 2009, p. 35

Due to the dispersion of settlements and lack of infrastructure the movement of goods is difficult and most people live by subsistence farming (Karan and Ishii 1996, p. 181). Additionally, Nepalese agriculture is generally characterized by inefficiency and can not provide the traditionally large families with sufficient food (Van Dalen and De Vries 2002, p. 40). As population has risen faster than the expansion of agricultural land, there has been an increase in the number and decline in the average size of holdings from 1.1 ha to 0.8 ha. The average amount of land owned in Surkhet is 0.57 ha (CBS 2001, Table 1), considerably lower than the country average. The high level of agro-ecological diversity provides unique opportunities for high-value commercial agriculture but the following constraints hinder realization of this potential (IFAD 2009, p. 13):

- A poor road network connecting farmers to input supplies and markets
- Weak supply chain connections between farmers and markets
- The low availability of production technologies and inputs
- Undeveloped and poorly maintained irrigation facilities
- A weak agricultural research and extension system

Agriculture accounts for about 33 percent of GDP in Nepal and the livestock sector contributes about 40 percent (13 percent of GDP). Livestock are very important with 90 percent of the households owning some. Cattle are the most popular class of animal owned with 68 percent of households owning an average of three cows, 50 percent of the households owning an average of 4.1 goats, and buffaloes are owned by 47 percent of households, with an average of 2.2 animals per household (World Bank 2009, 46). A major threat to livestock in Nepal are the contagious foot and mouth diseases with an average of

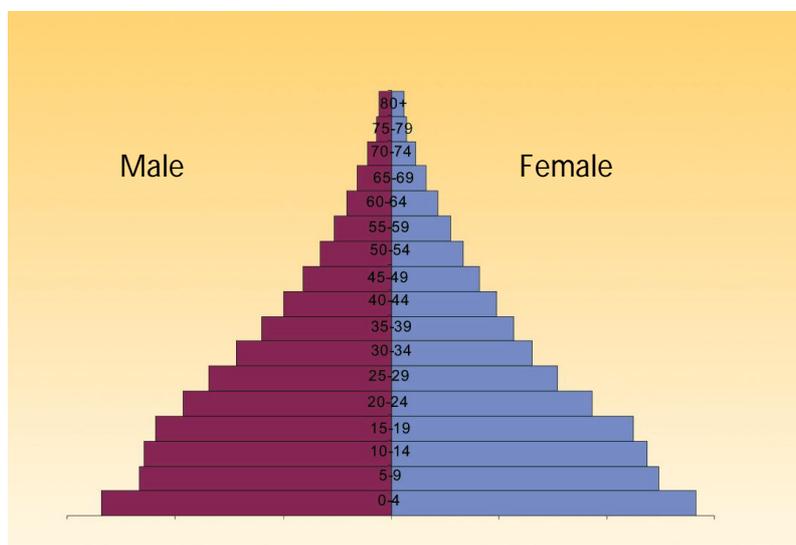
about 17,000 animals infected per year between 2004 and 2007. The mortality rates of infected animals are low due to vaccination practices. However, poor people are generally not able to afford animal vaccinations and animal diseases are therefore a major threat to their cattle (World Bank 2009, p. 48).

The climatic and biophysical characteristics of Nepal makes the country rich of numerous valuable non-timber forest products (NTFPs). Out of the 630 species in the country, 510 occur in wild. In western Nepal, there exist 424 (67.3 percent) species of natural plants. The subtropical zone of the country, including Surkhet, harbours the maximum number of indigenous NTFPs. Their collection and trade has played a key role in the economic development of the country, as economic opportunities are severely constrained by poor socioeconomic status and lack of infrastructure. Many people living in hills and remote villages of the country are involved in the collection and trade of NTFPs for their livelihoods. A limited amount of processing takes place in the country and a vast majority of NTFPs are exported to India in the raw form (Maraseni 2009, p. 2).

## 2.4 Demographics

Approximately 15 years ago, Nepal was in the second stage of demographic transition, characterized by high birth rates and declining death rates due to improved health care facilities, resulting in rapid population growth (Karan and Ishii 1996, p. 128). In combination with a low economic growth rate this led to low income per capita, more intensive use of land and water resources and people moved to more marginal and environmentally sensitive areas (Karan and Ishii 1996, p. 100). However, population growth and birth rates are currently declining as shown in table 2.2. The age structure of the country was still typical of that of a developing country, as depicted in figure 2.4 and the average age is 21 (CIA 2011). However, the dependency ratio (i.e people younger than 15 and older than 60 years old/people between 15 and 60) is declining and was 77.23 in 2006. In 2001, there were 4.3 million households with an average size of 5.4 members (CBS 2006). More recently people are migrating from rural areas in the hill region to rural areas in the Terai region, limiting population in the hill areas. Although population density is lowest in the western regions, the western hill areas have the highest population density per cultivated area (Karan and Ishii 1996, p. 23 and 110).

Settlements in the hills are highly dispersed and people mainly live on the southern slopes of the mountains in order to receive the most of the sun's rays throughout the year and use the flat valleys for cultivation. The dispersion of settlements and lack of infrastructure have severe consequences for the delivery of services, economic development and administrative facilities (Karan and Ishii 1996, p. 179).



**Figure 2.4 Population pyramid for Nepal, 2006**

Source: CBS 2006

Low quality of health care services and low literacy rates (48.6 percent of total population and 62.7 percent of men and 34.9 percent of women can read and write by the age of 15) (CIA 2011) effect the development of the country through their influence on mortality, fertility and migration. However, the literacy rate of people between the age of 15 and 24, is as high as 79.4 percent. This indicates that illiteracy is mostly a characteristic of the older generation. The net enrolment ratio in primary education is 86.6 percent (CBS 2006). However, education and health care is generally less accessible to women compared to men. For the rural population life expectancy is estimated at 52 years, which is 14 years less than Nepal's average. Hygiene, sanitation and nutritional status are poor, especially in rural areas, resulting in malnutrition and high incidence of child mortality in these areas (Karan and Ishii 1996, p. 133).

<i>Demographic Indicators</i>	<i>2000</i>	<i>2005</i>	<i>2010</i>
Population	24,818	27,094	28,952
Population growth rate (percent)	2.2	1.3	1.4
Fertility rate (births per woman)	4.1	3.1	2.5
Birth rate (per 1,000 population)	32	26	22
Life expectancy at birth (years)	62	64	66
Under 5 mortality rate (per 1,000 births)	83	70	59
Death rate (per 1,000 population)	8	7	7
Net migration rate (per 1,000 population)	-1	-5	-1

**Table 2.2 Demographic indicators of Nepal**

Source: CIA 2011

## 2.5 The Economy

Although the political environment has remained difficult for reform and development activities, GDP growth has risen from 2.5 percent to 5.6 percent in 2008 due to weather induced agricultural recovery and expansion of income from services.

Despite the moderate share of agriculture in GDP (33 percent), agriculture employs 75 percent of the workforce while only 20 percent of the land surface is suitable for cultivation. Industry mainly involves the processing of agricultural produce, including jute, sugarcane, tobacco, and grain. The small share of industry in GDP (15 percent) is mainly due to fuel and power shortages and labour disputes. Nepal's labour force consists of 18 million people and is characterized by a lack of skilled labour and a high unemployment rate (46 percent in 2008) (CIA 2011).

Overall macroeconomic stability was preserved in 2008 despite the sharp increase in inflation and the increased pressure on public spending in the transitional period (see paragraph 2.8). Stronger tax administration and increased aid flows helped to limit domestic borrowing to an estimated 2.7 percent of GDP. Sustained remittance inflows and tourism receipts offset a widening trade deficit and maintained a current account surplus, projected at 1.9 percent of GDP. The agricultural sector grew at 2.1 percent, compared to 4.7 percent last year. The inflation rate hit 13.1 percent in mid-March 2009 against 7.2 percent in mid-March 2008, as a result of sharp increases in food and petroleum prices. The increase in prices in 2008 were expected to decrease during 2009, given lower world oil prices and continued expansion of domestic agricultural output. Nepal's financial sector remains largely unaffected by the global financial crisis given its limited direct international exposure (IFAD 2009, p. 2)

Nepalese trade is primarily with India, but also United States, Germany, Singapore, the United Kingdom, and Japan. Most of Nepal's exports go to and most of the country's imports come from India and are agricultural products. Due to the land-locked nature of the country, transportation costs are high and it is difficult to compete on the world market (Karan and Ishii 1996, p. 242). The country continues to see growth in exports, particularly to third world countries and the inflow of remittances remains strong (IFAD 2009, p. 12).

## 2.6 Poverty

Nepal is one of the poorest countries in the world and half of the Nepalese population lives below the poverty line of \$1.25 a day. However, Nepal handles a local poverty line of NPRs 7,696 a year, which is approximately \$0.15 a day, taking into account that most people's livelihoods include a large part of subsistence farming (CBS *et al.* 2006, p. 4). The country is economically highly dependent on foreign capital such as loans, development aid, tourism, export and labour migration. The country is also characterized by an unequal distribution of prosperity, since the poorest 10 percent of the population earns 6 percent of GDP while the richest 10 percent earn 40.6 percent (CIA 2011). The most important disparity is between urban and rural areas since urban incomes are almost five times as high as rural incomes (Van Dalen and De Vries 2002, p. 38). Looking into the characteristics of poverty, wage earners and self-employed agricultural households comprise 69 percent of the population and 81 percent of the poor. The poor are often illiterate and have small landholdings or are landless. There is also a high concentration of land ownership, where 5 percent owns 40 percent of the land and 60 percent owns 20 percent of the land. Failure of land distribution efforts, population increase, scarcity of land, low agricultural productivity and lack of effective government policies has increased the incidence of landlessness (Karan and Ishii 1996, p. 87). Poverty is also dispersed among castes, and the lowest caste (*Dalits*) and indigenous peoples (*Janajatis*) are generally the poorest. The Mid-Western Development Region is far behind the other regions in terms of most development indicators and has the highest concentration of poor people, 60-70 percent in the hill and mountain areas. They have the lowest access to health, education, roads, telephones, radio, electricity, water supply and sanitation services. As a result, household coping strategies have caused many of the most productive people to leave the villages. This has generated a rising trend in woman-headed households and the feminization of agricultural labour. In response to the volatile economic conditions, more than 1 million Nepalese are working abroad, with one in three households now sustained by remittances (IFAD 2009, p. 20).

## 2.7 Society and Culture

Around 80 percent of the population is Hindu, 10 percent is Buddhist and 4 percent is Muslim, with considerable diversity in ethnicity and caste. The Hindu and Buddhist religions are particularly characterized by a caste system, what might have inclusion implications related to development issues. In Nepal, two main civilizations exist, Indian and Tibetan (Karan and Ishii 1996, p. 158), which are divided into five main ethnic groups (IFAD 2009, p. 21):

- Caste-origin Hindu groups which are characterized by a hierarchical structure, hereditary basis of membership and endogamy. The *Dalits* are one of these Hindu groups.
- *Newars*: include both Hindus and Buddhists caste oriented groups. They compromise approximately 6 percent of the population (Gurung 2006, p. 73).
- *Janajatis* or nationality groups, which are indigenous communities with their own language and culture and have no caste structure. They compromise approximately 22 percent of the population (Gurung 2006, p. 73).
- Muslims
- Other groups

On average, 25 percent of the project areas' population are Dalits and Janajatis, the poorest cultural groups. Related to the ethnic groups mentioned above, Indo-European and Tibeto-Burman languages come together in Nepal which are further divided into subgroups. The national language is Nepali which is a major group in the Indo-European language family, spoken by more than half of the country's population and used for educational and official purposes. In the Terai, numerous other languages from this group are spoken. About one-fifth speaks North Indian languages and one-sixth Tibeto-Burman. Less than one percent of the population speaks Tibetan (Karan and Ishii 1996, p. 135).

The cultural characteristics of the country lead to difficulties in social inclusion on the basis of gender, caste and ethnicity. The country's ethnic diversity and linguistic regionalism have also intensified the problems of creating national orientation. Heterogeneity makes it, for example, difficult to develop poverty reduction strategies (Karan and Ishii 1996, p. 135). However, these diverse groups are not isolated from each other at all, although mingling of people of different ethnic groups is mainly present in urban areas (Karan and Ishii 1996, p. 171). In 1962, discrimination on the basis of caste was abolished by law but the government was not very active in enforcing anti-discrimination laws. The caste consciousness has certainly not disappeared though the inter-caste dependence based on the division of labour has declined (Karan and Ishii 1996, p. 158).

## 2.8 Politics

### **2.8.1 Political situation since 1950**

The revolution in 1950 overthrew the century-old government of hereditary rulers. The present king's grandfather, King Tribhuvan, was restored to the throne with Indian assistance and experienced with democracy. However, his son dissolved an elected parliament in 1960 and instituted a partyless "democracy", the Panchayat model, where adult citizens would elect 15 percent of the parliament members while the remaining 85 percent was appointed by the king. Centralized power, but also stability and large amounts of development aid resulted. Between 1978 and 1990 there were protests for democracy. Eventually, King Birendra put a multiparty democracy in place in 1990 and human rights at the centre of the political agenda (Karan and Ishii 1996, p. 284). However, the two parties, Party Nepal and Nepali Congress, were in a continuous crisis in their struggle for domination and the increasing governmental corruption and inefficiency dominated the country. Also 98 percent of government positions were occupied by the higher castes which only compromised 15 percent of the total population. This has led to growing Maoist oriented parties trying to overthrow the national government. In 1996, the communist Party of Nepal (Maoist) violently started to bid for replacement of the royal parliamentary system with a socialist republic. This has led to a civil war with more than 12,000 deaths. In 2001 the crown prince Dipendra shot his father, King Birendra, the queen, his brother, sister

and five other members of the royal family before he committed suicide. This outburst was alleged to have been Dipendra's response to his parents' refusal to accept his choice of wife. Nevertheless, there are speculation and doubts among Nepalese citizens about who was responsible. Dipendra's youngest brother, Gyanendra, was rapidly crowned as king. The government survived this crises and the political system seemed stronger than expected (Van Dalen and De Vries 2002, p. 17). But on February 1<sup>st</sup> 2005, Gyanendra dismissed the entire government and assumed full executive powers to overturn the violent Maoist movement, but this initiative was unsuccessful. An impasse had developed where the Maoists were deep-rooted and widespread in the countryside. In September 2005, the Maoists declared a three-month unilateral ceasefire to negotiate. On 24 April 2006 the dissolved House of Representatives was restored and using its newly acquired sovereign authority, on 18 May 2006 the House of Representatives unanimously voted to restrict the power of the king and declared Nepal a secular state. On 28 December 2007, Nepal was declared a federal republic, abolishing the monarchy. In 2008, The Communist Party of Nepal (Maoist) won the largest number of seats in the election and formed a coalition government. Today, political tensions have continued in Nepal. In May 2009, the Maoist-led government collapsed and another coalition government with all major political parties except for the Maoists was formed (ICG 2010, p. 1). The country still has a barely functioning government. A deadline to draft a new constitution has been delayed twice since 2008, and the new deadline is 30 November 2011. The constitution is being held up due to a number of issues including a disagreement over the integration of former Maoist combatants into Nepal's army. The frequent turn over of ministers creates a situation where little progress can be made because much time is devoted to convincing each new minister of a particular program or approach. There is a strong feeling of frustration with the government in Nepal, and critics argue that the politicians are so busy fighting among themselves they have little time to work on the nation's development (Win 2011).

### **2.8.2 Development policies**

From 1951 onwards, several five year development plans were put in place but did not accomplish much due to lack of information on the geographical and economic situation of the country. Failure of development planning was also due to the weak organizational structure and top-down and donor-driven planning until 1990. Projects were implemented according to the amount of foreign aid available, instead of the potential for overall integration, socio-economic justification and/or long-term sustainability (Karan and Ishii 1996, p. 14). Also the Eighth Plan for 1992-1997 and the Agricultural Perspective Plan formulated in 1995 promised agricultural development, but did not show the expected results and the country remained largely dependent on foreign aid for realizing its development plans. According to experts, a long-term vision was lacking (Karan and Ishii 1996, p. 98; Van Dalen and De Vries 2002, p. 42). Also resettlement programmes to diminish the uneven ownership of land were not effective due to inadequate institutional and administrative support of land reform legislation (Karan and Ishii 1996, p. 90). The government started the implementation of a long-term, 20-year Agriculture Perspective Plan (APP) in 1997 as an agriculture-led strategy for economic growth and poverty reduction. The APP identifies livestock, high-value crops, agribusiness and forestry as its priority output sectors. The plan adopted different strategies for the Terai and for the hill and mountain regions that build on their natural comparative advantages, with a range of high-value low-volume commodities for the hills and mountain regions. The strategy foresees increased incomes from the Terai strategy that in turn raises demand for the high-value commodities produced in the hill and mountain regions. To complement the APP, a new National Agriculture Policy was introduced in 2004, mainly with a view to

promoting the competitiveness of the agriculture sector. The objectives are to: a) increase agricultural productivity and production; b) expand commercial (competitive) agriculture production; and c) promote sustainable use of natural resources (IFAD 2009, p. 16). Additionally, the Nepalese Poverty Reduction Strategy Paper (PRSP) and Tenth Plan of promoted and supported: a) private and non-government service providers in partnership and on a contract basis with the public sector; b) cooperative and contractual farming; c) agricultural programmes that are devolved to local bodies; and d) agriculture stations as resource centres to ensure the supply of inputs. Also the PRSP recognizes that most of the poor in Nepal are located in the rural areas and derive their livelihoods from agriculture. An Interim Three-Year Plan commits to continue the poverty reduction goals of the PRSP and seeks inclusive and broad-based economic growth, effective governance and service-delivery, and social sector development remain its priorities (IFAD 2009, p. 16).

## 2.9 The Project

In the Mid-Western Development Region of Nepal, the High Value Agriculture (HVA) Project for Hill and Mountain Districts is currently being implemented and executed by the Ministry of Agriculture and Cooperatives (MOAC). It is mainly funded by the International Fund for Agricultural Development (IFAD) and SNV Nepal is one of the main partners and provides technical assistance and plays an advisory role (SNV 2010, p.3).



**Figure 2.5 Project Area of the HVA-IB pilots**

Source: IFAD 2009, p. V

The overall goal of SNV's HVA project is "the reduction of poverty and vulnerability of women and men in hill and mountain areas of the Mid-Western Development Region". This goal is translated into the following project purpose which is that "the rural poor, especially women and marginal groups, are integrated in high value agriculture and NTFP/MAP value chains and markets and have improved income, employment opportunities and ability to respond to market demand and opportunities based on marketing agreements with private agribusiness" (IFAD 2009, p. 27). Since 2009, SNV Nepal has carried

out a pilot project in order to provide lessons learned to be included in the larger HVA Project. This pilot was carried out for three cash crops, chiuri in Surkhet and organic apples and vegetable seeds in Jumla (SNV 2010, p. 6 and 16). This research is conducted in cooperation with SNV Nepal and focuses on the chiuri value chain as present in this pilot. The goal of High Value Agriculture - Inclusive Business Pilot Project is *"to contribute to the reduction of poverty and vulnerability of women and men in selected villages in the project area of the Mid-Western Development Region, to the improvement of their living conditions and to their food security"*. The overall objective was to pilot the development of pro-poor sustainable value chains and to provide lessons learned for the larger HVA project.

The specific objectives of the pilot project are (SNV 2010, p. 4):

- Pilot the sustainable development of 3 differentiated high value niche value chains in the Mid-Western Development Region of Nepal. The three value chains selected for this pilot include organic apples, vegetable seeds and chiuri oil.
- Strengthen the capacities of cooperatives, farmer or forest user groups and agribusinesses involved in the three niche value chains.
- Pilot the inclusive business value chain development approach envisaged under the proposed loan-financed High Value Agriculture Project in Hill and Mountain Areas and provide lessons learned on:
  - the willingness of both producers and agribusinesses to engage in producer-buyer agreements.
  - assumptions related to willingness of agribusinesses to invest into such value chains in a poor and difficult area like the Mid-West Development Region.
  - Suitable producer-buyer agreements (contracts).
  - Feasibility of achieving the expected impacts on target groups.
  - The impact of value chain activities on improving the situation and conditions of women in the project areas.
  - Agribusiness's tendency to control prices and to shift risks to producers, and ways to overcome this.

This was done through the following activities (SNV 2009, p. 28):

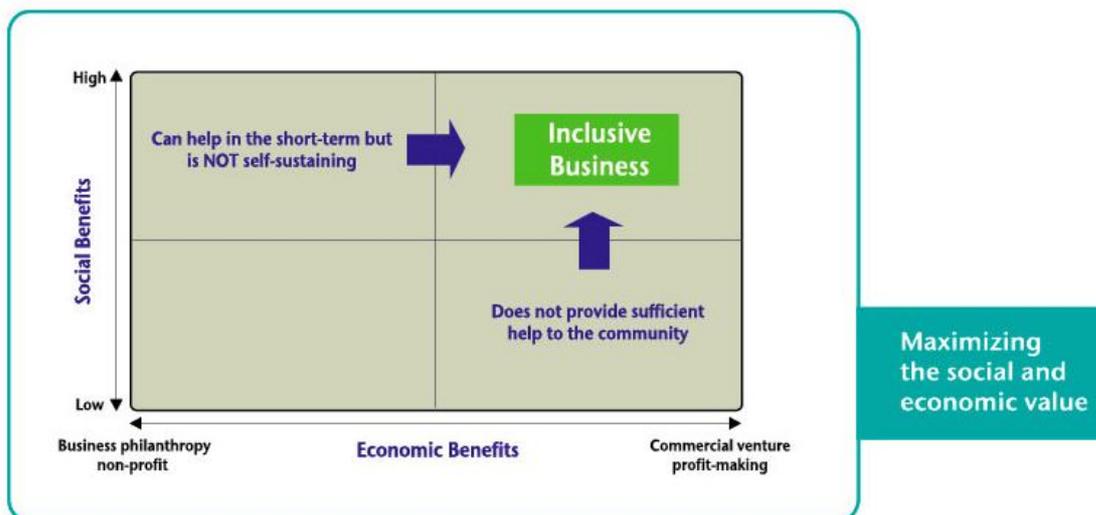
- Pro-poor value chain development
- Group formation and strengthening
- Social, spatial and gender inclusion
- Production and post harvest support

The pilot projects are developed around the Inclusive Business principle which is in this case used for making contract farming beneficial for the poor. This fairly new concept aims at mutual value creation for business *and* low-income segments as can be derived from its definition (SNV and WBCSD 2008, p. 2): *"An inclusive business contributes to poverty alleviation by including lower-income communities within its value chain while not losing sight of the ultimate goal of business, which is to generate profits"*. These low-income communities (BoP segments) have potential to enhance companies' profitability by filling one or more important roles: as employees, producers, distributors, or consumers.

In the project of research, the focus is on the BoP segment as producers, as suppliers of products required by companies. The three key elements of the IB approach are (Van Keulen 2010, p. 1):

- The starting point is the company. This should be an enterprise led initiative.
- IB needs to be linked to the core business of enterprises, differentiating this approach from charity and philanthropy and some cases of Corporate Social Responsibility.
- The goal of IB should be a profitable and sustainable business with social and economic inclusion leading to a win-win situation for the company and the identified lower income communities.

An essential concept of Inclusive Business is the ‘mutual value’ creation (see figure 2.8). The idea is that both the suppliers and the buyers in the value chain enjoy benefits from the cooperation. On the one hand, the ultimate goal is to alleviate poverty and improve the well-being of people in the Bottom of the Pyramid (BoP) who are the suppliers. On the other hand, the anchor firms (i.e. buyers) need to experience profits from the participation in this value chain if they are to continue the cooperation. In short, the value chains can only continue to operate sustainably if this mutual value creation takes place, as both ends of the chain need benefits from it to continue their participation.<sup>1</sup>



**Figure 2.6 The Inclusive Business concept**

Source: SNV and WBCSD 2008, p. 2

## Contract Farming for Poverty Alleviation

This chapter introduces contract farming (CF) as a form of value chain (VC) coordination as the project of research is claimed to be carried out in this form. It elaborates on its main drive and potential for poverty alleviation. Moreover, the main models of CF and contract types are described. The chapter continues with the farmers perspective of CF and the factors that contribute to successful sustainable CF. This chapter forms the basis of the value chain and sustainability analysis of the chiuri value chain in the project.

### 3.1 Value Chain Coordination

In its simplest form, the value chain consists of producers who supply their goods to firms that maintain a certain degree of vertical coordination, or governance. Usually, these firms are powerful international players and they impose certain restrictions which all other actors in the value chain should comply with (Humphrey & Schmitz 2008, p.261). Global value chains are the result of two trends in the world economy. First of all, the globalisation of trade and production has spread economic activities across the world, now also including developing countries. Secondly, a practice of disintegrating economic activities of multinational corporations (MNCs) has developed and they increasingly limit their focus to the most high-value adding activities as their core business, while outsourcing supporting services and production (Gereffi *et al.* 2005, p.78). Therefore, the firm has to decide which activities to keep in-house and which activities to outsource. While there are many arrangements possible, we can distinguish three types of value chain coordination for agribusinesses. These are spot-market, contract farming, and complete vertical integration (Simmons 2002, p.3). In agriculture, the most widespread way for producers to sell their crops is to sell on the spot-market, where they receive prices based on the quality and quantity of their products, as well as on the valuation of buyers of that particular crop, on that particular moment (Simmons 2002, p.3). In this form, no coordination takes place between buyers and sellers before the actual sale. The other extreme is where agribusinesses vertically integrate the entire chain and carry out production themselves. An alternative to both is contract farming, which will be discussed in greater detail in the next section. Once the firm has decided upon what processes to outsource to whom, it has to decide upon how to coordinate its control along the VC. Value chain governance can include control over quality, safety, labour and environmental standards and may dependent on financial motivations as well as the complexity of products and production processes (Humphrey and Schmitz 2008, p.261). The next paragraphs of this chapter elaborate on the definition of contract farming as well as its models and governance forms.

### 3.2 Contract Farming

Contract farming can be defined as “an agreement between one or more farmer(s) and a contractor for the production and supply of agricultural products under forward agreements, frequently at predetermined prices” (Eaton and Shepherd 2001, p.3). Another definition from the US State Department of Agriculture recognizes that “market-quantity, grade, size, inspection, [and] timing” are often specified in the contract before the actual production takes place. Often contracts also include the level of support to the producers in the form of inputs and technical assistance. Bijman (2008, p. 3)

summarizes the core of contract farming as follows: “a commitment on the part of the farmer to provide a specific commodity in quantities and at quality standards determined by the contractor and a commitment on the part of the contractor to support the farmer’s production and to purchase the commodity” (Bijman 2008, p.3).

The organisation of agricultural value chains by contracts between farmers and the buyer is widespread around the world, especially in developing countries. Reasons for this are recent trends in the international economic environment, including consumer demands and governmental policies (Bijman 2008, p.1; Da Silva 2005, p.3). Another important cause of the growth in contract farming is the reduced role of the state in providing technical assistance and other inputs to the producers. Contract farming can make a contribution here, as the lead firms can specify in the contract that it will provide inputs and technical assistance in return for the guaranteed supply and high quality of products (Bijman 2008, p.1). Therefore, also in Nepal, NGOs and the government often promote the practice of contract farming as one of the main tools for linking smallholder farmers to domestic and international markets in order to reduce poverty (Bijman 2008, p.1.).

Especially high-value and export crops can be suitable for contract farming. Although they have high income earning potential, they are riskier for smallholder farmers to produce than traditional crops due to high production costs (Bijman 2008, p.15; Simmons 2002). Moreover, price volatility is usually higher, yield is more uncertain, and these crops are often perishable. As these aspects lead to higher production and marketing risks for the farmer, contract farming can give some protection against these risks. In a case study on a pepper and chayote value chain in Costa Rica, Saenz-Segura (2006) identifies contract farming not only as the necessary security device to gain access to markets, but also as a provision of production incentives and a way to gain information on the high-value markets. However, contract farming seems to be most suitable when it involves the production of a *traditional* cash crop with a large domestic market. An example of this is the peanut value chain in Senegal, where Warning and Key (2002) found that farmers do not need to make large investments, already have the skills and knowledge to produce the crop, and have little uncertainty about the market demand.

Contract farming is usually driven by the anchor firm through the motivation of improving the supply of high quality products (Bijman 2008, p.3). It is seen as a way to decrease costs by improving productivity, improving and ensuring quality throughout the chain, controlling market risks and enhance responsiveness to demand (Da Silva 2005, p.10). There are several types of chain organization and contracts the contractor can choose for the governance of the particular value chain, which are discussed in the next paragraphs.

### 3.3 Models of Contract Farming

In the literature we find a wide range of different contractual arrangements between producers and buyers. The diversity results from the technical requirements of production and the production and transaction costs for different products (Bijman 2008, p.3). Eaton & Shepherd make a distinction between five general models of contract farming, derived from the type of product, the degree of vertical coordination, and the number of key stakeholders involved (Bijman 2008, p.3; Eaton and Shepherd 2001, chapter 3).

The first model is identified as the *centralized model*; the classical CF model, where a processor or trader buys products from a large number of (small) farmers. There is strict vertical coordination, which includes quality controls and pre-determined quantities. Usually, the products in this model need a high degree of processing, like sugar cane, coffee, and tea, among others. This model often includes extension services from the contractor to the farmers. A second model is the *nucleus estate model*. In

this model, the contractor has its own production facilities, besides buying from independent farmers. Sometimes, the plant is only used for research and breeding. A *multipartite model* is identified as a joint venture between an organization (e.g. a government agency or NGO) and a private firm, which contracts with the producers. Moreover, partnerships with credit providers, may also be included for providing services or inputs. Another model is the *informal model*. Here, firms are contracting informally with farmers, often on a seasonal basis with crops like fresh fruits and vegetables. These crops usually require very little processing, no more than sorting, grading, and packaging. As the contractor does not provide supporting services, the success of the informal model depends on the availability of public supporting services. This model has fewer opportunities for vertical integration than formal contracting. The fifth model is the *intermediary model* where at least three actors are part of the contract; a processor contracts with a trader or collector, who (informally) contracts with the farmers. This can be considered as a combination of the *centralized* and the *informal* CF models. However, there is no direct link between the contractor and the farmer, and it could therefore experience problems related to vertical coordination and service provision. Within the five CF models, several types of agreements or contracts can be present for realizing vertical coordination. These are described next.

### 3.4 Types of Contracts in CF

The different types of agricultural contracts can be defined according to the distinction made by Mighell and Jones (1963). They distinguish three types of contracts, all different in their objectives, the level of decision-rights for farmers, and the transfer of risk between farmers and contractors (Bijman 2008, p.4; Da Silva 2005, p.11).

The *market specification contract* includes what products will be produced and what the quality standards need to be, as well as agreements on the future sale such as timing, location, and price. Hereby, the farmer's uncertainty of finding a market is reduced. While the farmers keep most of the decision rights over the production activities, they also bear most of the risk (Bijman 2008, p.4; Da Silva 2005, p.11). Compared a spot-market, this type of contract reduces transaction costs on both end of the chain as there is no need to find a market and provides the right quality and price at the required time. Moreover, coordination costs are diminished by increasing information exchange, which is particularly important for crops which are perishable, of complex quality, or new (niche) markets (Bijman 2008, p.5). Secondly, a *production management contract* provides technical regulations to the farmers on how to produce their crops. This can include production processes and/or input usage which are controlled by the company. In this type of contract, part of the decision rights over the production activities is transferred from the farmer to the anchor firm. Hence, the anchor firm takes on most of the market risks (Bijman 2008, p.4; Da Silva 2005, p.11). This type of contract specifies production processes to increase quality, timing and production costs, thereby lowering the coordination costs even more than by using a market specification contract (Bijman 2008, p.5). The third contract type is the *resource providing contract*, a contract that includes the provision of inputs to the farmers. Inputs are usually provided in the form of credit in-kind, where the costs will be paid when the products are delivered. This type of contract can include some production management if the firm controls input usage. However, the firm can also just provide inputs and product demand, leaving most of the decision rights and risks with the farmer (Bijman 2008, p.4; Da Silva 2005, p.11). This type of contract reduces the costs of obtaining inputs through economies of scale, credit and supporting services. Usually, this type of contract is applied to crops for which the quality of the outputs is very dependent on the type and quality of the inputs (Bijman 2008, p.5). The discussed forms of contract farming have their effects on the primary producers. Therefore, their perspective on contractual agreements is pointed out next.

## 3.5 The Farmers' Perspective of CF

As described earlier, contract farming can reduce poverty by creating market access and reducing risk for smallholder farmers. However, there are more motivations for primary producers to participate in CF and the disadvantages can not be neglected. This paragraph therefore focuses on the supplier's perspective of contract farming.

### 3.5.1 Their motivation

According to Da Silva (2005, p.15) the main motivation for small holder farmers to engage in contract farming is to decrease the risk in production and marketing of high-value products. In developing countries, the three main constraints for smallholder farmers for increasing income and productivity of such products are lack of information about production methods and market opportunities, lack of (access to) financial resources, and risk averseness (Bijman 2008, p.14). Contract farming has the potential to solve these constraints, through reduced risk in marketing and production and improved access to technical assistance, inputs and credit. From case studies in Zimbabwe (Masakure and Henson 2005) and China (Guo *et al.* 2005) we can identify a number of motivations which smallholder farmers give for participating in contract farming. They can be summarized as follows:

- Reducing market uncertainty through price stability and market access
- Income benefits
- knowledge sharing
- access to inputs and/or technical assistance
- Intangible benefits (e.g. status)

Once engaged in a CF agreement, there can occur several advantages as well as disadvantages for the farmers. The possible pros and cons of contract farming for smallholder farmers are outlined in the following two sections.

### 3.5.2 Advantages

Advantages of contract farming, compared to other value chain coordination mechanisms, for farmers can be classified as either reducing production risks, or marketing risks (Asian Development Bank 2005, p.21; Da Silva 2005, p.15).

Firstly, *input provision* by the anchor firm reduces the uncertainty of input availability, quality, and costs. In addition, because the firm can buy the inputs on a large scale, the economies of scale which results in lower costs can be (partially) transferred to the farmer. The use of these inputs ensures a certain quality of the crop, and the farmer therefore can gain higher productivity and income. Services can also be provided by the contractor such as provision of production equipment and tools (Da Silva 2005, p.15).

Secondly, contracts can offer *increased access to credit* for farmers in several ways. For instance, in a resource-providing contract, the provision of inputs or services on credit can provide working capital or investment credit respectively. The contractual arrangement works as a guarantee of high quality inputs or processes for the anchor firm (Asian Development Bank 2005, p.21; Da Silva 2005, p.16).

Moreover, market specification contracts often serve as a guarantee for credit providers when giving loans to the farmers (Da Silva 2005, p.16).

Thirdly, access to *technological assistance* can be generated from the contract. Especially with high-value and risky crops which are not well known to the farmers, the provision of technical assistance by the firm can diminish the uncertainties and farmers will be able to sell and produce those new crops more productively and efficiently (Da Silva 2005, p.15).

Fourthly, farmers can apply the skills obtained by the technical assistance in the production of other crops, called *spill-over effects*. It has been observed that farmers' subsistence crop production, which happened next to the cash crop production, increased when participating in a CF agreement. While farmers could also use inputs like fertilizer for the non-contracted crops, this is not a positive spill-over effect as the quality of the contracted crop is reduced as they receive insufficient amounts of these inputs (Da Silva 2005, p.16).

Fifthly, one of the most important advantages of CF is *market access* for smallholder farmers. A contract ensures market demand for a certain quantity of the crop. Hence, the uncertainty and the transaction costs of searching a market are reduced. Especially smallholder farmers benefit from the reduction of these marketing risks, as they often already have limited access to markets to begin with due to lack of access to information and bargaining power (Asian Development Bank 2005, p.21; Da Silva 2005, p.16).

A sixth pro is *price certainty*. Usually, contracts contain a pre-determined price to be paid on delivery of the products, which is already set at the beginning of the growing cycle. This reduces the farmers' uncertainty about the sales price. However, some contracts use price formulas which have a relation to the uncertain future market prices, in which case the reduction of uncertainty for farmers is marginal. However, it is said to be an exception rather than the norm (Da Silva 2005, p. 16).

Following from the reduction of production and marketing risks as described above, comes a certain extent of *income stability* for the farmer. Especially if the contract has a long duration, farmers can better plan their consumption and investment decisions (Da Silva 2005, p.16).

The last possible advantage for the farmers is the *use of by-products*. The contracted production activities often provide some by-products or residues which can be used for other farming activities. Da Silva (2005, p. 16) gives the examples of poultry farming, where the manure can be used as an extra fertilizer input for vegetable production, and sugar beet production, where the sugar beet leaves can be used as animal feed.

Despite the numerous advantages of contract farming on the side of the suppliers, there exist even more possible disadvantages, which are outlined below.

### **3.5.3 Disadvantages**

The relationship between the contractor and the producers in a CF agreement is most probably an unequal one. Most negative aspects of contract farming are a result from the dominant position of the anchor firm, who is able to exercise power in the negotiations and engage in monopsonistic behaviour in the absence of other buyers in the market (Da Silva 2005, p.17). What follows is a list of possible disadvantages for farmers in contract farming.

The first is the *exclusion of smallholders*. Some scholars find a preference of processing firms to engage in contracts with large-scale farmers, as opposed to small-scale farmers, because of the lower transaction costs when dealing with fewer actors (Asian Development Bank 2005; Bijman 2008; Guo *et al.* 2005; Simmons *et al.* 2005; Singh 2002). In addition, Bijman (2008, p. 15) argues that when dealing

with large-scale farmers the chance of contractual default of producers is reduced, as these larger farmers usually have more skills and resources available. On the other hand, some argue the opposite to be true in some value chains. For instance, in a vegetable value chain in Costa Rica, smallholders were favoured because of their use of cheap and dedicated family labour (Pomareda 2006). An additional example is offered by BIRTHAL *et al.* (2005, p. 21), who observed that smallholders are preferred because a) in the event of crop failure of a few farmers, it will have less effect on the overall supply, b) they are more flexible in responding to changing consumer demand, c) they perform stricter compliance to the anchor firm's prescribed production process as they use family labour and have lower bargaining power, and d) they have a low marketable surplus (i.e. little opportunity of side-selling), and are therefore relatively dependent on the anchor firm. In short, the main advantages the smallholder farmers have over large-scale farmers are that they use cheap family labour and that this labour is self-supervised (Bijman 2008, p. 16).

A second possible disadvantage is the participation of *opportunistic* firms as they are likely to renege on the contract in quickly changing circumstances. Especially when the price is pre-determined and based on an expectation of the future market prices, a difference between the expected and actual prices might encourage the firms to either force renegotiation, or to engage in contractual hold-up. For example, an abundant supply of the product reduces market prices, the lifting of import restrictions by the government allows competitive products on the market, or a change in the exchange rate might raise input prices. Without the effective enforcement of contracts, farmers can do little to avoid the negative effects of contractual hold-up (Da Silva 2005, p.17). A different method which can be used by opportunistic firms, is the *disguised form of contractual hold-up*. This happens when a firm rejects (part of) the products delivered with the argument that they do not conform to the quality regulations, while in reality it is a strategic method to prevent financial losses from unexpected changes in the market situation. These costs are then transferred to the farmers (Asian Development Bank 2005, p.21; Da Silva 2005, p.17). Another way in which firms can influence prices paid to the farmers, and thus transferring costs from unexpected market changes, is to set the *delivery schedules* to a – for the anchor firm – beneficial time. Especially when prices are changing rapidly, the firms can benefit from this strategy (Da Silva 2005, p.17). As already pointed out in the previous paragraph, also *complex price determination mechanisms* can affect the farmer's benefits from CF. When firms intentionally use complex formulas or measurements in the price determination in the contract, they will most likely not be understood by the farmers. This price determination then becomes susceptible to manipulation and fraud (Da Silva 2005, p.17). This practice can be seen, for instance, in several cases in Vietnam. Here, processors used complex technical standards and reduced the price to be paid to the farmers (Asian Development Bank 2005, p. 15).

Moreover, when farmers receive inputs or technological assistance from the firm, their *dependency on inputs or technology* make them vulnerable to manipulation of the productivity by this firm and the firm can control the payments to these farmers. For instance, animal feed might be provided by the anchor firm to reduce weight gains or influencing the growth cycle. With the previous two methods, the anchor firm transfers the unexpected costs to the farmers (Da Silva 2005, p.17). As the engagement in contract farming implies easier access to credit through input provision, the risk of *indebtedness* for farmers increases. As the farmer now gets easier access to credit, it becomes easier to finance consumption and other non-productive needs with credit, thereby accumulating debt (Asian Development Bank 2005, p.21; Da Silva 2005, p.18). Besides, farmers can become increasingly *dependent on the anchor firm* for non-farm-related matters. Especially in areas where public services are weak, the anchor firm might become a 'last resort benefactor' (Da Silva 2005, p. 18) calls it. Examples of this reliance on the anchor firm are when they provide free transportation, or when they distribute

promotional gifts. The main threat of this dependency is that it weakens the farmers' bargaining position and increases the possibility for monopsonistic buying behaviour of the anchor firm (Bijman 2008, p.17).

Being bound to a contract means per definition some *loss of flexibility*. Farmers can then no longer choose another firm while the contract is still in effect or choose another crop to produce. Therefore, farmers cannot capitalize on market opportunities and lose potential income (Da Silva 2005, p.17). Moreover, the *loss off business relationships* are a major threat to farmers in CF. Before engaging in contract farming, the farmer could have established long-term business relations with others. When starting to participating contract farming these linkages are lost, and can be relatively difficult to rebuild after exiting the contract (Da Silva 2005, p.17).

When contracts are signed for a long duration, it might lead to declining terms over time for the farmers (Asian Development Bank 2008, p.9; Da Silva 2005, p.18). This is because of the 'asset specificity' of the investment made by the farmers which can only be used for the particular crop or arrangement. The anchor firm can gradually offer lower prices, also called *agribusiness normalisation* (Bijman 2008, p. 14). As the farmers do not want to lose their investment, they often have little choice but to accept these new prices (Hobbs 1996, p.17).

When a contractual relationship introduces innovative production processes, *loss of traditions* may occur as farmers may abandon the traditional farming methods, thereby disrupting old patterns of cultivation. These traditional cultivation methods are likely to have emerged from the optimal use of local resources, but might be irreversibly lost (Da Silva 2005, p.18). Another way in which CF can disturb traditions is through the division of labour and the decision-making roles in the household as they are firmly established in the culture. Contracts can be a threat to the traditional pattern as, for example, social tension could arise if the labour is conducted by one gender, but the payments are made to the partner (Da Silva 2005, p.18). Kirsten and Sartorius identified such a pattern in African contract farming arrangements, where power relations within the households were disrupted (Kirsten and Sartorius 2002, p. 510).

In agreements where middlemen operate between the farmers and the firm, the *lack of coordination among middlemen and farmers* can impose problems. Several cases of contract farming in Vietnam have shown that the contracts are often drawn up between the processors and traders or farmer groups, who represent the farmers. However, when there is no sufficient coordination with and between these farmers, the possibility exists that they will not meet all contractual requirements. In that case contractual defaults increase, resulting in financial losses for these farmers (Asian Development Bank 2005, p.9).

Last but not least, in the event that contract farming shifts production of farms from basic food crops to cash crops, it may have major effects on food supply and food prices, increasing the *food insecurity* (Bijman 2008, p. 17). In regions where food aid is provided, households might perceive this food as 'given' and start producing more cash crops instead of food crops, thereby increasing the food insecurity even more. Moreover, income generated by cash crop production might negate as well due to rising food prices.

Although there exist also (dis)advantages of CF on the side of the firm, these are not discussed in this theoretical framework as the farmers are central in this research. Nevertheless, they contribute to the critical success factors for sustainable contract farming as discussed in the next paragraph.

### 3.6 Critical Success Factors for Sustainable CF

There are several factors that make contract farming the most suitable governance form in relation to other governance forms to begin with, like the type of product, degree of uncertainty, and frequency of transactions (Da Silva 2005, p. 13; Haji 2010, p. 778). However, to maintain the relationship agreed upon, several conditions are important. The main reason for maintaining a contractual relationship is that both partners believe that they are better off by engaging in it. Both parties have to see the partnership as a source of (financial) gains that could not be reached otherwise easily. A contractual relationship is likely to fail to be sustainable if the parties do not develop mutual trust and reciprocal dependency.

First of all, the *enabling environment* is crucial to the long-term success of a CF agreement. The institutional and political setting should not constrict the potential for contracting as it can create both advantages and disadvantages for farmers and agribusinesses in contract farming. They include laws, regulations and policies on labour relations, land tenure, property rights, and anti-trust measures (Da Silva 2005, p. 22; Kirsten and Sortorius 2002, p. 16; Simmons 2002, p. 13; Singh 2002, p. 1635). Examples are competition policies, contract law, and provision of low cost arbitration options (Bijman 2008, p. 19). According to Key and Runsten (1999), also food security policies play a role in contract farming. These policies mainly promote self-sufficiency in production and control over food prices, of which subsidized farm inputs are part. This could be beneficial to contract farming, but subsidies for traditional products make it harder for non-traditional products to compete for inputs and outputs. Also public service provision is important for contract farming to be successful. Especially infrastructure is important for the reduction in costs and risk. For Ethiopia, Haji (2010, p. 788) mentions that the lack of infrastructure was one of the main reasons why contractual obligations were breached. In Thailand and Taiwan, the interplay between the private and public sector was particularly successful. Here, public services were provided like appropriate infrastructure, service support for growers and mediation between the farmer and the agribusiness firm. In this way, the government acted as a facilitator of trust between the farmers and the firm, reducing risk for both parties. In combination with the services provided this enabled the farmers to be successful in growing high-value crops (Benziger 1996, p. 1690).

The institutional and political environment should particularly deal with *contract enforcement* to increase the farmers' bargaining position (Da Silva 2005, p. 22; Kirsten and Sortorius 2002, p. 16; Simmons 2002, p. 13; Singh 2002, p. 1635). The obligations of both parties engaged in the contract should be enforceable, either legally or private. According to Haji (2010), in the absence of operationally and/or financially feasible legal enforceability measures, private institutions embedded in the social system or developed by economic agents could also be sufficient in order to prevent contract breach. Gow *et al.* (2000, p. 259) has shown that the internal private mechanisms like, in his case, an investment facilitation program, can make contracts 'self-enforcing' by increasing the opportunity costs of contract breach. Also in the study on Ethiopia, Haji (2010, p. 790) argues that public and private institutions are crucial for successful contract farming. Besides the legal or private enforceability of contracts, the contracting parties can take alternative measures to encourage contract enforcement such as the formation of farmers groups or cooperatives. For the farmers, collective action is important for enhancing their bargaining power and eventually even out the unequal power relations between them and the firm. Through these groups, farmers have stronger voices in negotiation processes and are therefore better able to protect their interests (Bijman 2008, p. 20; Da Silva 2005, p. 22; Haji 2010, p. 790; Kirsten and Sortorius 2002, p. 21). Additionally, in Singh's research on contract farming in the Indian Punjab, it was due to the absence of farmer organizations or cooperatives that farmer's suicides could not have been prevented (Singh 2002, p. 1635). On the end of the firms, farmers groups can

reduce the transaction costs of dealing with a larger number of smallholders by delivering credit, inputs, services to the groups (Bijman 2008, p. 20; Da Silva 2005, p. 22; Kirsten and Sortorius 2002, p. 17; Simmons 2002, p. 17). For example, group lending will increase peer pressure among the farmers to enforce their individual obligations (Da Silva 2005, p. 22). Farmers groups could also be used for providing information, inputs, technical and quality assistance to the farmers (Kirsten and Sortorius 2002, p. 19; Simmons 2002, p. 14). According to Runsten and Key (1996) in their case study on strawberry contract farming in Mexico, all issues of credit market failure, insurance market failure, input market failure and transaction costs could have been resolved by a properly functioning farmers cooperative. Firms can also reduce contractual default by the farmers by good communication, close monitoring, their range and quality of services provided to the farmers, and by treating defaulters strictly (Kirsten and Sortorius 2002, p. 17). Additionally, when ample and/or good quality services are provided by the firm, the opportunity costs of default by the farmer will be higher. Also long-term contracts are less likely to be breached since they encourage investments in certain assets which in turn decrease the motivation for default (Da Silva 2005, p. 22).

Moreover, *mutual trust* is a very, if not the most, important factor in sustaining a successful contractual relationship between farmers and agribusiness firms, especially in the absence of legal contract enforcement mechanisms (Kirsten and Sortorius 2002, p. 18). When the farmer trusts the firm for honouring its obligations, the farmer is not likely to breach the contract and vice versa. In Haji's study on Ethiopia (2010, p. 789), mutual trust and brokers' mediation were the main reasons for contract enforcement in the absence of legal enforcement. Especially long-term contracts are likely to foster trust and are therefore more likely to maintain in the absence of legal contract enforcement (Haji 2010, p. 778). Also Singh (2002) pleads for trust as a condition for a sustainable contractual relationship in his study on contract farming in the Indian Punjab (Singh 2002, p. 1635).

The fourth success factor for sustainable contract farming is *mutual dependency*. The literature review conducted by Kirsten and Sortorius (2002) concluded that increased competition among traders or firms can prevent monopsonistic control over the farmers. Nevertheless, this creates opportunities for side-selling by the farmers at the same time. Additionally, there should be a guaranteed and not too volatile market demand (Simmons 2002, p. 13) for the final product and little alternative sources of supply for the agribusiness in order to encourage sustainability of the relationship. Not only the market itself, but also the access to market information is important to prevent exploitation of the farmers and to strengthen their bargaining power (Kirsten and Sortorius 2002, p. 21). Also according to Hija (2010, p. 790), Ethiopian farmers need access to market information in order to strengthen their capacity eventually increase their bargaining power. Moreover, besides market competition and the access to market information, asset specificity increases dependency upon the opposite party. Asset specificity means that an asset can be used for just one purpose. If this is the case, the party owning the asset will be more likely to continue with the business since otherwise investment in these assets will not be productive (Bijman 2008, p. 20). If alternative production opportunities and income are not present, the farmers' bargaining position declines and they will be more willing to receive a lower price (Bijman 2008, p. 20).

The last factor that affects the success and sustainability of the agreement is the *content of the contract* in terms of production risk. The sharing of known sources of risk must be negotiated beforehand and included in the contract. Risks that are difficult to foresee or covered by a contract, strategies need to be in place to deal with these unexpected risks like for example insurance or arbitration mechanisms. NGO's might function as conflict mediators in such cases of unexpected event (Da Silva 2005, p. 22). Haji suggests signing non-contingent contracts and renegotiating them after crucial market information is revealed for her Ethiopian case (Haji 2010, p. 790). Figure 3.1 shows a

schematic representation of the factors that contribute to the success and sustainability of contract farming agreements.

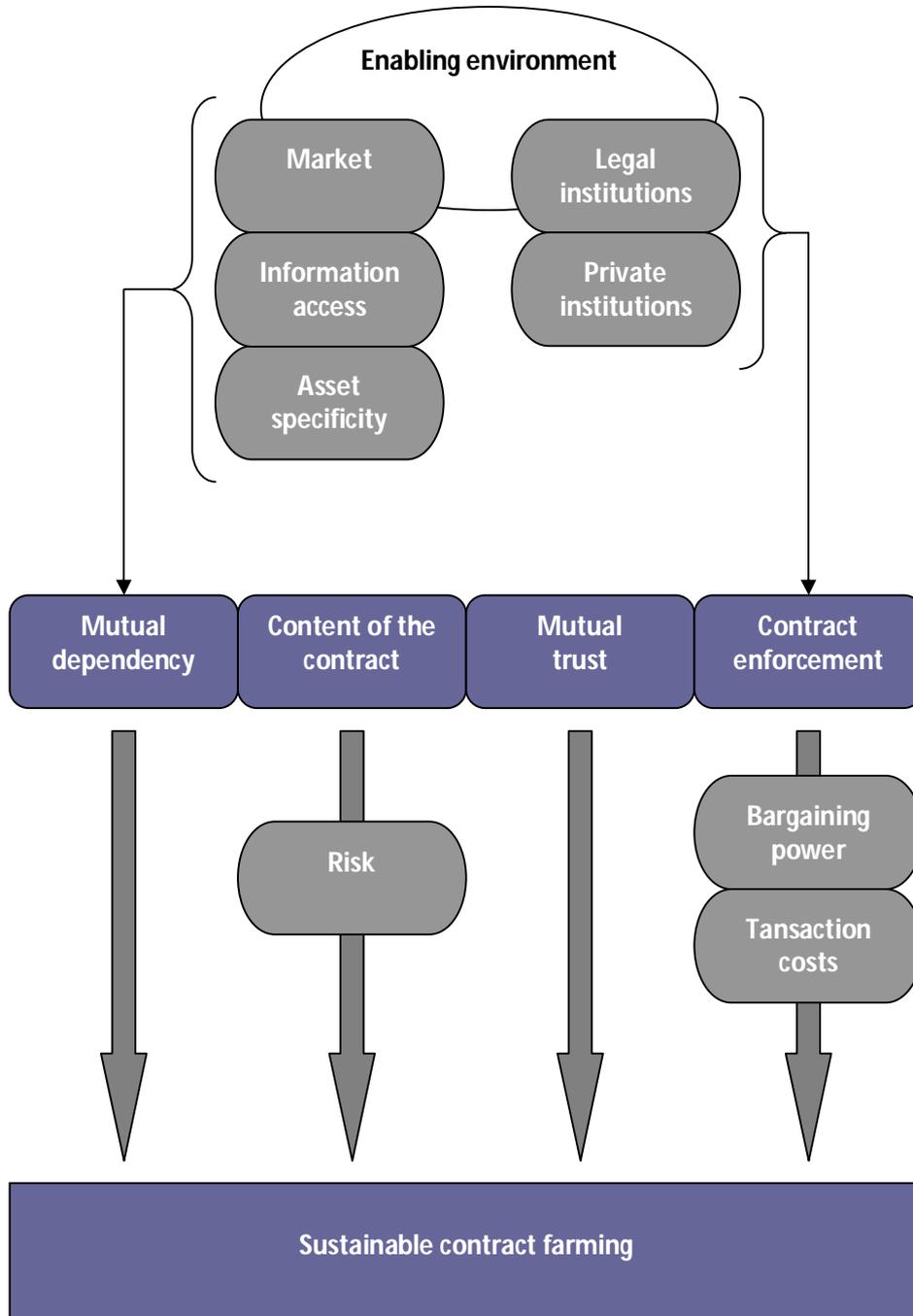


Figure 3.1 Framework for sustainable contract farming

## The Sustainable Livelihoods Framework

The second component of this research, which will give insights into the poverty and vulnerability characteristics of the project beneficiaries, consists of a livelihoods approach. Deprivation and well-being as poor rural people perceive them, have many dimensions which do not correspond with conventional analyses like production thinking, employment thinking, and poverty-line thinking. Measurements of 'hunger', 'unemployment', or 'poverty line' as indicators of well-being are single scaled and originated from industrialism. In order to capture the complex and diverse realities of rural life, the people-centred Sustainable Livelihoods Framework (SLF) which originates from the work of Chambers and Conway (1992) is used.

### 4.1 The Framework

Livelihood research does not perceive poor people as passive victims, but acknowledges their active and sometimes even proactive role in society. A livelihood in its simplest sense is a means of making a living. According to Chamber and Conway (1992, p. 7), it consist of "the capabilities, assets (stores, resources, claims and access) and activities required for a means of living: a livelihood is sustainable which can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation; and which contributes net benefits to other livelihoods at the local and global level in the long and short term". The SLF aims to give a better understanding of the lives of poor people by simplifying real life in identifying the main factors which affect people's livelihoods. In addition, the relations between people and their environments such as policies, institutions and other actors are another main focus of the framework depicted below (Potter *et al.* 1999, p. 485).

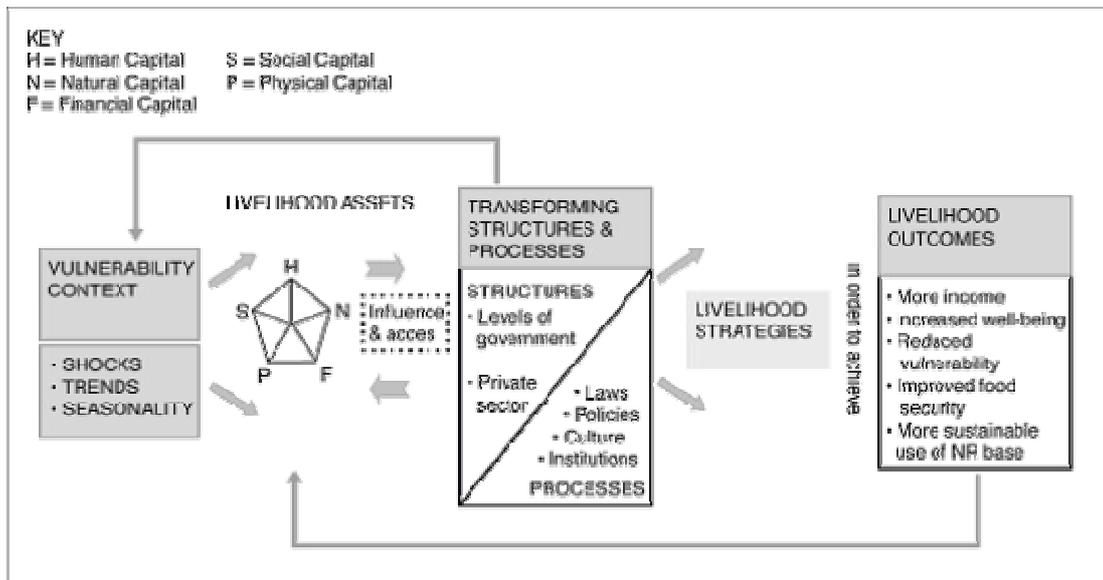


Figure 4.1 The Sustainable Livelihoods Framework

Source: De Haan 2006, p. 144

Livelihoods can be either ascriptive or inherited. Ascriptive livelihoods are largely predetermined at the time of birth by for example gender or the caste system present in India and Nepal where some castes have assigned occupations. People can also have inherited their livelihoods by being born a child of a subsistence farmer, pastoralist or fisherman. Less predetermined livelihoods are where people improvise by responding to their social, economic, and/or ecological environment through education and/or migration (Chambers and Conway 1992, p. 6).

The wellbeing of individuals within an households, such as women and children, may differ from others, like adult men (Chambers and Conway 1992, p. 6; FAO 2003, p. 7). However, as the impact of livelihood activities are most clearly seen at the household level and the main objective of most rural people is the well-being of the household, the level of analysis used in this research will be the household level. Meaning the people that have been permanently living in the same house for the last six months, because it is most likely that capabilities, knowledge, and skills are combined and capital and access to assets is shared among this group of people (FAO 2003, p. 8). Within a household, there can be identified four livelihood components, namely the people, their possession of assets (tangible and intangible), their activities in relation to these assets, and the gains and outputs of these activities (Chambers and Conway 1992, p. 7). These are discussed in the next section.

## 4.2 Livelihoods Components

Peoples' livelihood *assets* are made up of five 'capitals' in the SL framework, represented by a pentagon in the conceptual framework from the DFID in figure 4.1 (De Haan 2006, p. 139 and 144, FAO 2003, p. 9):

- *Natural capital* – resources like land, access to water, forests, livestock, etc.
- *Human capital* – including skills, experience, knowledge, labour productivity, etc.
- *Physical capital* – including buildings, tools, machinery, infrastructure, health facilities.
- *Financial capital* – savings, credit, pensions, money in hand, remittances, etc.
- *Social capital* – the quality of relations between people and the way they work together, by ties of social obligation, reciprocal exchange, group membership, and mutual support between relatives and community members.

The amount of the different assets can be large and balanced, implying a strong asset base for creating a livelihood. However, the amount of assets accessible by a household can also be small and/or unbalanced in undiversified households (FAO 2003, p. 8). The five types of livelihood assets are all interlinked by being each other's input or output. The increase in one capital can mean a decrease in another and vice versa. For example, if someone has not enough land to cultivate sufficient food crops to feed the household, he or she will use his or her social network to acquire land or engage in sharecropping. Or, someone who migrates for earning has to hire people to work on his land, replacing social capital with financial capital (Zoomers 2008).

People can improve their livelihoods not only by using physical assets owned, but also by increasing their *access* to them (i.e. being able to use them without ownership). Bebbington (1999, p. 2022) argues that social capital is the most important asset for enabling access which is necessary for diversifying and expanding a portfolio of assets. However, assets are not simply physical resources used to build a livelihood, but are also an end in themselves. They give people the *capability* "to be and to act". For example, human capital like education can increase one's capability to understand the economic and social environment and to act upon it in an emancipatory way. According to Moser (1998,

p. 23), capabilities are influenced by a wide range of factors, including the prospects of earning a living and the social and psychological effects of poverty and exclusion. For example, basic needs, employment at reasonable wages, and health and education facilities improve people's capabilities to act in their desired way.

A *livelihood strategy* refers to the range and combination of *activities* employed by people using their assets, in order to achieve their livelihood goals. This behaviour can have several sorts of outcomes and *outputs* influencing well-being factors like income, food security, vulnerability, and social equity (Potter *et al.* 2008, p. 485). An increasing number of households in rural areas engage in income diversification and there exists a tendency towards livelihood diversification. This is considered "a process by which households construct an increasingly diverse portfolio of activities and assets in order to survive and to improve their standard of living" (Ellis 2000, p. 15). In many cases, income no longer originates from a single source like agriculture, but households gain their income through multiple income sources. A related trend is the development of multi-local livelihoods. The rapid urbanization and improvement of communication and transport facilities in developing countries resulted in an increase in mobility of the rural poor. This enables them to travel back and forth from the countryside to the city for work either daily, seasonally or annually. To the extreme, people even tend to migrate nationally or internationally in order to increase or diversify their earnings (Zoomers 2008, p. 149).

### 4.3 The Vulnerability Context

The SLF is considered to take changes over time better into account than static measures like poverty by including one's vulnerability. While poverty measures are generally fixed in time, vulnerability is more dynamic and better captures changes in people's environment. Although poor people are usually among the most vulnerable, not all poor people are vulnerable and vice versa. This distinction facilitates differences between people in the lower-income segment (Moser 1998, 23).

A large part of a household's status of asset possession is influenced by the external environment in which people operate, defined as the *vulnerability context*. People often have very little control over the external factors influencing their livelihoods, hence the term vulnerability. The external factors concern stress, shocks, and seasonality (Potter *et al.* 2008, p. 486). Shocks are violent, unexpected events and can include natural disasters like floods and earthquakes. Economic shocks might include an economic crisis or sudden currency devaluation, as well as price fluctuations. From the political side, violent conflict can be seen as a serious shock to people's livelihoods. Stresses, or 'trends' might be less violent but last longer, like droughts and demographic or governance changes (De Haan 2006, p.141; FAO 2003, p. 10). Seasonality is considered low-level environmental stress to one's livelihood and reduces or increases the availability of different resources throughout the year (FAO 2003, p. 10). Seasonality can originate from seasonal price, weather, production, health, and employment fluctuations. For example, an obvious seasonal factor influencing crop yield is the intensity of rain (Potter *et al.* 2008, p. 485).

As De Haan points out, "[i]n times of shock and stress, livelihood strategies temporarily take on the shape of safety mechanisms called 'coping strategies'" (De Haan 2006, p.141). *Coping strategies* might include the use of food stocks, sales of physical assets, and money lending. Changes in livelihood (coping) strategies can be influenced by internal factors, for example when there is a changed preference for a certain job, or a drive for more wealth. However, the vulnerability context, as well as the access to livelihood capitals, is heavily influenced by the organisations, policies, and processes of institutions (i.e. formal rules and informal codes of behaviour) (De Haan 2006, p. 141; FAO 2003, p. 10; Potter *et al.* 2008, p. 485). Institutions influence the access to livelihood capitals and opportunities by

enhancing or restricting power. Policies on different government levels affect people's decision making power and the ability to use assets in a desired way. The processes of the formation of these policies are important for creating people's awareness about their rights and ensuring their representation within decision making bodies. Policies are particularly important to livelihoods as they change over time and have to be acted upon in order to sustain one's livelihood (FAO 2003, p. 10). Also informal institutions like social norms (e.g. gender inequality), can impede one's power to act (De Haan 2006, p. 150).

## 4.4 Sustainable Livelihoods

Livelihoods can be destructive to sustaining the household's well-being over time. For example, the activities that a household engages in to create its livelihood may degrade the resources on which it depends, making it unsustainable. However, if a household has a diverse set of activities that does not damage the environment and ensures food and income throughout the year, that household's livelihood is likely to be more sustainable over time (FAO 2003, p. 7).

According to the used definition of livelihoods, a livelihood contains an environmental and social component of sustainability. Environmental sustainability consists of the external impact of a livelihood whether social sustainability concerns one's internal capacity to cope with external pressures (Chambers and Conway 1992, p. 9). As for poor people in the global South, environmental sustainability is considered less important since their per capita demand is lower than those of living in the global North (Chambers and Conway 1992, p. 19). Therefore, this research is mainly concerned with the social sustainability of the target group's livelihoods. This includes their resilience to the vulnerability context by using their (access to) assets and the capacity to manage them in order to transform stress and shocks into income, food, or other necessities (Chambers and Conway 1992, p. 10; De Haan 2006, p. 141).

The research focus will be on how and to what extent the farmers are adjusting their livelihood strategies to their participation in contract farming. It becomes clear from the literature on contract farming that it exposes farmers to economic stress and might increase the severity of shocks. The next chapter points out why it is necessary to combine the two approaches discussed so far and how this will be accomplished in the research.

## Combining the two Approaches

For the research of this thesis, two approaches are used: the value chain analysis and the sustainable livelihoods framework. Both approaches have their strengths and weaknesses and combining the two provides us a more comprehensive understanding of how a certain market interacts with the livelihood strategies of primary producers. This allows us to understand the consequences of contract farming for the farmers' livelihood strategies with the aim of providing comprehensive and policy oriented results. This chapter elaborates on the key advantages of combining the two approaches and how they are combined in this research.

### 5.1 The Importance

The importance of combining these two particular approaches are that a) the livelihoods of most poor people are dependent on their involvement in markets, b) major poverty reduction strategies focus on equitable private sector economic growth, and c) poor people often identify problems with markets as critical to their livelihoods (Dorward 2001, p. 1). There are four main advantages of combining the value chain and livelihoods approaches. In principle, these stem from the combination of strengths of both methods, being on the one hand people-centred and on the other market oriented research.

The first advantage is the possibility of *identifying reasons and opportunities for changes in livelihood strategies*. On the one hand, a livelihoods analysis provides information to assess the choices that people make in particular contexts and it goes beyond income and consumption. It explains a (not always optimal) household's response to trade related issues, but has not developed an appropriate response (Dorward 2001, p. 1). For example, people might perceive food security as more important than income, resulting in the production of low risk crops instead of high value cash crops although the latter might be a more logical response when only considering market characteristics (Kanji *et al.* 2005, p. 14). On the other hand, markets can play a role in enabling people to move from one livelihood strategy to another by allowing them to change their asset portfolios into more productive and less vulnerable ones (Dorward 2001, p. 3). Therefore, the density and extent of wider economic development must be highlighted to identify livelihood opportunities enhancing poverty reduction (Dorward 2001, p. 8).

Moreover, the combined approach allows us to *assess the interaction between different actors and their influence on poor people's livelihoods*. Value chain analyses provide a picture of how local markets interact with global ones and the interaction between chain actors. Risk and costs are often transmitted to primary producers for the sake of low consumer prices (Dorward 2001, p. 1). This can influence primary producers' potential for livelihood enhancement by participating in value chains (Kanji *et al.* 2005, p. 14). Thus, value chains are part of their vulnerability context and institutional environment and have to be considered in livelihoods research. Besides, the combination of the two approaches increases the involvement of different stakeholders *at different levels* in the research such as poor farmers *and* more powerful value chain actors (Kanji *et al.* 2005, p. 14). The poor often lack access to higher return activities through lack of financial, social, and human capital. A value chain analysis can help to discover these constraints at originated from different levels and identify opportunities to overcome them through other stakeholders (Dorward 2001, p. 2).

Additionally, adding a VCA to a livelihoods research allows for *including the demand side of the value chain*. The development of a market-based livelihood depends on the demand for its outputs. While a large number of development interventions encourage production of goods by smallholder farmers, the demand side of these products is often ignored in livelihoods research. Consequences are flooded markets and low prices. Whereas a livelihood analysis can easily overlook the opportunities and constraints posed by wider market interactions, a value chain analysis can examine the potential demand for the outputs of livelihood strategies and therefore the opportunities for enhancement (Dorward 2001, p. 1).

Originated from the above advantages of combining a VCA and the SLF, the next paragraph explains how the combination of the two approaches is used in this research.

## 5.2 The Combined Approach

The livelihood analysis aims to give insight into the livelihood strategies employed by the project beneficiaries by examining their access to assets, their livelihood strategies, and their resilience to stress and shocks. The value chain analysis gives us a broad insight into governance, product and profit flows, and power relations. Combining these two approaches results in a chapter on the role of the chiuri value chain in the collectors' livelihood strategies by identifying the major advantages and disadvantages of the CF agreement, its income effects, and the role of chiuri collection compared to their other livelihood activities. In order to accomplish this, different stakeholders were involved in the research. Households surveys, focus groups and life history interviews were conducted among the smallholder farmers and semi-structured interview were held among other value chain actors (e.g. cooperatives and anchor firm) and key informants. The aim of combining the two methods in the current research can be summarized by providing four key objectives. The first is to *identify the impact of selling chiuri on the collectors' livelihoods*. One of the objectives of combining the two approaches is to gain insight into the impact of the new developed value chain on the collectors' livelihoods in terms of strategy adjustments and income. Supplementing a livelihood approach with a value chain analysis allows us to put their choice of activities as a value chain actor in the wider context of the chiuri market.

Secondly, the aim is to *provide the collectors' perspective on the CF agreement*. The advantages and disadvantages of contract farming for primary producers can be examined for the chiuri project by assessing the possible positive and negative effects of contract farming. A combination of approaches provides us with knowledge on the collector's perspective by analysing the type of product and CF agreement within the value chain. Another objective is to *identify opportunities and threats for enhancing the positive effects for the collectors*. A value chain analysis allows us to examine the smallholder farmers as an actor in a wider process. In this way, opportunities and threats originated from their relations with other actors can be identified. A livelihoods analysis explains the farmers' choices about what activities they perform, whether a VCA allows us to discover the location of the constraints. This gives us the opportunity to provide entry points for intervention in order to enhance the collectors' advantages related to selling chiuri. Fourthly, combining a VCA and the SLF enables us to *identify the potential for expansion of the chiuri value chain*. Market constraints to increasing chiuri sales are identified both on the farmer's and market level by combining livelihoods and value chain approaches. It is important to examine the potential for expansion of the project on both sides as both supply and demand should be present in order to expand chiuri sales. Changes within the value chain and to the project itself can be implemented accordingly, to upscale this business and increase gains at both sides. What follows is the outline of the research, using the two approaches discussed so far.

## The Research Outline

This chapter outlines the research, including the conceptual framework, problem statement, research objective, and research questions.

### 6.1 Conceptual Framework

Taking the combination of the different approaches into account, the SLF can be modified by including the value chain, resulting in a conceptual framework appropriate for this research. Figure 6.1 shows how the collectors' livelihoods and the chiuri value chain interact and relate to each other. Central to this framework are the farmer's five livelihood capitals. The producers can choose different livelihood strategies, including engaging in contract farming. These activities together make up their livelihood strategies that produce outcomes. These outcomes can influence the access to livelihood assets as well as the vulnerability context. Participation in contract farming connects the farmer to the other value chain actors and their interactions (e.g. information exchange and agreements) form the determinants of a sustainable value chain. However, the farmer's interaction with these stakeholder affect his or her vulnerability context through power relations and risk. All those activities and interactions are influenced by the institutional environment and the product's market.



## 6.2 Research Objective

As with all development projects, the implementing organizations will withdraw from the project after the timeframe has ended. After withdrawal, the project should have reached its goals and objectives and the target population should continue independently. However, contract farming often results in unequal relationships between the primary producers and the contractor, increasing the dependency and exploitation of smallholder farmers. For a sustainable cooperation between smallholders and agribusiness firms, there need to exist mutual benefits from the cooperation. From this problem statement the research objective of this thesis can be defined as “to identify challenges and opportunities in the chiuri value chain of SNV’s HVA-IB Pilot Project and to give recommendations on the larger HVA project for optimizing its benefits for the target group and its potential for sustainability”. The research objective can be translated into the main research question as follows:

*To what extent does the chiuri value chain affect the livelihoods of the smallholder farmers within the project and what is the value chain’s potential for sustainability?*

In order to answer the main research question, it is divided into eight sub questions.

<b>Question 1</b>	How is the chiuri value chain in the project currently organized?
<b>Question 2</b>	What are the collectors’ main livelihood characteristics?
<b>Question 3</b>	What are the (dis)advantages of the CF agreement for the collectors?
<b>Question 4</b>	To what extent are the producers adapting their livelihood strategies to their participation in contract farming?
<b>Question 5</b>	What is the income effect of chiuri collection for the collectors?
<b>Question 6</b>	To what extent is the value chain likely to be sustainable?
<b>Question 7</b>	What are the strengths, weaknesses, opportunities and threats (SWOTs) for a sustainable impact of the project?
<b>Question 8</b>	What recommendations can be given on the HVA project for optimizing its benefits for the target group and its potential for sustainability?

## Methodology and Research Constraints

The research questions as discussed in the previous chapter are answered by implementation of the methodology described in the following paragraph. After the description of the methods used in this research, several research constraints are outlined.

### 7.1 Description of the Methodology

The data collection for this research took place between February and May 2011 and consisted of a five-stage approach including a desk study, key informant interviews, focus groups, household surveys, and live history interviews. The purpose of the desk study was mainly to gain knowledge about the project and its context and the stakeholders involved. Additionally, the critical success factors for sustainable contract farming were identified and presented in a separate literature study. Phase two, the key informant interviews, consisted of semi-structured interviews with SNV and BNA staff, the management of the anchor firm, the District Forest Officer (DFO) of Surkhet, and the cooperative representatives (see annex I). The scheme in the next page presents the interviewees and the purpose of the interviews. In the third phase, three focus groups were held in Lekhparsa, Gumi and Kunathari with 10, 7 and 5 participants respectively (see annex V). Among the participants there were both men and women, but all of the same caste as the Janajatis were widely overrepresented in the population. This encouraged them to speak freely and to share their thoughts. The aim of the focus groups was to gain knowledge on the following issues:

- Identify issues within the project that seem important to the farmers
- Getting a broad understanding of their benefits from the project
- Their perceptions on the role of cooperatives
- Get some first insights into the role of chiuri in their livelihoods
- Their access to market information
- Let them draw a seasonal calendar with agricultural activities related to the main crops produces in the region

Phase four consisted of a livelihood research by conducting household surveys (see annex VII) among 73 farmers with quantitative and supportive qualitative indicators. The target group included all chiuri selling farmers in Surkhet in order to get a broader insight into alternative selling opportunities. Knowledge aims were identified as follows:

- Assess access to livelihood capitals
- Identify livelihood strategies and the role of chiuri in their livelihoods
- Selling opportunities for chiuri
- Food security
- Relation to the buyer
- Financial benefits from the project

The sample was created by using a multi-stage sampling plan:

1. Select target four VDCs based on feasibility and interesting characteristics
2. Draw a sample frame by:
  - 2a. Board members of cooperative creates list of suppliers
  - 2b. Let the VDC chief or other informants complete the list by adding collectors who do not supply to a cooperative
3. Randomly select 20 farmers per VDC

As it became clear soon enough that there were no other selling opportunities in the district, the sample consists entirely of collectors supplying to the cooperatives involved in the project.

In order to draw a livelier picture of the collectors, after conducting the household surveys, three interesting respondents were selected. Three live history interviews were completed in order to create interesting case studies for illustrating the quantitative results and trying to find underlying reasons or circumstances for the outcomes of the survey (see annex VI).

## 7.2 Research constraints

Several issues hampered the execution of the proposed research methodology. These include the following.

Firstly, the *poor infrastructure* influenced the research possibilities. Initially one focus group with participants from different VDCs was planned. However, due to the dispersion of respondents it was unfeasible to get them all together on the same day. This resulted in the decision to organize a focus group in each VDC. However, in Ghumkahare this was particularly difficult since the collectors lived far from the bazaar and relatively dispersed as well. Since there existed no roads between the villages and to the bazaar it would take them too much of their precious time to participate in a focus group. Therefore, focus groups were only completed in the other three VDCs of research. Also during the phase of conducting household surveys there were several issues that hampered the results. In total 74 households were interviewed due to a non-response of 6 (the aim was 80). However, two respondents seemed to be of the same household. Therefore, the sample size of this research is 73 with 20 respondents delivering to the cooperative in Lekhparsa and Kunathari, and 24 and 10 to those in Gumi and Ghumkahare respectively. The latter two numbers differ from the initiated 20 per VDC since the farmers in Gumi were much more accessible than those in Ghumkahare. Another deviation from the plan related to the lack of infrastructure and dispersion of the respondents was that the surveys as well as the interviews with the cooperative representatives could not be conducted from the district headquarters. The closest research VDC was Kunathari, taking still more than two hours one way by bus. Obviously, travelling back and forth everyday was hardly feasible, necessitating a multiday stay in each VDC. While staying near the main bazaar of the VDC, the respondents' houses were often still a couple of hours walking. Therefore, it had to be made sure that people were at home every morning before leaving for the interviews. Because of these difficulties the eventual sample was not entirely randomly selected. Sometimes the opportunity to take several interviews in one village where people were near was grabbed. That also contributed to the relatively large number of respondents from Gumi.

During the interviews, the main constraint was the *educational level and way of living of the respondents* as highlighted in box 7.1. Some questions were very difficult for them to understand. Even when the question was understood it could often not be answered since they do not keep track of their lives at all. Usually the respondents tend to live day by day without remembering or recording for

example their harvest, the amount of chiuri they sold or even their own age. This made it very difficult to collect reliable data.

**Box 7.1**  
**The ignorance of the respondents**

*"I don't remember any important things that happened during my life and I have no particular interests. I also never thought about how my future would look like [...]. It is better to be educated. My brothers and sisters might not have a job, but they can explain things and have knowledge. They would be better able to answer your questions, I have a dull mind."*  
- respondent #10 (see annex V)

*"I know nothing. I don't understand anything and can't feel any change."*  
- respondent #41

Additionally, different respondents used *different measurements* for land. The in Nepal widely used *ropani* was only used in Kunathatri VDC, while all other VDCs measured in *kattha*. Additionally, different measurements for crops were used among the respondents that had to be recalculated into kilograms every time. These two issues made it very complicated to collect comparable data.

During the *time of research* there were no activities related to chiuri collection since the fruits are only ripe in June. There were some chiuri trees seen, but with only a little amount of unripe fruits and since the fruits ripen once a year it was almost a year ago that the respondents delivered their collection to the cooperative. It was difficult for the respondents to recall particularities like amount collected and time spent on collection that took place almost a year ago.

Another problem during the research was the *language barrier*. For Nepali standards, the translator's English skills were relatively good. However, due to a different understanding of words, questions were sometimes understood incorrectly, resulting in answers not corresponding with what was actually asked. In most but not all cases this problem was managed by explaining the question in different words or with examples.

A more general problem with getting the right information during the focus group discussions was that generally only one or two people in the group dared to speak up so it was very difficult to gain a full understanding of what was going on in the region. Moreover, during the interviews with the cooperative representatives it appeared twice that the respondents did not have enough time for the entire interview. Therefore, some information was missing there as well.

The following chapters outline the findings and results obtained by implementing the research methods. They reflect both a qualitative and quantitative analysis of the data.

## The Chiuri Value Chain

The purpose of this chapter is to answer the first research question: “How is the chiuri value chain in the project currently organized?”. It includes a rough description of the chiuri value chain related to the project of research in order to identify its effects on the collectors’ livelihoods and its potential for sustainability. First some general information about chiuri is provided as it is not a well-known product. In the following paragraphs the value chain’s governance characteristics and actors are described as well their relations to each other. The chapter continues with identifying product flows and concludes with providing a general understanding of added value at each product stage.

### 8.1 What is chiuri?



**Photo 8.1** The seeds inside chiuri fruits

The chiuri tree, commonly known as the Indian butter tree, is a medium to large sized tree originally from Nepal, growing in the hills of the country between 400 and 1400 meters above sea level with the highest prevalence in the Mid-Western region. The botanic name is “*Diploknema Butyracea Roxburn*” or “*Bassia Butyracea*”. Trees are found in forests as well as on private land and approximately 5.6 million fruit bearing trees are present in Nepal with an average fruit yield of 67.3 kg per tree. The trees do not demand high quality soil as they even grow on stone and they can tolerate a low degree of frost. They have a slow

growth rate while young, but full grown trees bear an abundance of fruits. The fruits ripen between June and August and are harvested in July and August (Jackson 1994).

The tree has multiple uses as NTFPs. The fruit juice is consumed, honey can be produced from the flower nectar, leaves are used for animal fodder, the resin for making glue, and the timber is often used as firewood. The seeds (see photo 8.1) are the most important and valuable part of the tree as the ghee (i.e. butter) produced by extracting oil out of them has high economic potential. Products that can be produced using this chiuri ghee are chocolate, illuminant, candles, candy, margarine, and it has medicinal purposes as well. According to Ghimire, chiuri butter offers strong potential for import substitution of palm oil and can function as unique raw material for production of cosmetics, skin care creams and other high value products. Additionally, chiuri honey has export possibilities as a niche market due to its unique flavor. Despite these opportunities the country has not tapped the full benefits yet. Another traditional use of the chiuri tree is to give a sapling as a dowry to one’s daughter.<sup>2</sup>

In Surkhet, the seeds are most commonly used for making ghee for self use like cooking and healing skin cracks. Other uses of the chiuri tree in Surkhet are firewood and the nectar for producing honey. Commercial opportunities for the seeds are the sale of either ghee or whole seeds. However, the quality of the oil extracted by traditional means is too low for commercial sale and selling it to animal ghee producers for adulteration gains only 16 NPRs/kg (SNV Nepal 2010, p. 28). Hence, selling whole seeds reaps more benefits as well as it costs less time and effort. As of last year, chiuri collectors can sell the seeds to cooperatives by participating in SNV’s HVA-IB pilot project.

The NTFP market in Nepal is a volatile one. Market prices are unpredictable and doing business in NTFPs is considered risky. In most cases, the loss of low market prices or fluctuating market demand is bore by the collectors or village traders. Prediction of prices is difficult due to the volatility in demand and supply. Usually traders in Nepalgunj (a trade hub in the south-west of the country) provide price information to traders in the districts level. The problem in the NTFP market is the low degree of competition. Few traders engage in monopsonistic buying behaviour and are likely to exploit the suppliers and become corrupt (AEC 2010).

## 8.2. Type of value chain governance

The chiuri value chain in the project is claimed to be governed by means of contract farming. However, there exists no direct contractual arrangement between a the large number of small farmers and the contractor – Alternative Herbal Products Pvt. Ltd. (AHP) - in order to supply the latter with agricultural inputs. Instead, the value chain includes middlemen and is therefore identified as the *intermediary model* of CF described in the theoretical framework. The three parties in the CF arrangement are the collectors (smallholder farmers), the cooperatives (middlemen) and the processor (AHP). Within the arrangement AHP formally contracts with the cooperatives who *informally* agree to buy chiuri from the farmers. There are no formal contractual or other obligations between the collectors and the cooperatives since that would be too time consuming due to the dispersion of the farmers.<sup>3</sup> The farmers can deliver all the seeds they have collected to the cooperatives and the cooperatives buy all. Also there are no specific terms of delivery. The only informal agreement between the two is the price the cooperative pays for the seeds, which is usually 25 NPRs per kg (SNV 2010).

As there is no direct link between the contractor and the farmers, this model has several disadvantages for vertical coordination. Nevertheless, an attempt to quality control is made by AHP by inspection of drying and cleaning practices executed by the cooperatives. Moreover, on the downstream end of the value chain, processing and production is outsourced. Yet, vertical coordination is achieved by controlling the production processes as the outsourcing companies produce the soap in accordance with a formula provided by AHP. Hence, the type of contract between AHP and the cooperatives can be identified as a *production-management contract* as cleaning and drying practices are monitored and production practices are controlled. Hereby the cooperatives and production companies delegate a part of the market risk to AHP as they comply with the company's wishes. The role of the cooperatives in quality control is described in more detail in the next paragraph. Thus, although the farmers are not engaged in a contract, the cooperatives are. The next page shows a schematic representation of all interactions within the value chain which are explained throughout this chapter.

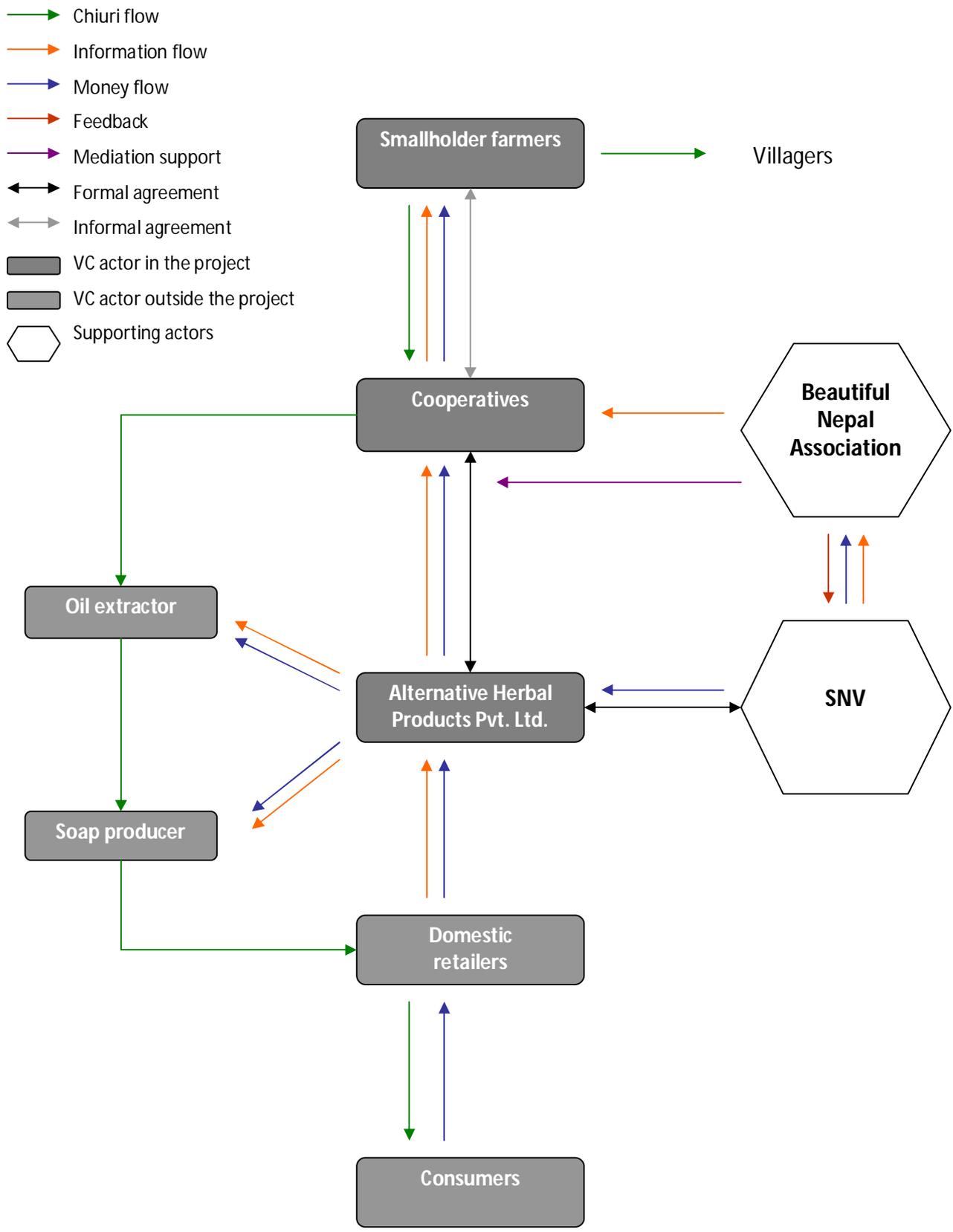


Figure 8.1 Value chain flow chart

### 8.3 Who are involved?

The flow chart in figure 8.1 depicts the actors related to the project's value chain and their nature of interaction. These actors include the collectors, the cooperatives, AHP, the oil extractor, the soap producer, domestic retailers, and the final consumer. Supporting parties are SNV and Beautiful Nepal Association (BNA). Their characteristics and responsibilities within the chiuri value chain are described next.

The *collectors* of the chiuri seeds are smallholder farmers who mainly depend on subsistence farming and additional income sources of which chiuri collection is one. More information about the targeted households and their livelihoods is described in the next chapter. The seeds are cleaned and to a certain extent dried at their houses in order to meet the quality requirements of the cooperative they supply to. They have no responsibilities related to the time and amount of delivery. The role of chiuri collection in the livelihoods of the farmers is described in chapter 10.

According to the literature, *cooperatives* can play a crucial role in a value chain in terms of increasing the bargaining power of the smallholder farmers and reducing the transaction costs of the contractor (Bijman 2008, p. 20; Da Silva 2005, p. 22; Haji 2010, p. 790; Kirsten and Sortorius 2002, p. 21). In the project of research, the cooperatives also play a vital role in quality control. In total, eight cooperatives were involved in the value chain last year. Since this research covered four VDCs, only the four relevant cooperatives are included in this analysis. All four are originally credit and savings cooperatives for which the business in chiuri is a new and additional income, except for Sothkhola Cooperative which is already more acquainted with doing business in other products. Generally the chiuri collectors are *not* a member of the buying cooperative as they are not obliged to be. Whereas the cooperatives' role in the chiuri value chain is described now, a summary of their other activities is depicted in table 8.1. As the cooperatives are responsible for the quality of the seeds they deliver to AHP, their activities include grading, sorting and drying. Upon delivery, seeds are often insufficiently dried as wet seeds are heavier and therefore worth more.<sup>4</sup> Moreover, collectors often dry the seeds in smoky places like attics or over the oven where smoke damages the seeds.<sup>5</sup> All cooperatives have their own way of dealing with this problem and therefore, according to AHP, they deliver seeds of different quality levels. Sothkhola Cooperative sets the price according to quality, ranging between NPRs 18 and 25. The seeds that are not sufficiently cleaned and dried are cleaned and dried again at the cooperative and advice is provided to that particular farmer. When it is impossible to repair the damage, the cooperative refuses to buy the seeds. For example, some farmers delivered seeds they collected years ago and have been badly stored for this period of time.<sup>6</sup> Despite of these efforts, seeds from Sothkhola Cooperative were not all dried well enough according to AHP. Seeds delivered by Ghumkhola Cooperative were badly cleaned as well.<sup>7</sup> This could be due to the fact that, although the board members require well dried seeds with golden colour and without any insects, the same price for all seeds is provided and they do not reject any.<sup>8</sup> Chandrasurya Cooperative delivered the best seeds last year in terms of quality.<sup>9</sup> They monitor quality by not accepting badly cleaned seeds and to increase the quality of all seeds they are all stored and dried in the cooperative's greenhouse for 2-3 days.<sup>10</sup> Also Amarjoyti Cooperative delivered good seeds last year, according to AHP's opinion.<sup>11</sup> Their strategy is simply to reject bad quality seeds and provide advice to the collectors about how to better clean and dry them.<sup>12</sup> After drying, the seeds are packed and stored at all the cooperatives' offices until the contractor requires them. Moreover, the cooperative board members usually promote the collection and sale of chiuri seeds among the farmers. As can be seen from table 8.1, two of the cooperatives within the research also had transportation responsibilities as their offices are difficult to reach.

	<i>Chandrasurya Multipurpose Cooperative</i>	<i>Amarjoyti Multipurpose Cooperative</i>	<i>Ghumkhola Multipurpose Cooperative</i>	<i>Sothkhola Medicinal Plant Cooperative</i>
<b>Activities</b>	<ul style="list-style-type: none"> <li>- Credit and saving</li> <li>- Business in chiuri</li> <li>- Shop</li> </ul>	<ul style="list-style-type: none"> <li>- Credit and saving</li> <li>- Business in chiuri</li> <li>- Women self employment trainings</li> <li>- Selling organic composts</li> </ul>	<ul style="list-style-type: none"> <li>- Credit and saving</li> <li>- Business in chiuri and medicinal plants</li> <li>- Shop</li> </ul>	<ul style="list-style-type: none"> <li>- Credit and saving</li> <li>- Business in chiuri, camomile and other herbal products</li> <li>- Solar panel supply</li> </ul>
<b>Selection criteria for becoming a member</b>	<ul style="list-style-type: none"> <li>- Buying a share</li> <li>- Owning a cell phone</li> <li>- Pay a membership fee of NPRs 300 once</li> <li>- Saving of NPRs 700</li> </ul>	??	<ul style="list-style-type: none"> <li>- Local people are given priority</li> <li>- Minimum age of 18 years</li> </ul>	<ul style="list-style-type: none"> <li>- Being an inhabitant of close VDC</li> <li>- Buy a share of NPRs 100</li> <li>- Pay a membership fee of NPRs 50 once</li> <li>- Regular savings of at least NPRs 10</li> </ul>
<b>Activities related to chiuri</b>	<ul style="list-style-type: none"> <li>- Drying</li> <li>- Packaging</li> <li>- Promotion</li> <li>- Storing</li> <li>- Transportation</li> </ul>	<ul style="list-style-type: none"> <li>- Drying</li> <li>- Packaging</li> </ul>	<ul style="list-style-type: none"> <li>- Grading</li> <li>- Drying</li> <li>- Packaging</li> </ul>	<ul style="list-style-type: none"> <li>- Cleaning</li> <li>- Drying</li> <li>- Packaging</li> <li>- Storing</li> <li>- Transportation</li> </ul>
<b>Activities related to quality control</b>	Drying of all seeds	Reject bad quality seeds	Drying of all seeds	<ul style="list-style-type: none"> <li>- Price according to quality</li> <li>- Reject unrecoverable seeds</li> <li>- Cleaning of bad cleaned seeds</li> <li>- Drying of all seeds</li> </ul>

*Table 8.1 The cooperatives' activities*

Within the value chain, *the contractor* is Alternative Herbal Products Pvt. Ltd. (AHP). The company was founded in 1998 by Mr. Govinda Ghimire as a private initiative of SEACOW (School of Ecology, Agriculture and Community Works). Before its withdrawal in 2006, SEACOW supported AHP to ensure the company provided a fair price to the farmers (Van Mele *ed.* 2003, p. 36). AHP's main goal is still to cooperate with the primary suppliers and give them a fair price. Currently, AHP does business in herbal teas, juices, organic coffee, organic spices, and natural honey, besides herbal soap containing chiuri. The company's main activities for these products are marketing, packaging and branding.<sup>13</sup> Concerning chiuri, AHP carries the responsibility of transporting the seeds from the cooperatives to the processing centre for oil extraction and from there to the soap factory. AHP outsources the related processing and production activities but the company develops the formula and sells the soap to domestic retailers such as department stores and beauty parlours. They latter sell the soap to the end customers in Kathmandu and Pokhara. Side activities of AHP are research and development, including new product development and market research. Possibilities for new chiuri products are candles, pesticides, and honey. Additionally, AHP provided information and training to the cooperatives related to cleaning and drying practices because the seeds' quality is important for being able to expand sales internationally.<sup>14</sup>

SNV Nepal is responsible for the implementation of the IFAD founded project including two components, being pro-poor value chain development and inclusion and support for value chain initiatives. The latter includes gender and social inclusion in particular. In order to achieve this, project activities are executed by a so-called Local Capacity Builder (LCB) in order to foster local ownership and sustainability. SNV merely plays an advisory and supervisory role (IFAD 2009, p. 49). Part of the project budget is provided to the LCB for carrying out the project activities. Another part is provided to AHP for conducting market research and new product development as well as for advertisement and materials purchase related to chiuri products according to a Memorandum Understanding (MoU) (SNV Nepal 2010, p. 18).

The LCB, or service provider, in this project is *Beautiful Nepal Association (BNA)*. The local NGO handles the major part of the project implementation by acting as a local expert and implementing the project activities in the local communities (IFAD 2009, p. 49). Practically they have conducted the following activities: a rapid assessment of the availability of chiuri in the district, organization of (review) workshops and meetings, coordination between different line agencies, group formation at collectors level, contract negotiation between the cooperatives and AHP, cooperative selection, radio advertisement of the project, facilitation of cooperative training and dry house construction, and assistance in preparing legal papers related to the dispatch of seeds (BNA 2011, p. 2). Moreover, they created awareness of the chiuri sales opportunity and social mobilisation among the cooperatives and collectors. As BNA works directly with the cooperatives and are closer to the collectors, they function as the hands and eyes of SNV. Hence, they report to SNV about the progress and outcomes of the project. However, it appeared that there exist some discrepancies between this report and reality. In its report, BNA claims to have reached 1040 beneficiaries in total of which 35% is Janajati, 18% Dalit and 47% from other castes (BNA 2010, p. 19). However, the lists at the cooperative offices showed major differences in the number of beneficiaries per cooperatives and caste as almost all collectors were Janajatis and the number of collectors on the lists were generally lower than reported. However, this could also be due to improper bookkeeping at the cooperatives. For example, some respondents were not on the list of the cooperative they claimed to have supplied chiuri to. Thus, also these lists did not seem to correspond with reality. However, when asking BNA how they had drawn up the list of beneficiaries, the answer was that they received the names from the cooperatives<sup>15</sup>. Thus, the actual number of beneficiaries and their division among castes remains unclear.

## 8.4 Power relations

This paragraph elaborates on the relationships between the three main actors within the project, being the collectors, the cooperatives, and the contractor. The relationships are particularly described by the intensity of knowledge transfer (depicted by the orange arrows in figure 8.1) and the related degree of bargaining power.

As mentioned before, there exists an informal buying agreement between the collectors and the cooperatives. According to the literature, working with cooperatives in contract farming is beneficial because collective action of farmers would increase the bargaining power in contract negotiations with the buying firm (Bijman 2008, p. 20; Da Silva 2005, p. 22; Haji 2010, p. 790; Kirsten and Sortorius 2002, p. 21). However, the cooperatives have the role of middlemen in this value chain and they are not groups of chiuri collectors. The lack of grouping among the collectors makes it almost impossible to provide them with training or other information. This means that the cooperatives are the buyers and delivery point in the eyes of the collectors instead of a group they feel identified with. The lack of organization and knowledge among the collectors lowers their bargaining position as depicted in box 8.1. The individual smallholder farmers have practically no knowledge about the chiuri market and are therefore dependent on the cooperatives for market and price information. Before the local cooperatives informed them about the selling opportunities in relation to this project, they were unaware that there was any market demand for the seeds at all. Also only a few collectors know why the cooperatives want to buy the seeds and what they are used for. Since there is no agreement between the farmers and the cooperatives on the quantity delivered, the cooperatives are highly dependent on the collectors' time and efforts. If anything happens that keeps them from collection, the cooperative can not meet its obligations to the contractor. As the collectors declare to collect chiuri only in their free time and not to discard any other activities for it, delivery is highly uncertain. Hence, the contracted amount may not be reached or an abundance of chiuri is delivered of which a part is possibly not purchased by the contractor as cooperatives say to buy *all* seeds that will be delivered by the villagers.

### Box 8.1

#### The collector's lack of bargaining power

*"I needed money so I sold the goats cheaper than I wanted."*

- respondent #74

*"BNA promised a price of NPRs 30 per kg, but I don't know why I only received NPRs 25 per kg. I don't know how to solve this problem."*

- respondent #3

Within the chiuri value chain it is beneficial for the anchor firm to buy from cooperatives instead of individual farmers because individual sellers tend to deliver lower quality or cheat by putting stones with the seeds, according to AHP.<sup>16</sup> The main interactions between AHP and the cooperatives are quality

control through information provision and a formal contract. According to AHP, the cooperatives increase quality control, knowhow and the stability of the price. The firm has given a one-day training to the cooperatives on how to improve the quality by using a greenhouse for drying. All cooperative representatives mentioned it would be better to provide this information to the individual collectors,<sup>17</sup> but obviously they do not have sufficient equipment and knowledge to apply these techniques. Therefore, greenhouses and the training were provided to the cooperatives.<sup>18</sup> Nevertheless, the quality is not yet good enough and the cooperatives need more technical support. Hence, AHP is seeking the local market first as the international market seeks higher quality.<sup>19</sup> The contract between the cooperatives and AHP included the amount of chiuri to be delivered and the price per kg. Moreover, AHP declared to demand high quality seeds, which is, however, a difficult to specify criterion. The cooperative representatives are originally also small farmers with little knowledge about markets or doing business and only one cooperative did business before. Hence, they have a low level of bargaining power against the contractor as AHP does hardly provide any market information. For information provision, the cooperatives are currently completely dependent upon NGO support. Moreover, as explained before, they are highly dependent upon the collectors for delivery. This puts them in a difficult bargaining position as they do not know the amount of seeds that will be collected at the time of contract negotiation. The cooperatives have different ideas about how to handle this problem, but none of them has a predetermined or well supported plan. For example, Sothkhola Cooperative mentioned that 'they will act according to time', but that the collectors will not suffer from the consequences since once they are paid, which is upon delivery, the responsibility lies at the cooperative.<sup>20</sup> Only Chandrasurya cooperative would transfer the loss to the farmers, by not paying them.<sup>21</sup> However, it was also mentioned that this would not make the collectors suffer since they can easily use the seeds for own consumption by extracting ghee. Yet, all four cooperative say to be able to manage the business, including the contract negotiations, on their own after one or two more years of NGO support.<sup>22</sup> This is confirmed by BNA who thinks that one more cycle is necessary to build their capacity adequately.<sup>23</sup> Also Chandrasurya Cooperative mentions that after BNA retreats, they will need support of the district body of cooperatives on the formulation of rules and regulations and the contract. With this support they could do business without BNA's support.<sup>24</sup>

## 8.5 Adding value: From seeds to soap

According to the literature, leading companies in the value chain often engage in more high-value activities and therefore reap the highest benefits (Gereffi *et al.* 2005, p.78). This paragraph describes the product flow from actor to actor and gives a rough indication of who benefits the most from this business by adding value. By following the green arrows in figure 8.1, one can track the flows of chiuri seeds and oil along the value chain. Seeds are delivered to the cooperatives by the collectors, after that transported to the processing centre from where the oil is brought to the soap factory. From there, the pieces of herbal soap are transported to the domestic retailers where the end customers buy it. Figure 8.2 gives a more detailed representation of these processes and product flows.

After collection, the farmers bring the chiuri seeds to the cooperative office located in the main bazaar of the VDC by foot. For farmers living far from the cooperative this is especially a heavy task due to the weight of the seeds and the hilly landscape. These problems hamper the farmers to collect a larger amount of seeds as carrying is heavy and time consuming, lowering the potential of a larger impact on income. Upon delivery, the collectors receive the price of 25 NPRs/kg immediately and all responsibilities are transferred to the cooperative. AHP pays 35 NPRs/kg to the cooperatives by providing 20 percent of the payment in advance and the remaining part within 20 days from delivery.

However, last year this second payment was late and the cooperatives experienced financial troubles. The difference of 10 NPRs/kg is usually spent on royalties, packaging material and office supplies. On average, approximately 5 NPRs/kg (16 percent of total costs) is left as profit that can be shared or reinvested.<sup>25</sup> According to AHP, the local market price for the seeds is NPRs 20-22.<sup>26</sup> The added value at the cooperative stems from the quality improvement by drying. The seeds are stored at the cooperative office until AHP requires them. Generally, the firm is responsible here, except for the difficult cases. For example, for Chandrasurya Cooperative the seeds have to be brought to the bridge on a tractor. There, people are hired by the cooperative to carry the seeds over the bridge and from there the seeds are transported to Chhinyu with another vehicle.<sup>27</sup> Thus, although the cooperatives reap only little profit from this business, these extra transportation costs rest upon their shoulders while no extra compensation is provided.

As could be expected, AHP reaps the highest added value and therefore the highest profit within this value chain. By extracting oil, the firm increases the value of one kg of seeds from NPRs 35 to 83 as the costs of extracting one liter of oil is NPRs 120 for which 2.5 kg of seeds are required.<sup>1</sup> As the profit margin for the soap is as high as 30 percent and the retail price of one piece of soap is NPRs 125-135, AHP seems to benefit the most compared to the cooperatives. However, the company's CEO complained about the high production costs due the low volume produced and also NPRs 52/kg of taxes are collected during transportation.<sup>28</sup> According to the cooperatives, it would be more beneficial for them if they produce the oil instead of AHP. This will increase their returns and make them able to use the waste from oil extraction (cake) as pesticide.<sup>29</sup> However, the firm will lose a part of its added value and quality control, making it unlikely that it offers the necessary investments. In fact, the firm is already considered unwilling to invest in the value chain, as explained in chapter 11.

## Conclusion

In order to answer research question 1, the following conclusions can be made. The HVA-IB Pilot Project created a domestic market for chiuri and the related value chain is identified as an "intermediary model" of contract farming. The three parties in the CF arrangement are the collectors, the cooperatives and AHP where AHP and the cooperatives agreed upon a "production-management contract". Cleaning and drying practices of the cooperatives are monitored by AHP for quality control and the firm outsources the processing and production activities. The collectors are generally subsistence farmers supplementing their income with other activities like chiuri collection. They receive NPRs 25 per kg of seeds upon delivery at the cooperative. The cooperatives are boarded by smallholder farmers as well, but not necessarily chiuri collectors. They facilitate quality control and reduce transaction costs for the contractor. They receive NPRs 35 per kg of seeds when AHP decides to transport them to the processing centre. AHP mainly practices the high value adding activities such as marketing, branding, and packaging as well as new product development. However, its NGO background assumes a role as a social actor and the firm's aim to give primary producers a 'fair price'. The firm also conducts market research but does not transfer this information to the cooperatives. This makes them vulnerable to exploitation and they are dependent on the supporting NGOs in terms of market information. SNV plays an advisory and supervising role in this value chain and BNA carries out the implementation of the project activities at community level.

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<sup>1</sup>  $120/2.5=48+35=83$

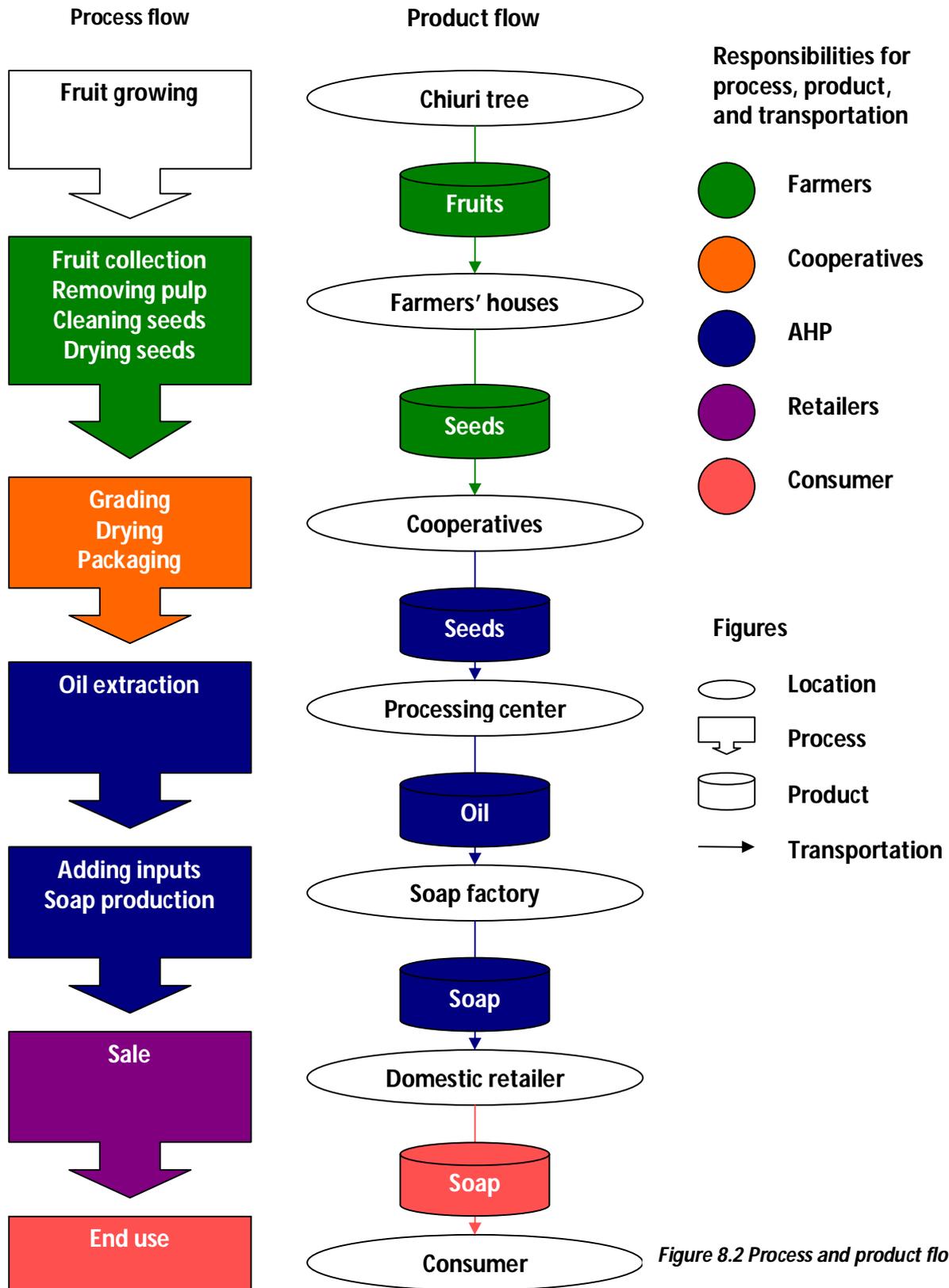


Figure 8.2 Process and product flows

## A Livelihoods Analysis of the Population

As discussed in chapter 3, the relationship between the anchor firm and the primary producers in a CF agreement is most probably an unequal one. Most negative aspects of contract farming are a result from the position of the anchor firm, who is able to exercise power in the negotiations and engage in monopsonistic behaviour (Da Silva 2005, p.17). In order to identify the degree of the collectors' vulnerability to exploitation within this value chain, this chapter consists of a livelihoods analysis. The aim of this chapter is to answer research question 2: "What are the collectors' main livelihood characteristics?". First, some general household characteristics and the access that the project's beneficiaries have to the five livelihood capital is described in this chapter as well as the livelihood strategies they employ by carrying out activities while using these assets. Moreover, the vulnerability context and related sustainability of the households within the research is touched upon. The aim of this chapter is to provide a general understanding of who have benefitted from the project so far and to place the role of chiuri collection in the wider context of their livelihood strategies and vulnerability context.

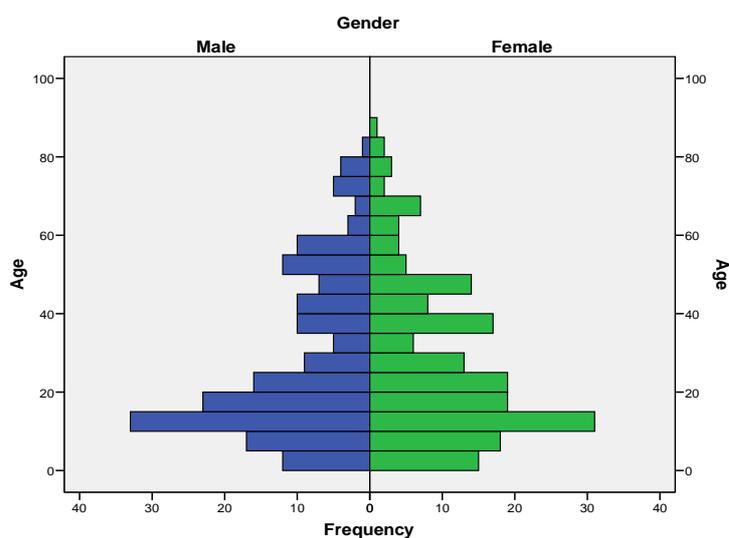
### 9.1 Who are they?

The sample included 73 households from four VDCs, selected by their accessibility and appropriateness to do research, including Lekhparsa, Gumi, Ghumkahare, and Kunathari. However, two respondents from Dahachaur are also part of the sample since they delivered chiuri seeds to the cooperative in Gumi, and the eight respondents from Pokharikanda delivered seeds to the cooperative in Kunathari. The 73 households in the sample comprised 371 household members, meaning that the average number of members per household is 5.1, which is roughly the same as the country average of 5.4 (CBS 2006). Table 9.1 gives an overview of the social and geographical division of the households. The majority of the households were Janajatis, followed by Chettris and Dalits. Only two of the respondents were Brahmin. Except for Ghumkahare, where the majority of the respondents belong to the Chettri caste, the Janajatis were the majority in all VDCs.

VDC	Number of households interviewed	Female headed households	Caste of household			
			Brahmin	Chettri	Janajati	Dalit
<i>Lekhpharsa</i>	19 (26%)	3 (4%)	0 (0%)	0 (0%)	18 (25%)	1 (1%)
<i>Gumi</i>	22 (30%)	6 (8%)	0 (0%)	3 (4%)	15 (21%)	4 (6%)
<i>Dahachaur</i>	2 (3%)	0 (0%)	0 (0%)	0 (0%)	2 (3%)	0 (0%)
<i>Ghumkahare</i>	10 (14%)	0 (0%)	0 (0%)	7 (10%)	1 (1%)	2 (3%)
<i>Kunathari</i>	12 (16%)	2 (3%)	1 (1%)	0 (0%)	9 (12%)	2 (3%)
<i>Pokharikanda</i>	8 (11%)	0 (0%)	1 (1%)	0 (0%)	7 (10%)	0 (0%)
<b>Total</b>	<b>73</b> <b>(100%)</b>	<b>11</b> <b>(15%)</b>	<b>2</b> <b>(3%)</b>	<b>10</b> <b>(14%)</b>	<b>52</b> <b>(71%)</b>	<b>9</b> <b>(12%)</b>

**Table 9.1 Social and geographical division of the households in the sample**

Surprisingly, the age distribution of the sample (see figure 9.1) is roughly union shaped instead of pyramid shaped as would be expected from the country information (see figure 2.4). Also the average age is higher compared to the country average with 28 against 21. An explanation could be that households engaged in chiuri collection have less small children as they have to be looked after and are not useful in collection. As can be seen from the graph depicted on the next page, children between 10 and 15 years old are highly represented within the sample, which are useful for helping with chiuri collection.



**Figure 9.1 Population pyramid of all household members within the sample**

**Box 9.1**  
**Gender differences in occupation**

*“Besides relatives I have few social contacts as housewives are not supposed to have friends. My daily activities consist of taking care of the household, like farming and cooking. My husband works in construction and as carpenter.”*

- respondent #10 (see annex V)

*“It was a runaway marriage [with my current wife], love at first sight. My parents did not complain about my choice, since they needed someone to take care of the household work.”*

- respondent #37 (see annex V)

Table 9.2 illustrates the main employment activities among all household members within the sample. Obviously the high percentage of students stems from the high number of school aged children within the households. Most of the adult men are farmers and most of the adult women are housewives (see box 9.1). However, within the female headed households resulting from labor migration by their husbands, the women are mainly occupied with farming as well while the children take care of simple household activities. Farmers are also often engaged in wage labor, but this is considered their a main daily activity for only 1.8 percent of the household members.

Main activity	All HH members		All HH members > 14 years old	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Farmer	89	26.4	88	36.5
Wage labour	6	1.8	6	2.5
Housewife	84	24.9	82	34
Student	138	40.9	45	18.7
Retired	18	5.3	18	7.5
Other	36	0.6	2	0.8
<b>Total</b>	<b>371</b>	<b>100</b>	<b>241</b>	<b>100</b>

**Table 9.2 Representation of main activities of all HH members (N=371)**

## 9.2 Livelihood Assets

The following paragraphs elaborate on the possession of and access to the five livelihood capitals within the sample, which are at the center of the sustainable livelihoods framework. They include both tangible and intangible assets, distributed among natural capital, human capital, financial capital, social capital, and physical capital.

### 9.2.1 Natural capital

Natural capital includes access to land, water, forest resources, and livestock. They are all of key importance to the production of food and income in rural areas (FAO 2003, p. 9). In this research, natural assets were measured in amount of land owned and used, degree of irrigation, availability of forest, and possession and use of livestock.

Total *land* owned within the sample is 830.7 kattha and the 10 percent owning the least amount of land owns 1 percent of the total land surface whereas the 10 percent most endowed households own 35 percent of the total. The average amount of kattha owned per household is 11.38 (0.34 ha) which is lower than the district average of 0.57 ha (CBS 2001, Table 1). However, the landholding size varies between 0 and 60 kattha and half of the households owns between 1.5 and 27 kattha. The project targeted at households owning less than 0.5 ha (15 kattha) (IFAD 2009, p. 22). From the sample, it appeared that 54 the households (74 percent) belong to this group (see table 9.3). Thus, the project was well targeted on this matter. This could be due to the high population density in the area (Karan and Ishii 1996, p. 110). Table 9.3 also shows that especially in Pokharikanda landholdings are relatively small and that in Lekhparsa and Ghumkahare there exist relatively large landholdings.

Plotsize (kattha)	Lekhpharsa		Gumi		Ghumkahare		Kunathari		Pokharikanda	
	#	%	#	%	#	%	#	%	#	%
< 15	12	63.2	17	77.3	7	70	10	83.3	8	100
15-24	2	10.5	4	18.2	1	10	2	16.7	0	0
25-34	3	15.8	1	4.5	1	10	0	0	0	0
> 34	2	10.5	0	0	1	10	0	0	0	0
<i>Total</i>	<i>19</i>	<i>100</i>	<i>22</i>	<i>100</i>	<i>10</i>	<i>100</i>	<i>12</i>	<i>100</i>	<i>8</i>	<i>100</i>

*Table 9.3 Amount of land owned within the sample per VDC (N=71)\**

\* Dahachaur is not included in the table since the sample only represents two respondents from that VDC

There are 31 households that use also land that they do not own, by means of sharecropping, using land owned by relatives, unclaimed land, and/or government owned land (see table 9.4). Their particular arrangement for sharecropping is called 'adhiya', where the landowner and the sharecropper divide the harvest equally.<sup>30</sup> By including all the land used by the respondents, distribution will be as follows. Total amount of land used among the sample is 1143.2 kattha. The least endowed 10 percent uses 1.16 percent while the 10 percent with most land uses 27.2 percent total land surface. Thus, when considering access to land instead of ownership of land, distribution is less concentrated although still uneven.

Type of ownership	Lekhpharsa		Gumi		Ghumkahare		Kunathari		Pokharikanda	
	#	%	#	%	#	%	#	%	#	%
Owned	27	67.5	18	53	14	87.4	9	60	6	75
- Title on man's name	26	65	12	35.4	14	87.4	9	60	6	75
- Title on woman's name	1	2.5	6	17.6	0	0	0	0	0	0
Sharecropping	7	17.5	8	23.5	1	6.3	1	6.7	0	0
Unclaimed land	0	0	0	0	1	6.3	3	20	2	25
Government owned	2	5	0	0	0	0	0	0	0	0
Owned by relatives	4	10	8	23.5	0	0	2	13.3	0	0
<i>Total</i>	<i>40</i>	<i>100</i>	<i>34</i>	<i>100</i>	<i>16</i>	<i>100</i>	<i>15</i>	<i>100</i>	<i>8</i>	<i>100</i>

**Table 9.4 Type of ownership for all plots within the sample per VDC (N=113)\***

The vast majority (74.1 percent) of landholdings owned by the households were inherited. When a landowner dies it is tradition that his land is equally divided among his sons or inherited by the eldest. Hence, the majority of the landholdings is registered in a man's name. Frequently, when the sons start their own family they already work on their father's land before they officially own it. Therefore, the proportion of land 'owned by relatives' is usually owned by the father or eldest brother of the head of the household and will most probably be inherited by this household or the particular brother when the father dies. However, sometimes inherited land is supplemented by bought land, which is than often registered in the woman's name. Only sporadically land is inherited by the daughter, only in the absence of a son. Obviously this practice of inheritance leads to the fragmentation of land and therefore smaller average landholdings over time, thereby not just decreasing the amount of food grown per household but also the yield as no economy of scale can be achieved. One fourth of the landholdings within the sample is bought, often to supplement the inherited land becoming less and less generation to generation. Only one household claimed land and owned it officially afterwards.

Since plain land is more likely to be irrigated (see next paragraph), the households that own only slope land are considered more dependent on rainfall than those owning (also) plain land. There are 16 households owning only plain land, 39 households owning only slope land and 18 households owning both. Especially the latter experience less crop risk by dividing their land over different plots on different altitudes. Out of the total land surface cultivated by the households within the sample, 56 percent is slope land while 44 percent is plain. On average, people own more slope (8.7 kattha) than plain land (6.8 kattha). Table 9.5 shows that only in Lekhpharsa VDC more plain land is used compared to slope land.

\* Dahachaur is not included in the table since the sample only represents two respondents from that VDC

However, on average, respondents from Kunathatri VDC also use more plain land accessible, meaning that on average, the plot size for plain land is higher.

Landtype	Lekhpharsa			Gumi			Ghumkahare			Kunathari			Pokharikanda		
	av.	total	%	av.	total	%	av.	total	%	av.	total	%	av.	total	%
Plain	14.7	279.5	69.6	4.5	99.5	28.8	8	80	50	8.8	10.5	11.4	0	0	0
Slope	6.4	122	30.4	11.2	246.4	71.2	8	80	50	6.8	82	88.6	6.7	53.3	100
Total	21.1	401.5	100	15.7	345.9	100	16	160	100	15.6	92.5	100	6.7	53.3	100

**Table 9.5 Average, total and percentage of plain and slope land used per VDC (N=71)\***

Ownership of land is of course a wealth indicator, but crop yield indicates the actual benefits a household can gain from land. Table 9.6 shows that for the crops most often cultivated by the surveyed households the average yield is generally lower than Nepal's average. Only for mustard and lentils, the average crop yield in the sample is higher than the country average. This stems from the lack of irrigation and knowledge as, within the sample, crop yield increases with irrigation<sup>2</sup> and education levels<sup>3</sup>. But also the lack of cows and buffalos can hamper crop yield due the absence of sufficient manure. The consequence is that low crop yields hamper the possibilities for sellable surplus and within the sample it appears that the lower the crop yield, the lower the income from crops is<sup>4</sup>.

Crop	Household Average (kg/ha)	Country average* (kg/ha)
Rice	1349.8	2907.3
Wheat	929.4	1933.7
Maize	1187	2205.4
Mustard	769.6	747
Chick peas	740	811
Lentils	920.6	803.7

**Table 9.6 Crop yield per crop**

\*Source: FAOSTAT 2009

Access to *water* is important for cultivation in terms of crop yield and, of course, for people's and animals' consumption. Out of the 1143.2 kattha of land used by the households, 600.5 kattha is irrigated, which is 52.2 percent. This percentage lies slightly higher than the district level of 44 percent (CBS 2001, table 4). However, with irrigation the respondents meant *seasonal* irrigation where rain and river water flows to the land through canals during the rainy season. In Surkhet, only 51 percent of irrigated land is irrigated by this type of irrigation (CBS 2001, Table 4) while within the sample this is 100

\* Dahachaur is not included in the table since the sample only represents two respondents from that VDC

<sup>2</sup>  $p=0.00$ ,  $r=0.088$

<sup>3</sup>  $p=0.000$ ,  $r=-0.024$

<sup>4</sup>  $p=0.000$ ,  $r=0.665$

percent of total irrigated land. The respondents do not use other irrigation methods that could enable them to have several harvests per year, such as well boring or perennial irrigation, making them highly dependent on seasonal rain and river flows. Hence, lack or abundance of rain can influence their harvest substantially. While the VDC headquarters were all within walking distance of less than one hour of a river, chiuri forests usually are situated on the hills. In Lekhparsa and Gumi VDC, the majority of chiuri collectors live relatively near the bazaar but far from the chiuri forests. In Ghumkahare and Kunathari this is the other way around. Hence, since the majority of collectors in Lekhparsa and Gumi live near the bazaar, and thus on plain land, irrigation is more available in these two VDCs as can be seen from the figure in annex IV.

In Surkhet, 71 percent of the district is *forest*. In principle that is all national forest, but when it is situated close to a village, it becomes community forest. This entails that the villagers are responsible for the protection and management of the forest. Therefore, they have to make an operational plan containing what part to harvest in what year and the utilization of the forest surface. This plan covers 5-10 years, but if the community does not desire to take these responsibilities, the forest will remain national forest. Approximately 35 percent of the forest area is community forest and there are more than 300 Community Forest User Groups (CFUGs) in Surkhet. The district also includes nine religious forests of which a small part is contributed to religious purposes such as the building of a temple. The District Forest Officer's (DFO) task is to provide funds for the development and renovation of these religious places.<sup>31</sup> For the households within the sample the average walking distance to the chiuri forest is 46 minutes with a minimum of 0 for people that collect chiuri from their private land near their houses, and a maximum of 2.5 hours for people that live near the bazaar and have to walk up the hill to reach the forest. Besides collecting chiuri, all respondents use the forest to collect firewood and grass to feed their cattle. Six households sold firewood within their own village, but no other NTFPs than chiuri were sold meaning that they have no significant role in their livelihoods.

The vast majority of Nepali farmers combine their farming efforts with *livestock* keeping, both for the availability of manure and use for traction and/or animal products such as meat, milk, and eggs. Within the sample, most households own cows, goats and poultry as depicted in the figure in annex II.

Animal type	Minimum	Maximum	Average	Total	Average income per animal (NPRs)
Buffalos	0	3	0.36	26	7741.67
Cows/Bulls	0	8	3.04	222	644.44
Goats	0	22	5.4	394	2482.87
Sheep	0	2	0.03	2	N/A
Pigs	0	5	0.43	31	4237.50
Poultry	0	12	2.71	198	409.84
Bees (hives)	0	12	1.38	101	653.33

**Table 9.7 Number of animals owned and average yield per animal within the sample (N=73)**

*Buffalos* are very useful for traction as well as giving milk. However, since buffalos are relatively expensive, only 14 respondents (19 percent) own buffalos and the maximum number of buffalos owned is as low as three. While this average is the same as the country average, the percentage of people owning buffalos is a lot lower than the countrywide 47 percent (World Bank 2009, 46), indicating the

lack of investment opportunities for the households. Most of the households (10) hold them for consuming and selling their milk while the other four do not have any surplus milk to sell. The average income the 10 households earned from buffalos last year is NPRs 11,150 with a minimum of NPRs 2,000 and a maximum of NPRs 35,000. Almost all households own more than one *cow and/or bull*, with an average of 3 cows per household. Only three of the cow owners make money from their cows by selling one of them or their milk. Last year's earnings from cows lie between NPRs 800 and 2,500. All others keep cows for self consumption of the milk or for breeding, in the case of bulls. *Goats* are very often owned as well, with 69 out of 73 respondents. On average, these household own 5.4 goats. Goats were sold last year among 33 out of the 69 goat owners. Milk and wool is only used for self use and all money from goats was made by selling the living animal on the market. The high number of goats sold last year could be a consequence of the rising price, which was mentioned often by the respondents as the main reason for selling (more) goats. Other reasons mentioned by the respondents were increase in spending on health or education (see box 9.3). The average income from goats was NPRs 13,179, but most goat sellers (25) earn less than NPRs 15,000. The two households that earn NPRs 50,000 and 62,000 with goat selling increase the average considerably since this would be NPRs 10,416 without including their figures.

#### Box 9.3

##### Reasons for selling livestock

*"I have to spend money regularly on medication. Last year I spent NPRs 5,000 and the year before NPRs 40,000 for surgery."*

- respondent #54

*"I needed money for my children's education and food so I sold some goats."*

- respondent #23

A fair number of respondents own *pigs* (22), but only 5 people own 2 pigs and the rest (17) owns just one. This could be the case because they are relatively expensive to care for while lacking sales value (see table 9.7). Last year, around one third of them earned money from their pigs by selling them with an average income of NPRs 5,225. But only two of them earned more than NPRs 4,000 (i.e. NPRs 12,000 and 14,400). Without those two households, the average income from pigs last year would be only NPRs 2,567. *Poultry* is also largely represented among the households with 69 out of 73. All poultry owned by the households are chickens and hens with an average of 3, but with a maximum of 12. Most people own one to three chickens and only one fourth owns more than that. Six households earn money from their poultry either by selling eggs or the entire animal. Whereas one household earned NPRs 10,500, the other five earned NPRs 880 on average. This difference could stem from the fact that local chickens are much more expensive than the regular chickens. Probably, this person sold a local chicken to the market while the others sold eggs or a regular chicken. During the research it also became clear that a fair share of households (40 percent) own *bee hives*. This could be explained by their low investment requirements. Usually, when people hang bee hives (i.e. hollow tree stems) on the outside of their house, wild bees arrive automatically to settle there. On average 4 hives are owned, but most of the bee

owners own less than that. Ten bee owners had surplus production of honey to sell and the two highest sellers earned NPRs 30,000 and 10,000 while the other eight earned on average NPRs 1,444. Table 9.8 shows that especially animals with the highest earnings per animal are scarce within the sample. For example, although buffalos and pigs have high earning potential they are not widely present. On the other hand, poultry and cows/bulls have low average earnings per animal but are widely owned. Logically, the animals generating relatively high earnings are also more expensive than cows and poultry. Box 9.4 illustrates the lack of investment opportunities within the sample.

#### Box 9.4

##### Lack of resources to invest

*"We didn't have any animals to sell last year because we don't have money to invest."*

### 9.2.2 Human capital

Human capital generally includes people's health and ability to work, and the knowledge and skills they have acquired over generations of experience and observation (FAO 2003, p. 9). In this research, human capital is measured by education level and literacy as these characteristics help to improve people's capacity to use existing assets better and create new assets and opportunities.

In order to indicate the highest level of attained education, all household members older than 14 were selected as the youngest non-student was 15 years old. As can be seen from figure 9.2, almost half of the household members has not attained any education and 55 percent finished primary school (grade 5) or higher while the School Leaving Certificate (SLC) (i.e. secondary level) or higher was obtained by only 15 percent. Only one person obtained a bachelor's degree. This person is also the only one within the sample that has a job with a fixed salary. Off course, lack of money is one reason for the low education level of the sample (see box 9.5). Another form of education present within the sample is the governmental education programme for illiterate adults, giving them the opportunity to learn to read and write at higher age. Among all household members 13 people attended this programme, but 4 of them are still illiterate. The figure in annex III also shows that boys are more likely to go to school than girls, as was expected from the country figures in chapter 2. The reason for this practice is that women are not considered to be responsible for household income while men are. Traditionally, women become housewives when they get married while men take over the income responsibilities of their parents and are expected to provide for them in their old age (see also box 9.1).

### Box 9.5

#### Reason behind the lack of education

*“When I was sixteen I ran away with my current husband. He was ten years older but a friend of the family and my aunt persuaded my to run away with him. I was young, unknown and irresponsible so I did that. Now I blame myself for doing it, because his economic status was lower than that of my family and I had to quit school. I was good at school, I never failed any exam. And I was very interested in studying, but after I married I had no money to continue it.”*

- respondent #19 (see annex V)

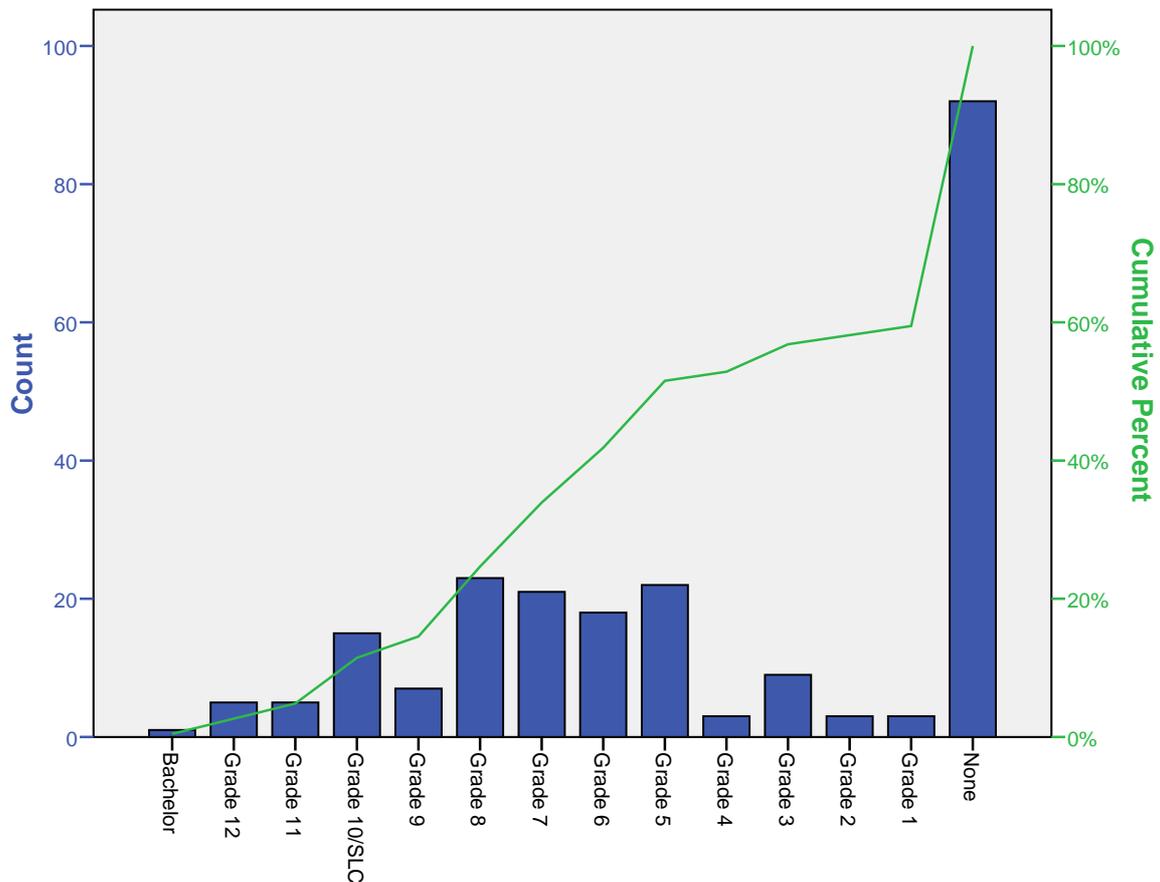
*“For my children I want to give them better education. If we had enough money I would put them in boarding school and I want to provide my son with higher education so he could get a job and support the family. But that will be difficult in this village since there is no higher education nearby and the land in urban areas is too expensive so we can not move there.”*

- respondent #37 (see annex V)

However, the low level of education seems to be a characteristic of the older generation since 99 percent of the household members under the age of 16 are still enrolled in school, meaning that the next generation of adults will be higher educated. Indeed, there exists a significant negative relationship between age and education level<sup>5</sup>, meaning that older people generally have attained a lower degree. As for the older generation, knowledge on farming was traditionally transferred from parents to children. However, there seems to be a trend of greater awareness of the importance of education. This will give the next generation of adults more income opportunities outside farming in the future, decreasing their income's vulnerability to stress and shocks affecting their natural resources.

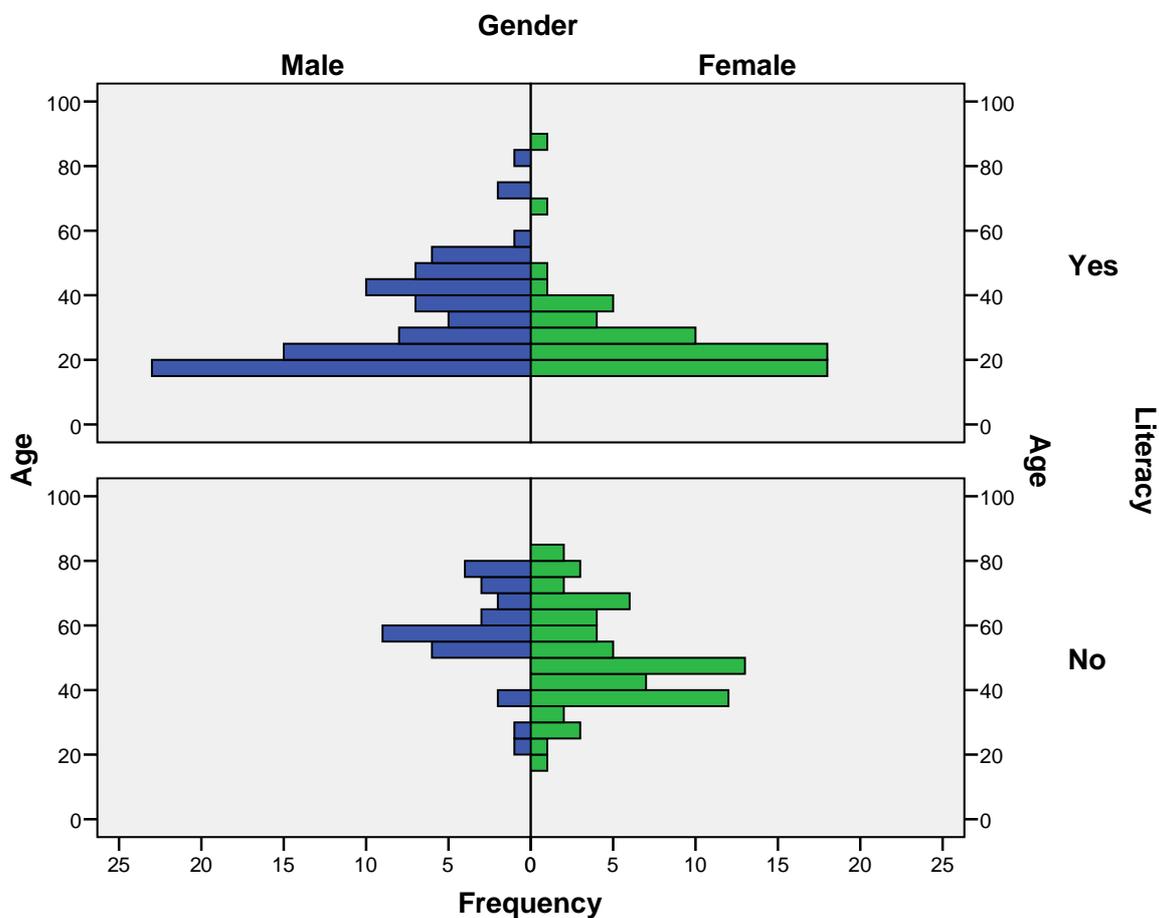
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<sup>5</sup>  $\rho=0.000, \rho=-0.194$



**Figure 9.2 Highest attained grade for all household members older than 14 years (N=241)**

As expected from the percentage of uneducated people in the sample, only 50 percent of all household members can read and write, which corresponds with the national literacy rate of 48.6 percent (CIA 2011). As figure 9.3 shows, the proportion of illiterate people increases with age, indicating that education was seen as less important in the past generation. Especially above the age of 35 for women and above the age of 55 for men, literacy rates decline. These figures tell us that men historically have had more access to education than women. On average, while 65.2 percent of the men is literate, only 38 percent of the women can read and write within the sample. This is also illustrated by the gender differences in education level described above.



**Figure 9.3 Population pyramid divided by literacy including all household members (age > 14) (N=241)**

The low education level within the sample could explain their involvement in chiuri collection since there is no particular education required for this activity. Nonetheless, knowledge on cleaning and drying could increase collectors' benefits from collection since cooperatives refuse to buy or provide a lower price if bad quality seeds are delivered. One respondent considered it 'not fair' that cooperatives can reject seeds for quality reasons, while they do not transfer their received information on quality improvement.

### 9.2.3 Financial capital

Financial capital is the cash available by the households. This cash can be generated by selling crops or livestock, or from other activities like wage labour, salaries and doing business. Additionally, money can be received from the government or people take on loans or save money (FAO 2003, p. 9). Income from livestock is already described in paragraph 9.2.1 and since none of the respondents owned a business and only one received a salary these sources of financial capital are left out of this paragraph as well.

As for *income from crops*, 50 households (N=73) consumed all their crops production at home. Only 23 households sold some of their crops, on average 6.7 percent of total production. This is relatively low compared to the country average of 25 percent (Karan and Ishii 1996, p. 78; World Bank 2009, p. 33) due to the dispersion of settlements and lack of infrastructure that makes the movement of goods difficult (see box 9.6). The average income from crops within the sample was NPRs 4,788 last year. The most important were lentils, chickpeas and tomatoes, while rice, maize, mustard, and cucumber were only sold by one household each. The other crops (i.e. wheat, barley, cauliflower, potatoes, and peas) were only cultivated for own consumption. Thus, in general, no surplus for sale was produced. This could be due to the low crop yields or the low amount of land owned, as described before.

#### Box 9.6

##### Reasons for lack of surplus to sell

*"Before last year the children were small, but last year all the milk was consumed at home, meaning that it could not be sold."*

- respondent #55

*"Because of the lack of market place and transportation we can't sell any of our crops and share it among relatives."*

- respondent #36

When one has a substantial amount of *savings*, one is considered more resilient to stress and shocks. For example, in case of crop failure, one could use savings to buy food instead, or savings could be used for unexpected medical expenses. Among the respondents, 74 percent has at least some savings. The average amount of savings among them is NPRs 3,334 ranging between 40 and 26,000. However, the majority has saved between NPRs 1,000 and 2,500 and only 10 percent of the savers have more than NPRs 3,000 on their account. On average, excluding outliers, total savings are 10 percent of total yearly income. The majority of the households (69 percent) have their savings at a cooperative while 29 percent saves his or her money at an unregistered group. Only one respondent declared to have savings at a bank, the Agricultural Development Bank, which is also the one that has the largest amount of savings (NPRs 26,000). However, there is no major difference between the amounts of savings at a cooperative or group. People who deposited their savings at a cooperative instead of an unregistered group are perceived as more informed and able to enforce their rights (see paragraph 9.2.5). Additionally, the fact that one has savings at a cooperative gives them the right to take on a loan as well,

often of a larger amount than their savings. That enables them to make investments that they would not have been capable of making otherwise. Thus, the fact that 69 percent of the people save at a cooperative is a good sign of awareness and social capital.

On the other hand, households with a high amount of *loans* are considered more vulnerable than others. Either they lose part of their income by paying off debts or they have to take on more loans elsewhere in order to be able to pay off their debts at official moneylenders. Among the collectors, 68 percent has taken on loans with an average of NPRs 26,923. The majority of the lenders have loans lying between NPRs 4,000 and 15,000. On average, loans are as high as 47 percent of yearly income. Four households even have loans outstanding of a higher value than their yearly income. Most indebted people (40 percent) take on loans at a cooperative but also neighbours, relatives and unregistered groups are popular, all with a representation of around 30 percent. Additionally, 10 percent of the households have loans outstanding at other informal moneylenders. There are twenty households that have loans at several places in order to spread risk, supplement their existing loans or pay off one with another. As the figures on loans are a lot higher than those for savings, this implies a high degree of indebtedness within the sample, making them vulnerable to external changes.

**Box 9.7**  
**Main use of loans**

1. Food
2. Livestock keeping
3. Education
4. Clothing
5. Household goods

As depicted in box 9.7, the main use of credit is food with 22 households, comprising 44 percent of the indebted households (N=50). Second is livestock keeping, with 13 households using their loans for this purpose. Education comes third with a total of 10. Other uses of loans in order of importance are clothing, household goods, buying land, migration, agricultural costs and others. As using loans for buying food can not be seen as a productive investment the target group is likely to become increasingly indebted in order to provide for the household. However, the households that use their loans to invest in livestock (26 percent) are more likely to be able to repay their loans when they earn money from their livestock or sell their animal(s) profitably.

In total, 17 households (23 percent) have *remittances* among their income sources with an average share of 63 percent out of their total income and an average value of NPRs 13,404. Generally a son of the household migrates to urban areas in Nepal or to India or Qatar for working as a carpenter or security guard, in construction work, in a hotel or to join the Nepal or Indian army. The fact that these people diversify their income sources implies that they are more resilient to events as crop failure or animal diseases since they supplement their own production with financial capital and therefore spread their risk. Box 9.8 illustrates how the access to financial capital through migration can contribute to increased physical capital.

*Government subsidies* that were received among the respondents were mainly old age allowances and sometimes scholarships. The old age allowance is NPRs 500 per month and is provided to women over the age of 65 and to men over the age of 75, suggesting a higher life expectancy for men. In total 16 households received money from the government, of which one received old age allowance for three household members. Three households received a scholarship last year. However, scholarships are very uncertain, since one has to be selected by the government. Thus, it will be a surprise whether children get a scholarship every year as the respondents are not aware of the selection criteria. Average income from government subsidies was NPRs 7,214 last year.

Out of the 73 respondents, 32 households (44 percent) earned money with engaging in *wage labour*. Among these households, the average income from wage labour was NPRs 26,726 last year. The major types of work that were practiced were carpenter and construction work and daily wages lie between

NPRs 200 and 300 and when food is provided at work the wage drops to only NPRs 150 a day. However, several respondents of which a household member worked for a wage mentioned that the wages have been increasing during the last three years. The respondents mentioned the difficulty to find work since more and more activities are taken over by machines. Since wages are provided daily, the income from wage labour is vulnerable to change and dependence on this source of income makes the households vulnerable to unexpected expenses.

#### **9.2.4 Physical capital**

Physical capital includes infrastructure such as roads and access to these, as well as other forms of infrastructure, such as water, communication tools and energy (FAO 2003, p. 9). Additionally, shelter is also included in this paragraph. Surkhet district is known as the transportation hub of the west, together with Nepalgunj. Main roads crossing the district are the Surkhet-Dailekh and Chhinchu-Jajarkot corridor and the Karnali highway, connecting Surkhet with Jumla district further to the north (Development Vision Nepal 2009, p. 14).

The main bazaar of all research VDCs have *road access* and are located relatively close to the district headquarters. Lekhparsa VDC is located along the Surkhet-Dailekh corridor, which is however an unpaved road and difficult to access during the rainy season. Gumi is situated right next to Lekhparsa while Ghumkahare is located along the Chhinchu-Jajarkot corridor, which is a paved road. Kunathari is located in the west of the district, along the Karnali highway, the road to Jumla (IFAD 2009, p. V). However, the main bazaar is generally located in a small valley, whereas the collectors often live in villages located on the hills surrounding the bazaar. Especially in Ghumkahare and Kunathari the collectors' villages were more than two hours walking distance away from the main bazaar and not accessible by road directly. This remoteness of the households makes it difficult to reach the market and sell their products. Access to information is also hampered by the lack of sufficient infrastructure since the opportunities to meet people from outside their village are few.

As for *shelter*, almost all houses of the respondents are owned by the households. Usually the house is built by ancestors on their own land and inherited by the eldest son from generation to generation. Two households built their houses on government owned land and therefore their houses are also officially owned by the government. Only one household lives in a rented house. More than half of the houses (55 percent) have thatched roofs while 33 percent have tiled ones. Only very few houses have other types of roofs (e.g. flat, tin). In Lekhparsa and Gumi VDC relatively many households have tiled roofs while in Kunathari and Ghumkahare most roofs are thatched. Although tiled roofs are considered more expensive and therefore could represent relatively wealthy households, this could also be explained by the fact that the respondents in Lekhparsa and Gumi lived closer to the bazaar. In the other two VDCs the collectors live generally up the hill what makes it much more difficult to deliver tiles to the place of living. The average number of rooms the houses contain is three, excluding the kitchen, with a minimum of one and a maximum of seven. The kitchen is excluded from the count, since it is usually located outside the house and can therefore not be considered a room. Ten houses consist only of one room, which are generally considered 'huts' instead of houses. The majority (77 percent) of the households lives in a house of two to four rooms. On average, one room is shared among 2.2 household members. For 22 houses there is space for one room for every household member, but for 16 households rooms have to be shared with three or more people. For the children living in these houses the lack of calm surroundings could obstruct their study results and therefore decrease their human capital.

Access to *electricity* is another form of infrastructure with various implications for people's livelihoods. It provides the household with the opportunity to use for example a cell phone, television and/or radio, and improving their access to information and contacts. Additionally, the use of electric lights instead of candles improves the quality of light and therefore the possibilities to be productive at evening. Children can spend more time on their school work, improving their human capital. The 34.2 percent of collectors that have access to electricity live either in Lekhparsa (60 percent) or Gumi (40 percent). In the other VDCs, neither of the households have access to electricity. However, as was observed, solar panels were widespread in Kunathari and therefore it was expected that the majority of the respondents would have one as well. Nevertheless, only 25 percent of the respondents in this VDC had one, meaning that 75 percent have no access to power at all in this VDC. In total, more than half (52 percent) of the households do not have access to electricity nor have a solar panel.

Access to *communication facilities* such as a cell phone can increase a household's access to information and social capital. More than half of the respondents (61 percent) indicated that their household owns a cell phone. However, for Lekhparsa and Gumi VDC this percentage is significantly higher than in the other VDCs with respectively 84 percent and 72 percent. The reason for this could be that these VDCs are more closely located to the district headquarters and are therefore in closer reach of telephone networks. Especially households who earn part of their income from remittances are more likely to have a cell phone (80 percent) than people who do not have family members working abroad or elsewhere in the country (see also box 9.8). Obviously, this is to stay in contact with their far-away family members and these people have higher information access from outside their village. Additionally, cooperative members tend to be more likely to have a cell phone than non-members since for some cooperatives this is a criterion to become a member for being reached from distance. Also one's access to electricity relates positively to one's ownership of a cell phone.<sup>6</sup> And since people with access to electricity are concentrated in Lekhparsa and Gumi, this could be the reason for the concentration of cell phones here. In fact, people with electricity living in one of those VDC are more likely to have a cell phone than others.

**Box 9.8**  
**Improved livelihoods**

*"Because my son works in Baglung now we have a better life. We built a toilet and have electricity and a phone now."*

- respondent #18

*"We had no toilet in the past, but now we have. After I started keeping bees I had some income."*

- respondent #9

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<sup>6</sup>  $p=0.000$ ,  $\phi=0.232$

For chiuri collection one only needs a *doko* (i.e. a basket made from bamboo, to be carried on a person's back) to transport the seeds from the field to their home and from there to the cooperative. For drying only a mat made of bamboo is required. They can also use these assets for transporting crops from the field to the house (*doko*) or for drying peas or beans (mat).<sup>32</sup> Hence, usually the collectors already have these two tools for other purposes. Since they do not need any extra equipment or inputs, investments are not necessary and they are unlikely to become indebted due to this business.

### **9.2.5 Social capital**

Social capital includes the way in which people work together, both within the village and in a wider setting. Especially ties of mutual support and reciprocal exchange are important in a livelihood during crises (FAO 2003, p. 9). In this research, social capital was defined as the proximity of relatives and the exchange of food and money between them and other villagers as well as cooperative and group membership.

Only four of the respondents said to have no relatives in the same village. However, they are generally assisted in farming activities by their neighbours, except for one. Out of the 69 households that do have relatives in the villages only one indicated not to be helped by them in farming activities and just three do not exchange food among their relatives. Additionally, only four mentioned that they do not rely on their nearby relatives in terms of money in difficult times. Generally a relationship of mutual assistance exists between neighbours and all but one respondent indicate that they help each other with farming and other activities and cash when necessary. Also some respondents mentioned to use the toilet and electricity from their neighbours. Thus, the population has strong social capital in terms of close relatives. Only one household did not have any relatives outside the village and only four out of 72 do not have a relationship of mutual support with them. Those are the exact same people that do not have any relatives in the village, so for these four households family ties are considered weak. One reason for the high level of social capital could be that generally speaking people of the same caste live in proximity of each other.

Within the sample, 53 percent of the respondents are a member of at least one cooperative. The only services used from the cooperatives were credit and saving. Since it is obliged to save when you are a member, all members have savings at the cooperative, but only 22 also have loans there. Saving and credit cooperatives are member owned, controlled and capitalized organizations, registered at the government and providing financial services to members (Hotel Nepal 2010). Compared to unregistered groups, cooperatives have to comply with the cooperatives act 1992. This act contains the rights and duties of cooperative (board) members related to governance and auditing for prevention of abuse of power (Scribd 2011). Therefore, cooperative members are considered more aware of their rights than others. Additionally, cooperative membership creates the opportunity to engage in repeated social contact with neighbours and other farmers, potentially increasing their social network.

A group is an organization of people that join their financial resources in order to develop reciprocal assistance in times of sudden need for money. The groups present within the sample can be identified as ASCAs (Accumulating Savings & Credit Associations). One of the group members keeps record of loans and savings and surplus is lent out. Twenty-one of the households are a member of one or more groups and have loans and savings with that group. Five households are member of both a cooperative and a group.

As for the access to livelihood assets, one can say that the research population is not well-endowed (see also table 9.8). For *natural capital* there exists an uneven distribution of land and most of the households have access to less than 0.5 ha of land surface. However, most of the land is owned and registered and is therefore unlikely to be decreased in the future. The land is characterized by lack of irrigation and low crop yields. Moreover, the abundance of forest and NTFPs in the area are not economically utilized. As for livestock, all households keep some animals, with cows, goats and chickens as the most common. The more expensive animals like buffalos and pigs are scarce within the sample and the available livestock is mainly used for own consumption, indicating a high degree of poverty and lack of capital to invest. Generally people use them for own consumption of milk, manure, and/or eggs. Especially buffalos, cows and chickens are kept for own use, but surplus is sold as well. Goats and pigs are more often kept for breeding and sale. Especially a large number of goats was sold last year due to the increase in price. *Human capital* within the sample is low as well. Only half of the people has finished primary school and 50 percent is illiterate. Therefore, the project's beneficiaries are considered to have few job opportunities and are therefore dependent upon their natural resources and unschooled labour for making a living. Another effect of low education rates is the low crop yields among the population since knowledge about certain crops could increase the quality of land and cultivation practices. Also *financial capital* is low among the households. The high amount of loans and the low value of the savings make the households highly indebted. Also the lack of crop selling opportunities and volatile income from wage labour hampers the access to cash among the households. This means that they are not able to make productive investments in order to climb out of poverty or diversify their income among different sources. As for *physical capital*, the following conclusions can be made. Usually the families live in small houses outside the proximity of a paved road. Together with the lack of access to electricity and communication tools that makes it difficult for them to gain access to information and goods, increasing their vulnerability to exploitation and social exclusion and lowering their education possibilities. On the contrary, the households have high access to *social capital* since they generally have relatives in their village of residence and the villagers help each other with farming and other activities. Also more than half of the population is a member of a cooperative, increasing their social contacts and therefore exchange of information.

**Table 9.8 Summary of the households' access to livelihoods assets (N=73)**

Natural capital	Land	<ul style="list-style-type: none"> <li>- Uneven land distribution</li> <li>- 74% owns less than 0.5 ha of land</li> <li>- Low crop yield</li> </ul>
	Water	<ul style="list-style-type: none"> <li>- Lack of irrigation</li> </ul>
	Forest	<ul style="list-style-type: none"> <li>- Unexploited opportunities of forest use</li> </ul>
	Livestock	<ul style="list-style-type: none"> <li>- Scarcity of high value animals</li> <li>- High degree of self-consumption</li> </ul>
Human capital	Education	<ul style="list-style-type: none"> <li>- 53% is uneducated</li> <li>- 40% finishes primary school or higher</li> <li>- 1.5% finished secondary school</li> </ul>
	Literacy	<ul style="list-style-type: none"> <li>- Total: 50%</li> <li>- Men: 65.2%</li> <li>- Women: 38%</li> <li>- Lower for the older generation</li> </ul>
Financial capital	Income from agriculture	<ul style="list-style-type: none"> <li>- 6.7% of total production is sold</li> <li>- Average income: NPRs 4,788</li> </ul>
	Savings	<ul style="list-style-type: none"> <li>- 10% of income</li> </ul>
	Loans	<ul style="list-style-type: none"> <li>- 47% of income</li> <li>- Main use: food</li> </ul>
	Remittances	<ul style="list-style-type: none"> <li>- Average income: NPRs 13,404</li> </ul>
	Subsidies	<ul style="list-style-type: none"> <li>- Average income: NPRs 7,214</li> </ul>
	Wage labour	<ul style="list-style-type: none"> <li>- Average income: NPRs 26,726</li> </ul>
Physical capital	Transport	<ul style="list-style-type: none"> <li>- Lack of infrastructure</li> </ul>
	Shelter	<ul style="list-style-type: none"> <li>- Mostly thatched roofs</li> <li>- Average of 2.2 people per room</li> </ul>
	Electricity	<ul style="list-style-type: none"> <li>- 52% has no access to power</li> </ul>
Social capital	Family and villagers	<ul style="list-style-type: none"> <li>- Relationships of mutual assistance</li> </ul>
	Cooperative membership	<ul style="list-style-type: none"> <li>- 53% is member</li> </ul>
	Group membership	<ul style="list-style-type: none"> <li>- 29% is member</li> </ul>

### 9.3 Livelihood strategies

Within the sample, several livelihood strategies can be derived from how the households use the assets described in the previous paragraphs and their related activities. Although all households have more than one income source and it is difficult to draw a line between different types of livelihoods this paragraph tries to give a broad understanding of the people involved in the value chain by defining seven different types of livelihoods. In order to identify to which category a respondent belongs, first the amount of land and harvest is compared to their income. When a household's earnings are below the poverty line, but they own a significant amount of land, it is identified as a subsistence farming household. However, when their income lies well above the poverty line and it is likely that the household is mainly living from financial resources rather than from land it is identified according to their main source of income. In that case, if one source of income represents more than half of total household income, the household is categorized as that archetype. However, when both land and income seem not enough to make a decent living, the household is identified as marginalized. Table 9.9 depicts the representation of the different types in total and per VDC. The different livelihood archetypes are described next.

Livelihoodtype	Total		Lekhpharsa		Gumi		Ghumkahare		Kunathari		Pokharikanda	
	#	%	#	%	#	%	#	%	#	%	#	%
Subsistence farmer	28	39.7	8	42.1	12	54.5	7	70	1	8.3	0	0
Cash crop farmer	1	1.4	0	0	0	0	0	0	1	8.3	0	0
Wage labourer	14	19.2	4	21.1	4	18.3	0	0	2	16.7	4	50
Livestock keeper	5	6.8	1	5.3	1	4.5	2	20	0	0	1	12.5
Diversified livelihood	13	17.8	2	10.5	3	13.6	1	10	3	25	3	37.5
Marginalized livelihood	6	8.2	1	5.3	0	0	0	0	5	41.7	0	0
Multi-local livelihood	5	6.8	3	15.8	2	9.1	0	0	0	0	0	0
<i>Total</i>	<i>72</i>	<i>100</i>	<i>19</i>	<i>100</i>	<i>22</i>	<i>100</i>	<i>10</i>	<i>100</i>	<i>12</i>	<i>100</i>	<i>8</i>	<i>100</i>

**Table 9.9 Amount and percentage of livelihood types present within the sample (N=71)**

*Subsistence farmers* are dependent on natural capital like land and livestock and are therefore vulnerable to natural hazards such as droughts and animal diseases. As can be seen from table 9.10, 40 percent can be identified as subsistence farmers since their crop production is not or only marginally supplemented by income from livestock, wage labour, remittances or subsidies. Subsistence farmers are the majority in the total sample, but are a clear minority in Kunathari VDC where there are relatively more marginalized livelihoods present. That means that the subsistence farmers in Kunathari own less land and are therefore considered marginalized. This is supported by table 9.3.

Although only six people of all households members see wage labour as their main activity, from the research it appeared that 14 households (19.2 percent) have income from *wage labour* as their main income. Thus, the other eight households mainly living from wage labour are more occupied with other activities such as farming, although their main income is generated by wage labour. Carpenter is the most represented job together with construction work. They get paid per day and only can go to work if there is work available and most of them want to work more days than possible. Also one respondent

\* Dahachaur is not included in the table since the sample only represents two respondents from that VDC

mentioned that a lot of construction work is taken over by machines, what makes it harder to find work. These facts make wage labourers vulnerable households since they are dependent on the availability of work per day. Wage labourers have generally less land in use than subsistence farmers, livestock keepers and households with diversified incomes, which can thus be considered as a reason to engage in wage labour.

Like subsistence farmers, *livestock keepers* are dependent upon natural resources, namely animals and their food. The difference between the two livelihood types is that households identified as livestock keepers make substantial income from their livestock. Only 5 out of 73 farmers generate the biggest part of their income from livestock. Their income comes from selling animal products like milk and honey as well as trading living animals.

Households generating income from remittances can be identified as *multi-local livelihoods* as the person earning the remittances is not living with the rest of the family. Five households generate their largest part of income from remittances. These are at the same time also the households with generally a smaller surface of land available than subsistence farmers, livestock keepers and diversified households.

A household is considered *diversified* if it does not have one dominant source of income. Only thirteen households are making their living out of different sectors like agriculture, wage labour, livestock, remittances, or subsidies where no sector is specifically dominant. In most cases their income is divided among 2-4 sectors. These households are considered relatively resilient to shocks and stress since they diversify their income among different sources. Box 9.9 illustrates the importance and motivation to diversify one's livelihood activities.

**Box 9.9**  
**Importance of income diversification**

*"From having a job, you receive money that you can use for anything you like. Farming only provides food. So a combination of these two would be better."*  
- respondent #37 (see annex V)

Six households can not be identified by one of the previous classifications since they do not have one dominant source of income. At the same time they can not be identified as a diversified household or subsistence farmer since they have below poverty line income and less than 0.15 ha of land available. Generally, these households make a living depending on loans and their social capital, by receiving food and clothes from relatives. An illustration is given in box 9.10.

**Box 9.10**  
**Marginalized livelihood**

*"We depend on my husband alone for making a living. First he worked for neighbors in exchange for food, but now he is working in Qatar, making furniture and sometimes he sends money because we do not have enough land to feed ourselves. Also sometimes I receive some food or money from my parents and sisters or I work for neighbors. [...] because of my husband's economic status I have to live a difficult life and I blame myself for that. I have never been happy since I married and I never will be in the future. We are in debt because we had to take on loans to get my husband to Qatar and we are having a lot of pain and trouble as we do not have a good house."*

- respondent #19 (see annex V)

Thus, the majority of the beneficiaries are subsistence farmers, wage labourers, and diversified households. Only in Kunathari a fair number of marginalized households are present due to the lack of access to land. However, the fact that only thirteen households spread their activities relatively evenly among different income sources makes the research population in general highly vulnerable to stress, shocks, and seasonality. The vulnerability context of the households and their capacity to cope is described in the next paragraph.

## **9.4 Livelihood sustainability**

Livelihoods are considered to be sustainable if they can adequately respond to shocks and stress from outside. This paragraph elaborates on the possible external events that could influence the population's livelihoods negatively and the households' ability to respond adequately by using their assets.

As construction work is increasingly done by machines, unskilled labour becomes scarce. Some household members adapted by migrating for work. However, this is relatively expensive and therefore they could get indebted. The low level of human capital within the sample hampers the opportunities to engage in skilled jobs and makes the households vulnerable to this threat. Education and literacy levels are low within the sample. The fact that the respondents live in agricultural remote areas means that their villages are often not within proximity of higher education or even primary schools. Children often literally have to walk for hours to reach their school due to lack of transport/infrastructure. In the opinion of many parents, their children's time could be spent more productively within the household or by engaging in wage labour. This short term strategy leaves them in a vicious cycle of poverty as lack of schooling will disable the young generation to engage in skilled labour later in their life, decreasing their capabilities to improve their income. However, as described in paragraph 9.2.2., there exists increasing awareness of the importance education within the households, promising a better future. Especially households that live mainly from the income from wage labour are vulnerable to this trend.

**Box 9.11**  
**Illustration of a coping strategy**

*“Until four years ago I used to migrate for earnings, but these days I am involved in farming and wage labour. My father died so I had more responsibilities at home and therefore stopped migrating for work.”*  
- respondent #31

The declining amount of land available per inhabitant due to population growth is a major threat to households as most of them depend on agriculture (see box 9.12 for an illustration of the reasons behind population growth). Some coping strategies can be identified by labour migration and engaging in wage labour. However, those lacking the abilities to diversify their income away from farming are particularly threatened by this event, being the subsistence farmers. Especially since unskilled labour is scarce, the declining availability of land is a major treat for the research population. Moreover, as land is usually obtained by inheritance, increasing access is difficult. Another option to increase earnings in case of decreased access to land is to collect and sell NTFPs. However, although 71 percent of Surkhet district consists of forest, no households collect forest products other than wood and grass, besides chiuri. There are several explanations possible. Firstly, lack of knowledge hampers them to collect and sell. Secondly, doing business in NTFPs brings along an abundance of bureaucracy and administrative hassles. Especially for people without any education, it is hard to start this business and bargain with authorities as they are uninformed about their rights and prices.

**Box 9.12**  
**A reason behind population growth**

*“We have three daughters and one son. [...] My daughters were born when we lived in India. Because my husband desperately wanted to have a son, he treated me badly after we had three daughters in a row and was thinking about marrying another woman. I was afraid and returned to Nepal. My husband came after me and when I gave birth to a son his love for me was back. That is why we had four children, although we are poor and it is financially difficult to raise them.”*  
- respondent #19 (see annex V)

As explained in the regional background of this thesis, mouth and foot diseases are of major threat to Nepalese cattle. Also during the research it became clear that some incomes from livestock declined

over the last three years due to animal diseases (see box 9.13). Moreover, crop diseases were mentioned by some respondents as reasons for crop failure. All people within the sample own cattle and make a living by either selling or consuming animal products. The lack of knowledge about how to identify and prevent or treat animal diseases makes livestock keepers vulnerable to this shock from outside.

**Box 9.13**  
**Stress factors and shocks**

*"Last there was a disease in the maize so all harvest was lost."*

- respondent #72

*"Our ginger harvest was ruined by disease last year and the lack of irrigation and compost decreased our income from chickpeas."*

- respondent #6

*"Our income from livestock decreases last year because our chickens got ill."*

- respondent #11

Due to the hilly landscape in Surkhet, precipitation levels are highly diverse, both seasonally and geographically. The surveyed households are unable to adapt to droughts or abundance of rainfall due to the lack of irrigation. Some coping strategies apparent are taking on loans, selling livestock, and reverting on relatives and/or neighbours. The high number of cooperative members within the sample increase their access to information and financial resources. They can take on loans while saving just a little, enabling them to invest in land and/or livestock or to migrate in order to increase their earnings elsewhere. However, these strategies can not be considered sustainable as loans have to be repaid, livestock has to be reinvested in and relatives and neighbours probably experience the same problems. This leaves them with decreased crop yields and surplus to sell.

## Conclusion

In order to answer research question 2, the following conclusions can be made. The majority of the project beneficiaries are subsistence farmers, wage labourers, or participate in diversified livelihoods. However, the fact that only thirteen households spread their activities relatively even among different income sources makes the research population in general highly vulnerable to stress, shocks, and seasonality. Especially since the current external events affect agriculture, the high proportion of subsistence farmers within the sample makes the research population vulnerable. These include the declining availability of unskilled work, declining access to land, animal and crop diseases, and climate induced shocks or seasonality. The lack of capabilities to cope with these negative happenings from outside increases the households' vulnerability dramatically, in turn lowering the sustainability of their livelihoods. Especially the lack of natural (e.g. land, livestock and irrigation) and human capital decreases

their well-being and resilience to external events. However, as for education, the future is promising as illiteracy is mainly present among the older generation. The low availability of cash due to indebtedness, few surplus crops, and volatile availability of wage labour decreases the households capacity to diversify their income sources by making productive investments. Moreover, lack of physical capital (e.g. transportation, electricity) hampers access to information, education, and goods. However, their high access to social capital can improve the households' crop yield and access to information, money and help in difficult times. Also cooperative membership enables them to take on loans as a coping strategy, but is however not sustainable.

## The Value Chain from the Perspective of the Collectors

So far, the farmers' livelihoods and the chiuri value chain within the project are described. However, the aim of this research is to identify the effect of this value chain on the collectors' livelihoods. According to the literature, contract farming has the potential to increase marketing and productivity of smallholders' products. On the other hand, contract farming can have negative effects for the farmers as well, as explained in chapter 3.5 (Asian Development Bank 2005, p.21; Bijman 2008, p.14; Da Silva 2005, p.15). The current chapter aims to answer research questions three, four and five (see paragraph 6.2) by assessing the chiuri value chain in terms of advantages and disadvantages for the collectors. Moreover, the influence of chiuri collection on the farmers' livelihood activities and strategies are described as well as the income effect. However, these are all short-term outcomes and the long-term impact of the project can not be identified as there has been only one contract cycle at the time of research. Moreover, as chiuri is an NTFP instead of a crop to be cultivated, some potential advantages and disadvantages described in the theoretical framework are not applicable.

### 10.1 Advantages

Advantages of contract farming for farmers can basically be classified as either reducing production risks, or marketing risks (Asian Development Bank 2005, p. 21; Da Silva 2005, p.15). However, as chiuri is an NTFP and therefore includes no actual 'farming' (i.e. cultivation) and the absence of a contract on the part of the farmers, several potential implications are not applicable in this value chain, as can be seen from table 10.1 and 10.2. As for the possible advantages, input provision and the related increased access to credit are not relevant as no inputs are required. This also makes the possible dependency on the firm for inputs or technology not applicable to this value chain. Moreover, as chiuri is collected from forest rather than cultivated, traditional cultivation methods and food security is not lost. On the other hand, spill-over effects are not present. Nevertheless, the next paragraphs aims to identify the advantages and disadvantages of the value chain characteristics from the perspective of the chiuri collectors.

As the farmers' main reason for starting to sell chiuri seeds was the provision of *market access*, this is a major advantage of the project. Before the local cooperatives informed them about the selling opportunity in relation to this project, they were unaware that there was any market demand for the seeds at all. SNV's project created awareness of the selling opportunity of chiuri seeds among the farmers in Surkhet. Before, they did either not collect chiuri or used it for the fruit juice or making ghee. Selling the whole seeds seemed to be a good opportunity for earning money easily as they were laid waste otherwise and producing ghee is a difficult task and less profitable. According to the respondents, selling the seeds directly to the cooperatives is 'like selling to the market', i.e. easy money without responsibilities that can be spend on several purposes and therefore is more valuable. This market access thus provides the farmers to diversify and increase their financial capital by participating in this value chain.

As dry houses and *assistance* in improving drying methods are provided to the cooperatives, this increases the quality of the seeds and therefore the price. As described in the previous chapter, market prices for chiuri seeds range from 20 to 22 NPRs/kg while the cooperatives receive NPRs 35, enabling them to provide a price of 25 rupees/kg to the collectors.<sup>33</sup> Thus, working with cooperatives as middlemen enables the company to source high quality products and the farmers to receive a better

price by providing technical assistance. Moreover, although selling chiuri seeds is considered as easy like selling at the market, the *prices are more certain*. Whereas the market prices fluctuate according to the daily value set by supply and demand, the contractual agreement sets a pre-determined price to be paid on delivery. This reduces the farmer's uncertainty about the sales price and therefore the marketing risk.

However, as inputs are *not* provided, there exists a *low probability of indebtedness and dependency* on the farmer's side. As mentioned in the previous chapter, the farmers did not need to purchase certain tools or make other investments in order to start selling chiuri seeds. Any equipment required for chiuri collection is usually already possessed for other purposes so that investments are not needed. Hence, the farmers are unlikely to be forced to accept lower prices for capitalizing their investments and unlikely to become indebted. Moreover, no additional services are provided to either the cooperatives or the farmers. Hence, it is unlikely that they will become dependent on the anchor firm for non-farm-related matters. This will prevent them from becoming a victim of agribusiness normalisation and losing bargaining power.

Moreover, it was a one-year contract and is renegotiated every season. Thus, the farmers and cooperatives can switch buyers every year. Therefore, the cooperatives and farmers did not experience any *loss of flexibility* in terms of buying partners. Especially now that they are involved in market research, it would be wise not to engage in the proposed long-term contract with AHP yet. Additionally, as the collectors never sold chiuri seeds before, there is *no loss of flexibility and business relationships*. Before the advertisements and information provided by BNA and the cooperatives they did either not collect chiuri or used it for the fruit juice or making ghee (88 percent). More than half of these households (58 percent) have been collecting by tradition from generation to generation and the remaining 30 percent collected the seeds for the past two to 35 years. The average period of collection besides the traditional collectors is 6 years. The farmers that have been collecting chiuri seeds before selling them to the cooperatives mainly used the seeds for self consumption of chiuri ghee (86.8 percent). Their reason for selling the seeds to the cooperative instead was the difficulties they experience with ghee production. It is considered difficult and time consuming and the quality is not sufficient to sell. Respondents argue that chiuri ghee can easily be substituted by other cooking products and resumed in case of low market demand. These activities can easily be resumed after exiting the contract. Only three respondents have sold chiuri ghee in the past, to neighbours or buffalo ghee producers for adulteration.

The value chain is characterized by the *inclusiveness of smallholder farmers* rather than their exclusion. As can be derived from the natural capital owned by the project beneficiaries (see chapter 9), they mainly belong to the 'poorest of the poor' in terms of livestock and land ownership. Chiuri ghee is often used for the adulteration of animal ghee. However, because ghee producers/adulterators own cows or buffalos, these are often the richer households, and the profit from adulteration does not reach the poor collectors without cows or buffalos. Therefore, the project automatically selects the poorer segment of the community (SNV 2010, p. 28). As can be seen from the livelihood analysis in chapter 9, the beneficiaries of this project generally have no or few cows and/or buffalos. Moreover, chiuri collection is especially a valuable income opportunity for landless or smallholder farmers. Although most people collect from their private land, the amount of chiuri collected from forests is much larger due to the larger number of trees per surface. Most people within the sample collect chiuri from private land (29) or national forest (29) and 26 people collect chiuri from community forest. Out of the sample, 18 percent of the collectors combine the collection places and collect from both types of forest or both from forest and private land. The majority of the beneficiaries have landholdings of less than 0.5 ha. Another reason why chiuri collection is a valuable income opportunity for households with small

landholdings is that they are assumed to have more time available without extensive cultivation responsibilities. Using cooperatives as middlemen enables the contractor to source from this large number of small holder farmers through low transaction costs.

<i>Advantages of CF</i>	<i>Presence</i>
Input provision	N/A
Increased access to credit	N/A
Technological assistance	Yes
Spill-over effects	N/A
Market access	Yes
Price certainty	Yes
Income stability	No
Use of by-products	No

**Table 10.1 Advantages of CF present in the value chain**

Source: Da Silva 2005

## 10.2 Disadvantages

Most negative aspects of contract farming are a result from the position of the anchor firm, who is able to exercise power in the negotiations and engage in monopsonistic behaviour (Da Silva 2005, p. 17). Although AHP was the only possible buyer last year, only few disadvantages for the collectors are present due to the type of product and type of contract, as described in the previous paragraph.

However, one of the disadvantages of the product is its *seasonality* and that collection is highly dependent on the time availability of the farmers. From the household surveys and focus groups it appeared that they only go for chiuri collection in their free time during the period that the fruits are ripe (i.e. June, July, and August). Due to the seasonal character of this income source, none of them has dropped other activities. Moreover, since the agreement is a one-year contract between the cooperatives and AHP, chiuri sales do not increase the collectors' income *stability*. However, AHP is willing to negotiate for a long-term contract which could create at least some market certainty during the collection season.

Moreover, instead of creating the possibility of utilizing residues, selling whole chiuri seeds instead of using them for traditional ghee production *excludes* the possibility of using by-products like *pina*, or cake (the residue after oil extraction), as pesticide.<sup>34</sup> According to the cooperatives, it would be

more beneficial for them if they produce the oil instead of AHP. This will increase their returns as oil is more valuable and enables them to use the cake as pesticide.<sup>35</sup>

While the NTFP market in Nepal is a volatile one, also the chiuri market includes *opportunistic firms*. Although the prices in the contract were not derived from complex formulas, last year it appeared that AHP delayed its second payment to the cooperatives. The payment was expected within 20 days from delivery. However, BNA and SNV had to exercise pressure on the company for receiving the second payment.<sup>36</sup> Thus, without the involvement of NGO's, the contractor is likely to provoke contractual hold-up. Moreover, as the cooperatives tend to buy all chiuri seeds that are delivered by the farmers, the possibility exists that AHP will refuse to buy all the seeds for the price agreed upon in the contract. The firm's CEO mentioned that market demand is not sufficient due to quality problems and that there are more seeds in stock than they can sell.<sup>37</sup> An increase in supply from the side of the collectors could cause AHP's inability to buy all seeds that are stored at the cooperative offices. Especially as investments in the value chain were made with the project budget and not by AHP itself, the firm is likely to act opportunistically. Moreover, there exists a threat of *disguised contractual hold-up* by AHP. Although quantities are defined in the contract, defining the quality (e.g. dryness) of the seeds is difficult. Therefore, the contractor could reject (part of) the amount delivered with the argument that they do not conform to the quality regulations. Last year, two tons of seeds of insufficient quality were delivered, according to AHP. While the firm bought them all under the assumption that quality will improve over the years (SNV 2010, p. 21), if this goal is not reached AHP is likely to renege on the contract eventually. In the first place, AHP switched from buying chiuri seeds from Chitwan district to Surkhet due to the low quality delivered by the Chepang community in Chitwan. If the same happens for chiuri from Surkhet, the loss will however be bared by the cooperatives as the farmers are paid directly upon delivery.

Nevertheless, there exists *little coordination among the cooperatives and between them and the collectors*. Firstly, the cooperatives practice different quality improving activities, leading to difference in quality of the seeds. Secondly, the cooperatives' knowledge on drying techniques is not transferred to the collectors. This results in the fact that often low quality seeds are delivered to the cooperatives where seeds have to be graded and dried again. However, because the cooperatives take care of the quality problem the lack of information provision to the farmers will not result in financial losses at their side.

<i>Disadvantages of CF</i>	<i>Presence</i>
Exclusion of smallholders	No
Opportunistic firms	Yes
Disguised contractual hold-up	Yes
Dependency on inputs or technology	N/A
Unfavourable delivery schedules	No
Complex price determination mechanisms	No
Loss of flexibility	No
Agribusiness normalisation	No
Losing business relationships	No
Loss of tradition	No
Indebtedness	N/A
Dependency on the anchor firm	No
Little coordination among middlemen and farmers	Yes
Decreasing food security	N/A

**Table 10.2 Disadvantages of CF present in the value chain**

Source: Da Silva 2005

## 10.3 The role of chiuri collection in the farmers' livelihood strategies

Chiuri collection generates an *additional* income and has not changed the livelihood strategies of the collectors so far. There are several factors that keep the collectors from changing their livelihood strategies accordingly. As forest and chiuri trees are abundant in the district, there exist possibilities to expand the project. For the farmers, 82.2 (N=73) percent indicated to be willing to sell chiuri seeds again next year. However, the possibilities depend on the availability of fruits and time. Therefore, 16.4 percent is not sure about whether they will sell seeds again. Only one respondent will not be selling next season due to physical illness. While the majority said to sell chiuri seeds again, there are several factors that hamper them from collecting more seeds than last year and change their livelihood strategies.

Firstly, it is considered a difficult and time consuming activity. On average, people spend 30 minutes to collect one kg of chiuri, including walking to the collection field and back, which takes on average 46 minutes one-way. In general, this distance for those that collect from private land is much shorter compared to the distance from house to forest. Yet, chiuri is much more abundant in community and national forests than on private land. Moreover, as collection takes place during the rainy season, a lot of leeches are active in the forest and the paths to the forest of collection is likely to be less accessible. Also collection is physically heavy as fruits grow high in the tall trees that have to be climbed for collection.

Secondly, according to some respondents, the price is too low for the difficulties they face during chiuri collection. If the price would be higher, they would spend more time on chiuri collection. Thirdly, ripe fruits are present during the plantation season for rice. As 56 percent of the households cultivate rice and 35 percent of total land used within the sample is used for rice cultivation, the farmers' food security is highly dependent upon this crop. Hence, the time available for chiuri collection is limited while it is considered a time consuming activity.

On the other hand, when comparing chiuri collection to other income sources like wage labour, it is financially more profitable. One hour of chiuri collection could earn NPRs 50 whereas one entire day of work earns only NPRs 200-300. As wage labour is becoming more uncertain, as specified in paragraph 9.4, chiuri collection could be a profitable substitute. However, the seasonality of chiuri income hampers the households to consider it as a livelihood strategy.

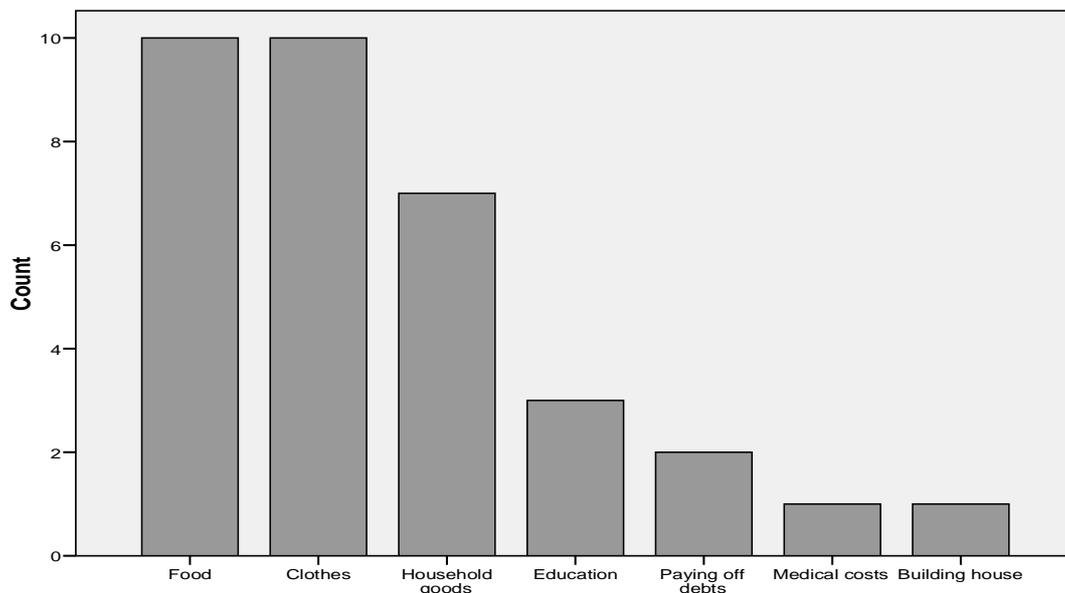
Although chiuri collection can not be seen as a livelihood strategy, its inclusiveness of the BoP segment means that they can complement their subsistence farming practices with some income. For some households, the money earned with selling chiuri was their only financial income last year. Thus, although it might not change their lives entirely, for some it might be just that little amount of money that enables them to keep heads above water.

## 10.4 Easy Money

Although chiuri collection can be considered a livelihood strategy, it generates some extra income. The households' specific income effects of the value chain are described in this paragraph.

Without including chiuri, the total yearly income per household last year was on average NPRs 30,159 with a minimum of NPRs 0 and a maximum of NPRs 182,950. For individuals, average income was NPRs 6323.75, which lies below Nepal's poverty line of NPRs 7,696 (CBS *et al.* 2006, p. 4). 41 households fall below this poverty line when income from chiuri is not included. Last year, the total income from chiuri earned by the 73 households was NPRs 71,701 with a mean of 1,010 per household. The minimum of earnings from chiuri is only NPRs 100 whereas the maximum is NPRs 13,000 per household. The average total income of the 73 households including chiuri was NPRs 31,096 what makes the average percentage of total income that is earned with chiuri as low as 3.25 percent. Since all respondents mentioned that they did not drop any other activities one can assume that all other income has stayed roughly same since last year. Then, the increase in income from chiuri is on average 3.1 percent per household. For seven households chiuri was even their only income source. The highest increase attained is 37 percent while the lowest increase is only 0.31 percent. Although chiuri increased their income, none of the household crossed the poverty line due to the its chiuri sales. This is not a very surprising outcome since the average income increase form chiuri was only 3.1 percent.

Figure 10.1 shows how the collectors used the money they have earned from chiuri last year. Most people bought food, clothes, or household goods like kitchenware. Minor uses are education, medical costs and paying off debts. These figures imply that the respondents are not well endowed if they have to use additional income on feeding their households and other crucial expenditures like clothing. Moreover, as chiuri income does not contribute to education, one can imply that the long-term effects of this projects are minimal. However, food security can not be considered diminished by this project as the main use of the additional income is buying food.



**Figure 10.1 Use of income from chiuri (N=73)**

One could say that the marginal increase in income from the project is disappointing. However, at the same time this means that the collectors' households are not entirely dependent on this business which makes them less vulnerable to exploitation. In fact, during the focus groups it became clear that they can easily use the seeds for own consumption by making ghee if the cooperative is not able to buy them all due to the contractor's contract breach. Moreover, since their income from chiuri is only an additional income earned in their free time, and they do not have to invest in order to participate in this value chain, the collectors will not suffer substantially if demand will drop or the buyer does not pay.

## Conclusion

In order to answer research questions 3 the following conclusions can be made. The product characteristics of chiuri makes it that several factors that induce vulnerability to exploitation are not present. Because chiuri collection does not require any investment or inputs, the collectors are unlikely to get indebted or experience agribusiness normalisation. Moreover, since chiuri collection does not require land as it can be collected from community and national forest, inclusiveness of smallholder farmers is increased. Also the absence of a formal agreement at their side decreases their obligations. Besides, traditional cultivation practices and food security are not disturbed. Moreover, since all collectors in the project sold raw seeds for the first time, no business relationships are lost. On the other hand, because chiuri collection does not need cultivation practices, spill-over effects are not present. Also the use of the cake as by-product is not possible as oil extraction is not done by the farmers themselves. Also the short-term character of the contract hampers the potential for income stability. As quality is difficult to specify the cooperatives are vulnerable to (disguised) contractual hold-up by AHP. However, all the risk lies at the cooperatives as *they* have a formal agreement with the anchor firm. What the value chain *does* provide for the collectors are market access and price certainty as this project created the market and set a fixed price.

As for research question 4, the following can be concluded. Although forest and chiuri is abundant in the research areas, several factors hamper possibility of using chiuri collection as a livelihood strategy. Firstly, it is considered a difficult and time consuming activity and as collection takes place during the rainy season, a lot of leeches are active in the forest and the paths to the forest of collection is likely to be less accessible. Also collection is physically heavy as fruits grow high in the tall trees that have to be climbed for collection. Secondly, ripe fruits are present during the plantation season for rice and the farmers' food security is highly dependent upon this crop. Therefore, they are highly unlikely to decrease their rice cultivation in order to upscale chiuri collection. Hence, the time available for chiuri collection is limited while it is considered a time consuming activity. Although chiuri collection is more profitable than other income sources like wage labour, the seasonality of chiuri income hampers the households to consider it as worthwhile to change their livelihood strategy.

Last, research question number five can be answered as follows. As selling chiuri seeds generates merely an additional income rather than a livelihood strategy, the income effects are marginal. Last year, the total income from chiuri earned by the 73 households was NPRs 71,701 with a mean of 1,010 per household. The increase in income from chiuri is on average 3.1 percent per household and the average percentage of total income that is earned with chiuri as low as 3.25 percent. Although chiuri increased their income, none of the household crossed the poverty line due to the its chiuri sales. Most people bought food, clothes, or household goods like kitchenware from the money generated by chiuri collection. As chiuri income is not spent on productive investments, one can imply that the long-term effects of this projects are minimal. However, food security can not be considered diminished by this project as the main use of the additional income is buying food.

## Discussing the Potential for Sustainability

From the literature there appeared several success factors for sustainable contract farming. Although the farmers are not engaged in any contract, the appearance or absence of these factors within the chiuri value chain in Surkhet can be described for the cooperatives and AHP. The collectors are of course influenced by their interactions and this chapter aims to evaluate the possibilities for a sustainable value chain over time. The sustainability factors include an enabling environment, contract enforcement mechanism, mutual trust, and mutual dependency (Bijman 2008; Da Silva 2005; Haji 2010; Kirsten and Sortorius 2002; Simmons 2002; Singh 2002).

### 11.1 Enabling environment

For a sustainable value chain, the country's government should care for suitable infrastructure, legal contract enforcement mechanisms, and favorable market conditions (Bijman 2008; Da Silva 2005; Haji 2010; Kirsten and Sortorius 2002; Simmons 2002; Singh 2002). These three subjects are discussed in relation to the value chain of research in Nepal.

Although the regional framework already pointed out the problems of infrastructure in the country, during the research it became clear how the lack of infrastructure in Nepal affects the chiuri value chain. As already described in the previous chapters, the collectors often have to walk through hilly areas over dangerous unpaved roads to deliver the seeds to the cooperative. Moreover, the bridges between Chandrasurya and Sothkhola Cooperative and the road are not accessible by car and therefore seeds have to be unloaded and reloaded for transportation. This brings extra costs, time, and effort for the cooperatives.

As for contract enforcement, legal enforcement is hard to obtain. Out of 183 countries, Nepal ranks 116 for ease of doing business, according to the World Bank Doing Business Report 2011. Nepal ranks 123 out of 183 for contract enforcement. This stems especially from the high amount of days it takes for a seller to file a case of non-payment by a buyer (160 days), to execute the trial and judgement (365 days), and to actually enforce the judgement (210 days). Thus, it usually takes more than two years for a supplier to enforce contractual payment obligations of a buyer. On top of that, the process costs 26.8 percent of the entire claim. Especially the costs of an attorney are high (World Bank 2011, p. 4). This makes it particularly hard for the cooperatives to enforce the payment required by the buying firm, in times of contract breach.

Another way in which legalities can influence the chiuri business is through market policies. Although the national NTFP policy states to encourage local processing through private sector participation and inclusion of disadvantaged groups by offering business development services and simplifying taxation practices, the chiuri market in Nepal faces numerous restrictions (AEC 2010). Those include taxes, bureaucracy, and the payment of royalties, all related to governmental supervision of forest preservation. At first, an Initial Environmental Examination (IEE) has to be prepared in order to identify how much Chiuri is available in the district. The IEE is required if more than 5 MT per year is collected from a national or community forest<sup>38</sup> (SNV 2010, p. 27). For the project of research, the IEE has cost a lot of time and was finished too late by BNA. According to Sothkhola Cooperative's representative and AHP's CEO, BNA is not a suitable partner as, although they provided valuable market information and advice, they do not possess the necessary knowledge on NTFPs.<sup>39</sup> Less 'legal trouble'

(i.e. the preparation of the IEE and permission letters) would be present if the project was carried out by the CFUGs in the district, according to Sothkhola Cooperative.<sup>40</sup> After the IEE is completed, the cooperatives need to submit a request for collection permission at the DFO before collecting from national or community forest, stating the quantity they would like to collect. Thereafter, they get one to two months collection period. However, when there is no (renewed) operational plan present for the community forest, they will not get the permission to collect from that forest. Nevertheless, if people collect without permission, they can report small quantities afterwards for formality. After collection, the cooperatives need to report on the actual quantity collected and submit a request for a dispatch permission letter. The dispatch permission letter is required to prove the DFO's permission to dispatch the seeds at checks along the road. These numerous checks cause hurdles and therefore late supplies to customers, according to AHP.<sup>41</sup> These multiple layers of permits and checkpoints for verification have increased transaction costs and promoted corruption (AEC 2009, p. 14). On top of those bureaucratic procedures required for chiuri collection from national and community forest, royalties have to be paid in the district of collection to the District Development Committee (DDC) as well as taxes in each of the districts through which the NTFPs pass before reaching the processing centre. For chiuri, these taxes sum up to a total of NPRs 52 per kg<sup>42</sup>, paid by AHP and royalties of 3 NPRs/kg are required to be paid by the cooperatives.<sup>43</sup> Moreover, custom duties of 0.5 percent are required for exports (AEC 2009, p. 1). One advantage of working with AHP here is that the firm's CEO is originally a 'legal person' and he argued to have good contacts with the government and is also a board member of the Agro Enterprise Center (AEC)<sup>7</sup>. He stated that this increases his lobbying power and decreases the bureaucracy he would face otherwise. It increases the trust of the government in AHP. For example, royalties of NPRs 6 per kg had to be paid, but he lobbied it down to NPRs 3 per kg.<sup>44</sup>

All the above requirements are not applicable to chiuri collected from private land. If the quantity of NTFPs collected from the registered private land is within the limit of their production potential, there is no need to pay royalties (AEC 2009, p. 2). Therefore, since the IEE was not carried out timely last year, the DFO proposed another option to dispatch the seeds. This option was based on the preparation of dispatch permission letters through private land (BNA 2010, p. 9). Cooperatives should deliver photocopies of land ownership papers and citizenship cards attached with the application letters, where the number of chiuri trees and their production should be stated. After verification, the DFO would provide the permission letters to dispatch the seeds from the district. According to the DFO, however, this option is lengthy (BNA 2010, p. 9). Not only in case of a late IEE, collection and dispatch from private land is more beneficial in terms of paper work and financial requirements once the production potential limit of one's private land is verified. However, during the interviews with the cooperative representatives it became clear that they did not know that royalties are not required when seeds are collected from private land. Royalties have been paid over the entire amount of seeds last year, although from the questionnaires it appeared that seeds were also collected from private land. Only Sothkhola Cooperative's representative acknowledged that he recently read about this exception for royalties in a book, but that he did not have had the time yet to take action accordingly.<sup>45</sup> Also during the group discussions it appeared that the farmers were completely ignorant of such policies and opportunities of collection from private land. Since the royalties are paid by the cooperatives, even if this practice is realized, it is unlikely that the financial benefits (i.e. 3 NPRs/kg) will be transferred to the collectors.

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<sup>7</sup> The AEC is the agricultural wing of the Federation of Nepalese Chambers of Commerce and Industry (FNCCI) and contributes to Agro Business Development and Promotion.

More indirect ways in which politics have influenced the chiuri value chain have been the recent Maoist revolts. According to AHP, the company experienced losses for the last three years because of the related economic crisis, increased load shedding, and lack of governmental support due to instability. Moreover, it was mentioned that the political instability in the country causes frequent policy changes that makes it difficult to establish long-term businesses.<sup>46</sup>

## 11.2 Contract enforcement

As described in the theoretical framework of this thesis, contracts can be enforced by either legal or private institutions (Da Silva 2005, p. 22; Kirsten and Sortorius 2002, p. 16; Simmons 2002, p. 13; Singh 2002, p. 1635). As the business environment, and especially legal contract enforcement, is not optimal in Nepal, private institutions become especially important.

Private institutions present within the agreement of research are the NGO origin of AHP and the involvement of SNV and BNA in contract negotiations. The fact that AHP was founded as a private part of SEACOW enhances their credibility in terms of social commitment. Until 2006, SEACOW supported AHP to ensure that the company provided a fair price to the farmers (Van Mele *ed.* 2003, p. 36). The withdrawal of SEACOW as an auditing body can, of course, have implications for the company's social commitment to the primary supplier. However, as the current CEO was appointed under SEACOW's supervision it is likely that he complies with its vision. This is strengthened by the fact that the contractor bought all seeds last year, even though the quality was not sufficient according to his opinion. A downside is that this practice could also decrease the cooperatives' and collectors' motivation to supply high quality seeds as they expect AHP to buy them anyway. Another important non-legal factor for contract enforcement is the involvement of NGOs. During the late payment of AHP, the cooperatives needed SNV and BNA to force the firm to pay the second amount as soon as possible. The cooperatives do not possess sufficient working capital to manage late payments. Also the district body of cooperatives can increase the bargaining power of the cooperatives during contract negotiations after BNA and SNV have been retreated from the project, according to Chandrasurya Cooperative.<sup>47</sup>

Besides the private institutions, using cooperatives as middlemen also increases contract enforcement. On the one hand, quality specifications set by the company can more easily be met through assistance and equipment provision. This increases the probability of contract enforcement in terms of quality on the supply side. On the other hand, transaction costs for the anchor firm decrease as, in this case, it has to deal with only eight contracting parties, compared to numerous farmers.

## 11.3 Mutual trust

Mutual trust is a very, if not the most, important factor in sustaining a successful contractual relationship between farmers and agribusiness firms, especially in the absence of legal contract enforcement mechanisms (Kirsten and Sortorius 2002, p. 18). If the farmer trusts the firm for honouring its obligations, the farmer will not breach the contract and vice versa. As cooperatives function as middlemen in this agreement, trust between them and AHP and the farmers is evaluated in this paragraph.

There has been no opportunity to build trust between the contract partners, because last year's contract was the first transaction between the parties and still the only criterion for choosing a buyer is the price, according to all cooperatives.<sup>48</sup> This illustrates that there has been no long-term relationship

that fosters trust. Another factor that hampers trust in this value chain is the lack of transparency as the anchor firm shares only very little information with the cooperatives. They know that the firm uses chiuri for making soap as well as the product's retail price. According to the cooperatives, the only additional information AHP provides them with is the training on drying and storing of seeds. The anchor firm shares no market information such as market conditions, market demand, prices, or its profit margin.<sup>49</sup> According to the Sothkhola Cooperative representative, their only information providers are BNA, SNV, and IFAD as they provide assistance in capacity building.<sup>50</sup> Therefore, particularly BNA fostered trust by providing market information and played a vital role in contract negotiations and contract enforcement. Moreover, when the cooperatives were asked for their ideas about AHP and why the company is involved in this business they say that the anchor firm's main goal must be making high profits.<sup>51</sup> Only one cooperative mentions that besides making profit, AHP might want to be a 'social reformer' and create benefits for the smallholders.<sup>52</sup> Additionally, during the research farmers frequently mentioned that the price they get for the Chiuri is too low for the difficulties they face during collection. Also the cooperatives request a higher price in order to give the collectors and themselves a 'fair' compensation.<sup>53</sup> Thus, the cooperatives do not trust the company in acting in their and the collectors' interest.<sup>54</sup> However, despite the lack of a long-term agreement and transparency, AHP's trust in the cooperatives seems to be fairly high. AHP can also buy chiuri seeds from other districts, but the long-term relationship with SNV (15 years) encourages the firm to work with them. Last year there were delivered two tons of 'bad seeds', but AHP paid the price stated in the contract since this was the first delivery and the firm trusts the cooperatives in that the quality will improve due to their trust in SNV projects.<sup>55</sup> According to Ghimire, the aim of AHP to involve in this project is to give farmers a fair price for their products since the company was founded as an NGOs business part.

As already mentioned, usually cooperatives do not trust the farmers in their cleaning and drying practices and therefore this process is done at the cooperatives as well. For example, at Chandrasurya Cooperative it happened that a farmer delivered partially wet seeds and since wet seeds are heavier he would receive a higher price. However, the cooperative noticed this and only provided the price for the amount of well dried seeds.<sup>56</sup> On the one hand, despite the absence of a formal agreement and information sharing, the farmers seem to trust the cooperatives in buying their seeds. On the other hand, they complain about the low price they receive. Yet NPRs 25 per kg of seeds is better than nothing and since they are not aware of any other selling opportunities most of them will continue chiuri collection next year.



**Figure 11.1 Flow of trust between the parties in the agreement**

## 11.4 Mutual dependency

According to the literature, mutual dependency in terms of competition, information provision, and asset specificity is important for a sustainable contractual relationship (Kirsten and Sortorius 2002; Sortorius 2002). The dependency upon the opposed party is discussed for the collectors, the cooperatives and AHP. The findings on this matter are summarized in table 11.1.

The *collectors* can not sell the seeds or ghee to another buyer due to the low quality of the oil extracted with a traditional expeller. During the focus groups it became clear that the collectors do not

know about selling opportunities for ghee and in Surkhet there are no other buyers for seeds either. According to Sothkhola Cooperative, no one buys pure chiuri ghee except for those that use it for (illegal) adulteration of animal ghee.<sup>57</sup> For decreasing their dependency on the cooperatives and therefore AHP, the collectors require professional equipment within their proximity for making ghee of sellable quality.<sup>58</sup> Since ghee can be used for selling and home use in contradiction to low quality ghee or raw seeds, this could decrease their risk in case of contract breach. Farmers are also dependent upon the cooperatives in terms of information provision. Yet, market information provided by BNA is not transferred. The collectors are not aware of how much, where, and how taxes and royalties are paid.<sup>59</sup> Generally they do not even know what product is made from their chiuri seeds. Some cooperatives said to have organized a meeting where it was told, but the majority of collectors did not show up due to time constraints and/or distance. This shows the problem of their dispersion also in relation to receiving assistance. In terms of asset specificity, the collectors are not dependent on chiuri business or this particular contractor. The farmer did not need to purchase certain tools or make other investments in order to start selling chiuri seeds. For collection, they only need a *doko* to transport the seeds from the field to their home and from there to the cooperative. For drying the seeds they only need a mat made of bamboo. These tools are also used for transporting crops from the field to the house (*doko*) or for drying peas or beans (mat).<sup>60</sup> Usually the collectors already possessed them for these other purposes so investments were not needed. Hence, they are unlikely to become financially indebted due to this business and are therefore free to choose whether to continue selling or not.

The *cooperatives* are highly dependent upon the collectors since the latter have no obligations. They deliver what they have, although the cooperative has a contractual obligation of delivering a certain amount of seeds to the contractor. In addition, the quality of the seeds is the responsibility of the cooperatives, although the collectors take minimal responsibility on this matter. More on the role of cooperatives in quality control is provided earlier. The main motivation to start doing business in chiuri for all cooperatives was the awareness created by BNA. Before, they were all unknown about the fact that chiuri seeds could be sold and 'Why not sell waste?' was basically their answer.<sup>61</sup> Obviously an expected increase in economic status was the main reason, but one cooperative mentioned another non-financial benefit from the development of this value chain. Since the trees are now of economic value to the farmers, they are less likely to cut them for firewood and therefore forest and honey production will be preserved.<sup>62</sup> The fact that the cooperatives started the business last year and for them it is like 'selling waste', they are considered not dependent upon this business for continuation of their existence. Yet, for last year they were completely dependent on AHP as a buyer since that was the only known buyer by then (SNV Nepal 2011). Last year some cooperatives searched the market for other buyers to decrease their dependency on AHP. They found three other potential buyers and the buyer that offers the highest price is simply preferred and all cooperatives mentioned that they are willing to buy from another buyer.<sup>63</sup> Thus, in presence of other buyers they will be not dependent upon one company and can switch every year. However, the cooperatives do not have access to sufficient market information without the assistance of BNA and SNV to make adequate market decisions or to gain sufficient bargaining power in contract negotiations. For example, Ghumkhola Cooperative indicated that there is sufficient demand for chiuri, while AHP is still searching for new markets since they have still abundant chiuri in stock. In the case of the cooperatives, asset specificity is absent as well as the drying houses are sometimes used to protect or store herbal plants as well. Moreover, since they were provided by the project, the cooperatives did not make any investments themselves and are therefore not financially forced to continue the business if the anchor firm refuses to pay a good price.

For profit generation, *AHP* is not dependent on chiuri soap as it is a developing business and seen as an additional profit so far. However, as the profit margin is high, an increase in demand for the herbal

soap has great profit potential.<sup>64</sup> In terms of competition, AHP could easily buy from other districts when the quality delivered from Surkhet would not be sufficient. Also for information provision the company is not dependent upon any party as it conducts all market and product research in-house. Until now, AHP was in possession of the most value adding activities, information, and the least risk. In short, it is the most powerful player in this value chain. However, until now, the firm did not make any investments related to quality control and research and development activities. Before, budgets for technical support and social mobilization were provided to BNA. However, as AHP was not satisfied with their way of working the CEO required the budget for technical support and quality control directly. Also budgets for R&D and market development were provided to AHP under a MoU. In the case that SNV retreats, Ghimire mentioned that AHP would easily get funds from other NGOs or the government. It seems that the firm does not intend to take responsibility and make the necessary investments from its own profits. The CEO mentioned that because of AHP provides a fair price to the collectors, the firm's profit is too low to make these investments. Contradictory, the profit margin of the chiuri soap is 30 percent.<sup>65</sup> Moreover, AHP even requested financial compensation for the attention of meetings and price negotiation workshops in Surkhet (SNV 2010, p. 27). This unwillingness to invest in the value chain prevents the firm from losing bargaining power as it has no investments to loose if exiting the business. Moreover, since AHP currently outsources its processing and production activities, the firm experiences no asset specificity. However, they are planning on opening their own processing centre for oil extraction in Chitwan next year. It will not be suitable to use the machinery for producing other products according to the company's CEO.<sup>66</sup> Hence, this investment increases the probability of a sustainable of the value chain over time since sales are required for capitalizing it.

	Asset specificity	Market dependency	Information dependency
<b>Collectors</b>	No	Yes	Yes
<b>Cooperatives</b>	No	Yes	After BNA/SNV withdraw
<b>Alternative Herbal Products Ltd.</b>	In the future	No	No

*Table 11.1 Degree of mutual dependency among the parties in the agreement*

## 11.5 The content of the contract

As explained before, the CF agreement of research consists of two parts; a) an informal agreement between the collectors and cooperatives and b) a formal contract between the cooperatives and AHP. For the first, only the price per kg is informally agreed upon, whereas for the latter, price and quantity are specified in a formal contract. Quality requirements were also negotiated, while these were not included in the contract as they were hard to specify. Therefore, production risk is not appointed to one of the actors and could therefore lead to (disguised) contractual hold-up, as explained in chapter 10. The quantity of delivery is negotiated while market risk is not. Hence, the contractor could try to renege on the contract during unforeseen circumstances as a sudden drop in demand. Moreover, as the cooperatives are dependent upon the collectors for the amount of chiuri they can deliver, it is likely that they will bear the risk in times of insufficient or oversupply as they agreed upon a certain quantity with the firm.

## Conclusion

This chapter aimed to answer research question six and can be summarized as follows. Although all parties stated to be 'willing to continue this business', in terms of the sustainability factors for contract farming agreements it is unlikely that this value chain will continue to exist in this form. The enabling environment is not favourable in terms of infrastructure, legal contract enforcement, and market specific policies such as the payment of taxes and royalties, and an overload of paper work. In terms of private institutions, the NGO background of AHP, the assistance of BNA and SNV, and the use of cooperatives can foster contract enforcement. However, the withdrawal of these NGOs could increase contractual hold-up from AHP's side without sufficient capacity of the cooperatives. Also trust between AHP and the cooperatives is only created by NGOs and mutual dependency is hardly present within this agreement. It appeared that the collectors and the cooperatives are the most dependent upon each other and AHP without NGO assistance, while the firm is not dependent on the opposed parties in any way. As neither of the parties experience asset specificity or made other product specific investments, this could hamper the sustainability of the contract over time, but increases the bargaining power of the cooperatives. Thus, theoretically, the only aspects of sustainability present within this value chain are the investments made by AHP, the product's profit potential, the involvement of NGOs, and the use of cooperatives as middlemen for increasing quality control and decreasing transaction costs.

## - 12 - Discussion

This chapter aims to place the HVA-IB Pilot Project for chiuri in the wider context of the literature on contract farming and the sustainable livelihoods framework discussed in chapter 3-5. Moreover, the project's inclusive business character is discussed.

The first point of discussion is whether the project's value chain is actually being governed by contract farming. One of the reasons for AHP to engage in the project was the quality requirements of the (international) buyers, which is in line with the trends that increased the use of contract farming in agri-value chains mentioned in the literature (Bijman 2008, p.1; Da Silva 2005, p.3). However, as outlined in chapter 3, contract farming is defined as "an agreement between one or more farmer(s) and a contractor for the production and supply of agricultural products under forward agreements, frequently at predetermined prices" (Eaton and Shepherd 2001, p.3). However, within the project, there exists no contract between the farmers and the contractor. The collectors have no agreement on what and how much to deliver. Another definition given was that contract farming is "a commitment on the part of the farmer to provide a specific commodity in quantities and at quality standards determined by the contractor and a commitment on the part of the contractor to support the farmer's production and to purchase the commodity" (Bijman 2008, p.3). Again, there is no commitment on the part of the farmer present within the chiuri value chain. However, the contractor does have a commitment of purchasing the commodity. That is because the contractor signed a contract with eight cooperatives defining the amount to be delivered and the payment conditions. Taking this into consideration, the most appropriate form of contract farming that could be applied to the value chain of research is the *intermediary model* where three actors are part of the contract; a firm contracts with middlemen, who (informally) contract with the farmers (Bijman 2008, p.3; Eaton and Shepherd 2001, chapter 3). According to the literature, this form knows no direct link between the contractor and the farmer, and it could therefore pose problems with regards to vertical coordination and service providing incentives (Bijman 2008, p.3; Eaton and Shepherd 2001, chapter 3). Indeed, due to the lack of grouping among the farmers, the cooperatives' knowledge on drying techniques is not transferred to the collectors. This results in the fact that often low quality seeds are delivered to the cooperatives where seeds have to be graded and dried again. However, this problem is partially solved by provision of dry-houses and training to the cooperative members. Moreover, as the contractor does not provide supporting services, the success of the informal agreement between the farmers and the cooperatives would depend on the availability of public supporting services (Bijman 2008, p.3; Eaton and Shepherd 2001, chapter 3). Also in the chiuri value chain the enabling environment hampers its success through the lack of infrastructure.

As for the product choice, this is in line with the theory that *traditional* cash crops are most suitable for contract farming as the farmers do not have to make investments, do already possess the necessary knowledge and skills to produce them, and already know a certain selling market (Warning and Key 2002). Only the latter is not applicable since the collectors were not aware of any market for chiuri seeds before this project started, but they already knew where and how to collect them since a major part of the project beneficiaries traditionally collected the seeds before. Due to the fact that chiuri is an NTFP instead of a crop to be cultivated and the absence of a contract on the side of the farmers, also some of the possible advantages and disadvantages of contract farming as outlined in the literature are not applicable. As for the possible advantages, input provision and the related increased access to credit are not relevant as no inputs are required. This also makes the possible dependency on the firm for inputs or technology not applicable to this value chain. Moreover, as chiuri is collected from forest

rather than cultivated, traditional cultivation methods and flexibility can not be lost. Although this decreases the probability of declined food security through neglecting the cultivation of subsistence crops, this also hampers the possibilities of spill-over effects to subsistence crops. As for the motivation of smallholder farmers to engage in contract farming, only market access and income benefits are applicable in this research due to the character of the product and the contract. According to the literature, knowledge sharing, access to inputs and/or technical assistance, and intangible benefits (e.g. status) are other major reason for contract farming (Bijman 2008, p.14). However, as discussed above, these are not applicable for chiuri.

While the contract farming theories are not completely in line with the research findings, neither are the claimed inclusive business characteristics of the project. Although the general definition of inclusive business as creating *mutual* benefits can be adopted for the project as there is little chance of exploitation on the collectors' side, some key elements are not applicable to the project of research. First, IB's starting point is the company, while the project's starting point was SNV's project for which AHP was selected. This also discards the theory that contract farming is usually initiated by the firm. Secondly, the chiuri business is not AHP's core business as is required for IB. In fact, chiuri soap generates additional profits for the anchor firm and as it stems from an NGO background the project can be seen as 'charity' rather than 'real business'.

In contrast with contract farming theories and the inclusive business concept, the sustainable livelihoods framework discussed in chapter four is almost entirely applicable to the research. At first, the theory stated that deprivation and well-being as poor rural people perceive them have many dimensions which do not correspond with conventional analyses like production thinking, employment thinking, and poverty-line thinking (Chambers and Conway 1992). During the research it appeared indeed that single scaled measurements such as 'unemployment', or 'income' as indicators of well-being were indeed not applicable. The households within the sample employed many different activities, but subsistence farming appeared to be their major livelihood strategy. As crops and animal products for self consumption are not included in income and employment figures, such measures would give an unrealistic view of their well-being. Also the fact that the amount of the different livelihood assets can be (un)balanced rather than only small or big (FAO 2003, p. 8), was verified in the research. This can be illustrated by the fact that farmers with a relatively low amount of land and/or livestock had a higher amount of financial capital available generated through wages or remittances. Moreover, the suggestion that not only assets are important but also capabilities can enhance one's well-being is observed among the chiuri collectors. For example the lack of education among the older generation within the sample hampered them from finding skilled work or a market for their products. A specific example for chiuri sales is that the cooperatives and collectors were not aware of the fact that royalties do not have to be paid for chiuri seeds dispatched from private land. Thus, the formation of this policy did not contribute to its implementation, also illustrating the importance of the institutional environment as described in the literature (FAO 2003, p. 10). Moreover, their lack of information hampered them to act in time of animal or crop disease. Additionally, the lack of irrigation present in the research area made the consequences of seasonal happenings like rainfall more severe than being just a 'low-level environmental stress', as assumed in the literature (FAO 2003, p. 10). The theory also mentioned the trend that in many cases, income no longer originates from a single source like agriculture, but households gain their income through multiple income sources (Zoomers 2008, p. 149). Also this appeared to be true for the research population, although many households depended on one major source of income. However, the related trend of the development of multi-local livelihoods was definitely observed. Some household members migrated to urban areas in Nepal or internationally in order to provide for their families. However, the lack of transport facilities forced them to move instead of travelling to work every day. This also

illustrates that the livelihoods included in this research were not as ascriptive or predetermined as would be expected from the presence of the caste system. Although it was observed that land, and therefore the practice of employing (subsistence) farming as a livelihood strategy, was inherited by tradition, a large number of household members responded to their unfavourable environment by working as, for example, a carpenter or migrating for work (Chambers and Conway 1992, p. 6). Moreover, the existence of 'diversified livelihoods' within the sample that were not necessarily more well-endowed than the 'subsistence farmers' or 'wage labourers' implies that those are less vulnerable to external events. This confirms the theory that, although poor people are usually among the most vulnerable, not all poor people are equally vulnerable and distinctions between them can be made based upon their vulnerability (Moser 1998, 23).

While combining a livelihoods analysis with a value chain analysis is becoming clear that this enables us to identify the reasons behind people's actions. The literature told us that markets can play a role in enabling people to move from one livelihood strategy to another by allowing them to change their asset portfolios into more productive and less vulnerable ones (Dorward 2001, p. 3). However, as for chiuri collection, farmers did not change their livelihood strategies accordingly. In fact, their income generated by chiuri is additional to their other livelihood activities and assets. Nevertheless, this increases their financial capital and for some this might be just the amount of money they need to keep their heads above water. On the other hand, the fact that risk and costs are often transmitted to primary producers for the sake of low consumer prices (Dorward 2001, p. 1) and that this can influence their potential for livelihood enhancement by participating in value chains (Kanji *et al.* 2005, p. 14) is not applicable to the case of chiuri. The value chain is not part of the collectors' vulnerability context by increasing economic stress or the severity of shocks as they experience no obligations, costs or risk.

## - 13 - Conclusion

This chapter aims to answer the main research question, being: "To what extent does the chiuri value chain affect the livelihoods of the smallholder farmers within the HVA-IB Pilot Project and what is the value chain's potential for sustainability?". This question can be answered as follows. As for the effect on the collectors' livelihoods, selling chiuri seeds generates merely an additional income rather than a livelihood strategy. Although forest and chiuri is abundant in the research areas, several factors hamper possibility of using chiuri collection as a livelihood strategy. Firstly, it is considered a difficult and time consuming activity and as collection takes place during the rainy season, a lot of leeches are active in the forest and the paths to the forest of collection is likely to be less accessible. Also collection is physically heavy as fruits grow high in the tall trees that have to be climbed for collection. Secondly, ripe fruits are present during the plantation season for rice and the farmers' food security is highly dependent upon this crop. Therefore, they are highly unlikely to decrease their rice cultivation in order to upscale chiuri collection. Hence, the time available for chiuri collection is limited while it is considered a time consuming activity. Although chiuri collection is more profitable than other income sources like wage labour, the seasonality of chiuri income hampers the households to consider it as worthwhile to change their livelihood strategy. Because of the small role chiuri collection plays in the beneficiaries' livelihood strategies, the income effects are marginal. Last year, the total income from chiuri earned by the 73 households was NPRs 71,701 with a mean of 1,010 (approximately €10.00) per household. The increase in yearly income from chiuri is on average 3.1 percent per household and the average percentage of total income that is earned with chiuri as low as 3.25 percent. Although chiuri increased their income, none of the household crossed the poverty line due to their chiuri sales. Most people bought food, clothes, or household goods like kitchenware from the money generated by chiuri collection. As chiuri income is not spent on productive investments, one can imply that the long-term effects of this project are minimal. However, food security could not be considered diminished by this project as the main use of the additional income is buying food. Although it can not be seen as a livelihood strategy, the value chain's inclusiveness of the BoP segment generates the possibility of complementing their subsistence farming practices with some income. For some households, the money earned with selling chiuri was their only financial income last year. Thus, although it might not change their lives entirely, for some it might be just that little amount of money that enables them to keep heads above water. Moreover, the fact that they are not engaged in a contractual agreement and the product characteristics of chiuri as an NTFP diminish their vulnerability to exploitation by the anchor firm. Thus, the value chain does not contribute to their vulnerability and the sustainability of their livelihoods negatively.

The current sustainability potential of the value chain is considered low, although all parties stated to be 'willing to continue this business', in terms of the sustainability factors for contract farming agreements it is unlikely that this value chain will continue to exist in this form. The enabling environment is not favourable in terms of infrastructure, legal contract enforcement, market specific policies such as the payment of taxes and royalties, and bureaucracy. In terms of private institutions, the NGO background of AHP, the assistance of a local and international NGO, and the use of cooperatives as middlemen can foster contract enforcement. However, the withdrawal of these NGOs could increase contractual hold-up from AHP's side without sufficient capacity of the cooperatives. Also trust between AHP and the cooperatives is only created by SNV and BNA and mutual dependency is hardly present within this agreement. It appeared that the collectors and the cooperatives are the most dependent

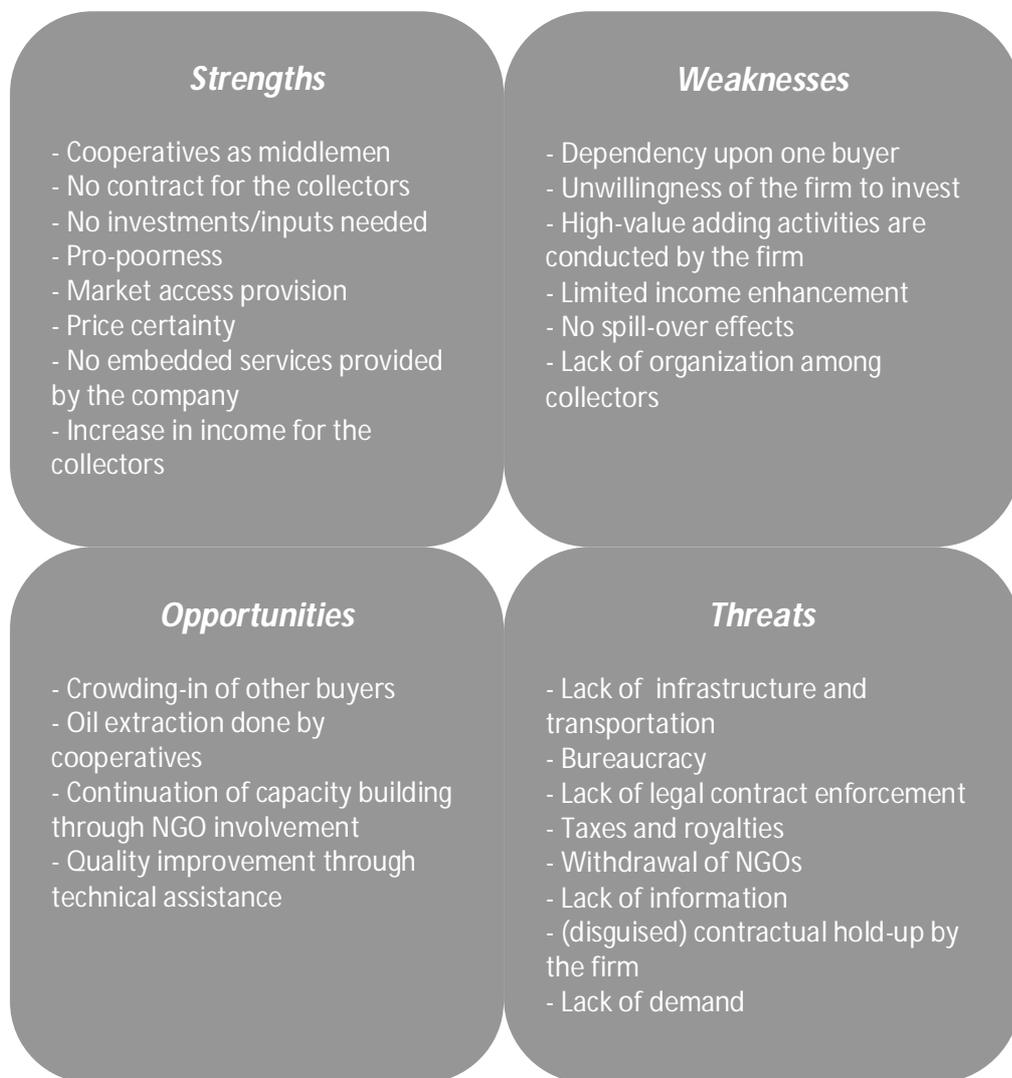
upon each other and AHP without NGO assistance, while the firm is not dependent on the opposed parties in any way. As neither of the parties experience asset specificity or made other product specific investments, this could hamper the sustainability of the contract over time, but increases the bargaining power of the farmers and cooperatives. Thus, theoretically, the only aspects of sustainability present within this value chain are the investments made by AHP, the product's profit potential, the involvement of NGOs, and the use of cooperatives as middlemen for increasing quality control and decreasing transaction costs.

## Recommendations

In order to give recommendations on the larger HVA project and answer the last research question, a SWOT analysis is conducted in order to identify factors that influence its sustainable impact (see figure 13.1). Especially the product characteristics contribute to several points outlined in the SWOT analysis. One strength is that no inputs or investments are required which enables the inclusiveness of the BoP segment and reduces the dependency upon the buyer. However, while chiuri collection is only a small part of the households' livelihood strategies, the fact that chiuri is an NTFP decreases spill-over effects and limit income effects due to seasonality. Another strength of the project is the use of cooperatives as middlemen. This decreases the obligations of the collectors and therefore their vulnerability to exploitation. However, the lack of organization among the farmers hampers information provision and quality control. Moreover, the practice of working with LCBs can have positive and negative implications. It is of course positive in terms of sustainability, local knowledge and gaining the target group's trust. However, it is very difficult to select an appropriate organization to execute the work in terms of knowledge and affinity. For example, the cooperatives all mentioned that BNA has been very helpful in building trust between the anchor firm and the cooperatives during the contract negotiations and providing the opportunity to do business in chiuri. However, it was also mentioned that it would have been better if SNV would have provided the responsibility of this project to the community itself. He noted that 'BNA only works for its own benefits and does not have enough knowledge of NTFPs'. Besides, according to him, less 'legal trouble' would have been present if the project was carried out by a CFUG. Another constraint of outsourcing is that it is difficult to monitor BNA's activities and evaluate its performance since SNV staff is not able to visit the field regularly. This sometimes resulted in discrepancies between BNA's project evaluation report and reality. Major threats to the value chain in its current form is the enabling environment characterized by lack of infrastructure and contract enforcement, taxes and royalties, and bureaucracy. Other threats are characterized by the market features like lack of demand and monopsonistic buying behaviour by the firm. Also within the project the cooperatives were dependent on one buyer. However, they are currently searching the market for more buyers which could foster crowding-in (i.e. promoting other companies to participate in the value chain and to compete, most probably leading to higher prices and higher total volumes and number of producers). Another weakness is that AHP carried out the most profitable activities while not making investments. This can lead to opportunistic behaviour on the side of the anchor firm. When the project reached its end and the NGOs withdraw, the opportunity exists that the firm will not continue the business as trust between the parties and contract enforcement is realized through NGO involvement. Thus, their withdrawal could mean the end of the value chain. However, one opportunity to increase the benefits on the farmers' side is to transfer more profitable activities like oil extraction to the cooperatives. This enables them to reap higher financial benefits and use by-products.

In order to optimize the HVAP's benefits for the primary producers, the following recommendations can be given by using the SWOTs of the pilot project for chiuri. However, it should be pointed out that chiuri is an NTFP rather than a crop and that this research is therefore not entirely suitable for evaluating cash crop value chains. Nevertheless, some lessons learned can be considered while implementing the larger HVA project. Firstly, farmers should be organized in groups or middlemen should be used in order to decrease their vulnerability to exploitation and optimize information provision. However, these groups or cooperatives need to be better informed about the market in order to reap the highest benefits. Secondly, to ensure maximum financial benefits and control, more value

adding activities should be realized by the farmers. This will also enable them to use by-products and spill-over effects. Thirdly, although exploitation is limited for cultivating crops that do not belong to the farmers' main livelihood strategy, this also reduces its income enhancement potential. Thus, more valuable crops should be chosen while ensuring favourable market conditions like demand and diversity of buyers. Related is the recommendation of choosing an anchor firm that is willing to invest in the value chain initiatives. This will decrease its opportunistic behaviour and contract breach. Fifthly, SNV and the LCB must stay involved until trust and bargaining position of the suppliers is ensured as well as their capacity to deal with governmental restrictions. Otherwise, the withdrawal of NGOs could lead to exploitation of the farmers or unwillingness of the firm to invest in the value chain. Last, but definitely not least, the project should provide for investments in infrastructure or other limiting factors either by providing SNV's budget or through the firm's investments. However, it is important that the contractor does not provide those particular services that could increase the farmers' dependency upon the firm.



**Figure 14.1 SWOT analysis of the HVA-IB Pilot Project for chiuri**

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## Endnotes

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- <sup>1</sup> Personal interview with D. Arts, Inclusive Business expert SNV The Hague
  - <sup>2</sup> Personal interview with G. Ghimire, CEO Alternative Herbal Products Pvt. Ltd., March 9, 2011.
  - <sup>3</sup> Personal interview with P. Sunar, President Ghumkhola Multipurpose Cooperative, March 18 2011
  - <sup>4</sup> Personal interview with C.B. Buda, President Chandrasurya Multipurpose Cooperative, April 3, 2011.
  - <sup>5</sup> Personal interview with G. Ghimire, CEO Alternative Herbal Products Pvt. Ltd, March 9, 2011 and J.B. Marsanghi Magar, Treasurer Sothkhola Herbal Medicine Cooperative, April 19, 2011
  - <sup>6</sup> Personal interview with J.B. Marsanghi Magar, Treasurer Sothkhola Herbal Medicine Cooperative, April 19, 2011
  - <sup>7</sup> Personal interview with G. Ghimire, CEO Alternative Herbal Products Pvt. Ltd, March 9, 2011
  - <sup>8</sup> Personal interview with P. Sunar, President Ghumkhola Multipurpose Cooperative, March 18 2011
  - <sup>9</sup> Personal interview with G. Ghimire, CEO Alternative Herbal Products Pvt. Ltd, March 9, 2011
  - <sup>10</sup> Personal interview with C.B. Buda, President Chandrasurya Multipurpose Cooperative, April 3, 2011.
  - <sup>11</sup> Personal interview with G. Ghimire, CEO Alternative Herbal Products Pvt. Ltd, March 9, 2011
  - <sup>12</sup> Personal interview with T.B. Gharti, President Amarjoyti Multipurpose Cooperative, March 24, 2011.
  - <sup>13</sup> Personal interview with G. Ghimire, CEO Alternative Herbal Products Pvt. Ltd, March 9, 2011
  - <sup>14</sup> Personal interview with G. Ghimire, CEO Alternative Herbal Products Pvt. Ltd, March 9, 2011
  - <sup>15</sup> Personal interview with M. Kafle, Project coordinator HVA-IB project at Beautiful Nepal Association, April 29, 2011.
  - <sup>16</sup> Personal interview with G. Ghimire, CEO Alternative Herbal Products Pvt. Ltd, March 9, 2011
  - <sup>17</sup> Personal interview with P. Sunar, President Ghumkhola Multipurpose Cooperative, March 18 2011; J.B. Marsanghi Magar, Treasurer Sothkhola Herbal Medicine Cooperative, April 19, 2011; T.B. Gharti, President Amarjoyti Multipurpose Cooperative, March 24, 2011; C.B Buda, President Chandrasurya Multipurpose Cooperative, April 3, 2011.
  - <sup>18</sup> Personal interview with G. Ghimire, CEO Alternative Herbal Products Pvt. Ltd, March 9, 2011 and J.B. Marsanghi Magar, Treasurer Sothkhola Herbal Medicine Cooperative, April 19, 2011
  - <sup>19</sup> Personal interview with G. Ghimire, CEO Alternative Herbal Products Pvt. Ltd, March 9, 2011
  - <sup>20</sup> Personal interview with J.B. Marsanghi Magar, Treasurer Sothkhola Herbal Medicine Cooperative, April 19, 2011
  - <sup>21</sup> Personal interview with C.B. Buda, President Chandrasurya Multipurpose Cooperative, April 3, 2011.
  - <sup>22</sup> Personal interview with P. Sunar, President Ghumkhola Multipurpose Cooperative, March 18 2011; J.B. Marsanghi Magar, Treasurer Sothkhola Herbal Medicine Cooperative, April 19, 2011; T.B. Gharti, President Amarjoyti Multipurpose Cooperative, March 24, 2011; C.B Buda, President Chandrasurya Multipurpose Cooperative, April 3, 2011.
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  - <sup>24</sup> Personal interview with C.B. Buda, President Chandrasurya Multipurpose Cooperative, April 3, 2011.
  - <sup>25</sup> Personal interview with P. Sunar, President Ghumkhola Multipurpose Cooperative, March 18 2011; J.B. Marsanghi Magar, Treasurer Sothkhola Herbal Medicine Cooperative, April 19, 2011; T.B. Gharti, President Amarjoyti Multipurpose Cooperative, March 24, 2011; C.B Buda, President Chandrasurya Multipurpose Cooperative, April 3, 2011.
  - <sup>26</sup> Personal interview with G. Ghimire, CEO Alternative Herbal Products Pvt. Ltd, March 9, 2011
  - <sup>27</sup> Personal interview with C.B. Buda, President Chandrasurya Multipurpose Cooperative, April 3, 2011.
  - <sup>28</sup> Personal interview with G. Ghimire, CEO Alternative Herbal Products Pvt. Ltd, March 9, 2011
  - <sup>29</sup> Personal interview with J.B. Marsanghi Magar, Treasurer Sothkhola Herbal Medicine Cooperative, April 19, 2011
  - <sup>30</sup> Personal interview with M. Kafle, Project coordinator HVA-IB project at Beautiful Nepal Association, April 29, 2011.
  - <sup>31</sup> Personal interview with District forest Officer Surkhet, March 22, 2011

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- <sup>32</sup> Personal interview with M. Kafle, Project coordinator HVA-IB project at Beautiful Nepal Association, April 29, 2011.
- <sup>33</sup> Personal interview with G. Ghimire, CEO Alternative Herbal Products Pvt. Ltd, March 9, 2011
- <sup>34</sup> Personal interview with J.B. Marsanghi Magar, Treasurer Sothkhola Herbal Medicine Cooperative, April 19, 2011
- <sup>35</sup> Personal interview with J.B. Marsanghi Magar, Treasurer Sothkhola Herbal Medicine Cooperative, April 19, 2011
- <sup>36</sup> Personal interview with C.B. Buda, President Chandrasurya Multipurpose Cooperative, April 3, 2011.
- <sup>37</sup> Personal interview with G. Ghimire, CEO Alternative Herbal Products Pvt. Ltd, March 9, 2011
- <sup>38</sup> Personal interview with District forest Officer Surkhet, March 22, 2011
- <sup>39</sup> Personal interview with G. Ghimire, CEO Alternative Herbal Products Pvt. Ltd, March 9, 2011 and J.B. Marsanghi Magar, Treasurer Sothkhola Herbal Medicine Cooperative, April 19, 2011
- <sup>40</sup> Personal interview with J.B. Marsanghi Magar, Treasurer Sothkhola Herbal Medicine Cooperative, April 19, 2011
- <sup>41</sup> Personal interview with G. Ghimire, CEO Alternative Herbal Products Pvt. Ltd, March 9, 2011
- <sup>42</sup> Personal interview with G. Ghimire, CEO Alternative Herbal Products Pvt. Ltd, March 9, 2011
- <sup>43</sup> Personal interview with District forest Officer Surkhet, March 22, 2011
- <sup>44</sup> Personal interview with G. Ghimire, CEO Alternative Herbal Products Pvt. Ltd, March 9, 2011
- <sup>45</sup> Personal interview with J.B. Marsanghi Magar, Treasurer Sothkhola Herbal Medicine Cooperative, April 19, 2011
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- <sup>48</sup> Personal interview with P. Sunar, President Ghumkhola Multipurpose Cooperative, March 18 2011; J.B. Marsanghi Magar, Treasurer Sothkhola Herbal Medicine Cooperative, April 19, 2011; T.B. Gharti, President Amarjoyti Multipurpose Cooperative, March 24, 2011; C.B Buda, President Chandrasurya Multipurpose Cooperative, April 3, 2011.
- <sup>49</sup> Personal interview with P. Sunar, President Ghumkhola Multipurpose Cooperative, March 18 2011; J.B. Marsanghi Magar, Treasurer Sothkhola Herbal Medicine Cooperative, April 19, 2011; T.B. Gharti, President Amarjoyti Multipurpose Cooperative, March 24, 2011; C.B Buda, President Chandrasurya Multipurpose Cooperative, April 3, 2011.
- <sup>50</sup> Personal interview with J.B. Marsanghi Magar, Treasurer Sothkhola Herbal Medicine Cooperative, April 19, 2011
- <sup>51</sup> Personal interview with P. Sunar, President Ghumkhola Multipurpose Cooperative, March 18 2011; J.B. Marsanghi Magar, Treasurer Sothkhola Herbal Medicine Cooperative, April 19, 2011; T.B. Gharti, President Amarjoyti Multipurpose Cooperative, March 24, 2011; C.B Buda, President Chandrasurya Multipurpose Cooperative, April 3, 2011.
- <sup>52</sup> Personal interview with T.B. Gharti, President Amarjoyti Multipurpose Cooperative, March 24, 2011.
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- <sup>55</sup> Personal interview with G. Ghimire, CEO Alternative Herbal Products Pvt. Ltd, March 9, 2011
- <sup>56</sup> Personal interview with C.B. Buda, President Chandrasurya Multipurpose Cooperative, April 3, 2011.
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- <sup>59</sup> Personal interview with J.B. Marsanghi Magar, Treasurer Sothkhola Herbal Medicine Cooperative, April 19, 2011
- <sup>60</sup> Personal interview with M. Kafle, Project coordinator HVA-IB project at Beautiful Nepal Association, April 29, 2011.
- <sup>61</sup> Personal interview with P. Sunar, President Ghumkhola Multipurpose Cooperative, March 18 2011; J.B. Marsanghi Magar, Treasurer Sothkhola Herbal Medicine Cooperative, April 19, 2011; T.B. Gharti, President Amarjoyti Multipurpose Cooperative, March 24, 2011; C.B Buda, President Chandrasurya Multipurpose Cooperative, April 3, 2011.
- <sup>62</sup> Personal interview with J.B. Marsanghi Magar, Treasurer Sothkhola Herbal Medicine Cooperative, April 19, 2011
- <sup>63</sup> Personal interview with P. Sunar, President Ghumkhola Multipurpose Cooperative, March 18 2011; J.B. Marsanghi Magar, Treasurer Sothkhola Herbal Medicine Cooperative, April 19, 2011; T.B. Gharti, President

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Amarjoyti Multipurpose Cooperative, March 24, 2011; C.B Buda, President Chandrasurya Multipurpose Cooperative, April 3, 2011.

<sup>64</sup> Personal interview with G. Ghimire, CEO Alternative Herbal Products Pvt. Ltd, March 9, 2011

<sup>65</sup> Personal interview with G. Ghimire, CEO Alternative Herbal Products Pvt. Ltd, March 9, 2011

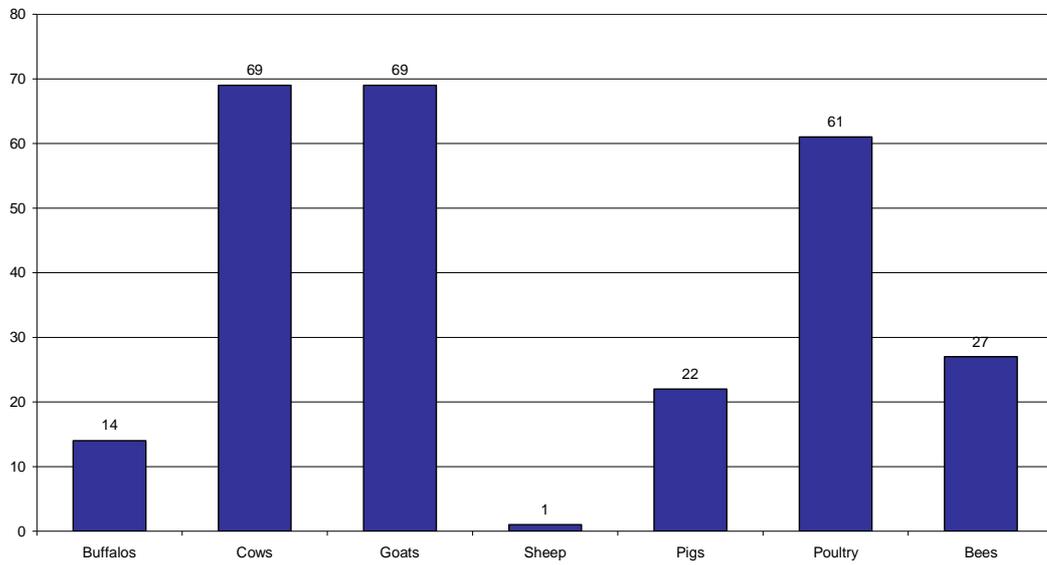
<sup>66</sup> Personal interview with G. Ghimire, CEO Alternative Herbal Products Pvt. Ltd, March 9, 2011

## Annex – I

### *List of key informant interviews*

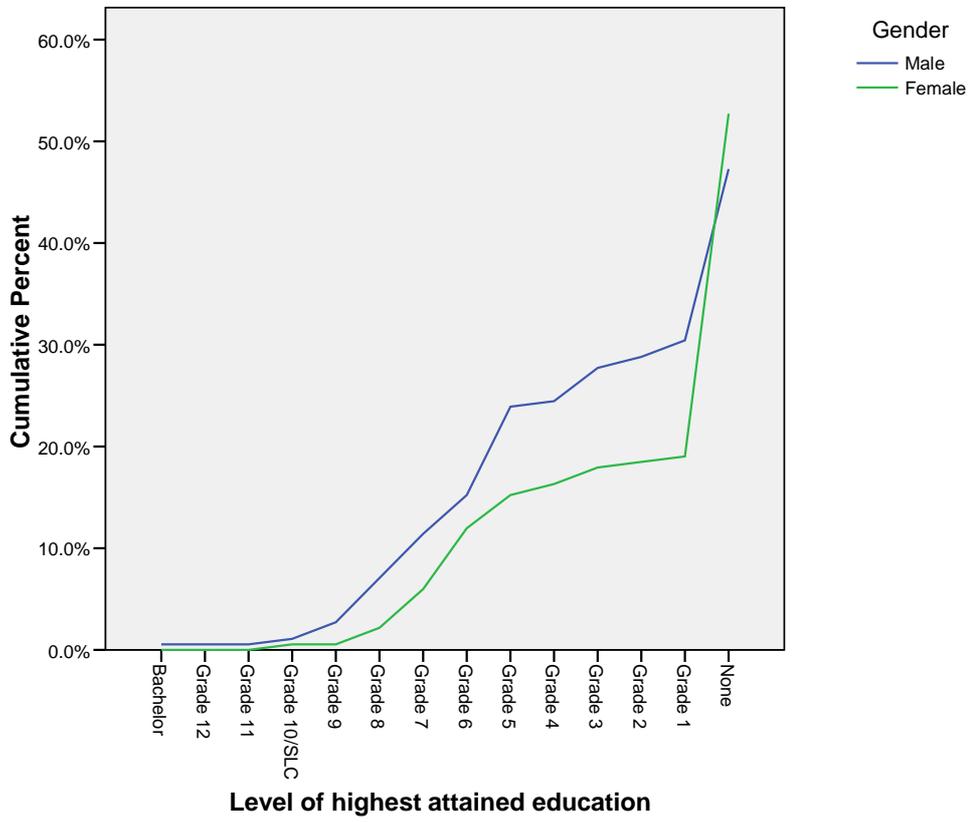
Key informant	Knowledge aims	Location
<b>Rolf Schinkel</b> <b>Rik van Keulen</b> - SNV Nepal	<ul style="list-style-type: none"> <li>- Processes taking place in the project</li> <li>- Issues experienced</li> <li>- Perception on the influences of the institutional environment</li> <li>- The role of cooperatives</li> <li>- Perceived opportunities for sustainability</li> </ul>	Kathmandu
<b>Govinda Ghimire</b> – Alternative Herbal Products Ltd.	<ul style="list-style-type: none"> <li>- Expectations of the project</li> <li>- The project's value to the firm</li> <li>- Willingness to invest in the value chain</li> <li>- Trust in and understanding of smallholder farmers</li> <li>- Willingness to continue with the contract</li> <li>- The role of chiuri in their business operations</li> <li>- Presence of alternative supply sources</li> <li>- Perception on the role of the cooperatives</li> <li>- Perception on the influences of the institutional environment</li> <li>- Market characteristics</li> <li>- Encountered issues</li> </ul>	Kathmandu
<b>DFO Surkhet</b>	<ul style="list-style-type: none"> <li>- Relevant policies/regulations/subsidies</li> <li>- Perception on the influences of the institutional environment</li> </ul>	
<b>Manoj Kafle</b> - Beautiful Nepal Association (BNA)	<ul style="list-style-type: none"> <li>- Processes taking place in the project</li> <li>- Encountered issues</li> <li>- Perception on the influences of the institutional environment</li> <li>- The role of cooperatives</li> <li>- Perceived opportunities for sustainability</li> </ul>	Surkhet
<b>Tek Bdr. Gharti</b> – Amarjoyti Cooperative <b>Chandra Bdr. Buda</b> – Chandrasurya Cooperative <b>Pradip Sunar</b> – Ghumkhola Cooperative <b>Jagat Bdr. Marsanghi</b> <b>Magar</b> – Sothkhola Cooperative	<ul style="list-style-type: none"> <li>- Trust in smallholder farmers</li> <li>- Trust in anchor firm</li> <li>- Contract enforcement mechanisms</li> <li>- Bargaining position</li> <li>- Functions of the cooperative</li> <li>- Differences between members and non-members</li> <li>- Buying and selling prices</li> </ul>	VDCs

## Annex – II



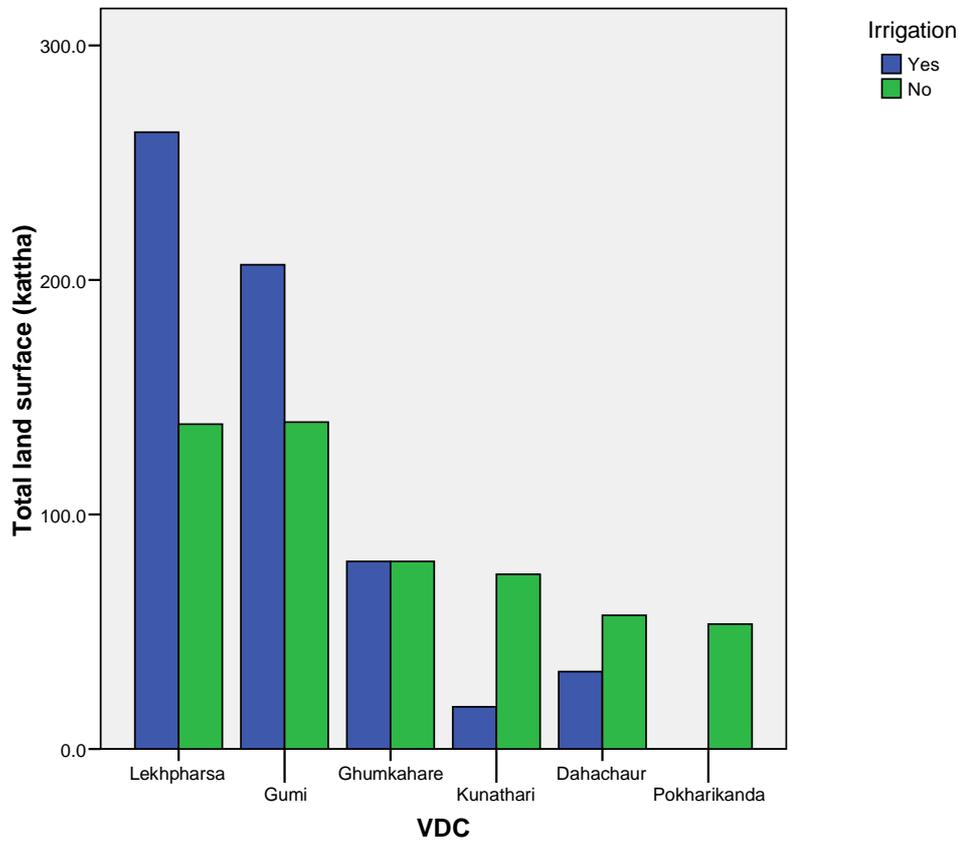
**Figure I. Number of households owning livestock (N=73)**

### Annex – III



**Figure II. Highest attained grade for men and women among all household members older than 14 years (N=241)**

## Annex – IV



**Figure III. Irrigated and non-irrigated land surface per VDC (kattha)**

## Annex – V

### *Focus group participants*

#### **Lekhpharsa**

1. Bhabghati Ghana
2. Usha Rana
3. Groma Lama
4. Man Bdr. Taram
5. Ratna Bdr. Taram
6. Bom Bdr. Fouja
7. Jai Bdr. Fouja
8. Moti Lal Taram
9. Tus Bdr. Fouja
10. Moti Lal Rana
11. Junga Bdr. Fouja

#### **Gumi**

1. Ramkali Gharti
2. Khagisara Pun
3. Manikala Pun
4. Jhug Maya Pun
5. Ramkali Gharti
6. Tilsara Pun
7. Nabita Pun

#### **Pokharikanda**

1. Jashu Garanja
2. Mandari Garanja
3. Bikram Rana
4. Sher Bdr. Garanja
5. Motisara Marsanghi
6. Chandra Bdr. Sarki

Annex – VI  
*Life histories*

***“The average chiuri collector”***- respondent #10

My parents were simple farmers living in the high hills. They had trouble with providing themselves with sufficient food and my father had to work as a carpenter in order to feed the family. I have four sisters and two brothers. Only my brothers and three of my sisters had the opportunity to go to school. My other sister and I were involved in cutting grass, taking the cattle for grazing and collecting firewood. Sometimes I did this together with my friends also, who were the neighbor's children. My sisters married too and live nearby and my brothers live in Chinnchu, separated from my parents. I only see them at the time of festivals. My parents I see more often, once every few months. They still live on the same land where I was born, but the house has changed. They are old and supported by my brothers and sisters with food and money. When their situation gets worse, they will move to one of my brothers' homes.

When I was sixteen I ran away with my current husband. When I told my father about him, our love was accepted as he was from the same caste and practiced the same religion as my family did. When I was eighteen I had my first child, a son. He is in grade eight now. Two years after that I got pregnant again, but the child was born death. I was afraid of getting pregnant again and we waited for some years. When I was 24 years old I had my daughter, which is 12 years old now and in grade 7.

My father-in-law already died, but my mother-in-law lives with us and we have a good relation with her. She only lives here for five years now. Four years after we married my husband's three brothers separated from their parents and she chose to live with her youngest son. But he lives in the high hills, and it became difficult for her to climb them. That is why she lives with us for the last five or six years now. My husband's other two brothers live nearby and we help each other a lot by exchanging food. Compared to when I was young, life is better. We are well supplied with food and clothes because we have less family members to care for and we are working hard. Besides relatives I have few social contacts as housewives are not supposed to have friends. My daily activities consist of taking care of the household, like farming and cooking. My husband works in construction and as carpenter.

I don't remember any important things that happened during my life and I have no particular interests. I also never thought about how my future would look like, but for my children I want to give them full education, which I did not have. It is better to be educated. My brothers and sisters might not have a job, but they can explain things and have knowledge. They would be better able to answer your questions, I have a dull mind. Before having children I used to participate in the government education plan, to learn to read and write. Now I can write my own name and read some letters in my children's' books, but that is not enough.

### ***"The difficult life"***- respondent #19

My parents' occupation has always been agriculture, they live in Gumi. I was the youngest of seven children, three boys and four girls. We never had problems in having enough food or clothes although we are dalits. All children attended school as my father reached to grade three, he knew that education was important. My mother was uneducated. The lowest grade that was attained among the children was grade six, reached by my sister. I was in school and helped with household activities like collecting firewood, cutting grass and take the cattle for grazing. I had some friends with which I went to school with and also we did household activities together and just enjoyed playing. Life was good, but I have one bad memory from my childhood. When I was in grade 3, I got very sick. I had a fever and lost my consciousness for fifteen or twenty days. If they had not taken me to the hospital I would have died.

When I was sixteen I ran away with my current husband. He was ten years older but a friend of the family and my aunt persuaded me to run away with him. I was young, unknown and irresponsible so I did that. Now I blame myself for doing it, because his economic status was lower than that of my family and I had to quit school. I was good at school, I never failed any exam. And I was very interested in studying, but after I married I had no money to continue it. I do not know why my aunt wanted me to marry him, I was a child, I did not know any better. But may be it was because he told her to convince me. My parents were not happy with my decision, he was from the same caste and religion, but his economic status was low.

Two of my brothers are in the Nepal Army now and took their wives and children with them. And one of them is working as a sewer and still living with my parents. One of my sisters is happily married, but the other one went to Qatar for work. She was married here, but her husband cheated on her and married another woman. And my other sister committed suicide about twenty years ago. I remember little about her since I was only five years old when this happened. But what I know about it is that she was married and living in Surkhet, but her husband was unfaithful to her and was always telling her that she was 'low standard'. Although they were from the same caste, his family was wealthier and therefore he saw her as minor to him. After she died he rapidly married a friend of them. My father tried to get justice from his son-in-law but he never got anything from him.

I have no parents-in-law and no relatives living nearby. My husband's mother died when he was young. He was the second child of six sons and two daughters. After their mother died conditions got worse and they separated from their father. I have never seen my brothers and sisters-in-law, I do not know them. And two years after we married his father died as well. In the past he had his own land, but once he sold it and deforested a piece of government land to live on. When he died we lived in India because my husband was working there sowing wood. In the meantime neighbors looked after his land, but when we came back to Nepal after six years it appeared that my father-in-law had total loans of NPRs 4000 at those neighbors and if we would not pay that amount they would keep the land instead. So we had to pay that in order to be able to live there. I am sure that after some time the government will provide us this land, usually they do not throw out people living there. Since we do not have any close relatives and I do not get anything from my brothers, we depend on my husband alone for making a living. First he worked for neighbors in exchange for food, but now he is working in Qatar, making furniture and sometimes he sends money because we do not have enough land to feed ourselves. Also sometimes I receive some food or money from my parents and sisters or I work for neighbors. I am the only unlucky one among my brothers and sisters. They all earn good money, but because of my husband's economic status I have to live a difficult life and I blame myself for that. I have

never been happy since I married and I never will be in the future. We are in debt because we had to take on loans to get my husband to Qatar and we are having a lot of pain and trouble as we do not have a good house. But although we are not rich I am happy with my husband's behavior these days.

We have three daughters and one son. My oldest daughter is now in grade 4 and the second in grade 1. My other children are still too young to go to school. My daughters were born when we lived in India. Because my husband desperately wanted to have a son, he treated me badly after we had three daughters in a row and was thinking about marrying another woman. I was afraid and returned to Nepal. My husband came after me and when I gave birth to a son his love for me was back. That is why we had four children, although we are poor and it is financially difficult to raise them. I contemplate a lot about their future. They have to go to school as this can only be done when they are young. But it is difficult to pay for it. They go to a government school, which is less expensive, but still it is hard.

### ***"The better life"- respondent #37***

My parents were in a bad economic position when I was young. We could only buy clothes once every six months. They were farmers and sometimes earned some money by selling goats. We had eight family members; my grandparents, my parents and two sons and two daughters. I was their youngest child. Only my brother and I attended school. My brother reached to SLC and I attained grade 7. My parents did not think of education as necessary as they were managing their lives as well although they were both uneducated. And as the school was far and their opinion was that girls do not need education at all, my sisters never attended school. In the morning, before going to school, we had to go fetching water and collecting grass for the cattle. Since the school was far away, the day was almost over after returning. Up to grade five I had good grades in school, but after that I was ignorant and spent my time with friends from the village and classmates playing cards halfway to school and then return back to home. One of them is now in Nepal army and one of them in Nepal police. The others are like me and those I still see sometimes.

When I was seventeen I got married and quit school. My two sisters were already married and left home. And my brother joined the Indian army and took his wife and children with him. As my parents thought that grade seven was more than enough they expected me to marry soon and take care of the household from that time. It was a runaway marriage, love at first sight. My parents did not complain about my choice, since they needed someone to take care of the household work. After one year we got a daughter. After that we waited for six years because I was well informed about family planning. Raising two children at the same time would be difficult. After those six years we had a son, he is in grade five now. Six months ago my daughter, fourteen years old now, run away with her boyfriend. As I do not want be an obstacle in anyone's feelings for choosing a husband I accepted her choice and they recently married. She was in grade nine when she ran away and I heard that she is still in school now. We are in a better economic position now than when I was young. That is because my brother earned sufficient money in the army to buy more land and more cattle.

Currently I am living with my parents, my wife and son. We still live on the same land as where I was born, only the house was rebuild. My wife is a housewife and takes care of collecting grass and firewood, my parents and our son. I am merely busy with farming activities and the cattle. My father also does some household activities, but my mother is physically weak.

Ten years ago she provided one of her kidneys to my brother in India, who got them both removed due to kidney stones. She never fully recovered from the transplantation. My brother had to spend two years in the hospital after the surgery and was not suitable for the army anymore. Therefore he receives a pension and free monthly checkup from the government. When I was 24 I had plans to join the Nepal army too. In order to get in, an informal agent wanted me to pay NPRs 18,000 in order to place me. But he never placed me and my money was gone. My brother once said: "I am earning money and you just spend it with doing nothing". That changed my attitude and I now believe that everyone should earn his own money.

Besides making a living and always trying to find a better place to live I am particularly interested in developing the village I live in. I try to help in developing schools, roads and medical facilities by trying to attract the attention of NGOs. Once an organization in Gumi asked me to be active in solving our own problems in order to get help from them. But when I showed them how we use water to generate electricity, but that this was not sufficient, they still did not help us. In the future I would like to work for an NGO as security guard for example, as farming is very limited. From having a job, you receive money that you can use for anything you like. Farming only provides food. So a combination of these two would be better. For my children I want to give them better education. If we had enough money I would put them in boarding school and I want to provide my son with higher education so he could get a job and support the family. But that will be difficult in this village since there is no higher education nearby and the land in urban areas is too expensive so we can not move there.

Annex - VII

*Household survey*

VDC: _____	Village: _____	Date:    /    /2011	Time: _____	Start	End
Describe location: _____					
Name of respondent: _____			Name of interviewer: _____		

*Namaste. My name is ..... On behalf of Silvia Prince, a student from The Netherlands, I would like to ask you some questions about you and your household and how you make a living. We are conducting a survey of farmers throughout several communities in Surkhet district. This research will be used for writing her Master thesis. She will also report to SNV Netherlands Development Organisation so they can better understand the reality of the collection of Chiuri and its potential for improvement in the area and the region. It will take approximately 45 minutes to answer the questions. Do have time available now or in the coming days?  
All information you provide will be handled with complete confidentiality and anonymity, and only for the purposes of this study. If you feel uncomfortable about certain questions you can refrain from answering them or end the interview at any time. However, we would highly appreciate your cooperation.  
Do you have any questions to me or Silvia before we start?*

**Household characteristics**

S/N	A. Name	B. Relationship (to head of household)	C. Sex	D. Age (years)	E. Highest attained education	F. Literacy Can s/he read and write?	G. Main occupation
	What are the names of the people who have been living together in this house for the last six months?  [PUT THE NAMES OF MEMBERS IN ORDER OF RELATIONSHIP. BEGIN BY ASKING WHO THE HEAD OF THE HOUSEHOLD IS]	1. Head of household 2. Spouse/partner 3. Son/Daughter 4. Brother/Sister 5. Father/ mother/parent-in-law 6. Other relative 7. Employee 8. Other non-relative 9. Grandchild 10. Child in-law	M/F	(years)	1. None 2. Primary (1-5) 3. Lower Secondary (6-8) 4. Secondary (9-10 /SLC) 5. Higher Secondary (11-12) 6. B.A. or above 7. Other (specify)  [NOTE HIGHEST GRADE S/HE FINISHED]	1. Yes 2. No	1. Farmer 2. Wage labourer 3. Business owner 4. Housewife 5. Student 6. Retired 7. Unemployed 8. Other (specify)
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

H. What is your caste/ethnicity?      1) Brahman      2) Chhetri      3) Thakuri      4) Dalit      5) Janajati      6) Other (specify): \_\_\_\_\_

**Land cultivation**

Does your family cultivate any land? If yes, please list all the plots you are cultivating in the table below.

Plot	A. Size (ropani)	B. Type of land 1. slopes (pahat) 2. plain land (beshi)	C. Is the plot irrigated? 1. Yes 2. No	D. Ownership *	E. If owned, how did you acquire the land? 1. inherited 2. bought 3. claimed 4. other (specify)
1					
2					
3					
4					
5					

**\* Ownership**

- 1) title on man's name
- 2) title on woman's name
- 3) sharecropping (Adhiya) (% of crops as rent)
- 4) cash fixed rent
- 5) Leasehold forest land
- 6) community land
- 7) unclaimed land
- 8) Government owned
- 9) other (specify)

F. Does your household own any land that you are renting out to other farmers?

If yes, what is your monthly income from this? \_\_\_\_\_ NPRs

**Food security**

- A. For how many months last year were your harvest and income combined sufficient to feed your family? \_\_\_\_\_ months
- B. Did your household receive any food aid the last year? 1) Yes 2) No
- C. Did any of the household members work for other people in exchange for food? 1) Yes 2) No

**Livestock**

S/N	Livestock owned	A. Number of productive animals	B. How do you use them? 1. own consumption only 2. selling only 3. both consumption and selling	C. What products do you make money from? [MULTIPLE ANSWERS POSSIBLE] 1. meat 2. milk 3. eggs 4. wool 5. manure 6. traction 7. transportation 8. other (specify)	D. Income: What was the income from livestock last year (NPRs)?
1	Buffalos				
2	Cows				
3	Goats				
4	Sheep				
5	Pigs				
6	Poultry				
7	Other (specify):				

- E. How has your income from livestock changed over the last three years? 1) Increased 2) Stayed the same 3) Decreased

What are the most important reasons for this? \_\_\_\_\_

**Chiuri collection**

A. For how many years have you been *collecting* Chiuri seeds? \_\_\_\_\_

[ANSWER QUESTIONS B-F FOR THE LAST SEASON]

Who is involved in Chiuri seed collection and processing?

B. Household member  [S/N FROM FIRST HOUSEHOLD SHEET, PLUS FIRST NAME]	How many hours did he/she spent per week on Chiuri collection and cleaning/drying/other activities related to Chiuri?	
	C. Collection	D. Cleaning/drying/other activities

E. Where do you collect Chiuri seeds?      1) Community forest      2) National forest 3) Private land, specify owner: \_\_\_\_\_ 5) Waste land 6) other (specify)

F. What is the walking distance to the collection field? (minutes) \_\_\_\_\_ min

How do you use the Chiuri seeds?

G. Use	H. Volume (kg)
1) own use	
2) bartered against another product	
3) sold	
4) Other (specify)	
<i>Total</i>	

H. For how long have you been *selling* Chiuri products? \_\_\_\_\_

To whom do you sell your Chiuri products? Specify the type of product, the volume, the price you receive, and the location where you receive this price.

S/N	I. Product *	J. Buyer **	K. Volume (Kg)	L. Price (NPR)	M. Delivery point ***	N. Who received this price?
1						
2						
3						
4						
5						

\* Product

- 1) Chiuri seeds
- 2) Chiuri seeds, cleaned and dried
- 3) Chiuri oil
- 4) Ghee, containing Chiuri oil
- 5) Chiuri fruits
- 6) Chiuri Cake

\*\* Buyer

- 1) Cooperative
- 2) Trader
- 3) Merchant
- 4) Ghee producer
- 5) Other (specify

\*\*\* Delivery point

- 1) At the field
- 2) Community collection centre
- 3) Market-place
- 4) Cooperative office
- 5) Other (specify

O. What costs did you make in relation to Chiuri?

- |                                  |                                |                                    |
|----------------------------------|--------------------------------|------------------------------------|
| 1) Wage labour: _____ NPRs       | 2) Training: _____ NPRs        | 3) Collection material: _____ NPRs |
| 4) Transportation: _____ NPRs    | 5) New trees: _____ NPRs       | 6) Storage material: _____ NPRs    |
| 7) Cleaning material: _____ NPRs | 8) Drying material: _____ NPRs | 7) Processing material: _____ NPRs |
| 9) Other (specify): _____ NPRs   |                                |                                    |

P. Will you continue the selling as specified above? Explain \_\_\_\_\_  
\_\_\_\_\_

Q. How has your income from Chiuri changed over the last three years?      1) Increased      2) Stayed the same      3) Decreased  
What are the most important reasons for this? \_\_\_\_\_

R. What did you use the chiuri seeds for before you started selling seeds to the cooperative?

- 1) Selling ghee
- 2) Making ghee for own consumption
- 3) They were waste
- 4) other

S. Did you quit other activities due to selling chiuri? Loss of dropped activities: \_\_\_\_\_ NPRs

T. Use of money earned from chiuri:

- |              |                   |              |
|--------------|-------------------|--------------|
| 1) Food      | 4) HH goods       | 7) Livestock |
| 2) Clothes   | 5) Medication     | 8) other     |
| 3) Education | 6) Building house |              |

**Crop cultivation**

What are the main crops (in terms of production) you have grown last year?

How many ropani per crop did you harvest last year?

How many kilograms in total have you harvested per crop?

If sold, how many kilograms per product have you sold?

If sold, at what price have you sold it?

How much money have you spent in total on this crop last year?

If sold, where did you sell (the majority of) your harvest?

	Crop 1	Crop 2	Crop 3	Crop 4
<b>A. Crop name</b>				
<b>B. Harvested (ropani)</b>				
<b>C. Harvested (Kg)</b>				
<b>D. Crop yield</b>				
<b>E. Sold (Kg)</b>				
<b>F. Price (NPRs/kg)</b>				
<b>G. Costs (NPRs)</b>				
<b>H. Net income</b>				
<b>I. Selling location</b>				

J. How has your income from these crops changed over the last three years?

- |                    |                    |                    |                    |
|--------------------|--------------------|--------------------|--------------------|
| 1) Increased       | 1) Increased       | 1) Increased       | 1) Increased       |
| 2) Stayed the same |
| 3) Decreased       | 3) Decreased       | 3) Decreased       | 3) Decreased       |

K. What are the most important reasons for these changes? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Non-agricultural income sources**

Do any of the household members earn a wage? [FILL OUT THE TABLE BELOW]

Household member [S/N FROM FIRST HOUSEHOLD SHEET, PLUS FIRST NAME]	A. Wage activity	B. Seasonality 1. All-year 2. Temporary 3. Seasonal (specify)	C. Time How many days a year do you spend on this activity?	D. Income How much do you earn per day?

E. Do any of the household members seasonally migrate to earn income? If yes, which member(s)? \_\_\_\_\_  
 If yes, where do they go? \_\_\_\_\_ What work do they do? \_\_\_\_\_  
 If yes, how much have they earned for this household last year? \_\_\_\_\_ NPRs

F. Does your household collect other forest products besides Chiuri? 1) Yes 2) no If yes, what products do you sell? \_\_\_\_\_  
 If yes, what has your household earned from this activity last year? \_\_\_\_\_ NPRs

G. Does any member of your household receive funds (e.g. pension) or subsidies from the government like? If yes, what amount per month? \_\_\_\_\_ NPRs

H. Does the household have any other income sources which have not been discussed yet? If so, please specify:  
 Activity 1: \_\_\_\_\_ Amount: \_\_\_\_\_ NPRs per \_\_\_\_\_ Activity 2: \_\_\_\_\_ Amount: \_\_\_\_\_ NPRs per \_\_\_\_\_  
 \_\_\_\_\_

I. How has your income from the activities above changed over the last three years? 1) Increased 2) Stayed the same 3) Decreased  
 What are the most important reasons for this? \_\_\_\_\_

J. How have you changed the way your household makes a living over the last three years? (what activities have become more important and/or taken more time?) \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Cooperatives**

A. Is any household member part of a cooperative? 1) No 2) Yes, general member 3) Yes, board member 4) Yes, shareholder  
5) other: \_\_\_\_\_

B. If yes, what is/are the name(s) of the cooperative(s)? \_\_\_\_\_

C. What services from the cooperative(s) do you make use of? [MULTIPLE ANSWERS POSSIBLE] 1) Credit 2) Savings 3)  
Contract negotiation 4) Equipment 5) Market information 6) Selling of your products 7) Technical  
assistance 8) Other (specify): \_\_\_\_\_

D. Is any household member part of a Community Forest User Group? 1) No 2) Yes, member 3) Yes, board member 4) other: \_\_\_\_\_

E. If yes, what is the name of the Community Forest User Group? \_\_\_\_\_

**Organization & Social capital**

A. Do you have relatives in the village? 1) Yes 2) No [IF NO, GO TO B]

Do you help each other with farming and/or other work? 1) Yes 2) No

Do you give or receive food to/from these relatives? 1) Yes 2) No

Do you give or receive cash to/from these relatives? 1) Yes 2) No

B. Do you have any relatives outside this village? 1) Yes 2) No [IF NO, GO TO C]

Do you receive help from them (money, food, goods, etc.)? 1) Yes 2) No

C. Do your neighbours (non-relatives) help you with farming activities like planting and harvesting? 1) Yes 2) No

**Credit & savings**

A. Have any of the household members taken on any loans? If yes, what is the total of current loans taken in this household? \_\_\_\_\_ NPRs

B. Who is the lender of the loan(s)?  
 1) Group                      2) Commercial Bank                      3) Micro-finance agency                      4) Rural development bank  
    5) Trader                      6) Informal moneylender                      7) Cooperative                      8) Neighbour                      9) Relative  
    10) Other (specify): \_\_\_\_\_

What was the main use of the credit? Give the three most important destinations of money with an estimate of the amount:

	C. Use	D. Amount (NPRs)
1		
2		
3		

the

E. Does your household have any savings? If yes, where?                      1) Bank                      2) Cooperative                      3) At home                      4) Group 5) Other (specify): \_\_\_\_\_  
 F. If yes, how much in total? \_\_\_\_\_ NPRs

**General observations**

A. What material is the roof?                      1) Traditional flat                      2) Tin/galvanized                      3) Tiled                      4) Thatched  
    5) Other (specify): \_\_\_\_\_

B. Does your household own a cell phone?                      1) Yes                      2) No

C. How many rooms does your house have? \_\_\_\_\_ rooms

D. Is this house owned or rented by a household member?                      1) Owned                      2) Rented                      3) Other (specify): \_\_\_\_\_

E. Does the house have a solar panel?                      1) Yes                      2) No

F. Does the house have a toilet?                      1) Yes                      2) No

E. Does the household have access to electricity?                      1) Yes                      2) No

***Closing***

[FIRST, CHECK WHETHER YOU HAVE NOT SKIPPED ANY QUESTIONS. SECOND, ARE ALL THE NOTES YOU MADE CLEAR?]

Thank you for your time and cooperation. Do you have any questions or comments?