

Houaphanh Bamboo Value Chain Analysis

Identifying SNV's Potential Advisory Services for
the Development of the Bamboo Value Chain



Martin Greijmans
Boualay Oudomvilay
Julio Banzon

November 2007

Acknowledgments

SNV Portfolio North wishes to thank the Governors Office, the Department for Planning and Investment, the Department of Industry and Commerce and the Provincial Agriculture and Forestry Office of Houaphanh province for their collaboration during the 2 week bamboo value chain mission in Houaphanh.

Special thanks go to all province and district staff, NTFP entrepreneurs and NTFP collectors who shared their valuable time and information. We are also grateful for being received so welcome in Thanh Hoa province, Vietnam from the government, private sector and villagers.

We received excellent support and assistance from Mr. Mone, SNV stationed in Xam Neua for which we are very grateful. Thanks go to Julio Banzon SNV, Portfolio Coordinator North who gave us this opportunity to broaden our horizons. Last but not least we were happy to have met Titos Escueta, Nigel Smith (OHK/PI) and Patrice Lamballe (GRET) with whom we had valuable discussions helping us to understand the bigger picture of the regional bamboo sub-sector.

List of Abbreviations

AFTA	ASEAN Free Trade Area
DAFO	District Agriculture and Forestry Office
DOIC	Department of Industry and Commerce
MOIC	Ministry of Industry and Commerce
DPI	Department for Planning and Investment
DPTP	Department of Production and Trade Promotion
EDC	Enterprise & Development Consultants Co., Ltd.
FS2020	Forestry Strategy to the Year 2020
G4E	Governance for Empowerment
GDP	Gross Domestic Product
GO	Governors Office
GRET	Groupe de Recherche et d'Echange Technologique
ha	Hectare
IFC	International Finance Corporation
LAK	Lao Kip (1 USD = 9,643 kip; 28 Aug. 2007)
MAF	Ministry of Agriculture and Forestry
MBC	Mekong Bamboo Consortium
MIC	Ministry of Industry and Commerce
MIS	Market Information System
MoF	Ministry of Finance
MoT	Ministry of Trade
MPDF	Mekong Private Sector Development Facility
NAFReC	Northern Agriculture and Forestry Research Centre (of NAFRI)
NAFRI	National Agriculture and Forestry Research Institute
NGO	Non-Governmental Organization
NGPES	National Growth and Poverty Eradication Strategy
NSEDP	National Socio-Economic Development Plan
NTFP	Non-Timber Forest Product(s)
NUOL	National University of Laos
OHK	Oxfam Hong Kong
PAFO	Provincial Agriculture and Forestry Office
PI	Prosperity Initiative
PIE	Production, Income, Employment
PRF	Poverty Reduction Fund
PTO	Provincial Tourism Office
SME	Small and Medium Enterprise
SNV	Netherlands Development Organisation
TOR	Terms of Reference
USD	United States Dollar
VC	Value Chain
VND	Vietnam Dong (1 USD = 16,235 Dong; 28 Aug. 2007)

Contents

List of Abbreviations	3
Executive Summary	6
1. Introduction	9
1.1 Background - Houaphanh Province	9
1.2 Rationale, objectives and methodology	11
2. Overview of the Bamboo Industry	14
2.1 Global industry	14
2.2 Regional industry	15
2.3 Lao industry	16
3. Analysis of the Houaphanh Value Chain	17
3.1 Overview	17
3.2 Products and Markets	18
3.2.1 Domestic market	18
3.2.2 Cross border market	18
3.3 Enabling environment	19
3.3.1 National Policy	19
<u>3.3.1.1. Ministries, departments and government agencies involved</u>	20
3.3.2. Province and district	20
<u>3.3.2.1. Provincial and district departments agencies involved</u>	21
3.4 Description of the Value chain Actors	21
3.4.1. Producers	21
3.4.1.1. Harvesters	22
3.4.1.2 Handicraft producers	23
3.4.1.3 Cultivators	25
3.4.2 Traders/collectors	25
3.4.2.1 Domestic trade	25
3.4.2.2. Cross-border trade	26
3.4.3 Processors	26
3.4.4 Wholesale and retailing	27
3.5 Supporting actors	33
3.6 Governance	34
3.7 Gender and Social Inclusion Dimension	35
3.8 Environmental dimension	35
4. Strategic Issues, constraints and opportunities	37
5. Conclusions and recommendations	41
5.1 Should SNV intervene?	41
5.2 Potential interventions	41
5.3 Potential clients and partners	44
5.4 Priorities	45
References	46

Appendices

1: Bamboo/NTFP related legislation	48
2: Quotas and taxes	49
3: Houaphanh Policy environment	50
4a: Simplified actor constellation of bamboo VC in Houaphanh	52
4b: Actor constellation of bamboo VC in Houaphanh	53

Tables

1: Geographic and demographic data of Houaphanh province	10
2: Livelihood strategies of rural people in Houaphanh province	10
3: SNV Selected value chains per province	11
4: Important bamboo species used and traded in Houaphanh province	17
5: Taxes and fees collected for bamboo	21
6: Actors, prices and volumes of the bamboo value chain in Houaphanh	28
7: Backward and forward access for VC actors	34
8: Opportunities and constraints identified in the bamboo value chain in Houaphanh	38
9: Proposed bamboo value chain interventions in Houaphanh	42

Figures

1: Houaphanh province	9
2: Two Global Bamboo scenarios	14
3: Lao market size estimate	14
4. Bamboo shoots value chain	29
5. Traditional handicraft value chain	30
6. Bamboo mats value chain	31
7. Semi-processed products value chain	32

Executive Summary

The purpose of this report is to present to SNV the present status of bamboo sub-sector in Houaphanh, followed by a stakeholder and value chain analysis, opportunities and constraints and recommendations on how to intervene in the sector.

1. Houaphanh is the poorest province in Lao PDR with various socio-economic indicators such as infant mortality rate, access to safe water and medical facilities lying far below the national average. This northern and remote province has 90% of its area covered by mountains carrying degraded forests. Income generation is from livestock, agriculture (corn, sesame, soybean) and NTFPs (medicinal plants, bamboo, *peuak meuak*, styrax, sticklac). The province has abundant bamboo resources which in recent years attracted the interest of the foreign industry. According to the provincial socio-economic development plan, Houaphanh has the capacity to be self-sufficient in food, but still lacks sufficient electricity, industry and road access.
2. SNV's core business is capacity development "to support local actors to strengthen their performance in realising poverty reduction and good governance". With this in mind SNV decided to place its efforts within competitive and value adding value chains while aiming for poverty reduction by increased production, income, employment and improved inclusion of the poor. In line with the Government of Laos' goals and objectives SNV has undertaken a selection process for choosing sub-sectors and value chains, for Houaphanh the bamboo value chain. The goal of this study is to provide SNV with a better understanding of the interventions required to develop the bamboo sub-sector. The objectives of the value chain study are to:
 - determine whether bamboo has the potential to be an attractive development option for Houaphanh province
 - illustrate the bamboo value chain and assess the roles and functions of the actors and their linkages
 - assess the current situation of the bamboo value chain:
 - major opportunities and constraints for its development,
 - needed services to be developed and
 - main policy issues in need to be addressed for the identified value chain
 - raise awareness among value chain actors and enabling environment with regard to opportunities and constraints within the bamboo sub-sector,
 - identify potential intervention activities for SNV with potential clients in Houaphanh and approaches
3. The world bamboo market is currently worth USD 7 Billion/year, of which China has USD 5.5 Billion. The largest markets are handicraft (USD 3 Billion), bamboo shoots (USD 1.5 Billion) and traditional furniture (USD 1.1 Billion). Traditional markets cover handicrafts, blinds, bamboo shoots, chopsticks and traditional bamboo furniture which count for 95% of the market. Emerging bamboo markets are wood substitutes such as flooring, panels and non-traditional furniture. The growth of the global market is expected to grow to USD 15-20 Billion/year in 2017. Non-traditional markets are expected to claim 45% of the total bamboo market. China is one of the most important markets in the region and the world with 3.4 million ha bamboo of which 85% is consumed domestically. The Mekong region currently generates USD 261 million/year, but the selling and processing of whole bamboo poles has been inefficient and markets have not been developed. It is expected that within 10 years the Mekong bamboo could be worth around USD 0.6-1.2 billion per year capturing a greater share of a growing world bamboo market.

Bamboo plays an important subsistence role in Lao rural areas with its stems used as a building material and shoots for consumption or sale. Only a small number of commercial bamboo processing businesses are operating in Laos and have difficulties in finding profitable markets for their products.

4. The mountains of Houaphanh are rich in bamboo in the lower parts (<1,000 m) of the province i.e. Ett, Sobboa, Xiengkhor, Xamtay and Viengxay districts. Bamboo products obtained are shoots, poles, handicrafts, semi-products and industrial products. The actors of the bamboo value chain are producers (farmers collecting bamboo products, cultivators and traditional handicraft makers), collectors (district and province level traders involved in collecting from villages and export) and processors (Lao and Vietnamese firms involved in processing and export). Producers collect bamboo year round for own use and small scale handicraft trade, but they are limited aware of a market. Only a handful of traders, near the main export borders, are involved in the trade of raw bamboo and handicraft products with some having good relations with the Vietnamese industry. Processing of bamboo takes place in 2 factories in Viengxay district which produce semi-processed products for the Vietnamese market i.e. chopsticks, toothpicks. Numbers on people involved and export figures are limited available, also as the bamboo market in Houaphanh is still little developed. However, recently the Houaphanh government allowed for a 9 ha Laos-Chinese factory to be set up in Xiengkhor and Ett districts to export bamboo pulp to Taiwan. The bamboo value chain operates within an enabling environment of forestry regulations and limited extension or financial services are available in the sub-sector. Government regulations for bamboo prohibit exploitation and harvesting: causing complete damage, of bamboo less than three years of age and during the closed season of 5 months. In general there are still flaws in the regulations for NTFPs and various ministries, departments and offices are involved in the bamboo sub-sector each with their own roles and responsibilities often contradicting or overlapping each other. This creates confusion at district and province level where national policies are implemented, such as in the case of collecting taxes and fees for bamboo and land allocation. Another factor constraining the local level is the lack of capacity or support from central level.

Prices for bamboo are decided upon by traders who need to deal with a complex system of quotas and taxes depressing prices for them and subsequently for villagers. Traders also take risks when buying products from producers and have high transport costs. Profits for handicraft producers are 50-60% without accounting for labour costs, traders receive between 23-55% profit and retailers 15%. Profits for Vietnam industry seem high, but little is still understood what costs they have.

Women play a main roles role in bamboo shoot collection, processing and sale, processing of handicrafts and provide labour in the semi-processing bamboo factory. Women have considerable opportunities to earn an income by selling handicrafts, but their share of the final sale is limited due to lack of information on prices and lack of negotiation skills. Houaphanh counts numerous poor ethnic groups who have little opportunity to engage in the bamboo value chain and are often not organised and have little negotiation power.

In Houaphanh bamboo resources are yet to be of economic value for farmers and large areas are cut or burned and converted into agricultural land. Even though bamboo is becoming an interesting option in Viengxay district, it is cleared because the resources are too distant from roads to sell products. Recently, authorities have issued an order to halt the harvest of bamboo shoots for trade due to a belief that bamboo stocks in the forest are declining. It is not sure how this information

has been collected but no harvesting guidelines or resources assessments have been developed to measure harvest impact. Limited bamboo is planted to date.

5. With its good resource base and proximity to the Vietnamese bamboo industry Houaphanh has the potential to develop its domestic bamboo handicraft markets and to increase exports of semi-processed products and raw materials. A large number of the rural poor can potentially be involved in the bamboo sub-sector increasing their income, employment and promote equity. Representatives of the Governors office, Department of Planning and Investment, Department of Industry and Commerce and Provincial Agriculture and Forestry Office are still largely unaware of the bamboo value chain potential but are interested to be engaged in improving its efficiency. SNV sees good opportunities to engage these departments as clients in the bamboo value chain. Raising awareness and capacity building is crucial for government departments for them to better support the chain. Focus is proposed in districts that border Vietnam and have ample bamboo resources like Viengxay and Xiengkhor. Xamtai district is believed to have similar potential both for its bamboo resources and handicraft development. Before certain interventions are carried out further study or information is required with regard to prices, product demand, quality requirements, costs, flow of products and the workings of the various government regulations. Oxfam Hong Kong and their program Prosperity Initiative are recently engaging in the bamboo sector in Laos as part of a larger Mekong program and SNV is interested in partnering with them. Other potential partner organisations are GRET and the government lead Poverty Reduction Fund. SNV stimulated the engagement of Local Service Providers and the private sector but this requires further study. Most constraints identified in the bamboo value chain all lead to the lack of awareness and thus focus at provincial level. A provincial bamboo strategy needs to be developed first in order to guide an enabling business climate benefiting from the market demand. Once this is stimulated and the processing industry and product pick up, prices will improve and the productivity increases. This is likely to provide incentives to sustainable manage bamboo resources. Priorities identified for intervention are:
 - I. Developing an enabling environment for the bamboo sub-sector (provincial bamboo strategy)
 - II. Increasing value added by processing bamboo stems
 - III. Empowering villagers with improved negotiation skills
 - IV. Developing sustainable harvesting methods for bamboo shoots and stems
 - V. Decreasing costs for bamboo traders

1. Introduction

1.1 Background - Houaphanh Province

Houaphanh is the poorest province in Lao PDR where three quarters of the population were classified as poor in 1998 with an equivalent 2002 per capita GDP of just \$50-204 (national average is \$350). Other socio-economic indicators such as infant mortality rate, access to safe water and medical facilities also lie far below the national average (UNDP, 2002; Kurukulasuriya, 2006).

Houaphanh is one of the northern provinces of Laos sharing its borders with Vietnam and Xiengkhouang and Luang Prabang provinces (Figure 1). Some 90% of Houaphanh's land area is made up of mountainous terrain. Its remoteness is measured in a 24 hours drive from Vientiane and 8 hours from Hanoi.

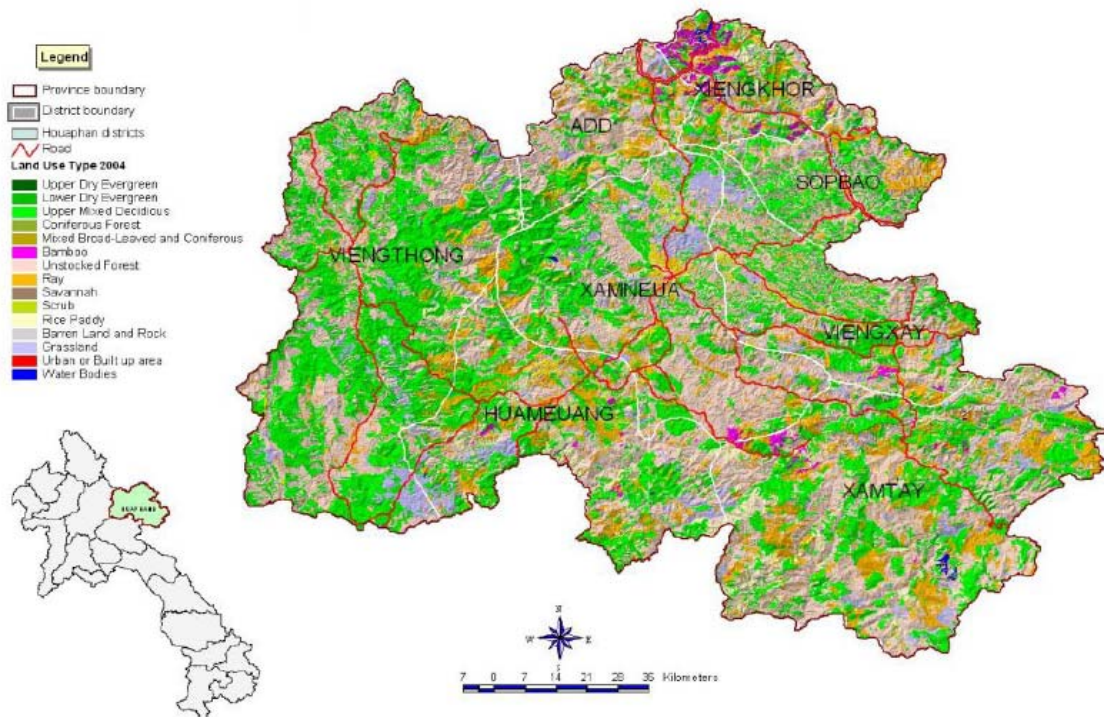


Figure 1: Houaphanh province

(Source: Bopha and Phimmavong, 2006)

Degraded forests are pronounced in the north. Deforestation during the war from 1960 to 1970 was attributed to the use of defoliants. According to Department of Forestry data for 1993, most clearing since 1975 has been as a result of slash-and-burn activities. In that time, some 1.8 million ha of forest land were lost in the Northern provinces (Pearse, 2006).

For more information on natural resources and demographic information please refer to Table 1.

TABLE 1: GEOGRAPHIC AND DEMOGRAPHIC DATA OF HOUAPHANH PROVINCE	
Land Area	1,750,566 ha
Forest land	594,000 ha
Upper mixed deciduous forest (including 45-60% of bamboo)	508,368 ha
Bamboo	17,870 ha
Cultivated land	16,000 ha
Population	280,780
Women	139,334
Districts	8
Poorest (priority)*	Viengxai, Xiengkhor, Viengthong, Xamtay, Huameuang
Poor*	Sobbao, Add
Not poor*	Xam Neua
Villages	784
Poor villages*	91.1%
Households	43,288
Poor households*	65.1%
Household Size	6.5
Ethnic groups	Thai Khao, Thai Deng, Thai Dam, Thai Lu, Phuan, Khamu, Hmong, Lao phong, Sila, Mien, Punoy, Vietnamese
Rural Population	94%
Accessibility to villages in dry/wet season	20%/36%

*judged by the Prime Minister's Decree No. 10
(Sources: National Statistics, 2004, 2005; Rogers et al, 2004.)

Practically, all villages are situated in remote locations without any all weather access roads. Availability to agricultural extension services, inputs and basic social services is therefore limited and compels rural communities to continue practice traditional shifting cultivation, along with opium poppy as a cash crop. Income generation of a typical rural household consists of the following:

Table 2: Livelihood strategies of rural people in Houaphanh province

Source of income	Percentage (%)
Livestock	29-50
NTFPs	10-20
Agriculture	5-20
Opium cultivation	0-15
Handicrafts	1-10
Labour, remittance, trade	5-39

(Sources: Kurukulasuriya, 2006; Bouphe and Phimmavong, 2006; CHAMPA LAO CO, 2006; NAFReC, 2006)

Cash crops such as corn, sesame, soybean, are grown increasingly for export to Vietnam and earn up to 10% of a households yearly income.

Important NTFPs traded are: *man on ling*, *duk duea* and *kalamong* (medicinal plants), *peuak meuak*, paper mulberry, styrax, cardamom, cinnamom, sticklac, bamboo stems (for export) and bamboo shoots, wild vegetables and wild insects for own consumption.

Houaphanh has abundant bamboo resources which in recent years attracted the interest of the foreign industry. In many countries bamboo has already proven itself to be ideal for sustainable development.

According to the provincial socio-economic development plan, Houaphanh has the capacity to be self-sufficient in food, however at times, epidemics wipe out livestock leading to a shortage of meat in the market, and shortfalls are made up by importing meat from Vietnam. There is very limited use of electricity, or industry of any sort (Keuleers, 2001).

Access is the most critical factor to economic development, with 3 main (partly) asphalted roads. Road 6 from the south to Phonsavan, Road 1 from the west to Oudomxay/Luang Prabang and Road 6A to Vietnam at Ban Deuy (Rogers et al, 2004).

1.2 Rationale, objectives and methodology

SNV's core business is capacity development "to support local actors to strengthen their performance in realising poverty reduction and good governance". In addition SNV has the ambition "to systematically strengthen the in-country ability for capacity development for impact".

With this in mind SNV decided to place capacity building efforts within competitive and value adding value chains (VC) while aiming for poverty reduction by increased production, income and employment (PIE) as well as improved inclusion of the poor in VCs. Besides this, SNV recognised that it cannot act in isolation and that it needs collaboration and partnerships to maximise its contribution to impact.

A value-chain includes the full range of activities that are required to bring a product from its conception, through different phases of production, to its final customer. The value-chain approach helps to improve the overall productivity of a sector, i.e. all individual actors may benefit from it. Thus, this approach contributes to poverty reduction (Weijers *et al*, 2006).

In line with the goals and objectives of the Sixth National Socio-Economic Development Plan (NSED) and the National Growth and Poverty Eradication Strategy (NGPES), SNV Lao PDR has undertaken a selection process for choosing sub-sectors and value chains that best fit the income, employment and production impact area (SNV, 2007). For the period 2008-2010 the following NTFP sub sectors and market chains are proposed:

Table 3: SNV Selected value chains per province

Sub-sector	Value added market chain	Portfolio
NTFP	Rattan	South (Savannakhet)
	Bamboo	Central (Sangthong district, North (Houaphanh)
	Paper mulberry	North (Luang Prabang)

(Source: SNV Lao PDR. 2007a/b)

SNV's overall goal is to reduce poverty in Houaphanh by improving the bamboo value chain. The goal of this study is to provide SNV Portfolio North with a better understanding of the interventions required to develop the bamboo sub-sector while benefiting poor people in Houaphanh province.

The objectives of the value chain study are to:

1. determine whether bamboo has the potential to be an attractive development option for Houaphanh province
2. illustrate the bamboo value chain and assess the roles and functions of the actors and their linkages
3. assess the current situation of the bamboo VC:
 - a. major opportunities and constraints for its development,
 - b. needed services to be developed and
 - c. main policy issues in need to be addressed for the identified VC
4. raise awareness among VC actors and enabling environment with regard to opportunities and constraints within the bamboo sub-sector,
5. identify potential intervention activities for SNV with potential clients in Houaphanh and approaches

With this in mind the study wants to answer the following questions:

- What are the bamboo market characteristics and trends, and what is Lao PDR's position in the regional/global market?
- Are there sufficient bamboo resources to take advantage of the market demand? How are bamboo resources managed?
- What are the characteristics, functions, linkages, opportunities and constraints of the VC actors?
- How is trade coordinated and regulated, and how are benefits from the trade distributed among the actors?
- What is the current enabling environment with regard to the bamboo value chain?
- What are the roles of the supporting actors?
- What enabling environment conditions are important for the bamboo value chain to be competitive?
- What are the opportunities for upgrading in the value chain for increased efficiency, product differentiation and accessing new markets?
- What are the opportunities for enhancing PIE, conservation and democratic governance via the value chain while maintaining competitiveness?
- What are the potential win-win relationships, incentives and catalysts for pursuing opportunities?
- What short-term actions can be taken to pursue opportunities and address constraints?

The value chain approach examines key activities in the bamboo VC to analyse relationships between VC actors and their performances. The analysis identifies ways to achieve improved competitiveness through a combination of (adapted from Juliard *et al.*, 2006):

- supportive regulatory framework and business environment
- efficiency improvement of products and services
- diversification of products and services through quality standards and other innovations
- exploiting new market demand.

To answer the study questions the following activities were carried out:

- Desk study, reviewing secondary data.
- Workshop introduction. SNV organised a one-day workshop in Xam Neua for the Governors Office, DPI, DOIC and PAFO to introduce SNV, its strategy, the

- way it works followed by an introduction into value chains and reasons why the bamboo VC was selected.
- Identification of study sites with provincial authorities: at the supply/resources side bamboo rich districts were selected: Ett, Xiengkhor, Sobboa, Viengxay, Xam Tai districts; on the demand/marketing side Viengxay district and Thanh Hoa province in Vietnam was selected.
 - Development of study design/questionnaires for VC actors: producers, traders, industry; and the enabling environment: district authorities.
 - Field visits and interviews with district and provincial officials, traders, villages, industry
 - Identification of opportunities and constraints analysis and potential interventions
 - Debriefing workshop for senior members of enabling environment in Houaphanh province: discussion of the results of field study and review of initial interventions for strengthening the value chain.

The present report integrates the results, the analysis and includes proposed interventions.

2. Overview of the Bamboo Industry

This overview of is heavily based on a feasibility study by Oxfam Hong Kong, International Finance Corporation – Mekong Private Sector Development Agency. 2006. Mekong Bamboo Sector Feasibility Study. Prepared by Entrepriese Opportunities Ltd., further referred to as OHK, 2006.

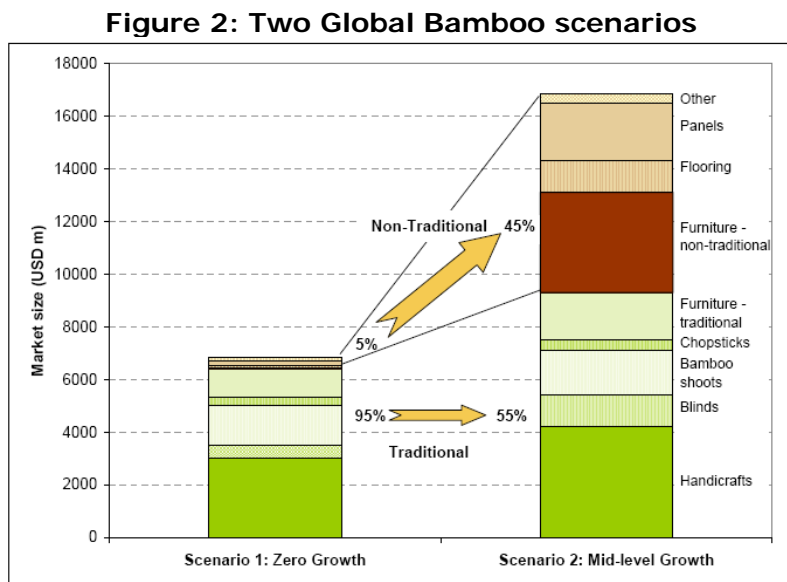
2.1 Global industry

The world bamboo market is currently worth USD 7 Billion/year, of which China has USD 5.5 Billion. The largest markets are handicraft (USD 3 Billion), bamboo shoots (USD 1.5 Billion), traditional furniture (USD 1.1 Billion), the remainder consists of window blinds, chopsticks, panels, charcoal etc. In 1992, France, Germany and the Netherlands were the major markets for bamboo, collectively accounting for 53% of the world's total imports (NAFRI, NUoL, SNV. 2007).

Traditional markets cover handicrafts, blinds, bamboo shoots, chopsticks and traditional bamboo furniture which count for 95% of the market to date. New market products include modern/laminated furniture, flooring and panels cover the remainder 5% of the bamboo sector.

Emerging bamboo markets, particularly wood substitutes, have been pioneered by Asian producers and include flooring, panels and non-traditional furniture. These represent the largest growth opportunities for bamboo. Strong world (and Chinese) demand and Chinese's productive capacity and exports have produced a structural change in the wood industries. Increased restrictions of certified timber supply, growing environmental awareness, and competitiveness in lower-cost countries create a positive market outlook for bamboo.

As there is still a high degree of uncertainty over bamboo market growth, especially in new markets, two bamboo market scenarios are presented in Figure 2.



(Source: OHK, 2006).

World Bamboo Market Scenario 1: Existing market – zero growth scenario (Worst case), based on current market size only assuming zero growth in global markets or bamboo penetration. It is believed that this scenario is unlikely to occur due to the current dynamic expansion of the sector.

World Bamboo Market Scenario 2: Mid-level future scenario, based on the prevailing forecasts for 'global market' growth and the mid-level scenario for bamboo penetration growth).

The growth of the global market is expected to grow to USD 15-20 Billion/year in 2017. Of this it is expected that traditional products will grow, but not as fast as the non-traditional market which will expect to claim 45% of the total bamboo market.

2.2 Regional industry

China's continued rapid economic growth and its large population means that it is one of the most important markets in the region and the world. It is also the global bamboo superpower, 3.4 million ha bamboo, with an estimated industry production output of USD 5.5 billion in 2004, almost 85% of which is consumed in the domestic market.

The Mekong region (Vietnam, Cambodia and Lao PDR) currently generates USD 261 million/year from bamboo. Although poor communities in the Mekong region have exploited bamboo as a crop for many years, the selling and processing of whole bamboo poles has been inefficient and markets have not been developed.

75% of the total sector's financial output is pro-poor as farmer income (bamboo grown) or as labour. In the industrial bamboo sector farmers are the main beneficiaries (60%), while in handicraft, labourers of whom 60% are women, are the main beneficiaries capturing 70-80%. Bamboo shoots are a smaller sub-sector of which farmers are the beneficiaries.

Bamboo is not a competitive crop in the lowlands, as farmers get better returns from growing rice and cash crops. In the uplands bamboo provides one of the best returns and is normally more sustainable.

Thailand is the most important market for Cambodian and Laos bamboo sectors. Its importance as a key market in the region is likely to remain with a large population and economic growth.

Vietnam has the potential to develop a large scale, diversified and internationally competitive bamboo sector. Vietnam has:

- strong economic and manufacturing export growth
- a sizeable and increasingly diversified industry worth ca. USD 250 million per year
- sizeable bamboo resources of approximately 1.4 million ha.
- growing recognition of the sector from government and others
- active interest from buyers and investors
- improving business environment for rural SME's
- significant market distortions from state enterprises that threaten to handicap the continued growth of the industry
- forecasted growth of expenditure on Vietnamese products is +20% per year for short to medium term

- potential to develop a USD 1 billion+ industry

Scenarios developed for the Mekong region suggest that within 10 years the Mekong bamboo could be worth around:

- *World Bamboo Market Scenario 1 (zero growth)*: USD 0.6 billion per year by capturing a greater share of the existing world bamboo markets
- *World Bamboo Market Scenario 2 (mid-level future)*: USD 1.2 billion per year by capturing a greater share of a growing world bamboo market

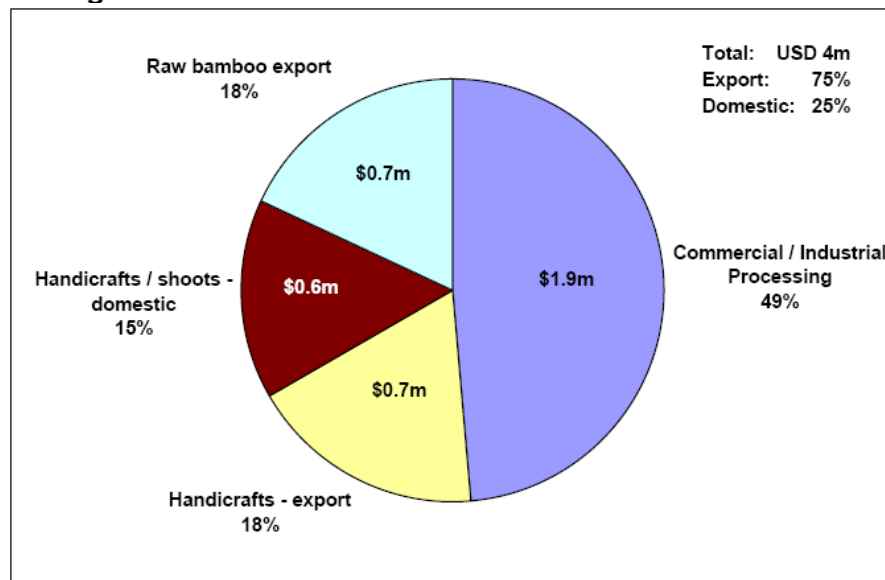
These scenarios show that within the existing world bamboo markets (Scenario 1) handicrafts, bamboo shoots and paper would continue to be the main industries of scale in the Mekong. However, in a growing world market (Scenario 2), furniture would become increasingly important and begin to rival handicrafts as the leading Mekong bamboo industry. Flooring, panels and blinds would also become industries of scale.

2.3 Lao industry

Bamboo plays an important subsistence role in Laos and in particular rural areas. About 80% of the Lao population lives in remote areas collecting bamboo for use as a building material, and shoots for consumption and sale. Houses in rural areas are often mainly constructed using bamboo, with bamboo roofs, wall partitions, panelling, mats, ladders, blinds and furniture. Bamboo is also used in the production of certain fishing tools, paper and is sometimes used to make musical instruments (NAFRI, NUoL, SNV. 2007).

Only a small number of commercial bamboo processing businesses are currently operating around Vientiane due to their higher value products and larger production quantities. Most businesses in the sector have difficulties in finding profitable markets for their products. Figure 3 shows the current Lao market mark up.

Figure 3: Lao market size estimate



(Source OHK, 2006)

3. Analysis of the Houaphanh Value Chain

3.1 Overview

Studies conducted in Laos identified a total of 52 species from 15 genera from different forest types all over the country. The mountainous northern part of Laos is one of the richest areas for bamboo. Surveys show it holds at least 50 species, with 30 in Xieng Khouang and Houaphanh provinces which differ from those in central and southern Laos (NAFRI, NUoL, SNV. 2007).

The Houaphanh bamboo VC covers products (bamboo shoots, handicrafts, industrial products) derived from ca. 5-10 bamboo species (Table 4) growing most abundant in the uplands of 5 districts, i.e. Ett, Sobboa, Xiengkhor, Xamtay and Viengxay districts. Bamboo occurs dominantly in upper mixed deciduous forest (45-60% bamboo) and pure bamboo forest, especially in the northern and lower parts (<1,000 m) of the province.

Table 4: Important bamboo species used and traded in Houaphanh province

Lao name	Scientific name	Characteristics	Use
<i>Mai hok</i>	<i>Dendrocalamus hamiltonii</i>	Dense cluster of culms, height 13 m, diameter cane 6 cm, internodes 45 cm long	Food, handicraft, house frames, hand tools, furniture
<i>Mai hia</i>	<i>Schizostachyum blumei</i>	Clusters of up to 60 culms, height 17 m. Cane diameter 4 cm, internodes 75 cm long, durable to 10 years	Food, handicraft, mats, house wall, roofing, poles
<i>Mai louang</i>	<i>Dendrocalamus membranaceus</i>		Flooring
<i>Mai sang</i>	<i>Dendrocalamus brandisii</i>		Flooring
<i>Mai dja</i>	<i>Sirundinaria</i> sp.		
<i>Mai phouak</i>	<i>Gigantochloa</i> or <i>Dendrocalamus sinicus</i>		
<i>Mai khouane</i> or <i>phang</i>	<i>Dendrocalamus giganteus/longifimbriatus</i> or <i>Bambusa polymorpha</i>	Clusters of up to 60 culms, height 14 m. Cane diameter 7 cm, internodes 90 cm long; durable to 3 year	Food, mats, handicrafts, poles, house construction, fencing
<i>Mai khom</i>	<i>Indosasa sinica</i>		Food
<i>Mai bong</i>	<i>Bambusa tulda</i>	Clusters of 10-15 culms, 5-20 m tall. Cane diameter 25 cm, internodes 40 cm long	Food, handicrafts, living fence

* Much confusion still exists with regard to the scientific names of bamboos in Laos. (Source: NAFRI, NUoL, SNV. 2007)

The bamboo VC consists of types of 3 types of actors:

1. *Producers*: farmers collecting wild products, cultivators and traditional handicraft makers
2. *Collectors*: district and province level traders involved in collecting from villages and export
3. *Processors*: Lao and Vietnamese firms involved in processing and export

Numbers of producers are difficult to estimate as the bamboo market is little developed in Laos and demand is still limited. Producers are only involved in the VC between the harvesting and planting season of agricultural crops. They however

collect bamboo year round for own use and small scale handicraft trade. Farmers are limited aware of the market and receive market information occasionally from traders. As far as known, handicraft producers involved in some trade are situated mainly in Viengxay and Sobbao villages situated close to roads.

Only a handful of traders, located near the main export borders, are involved in the trade of raw bamboo and handicraft products in Houaphanh province with some having good relations with the Vietnamese industry.

Processing of bamboo takes place in 2 factories in Viengxay district, both operating under Lao-Vietnamese ownership. They produce semi-processed products for the Vietnamese market i.e. chopsticks, toothpicks.

The bamboo VC operates within an enabling environment of forestry regulations due to the collection of bamboo from the wild. No support services with regards to financing are available in the sub-sector and only scarce bamboo planting extension services to farmers exist.

3.2 Products and Markets

3.2.1 Domestic market

As mentioned earlier the bamboo sector is little developed in Houaphanh province and bamboo is mostly collected from the wild for own consumption in house construction and for handicrafts with its shoots eaten. Some handicraft trade exists but is limited to villages with better access to markets.

In Houaphanh products derived from bamboo are:

- Bamboo shoots
- Poles for construction (scaffolding)
- Handicrafts such as rice boxes and trays
- Bamboo floor / wall mats and fences
- Semi-products (tooth picks, skewers, chopsticks, slats) for export

3.2.2 Cross border market

The processing industry in Vietnam is well developed in many nearby provinces i.e. Thanh Hoa and Hatay. Industrial products are:

- Toothpicks
- Chopsticks
- Blinds and mats
- Flooring
- Non traditional furniture
- Charcoal
- Slats
- Paper pulp

Houaphanh currently is providing the various industry sectors with limited supplies. Raw materials and some semi-processed products are finding their way to the factories along the Vietnamese coast. There is much confusion on the volume of bamboo being exported to Vietnam but unofficial export figures estimate this at 5,000-10,000 tonnes

Besides this there is some minor export of boiled and fresh bamboo shoots. Dried bamboo shoots are not exported due to an imposed ban by the local authorities.

Recently the Houaphanh government allowed for a 9 ha Laos-Chinese factory to be set up in Xiengkhor and Ett districts to export bamboo pulp to Taiwan. It will have a production capacity of five tonnes of pulp per day and employ about 200 local people.

3.3 Enabling environment

3.3.1 National Policy

Key issues at village level related to natural resource management are particularly access and use rights of natural resources.

The Forest Law provides a legal basis for NTFP sub-sector by taking into account the importance of NTFP for rural livelihoods and the need for sustainable management and utilisation of NTFPs. Other relevant laws are presented in Appendix 1.

The Forest Law distinguishes between customary use and commercial use of NTFPs. Customary rights includes the sale of non-restricted NTFPs for commercial purposes. For this a village level association has to be formed and this association will sign management contracts with PAFO. Such sales of NTFPs are exempt from regulations, because they are an important source of essential household income. Commercial use of NTFPs is based on a quota system which has been put in place as part of forest protection policy.

The Land and Forestland Allocation Policy of Lao PDR has been in effect throughout the country since 1996 with the aim to:

- increase land tenure security in order to encourage farmer's involvement in intensive farming to result in more prosperous livelihoods,
- eliminate slash and burn cultivation in an attempt to protect natural resources and the environment.

The Government of Lao PDR has developed a comprehensive Forestry Strategy to the Year 2020 (FS2020) to guide the development of the forestry sector in line with overall national plans and strategies for socio-economic development and environmental conservation. This vision identified a number of priorities, including allocating land to rural families and developing alternatives to shifting cultivation.

With regard to bamboo extraction, according to MAF regulation 221 (2000), the following types of exploitation are prohibited:

- exploitation and harvesting of forest products causing complete damage
- exploitation of bamboo under three years of age or when all bamboo (stem and stand) are being cut

The Prime Minister's Order 15 (2001) further mentions that during the closed season for bamboo from 31 May to 31 October as adjusted by each province.

It has however been recognized that important deficiencies exist in the structure and formulation of legal documents (Sophathilath, 2006; Foppes and Wanneng, 2006; Thongphanh, Undated).

Examples are:

- overlapping decrees and provisions of the Forest Law
- lack of appropriate assessment of annual allowable harvest for quota allocation and approval
- confusion due to many different regulations implemented differently by local authorities
- contradicting regulations and rules from different sectors, i.e. rules for tax collection and charges discouraging NTFP market promotion, due to many steps and many charges to be paid
- lack of guidelines for sustainable NTFP management
- secure rights still lack as land/forest land allocated can be revoked after 3 years
- firms have to re-apply every year for a quota, giving no assurance for long term businesses to develop.

These and other flaws have resulted in:

- continued deforestation
- illegal border trade of NTFPs
- low productivity of NTFPs and thus low tax revenue to the Government
- no value addition for NTFPs
- inadequate competitiveness in export market, etc.

Annex 2 provides a detailed overview of the workings of the quota system.

Tariff barriers for bamboo products are not high and these will be eliminated by 2015 (or 2008?) under ASEAN Free Trade Area (AFTA). For the US and EU rates are mostly in the range of 0-7% (OHK 2006).

3.3.1.1. Ministries, departments and government agencies involved

- Ministry of Agriculture and Forestry (MAF) develops and issues NTFP related regulations and orders with regard to management and forest preservation. MAF further coordinates with the Ministry of Commerce and Ministry of Finance with regard to land allocation, promotion and establishment of NTFP plantations and processing factories at the provincial level. It further issues operation licenses to SMEs in the forestry sector.
- Ministry of Trade (MoT), in coordination with MAF and Ministry of Finance revise the prices of royalties from NTFP sales and compensation fees for reforestation. MoT issues enterprise registration licenses to SMEs.
- Ministry of Finance (MoF) issues tax licenses to SMEs and collects revenues from taxes.
- Ministry of Industry and Commerce (MOIC) providing support to SMEs
- Department for Promotion of Trade and Production (DPTP) supporting market chain development and business services.

3.3.2. Province and district

At district and province level national policies are implemented accordingly. In the case of collecting taxes and fees for bamboo the trader needs to pay a set of fees and taxes of 40 kip/kg.

Table 5: Taxes and fees collected for bamboo

Taxes & fees	Kip/kg	Involved institute
Village Development Fund	5	Village
District tax	5	District Finance department
Natural resources tax	10	PAFO
Reforestation tax	5	PAFO
Export tax	15	Chamber of Commerce
Total	40	

Houaphanh province has not yet implemented a complete land allocation of forest and agricultural production areas and for many villages user rights to natural resources remain unclear.

Allocating of forestlands can be undertaken in 3 manners:

1. degraded land suitable for agricultural production
2. degraded forestland not suitable for agriculture to be allocated for tree planting
3. forest areas shall be classified into the 3 categories (use, protection and conservation) and leased to village through a forest management agreement.

3.3.2.1. Provincial and district departments agencies involved

- The Department of Planning and Investment (DPI) main roles are to:
 - coordinate government interventions and socio-economic strategy and national poverty eradication plans at provincial and district level
 - research and analyses policies and legislation related to planning, investment, statistics and proposes measures
 - promote, receive and review domestic and foreign investment applications
 - coordinate with the department of finance on allocating national budget to sectors and regions
 - increasing involvement in collecting fees and providing licenses to companies (*is this correct?*)
- Provincial Agriculture and Forestry Offices (PAFO), District Agriculture and Forestry Offices (DAFO) and Village Administrative Authorities are legally recognised to implement, monitor and enforce policy on management of the forestry sector and quota setting.
- Department of Industry and Commerce (DOIC) is tasked with providing support to SMEs and for facilitating domestic and export market development for tourism, agricultural and forest products
- Chamber of Commerce supporting business in the province

3.4 Description of the Value chain Actors

This section presents the actors and the role they play in the bamboo VC in Houaphanh province.

3.4.1. Producers

The production actors considered are:

- collectors or harvesters of bamboo canes and bamboo shoots from the forest
- handicraft producers
- cultivators of small plantations.

3.4.1.1. Harvesters

Bamboo shoots

Bamboo shoots are available all year round in the province owing to the many bamboo species in a diverse geographical setting producing shoots in most months. Bamboo shoots are mainly collected in village forests on a daily or weekly basis by women and children (< 5km from village) for own consumption and small scale trade.

The nature of collecting bamboo shoots is simple:

- shoots are cut with a knife when grown about 5-20 cm above the ground, depending on the species, then
- they are collected in baskets (up to 40 kg) and carried to the village.

Many bamboo shoots also find their way to the markets in Xam Neua sold by individual households as are sold at:

- Raw: 1,500-4,000 kip/kg
- Boiled: 500 kip/kg
- Dried: 15,000-19,000 kip/kg (Mai Hok mainly).



The supply and demand of shoots is not organised and is considered a supplementary activity providing families with an opportunity to earn some cash.

There are some agreements to harvest bamboo shoots and to transport these in 3 days to a bamboo shoot factory in Xieng Khouang province or to registered traders from Vientiane and Vietnam. Other sources mention that there is no factory in Xieng Khouang and that the shoots find their way to Vientiane based factories.

The export of dried bamboo shoots is prohibited. Demand is high but government authorities are concerned that resources will be depleted.

Bamboo canes

Bamboo canes are harvested in village forests by young men for households use or for some small scale sale at village level. The market is limited as bamboo resources are readily available to most people. Some minor local trade is going on between villagers selling 10 m long poles for 1,000-3,000 kip depending on the species and difficulty to collect.

Bamboo stems grow in a clump and canes are selected for their desired purpose (i.e. handicraft, industry). For industrial use, house construction or scaffolding large canes are required. Not all canes growing in 1 clump are preferred and undesirable canes (old, dead) need to be cut away first to reach the harvestable canes. These canes are simply cut down with a bush knife and cleaned by cutting away branches. Depending on the sizes of the canes, 2-5 stems are carried out of the forest by 1 man.

In 2-3 districts (Viengxay, Sobboa, Xam Neua) there is some small scale and irregular commercial trade in large diameter bamboo canes. When a trader or factory has obtained a harvest quota for bamboo, he will be accompanied by DAFO staff to coordinate with the heads of the villages to provide labour for bamboo harvesting. When the head of village is paid a deposit in advance, village members are informed and can harvest (Boupha and Phimmavong, 2006).

People often do not know what the bamboo canes is used for and where it is destined to go. Prices are set by the trader and limited to no negotiation takes place with the village head man. Villagers are generally not satisfied with the prices paid for their labour. Harvesting bamboo in the dry season is considered hard work and prices paid are 1,000 kip/stem, half of which villagers want to work for.

In Sobbao district a family is able to earn 210,000 kip/year (3-4 days in April) for the extraction, hauling and loading of bamboo stems.

3.4.1.2 Handicraft producers

Two types of handicraft producers are active in Viengxay, Xiengkhor and Sobbao districts. No information is available from other districts except comments that Xamtai district produces silk and likely bamboo handicrafts.

- Traditional handicraft makers
- Mat and fence making

Traditional handicrafts

Bamboo handicraft products are mostly produced for household consumption with some villages also putting them up for sale in the dry season.

Production for sale has started only 4-5 years ago which has been stimulated due to the construction and upgrading of district roads. It is estimated that about 7-20 villages (100-300 households and mainly older people) are involved in some level of production.



For handicrafts only a few bamboo species and sizes are required and found in village forests. Villagers use mainly Mai Hok and Mai Hia for producing floor mats.

Mai Hia canes of 1-2 years are preferred having thinner inner tissue and is more flexible to weave into mats. When collecting Mai Hia, young men bring the whole length culms back. Culms of Mai Hok are cut into short (two internodes long) pieces before they are transported to the village.

Collection takes place every 10 days and per trip one person can carry 5-7 canes or 40 per household (1-2 trips/day).

The production of handicrafts is done on individual or household basis. In general the villagers only use about 50-75% of their capacity and work mainly during the off-farm season. On average it requires 1-5 days to produce one handicraft item. A cooked rice box would take one day to produce and a rice container 5 days. As production is often carried out in batches this process takes about 15 days for cooked rice boxes:

- 1 day slicing of bamboo canes for the production of 15 boxes
- 6 day drying of sliced bamboo strips
- 2 days for strip refining and polishing
- per 1 day a person can weave about
 - three cooked rice boxes or
 - one tray or
 - a rice container in 3 to 7 days

After the weaving is finished, the products are assembled.

In Sobbao and Viengxay district these handicrafts are sold directly to villagers from neighbouring villages (40%) and to local traders, who then sell in the market in Xam Neua (40%) and in other provinces such as Xieng Khouang province (20%). In Xiengkhor district sale is limited to 20% of the production.

An estimated 53,000-153,000 bamboo culms are required by 7 studied handicraft villages. These culms need to be 2-3 years old in order to have long enough internodes suitable for handicraft making.

In Viengxay district cash income derived from bamboo products contributes to the household income only after livestock. Per day 15,000 kip (500,000 kip/family/year) can be earned, too low for young people how earn more with other work. However older people earn additional incomes for the households (EDC, 2006).

Demand for certain traditional handicrafts is decreasing as Lao people prefer plastic household tools. However tourism is slowly growing and it is expected that the demand for these products will rise again.

Fences, mats

Some villages in Viengxay and Sobboa districts are engaged in the production of mats and fences after harvest of agricultural crops is secured. Some 3 villages (60 households) are involved in some level of production. On average, one household would collect about 40 culms per day. In a year, approximately 42,840 culms of Mai Hia (1-2 years old) are used for fences and mats.



For fences and wall mats the bamboo canes are cut into small sticks (1-2 cm width) and larger strips (4-5 cm width).

- The sticks are then woven into fences.
- Strips are flattened with a knife and hammer and then woven into wall mats.
- Sticks are sliced into thin strips and refined ready for weaving floor mats

One day one person can produce about 4 mats.

Villages are often located on the main road and mat production has increased over the last years. The market is mainly Xam Neua town to which sales are made directly (20%) or via traders (80%). As far as known three villages benefit from this growing market and is carried out mainly by young women, benefiting about 30 households.

Per day a person can earn 18,000-32,000 kip, a good income for young people which explains their larger involvement than in handicraft production.

Income from handicrafts is secondary for the household income, yet provides cash that helps cover daily expenses. It has been estimated that due to the good reputation and relatively high demand handicrafts could generate between 2-7 million Kip per household per year. However mat production can generate more income as compared to handicraft, i.e. 32,000 Kip/day vs. 15,000 Kip/day. (EDC)

3.4.1.3 Cultivators

Little information is available on the amount of people involved in the cultivation of bamboo, but this is likely very limited. The most commonly cultivated species are Louang bamboo and Phang bamboo. These plantations are generally simple in nature and small in scale, planted near houses or in the upland rice areas as living fences. The purpose of the plantation is mainly domestic consumption, e.g. for house construction and handicrafts. The average holding size of bamboo plantation of the families in Houaphan is 247 m² including 18 clumps. In Viengxay district a farmer can grow 2,832 culms/ha of Mai Louang of which 430 culms/ha are harvested per year (Boupha and Phimmavong, 2006).

In certain villages where Louang bamboo is grown by several families traders and even Vietnamese villagers sometimes approach the owners to buy the canes in large batches. The amount per village is very limited, but the bamboo species is much desired, paying up to 6,000-8,000 kip/stem.

Mai Louang has been extensively cultivated along the Ho Chi Minh trail in Vietnam after the Vietnam/American war, but hardly any in Laos. Small scale plantings are ongoing but without a clear market demand few people engage in expansion.

3.4.2 Traders/collectors

Traders or collectors are involved in domestic trade and cross-border trade to Vietnam.

3.4.2.1 Domestic trade

Domestic trade deals mainly with:

- traditional handicrafts and
- bamboo fences and mats

No information is available of the trade in bamboo shoots to other provinces.

Handicrafts

Five district-province traders in bamboo handicraft products are active in the province. The provincial trader has been trading for 10 years, while the other traders started a few years back. All have good relationships with handicraft producers and retailers in in Xieng Khouang. As supply of handicrafts is limited and competition between traders is high advance payments are made to the producers to secure supply.

Traders use public transport to buy and sell handicrafts, taking up 2 weeks per month, often during the off-farm season. Profits gained are 23-38% after costs (EDC, 2006).

Bamboo fences and mats

Bamboo mats are usually traded (retailed) in Xam Neua market by 2 main traders from Xam Neua town where they have a shop and own transport. A third trader is involved part time. In a year, big traders collect bamboo mats twice per month. Traders arrive with a truck to collect the mats from the villagers at an ad-hoc basis. Each trip, the traders would hire two or three labours to help loading and unloading the truck. It is estimated that the traders gain about 28-55% profit after costs (EDC, 2006)

With regard to the retailing of mats in Xam Neua by traders and in Xieng Khouang by retailers no additional information is available.

3.4.2.2. Cross-border trade

The trade of dried bamboo shoots to Vietnam has been forbidden and only the following products are exported:

- raw bamboo canes
- semi-processed products (see 3.4.3.)

Raw bamboo canes

Agricultural and NTFP products traders collect produce from villages for export to Vietnam. They are involved in the trade of raw bamboo to the processing industry in Vietnam. As compared to Luang Prabang province no village traders seem to be active and traders take over this role.

One trader in Sobboa district annually trades 350 tons of bamboo stems for the Vietnamese industry in Hatay province where he has a long standing relationship. This trader argues that he only earns 1,000 kip/pole due to high tax and transport costs.

3.4.3 Processors

Besides handicrafts produces by villagers, other products made from bamboo are semi-products produced by factories:

- Toothpicks
- Chopsticks
- Slats



Processing of bamboo into these 3 semi-products takes place in 2 factories in Viengxay district, both operating under Lao-Vietnamese ownership.

Viengxay based Souphanphone Bamboo Processing Factory annually buys 20,000 stems, but requires 150,000 stems as granted through quota in Viengxay, Xiengkhor, Sob Bao and Ed districts. So far, they have started buying canes of Mai Hia, Mai Kouan/phang, Mai Sot, Mai Hok in Viengxay only.

Due to the lack of supply of canes the factory does not want to sign contracts with Vietnamese industry as to avoid supply agreements they may not be able to meet.

The activities the factory is involved in are:

- trucks bringing in the bamboo canes
- bamboo is dried in the open air
- turning of semi-products
- oven drying of semi-products
- trucks transporting the semi-products to Vietnam

The company processes annually 11 tonnes of bamboo into semi-processed tooth picks and chopsticks.

Machines and technology used are:

- small sized cutting machines, which split bamboo canes into strips
- turning machinery forming the raw shape of chopsticks and toothpicks
- simple oven to dry products

A second factory near Na Meo border is a Vietnamese company which uses Phai Kouan (correct?). The bamboo is cut and split into slats and bundled by farmers. Yearly 150-200 or (5,000?) tonnes are exported to Vietnam. In 2005 the price of the bamboo was 240,000 kip/tonne and villagers receiving 200,000 kip/tonne.

No other information is available to date.

3.4.4 Wholesale and retailing

No wholesale as such of bamboo products is taking place in Houaphanh. The retail industry is included in the trader's activities who have their own shop in Xam Neua or is limited to some handicrafts in Xieng Kouang.

Products such as handicrafts are perhaps sold elsewhere, but no information is available.



An overview of value chain actors, prices received and volumes traded (based on limited information) is found in Table 6.

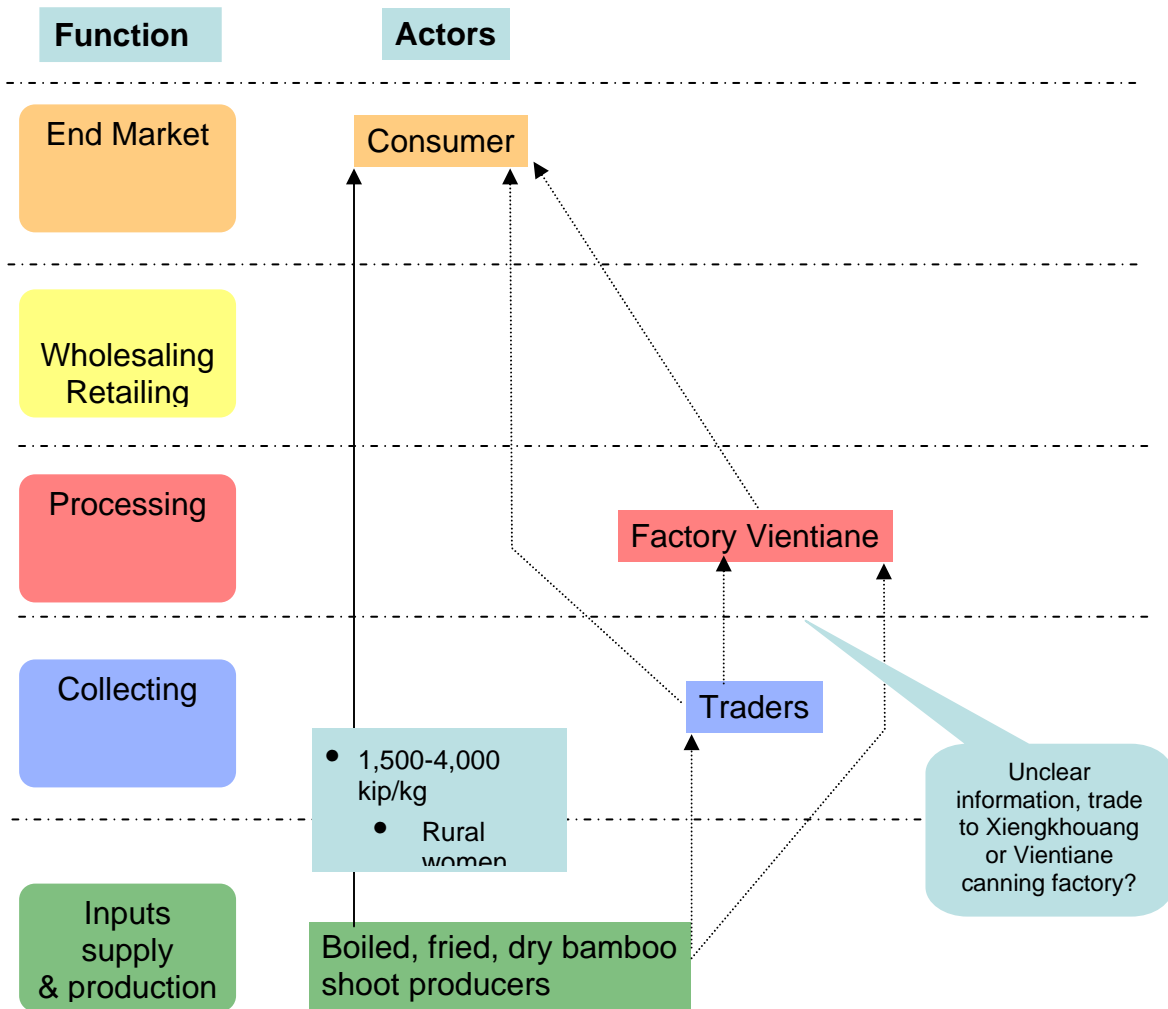
Figure 4-7 shows the value chain for bamboo shoots, handicrafts, mats and semi-processed products.

Table 6: Actors, prices and volumes of the bamboo value chain in Houaphanh

VC actor	Price received (kip)				Volume (amount)	Remark and trends
	Producer	Local trader	Retailer (incl. costs)	Semi-processing factory		
Product						
Bamboo shoots (per kg)	1,500-4,000	NA	NA	NA	?	Most households
Rice cooked box	12,000	15,000-17,000	20,000	NR	4,750-11,500	Increasing demand > good reputation products (price increase 50% in few years)
Rice cleaning tray	8,000	10,000-12,000	15,000	NR	2,500-6,000	Decline in demand > changed customer behaviour + less rattan (price increase 20%)
Rice container	20,000	NR	NR	NR	80-190	Local sale
Dining tray	150,000	NR	NR	NR	50-120	
Fences	4,000	7,000	NR	NR	1,500	Increased demand > improved road, but 50% decrease in price
Wall mats	8,000	15,000	NR	NR	3,240	
Floor mats	18,000	NR	NR	NR	120	20% increase in price, directly sold to customers
Semi-processed chopsticks, tooth picks (per kg)	100-250	300-400	NA	?	>200,000	Higher prices are paid for Mai Louang and Mai Hok

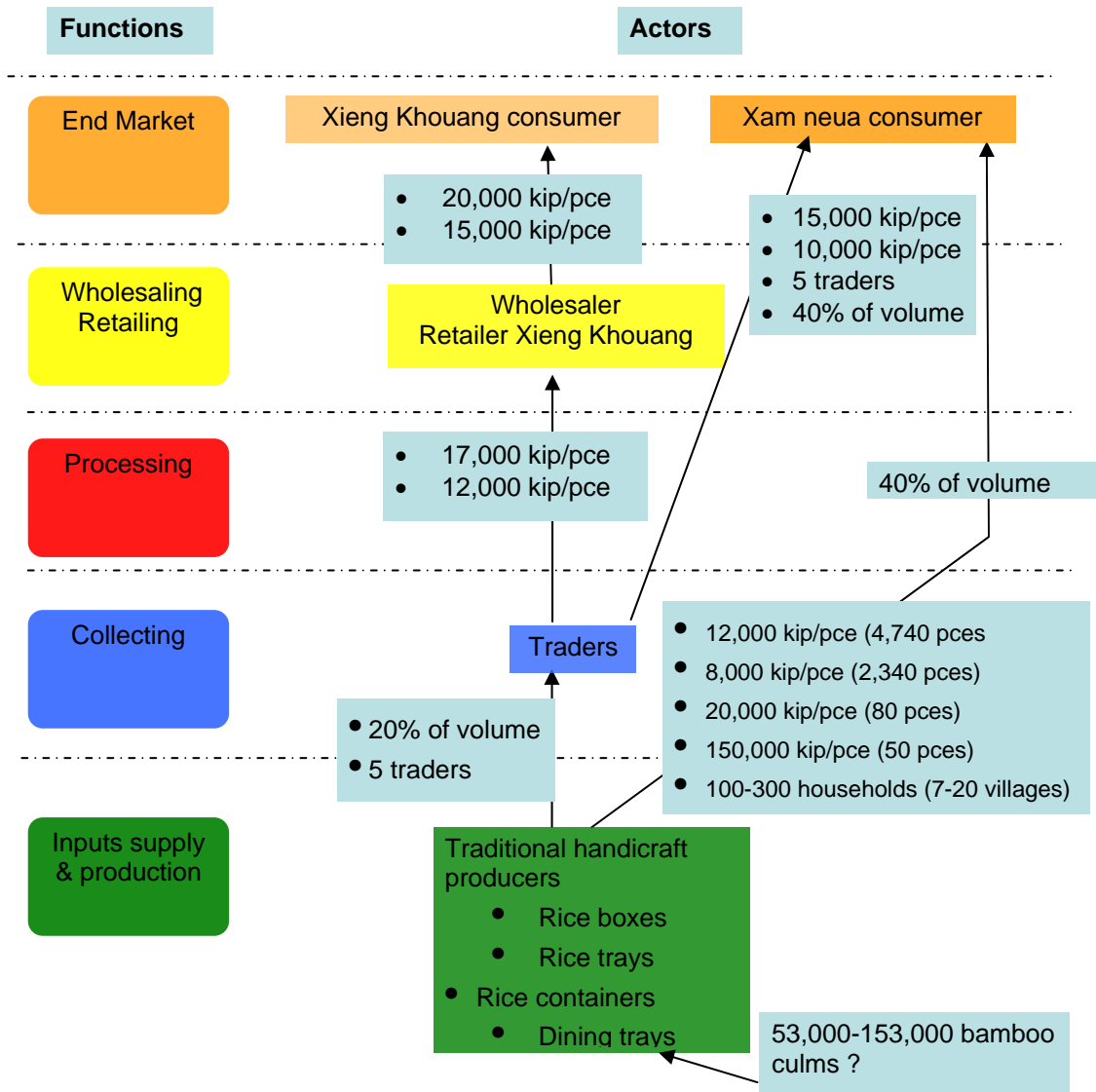
Notes: NA = information not available; NR = not relevant; estimated actors involved: 10-23 villages, 8 traders, 1-2 retailers, 2 semi-processing factories

Figure 4. Bamboo shoots value chain



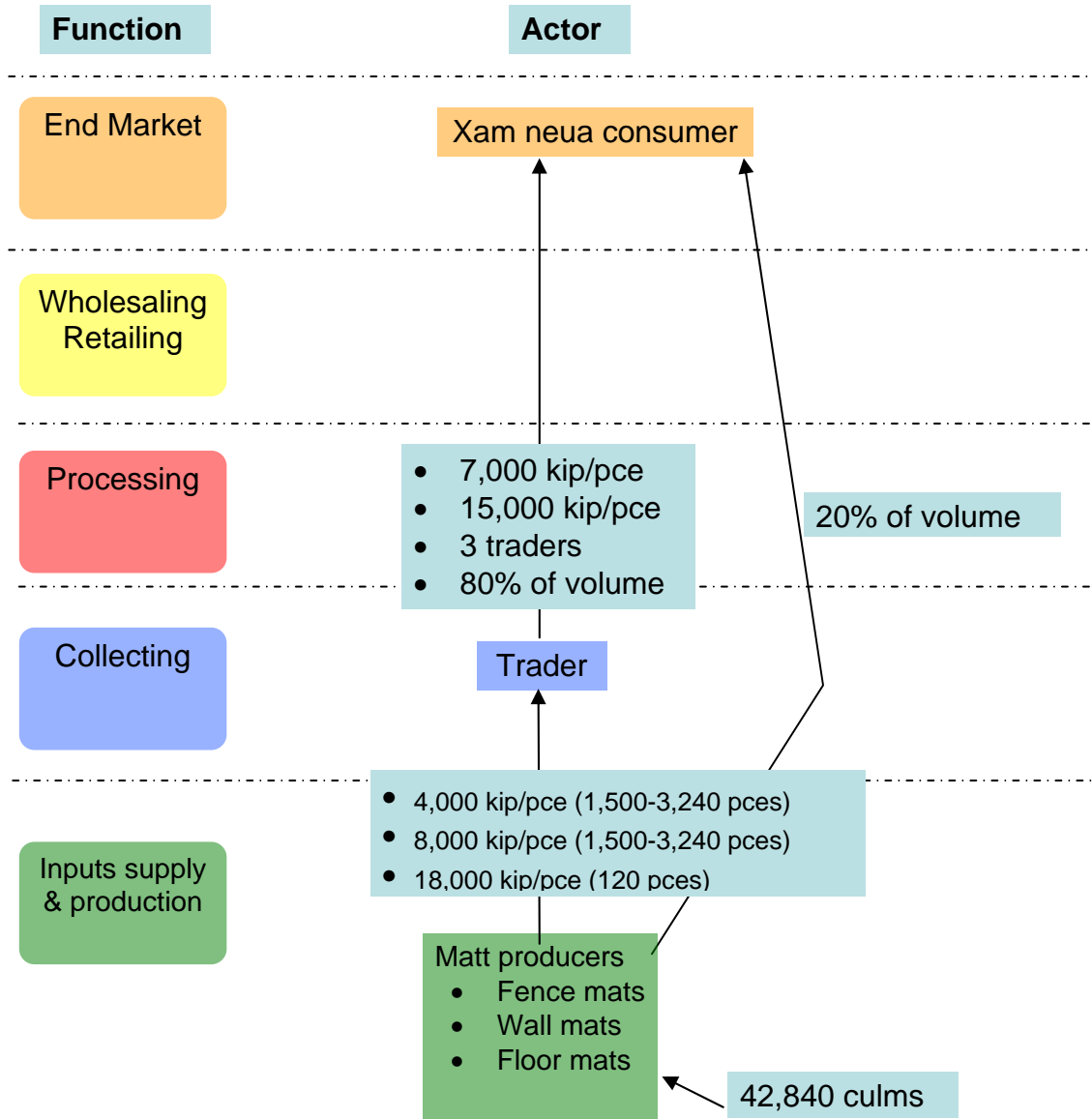
Note: much information is still unknown, such as amount of people involved, volumes collected, own consumption or sold. Provincial or cross border trade is limited, but unknown. Arrows marked indicate limited to no information.

Figure 5. Traditional handicraft value chain



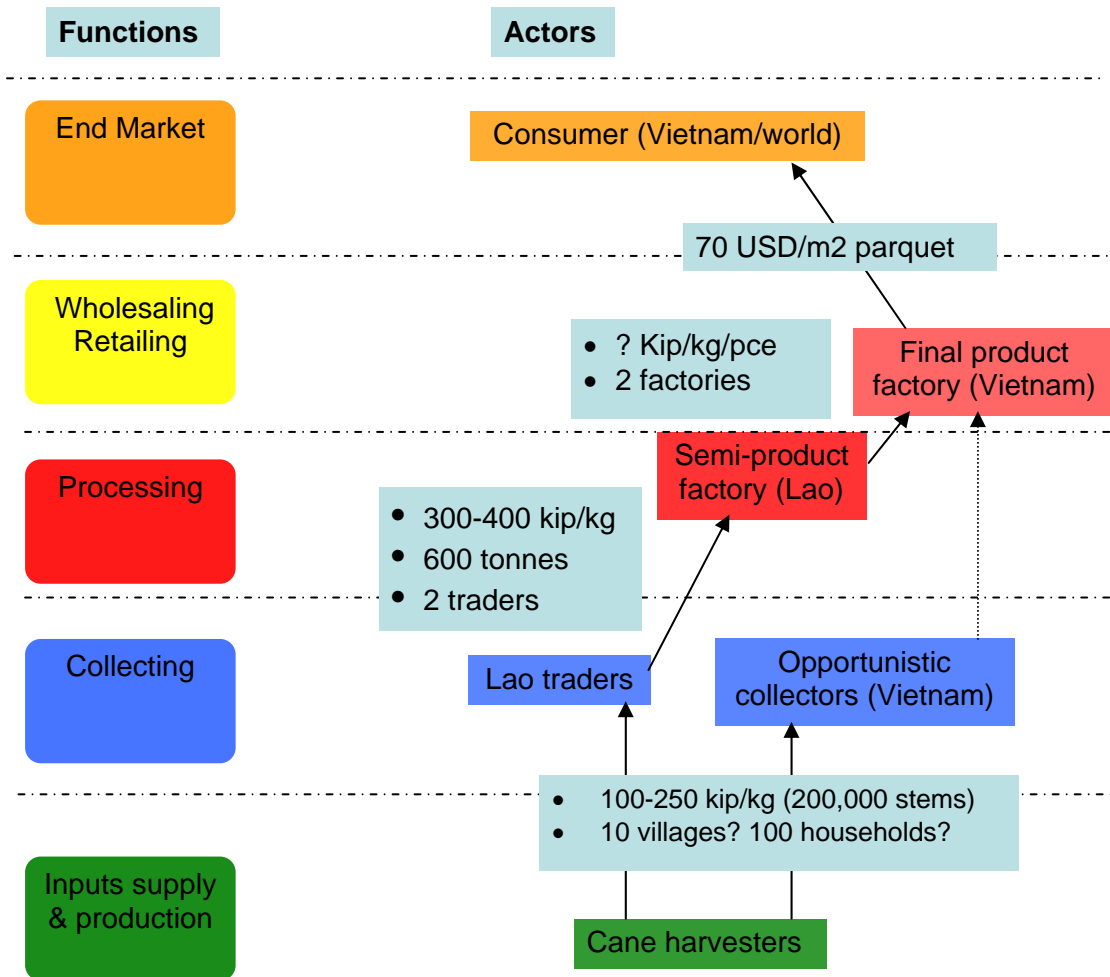
Note: elderly people make traditional handicrafts; based on information of 3 villages

Figure 6. Bamboo mats value chain



Note: young women make mats; based on information of 3 villages

Figure 7. Semi-processed products value chain



3.5 Supporting actors

The value chain actors described above manoeuvre within a framework of regulations and rules overseen by the provincial authorities. Besides that, access to information or knowledge, technology and finance determines the state of success of VC actors.

Finance

Access to finance in general is absent in Houaphanh province. However, the Rural Development Program of the Government has funds for the four poorest districts through the Nayobai Bank a newly established public bank. The workings and rules of engagement are not well understood.

Information

Access to information is limited. For villagers extension services are provided by the district agricultural and forestry authorities under supervision of PAFO. These offices play a key role in resource management and quota setting. Services are limited to disseminate regulations and rules, provision of planting materials for new agricultural crops or new varieties (maize) and basic planting advice to villages. With regard to bamboo resources villagers are informed about the need to protect natural resources and to restrain from overusing. DAFO and PAFO however have no scientific skills to determine sustainable harvest levels or NTFP productivity. Detailed data about bamboo resources and species is largely unknown. The same is true for productivity per species and per area.

Business development services

Under the New Economic Mechanism Reforms greater involvement of the private sector is taking place in Laos. In addition, the Government has tried to create a good environment for the foreign direct investment. Once such policy changes are instituted, local villagers and commercial investors will have access to resources that would enable investment in for example establishing bamboo plantations (Boupha and Phimmavong, 2006).

Domestic and foreign investment in the agricultural and forestry sector (maize, bamboo, soybean, rubber, paper mulberry, handicrafts, etc) is encouraged by the provincial and district authorities. However, how does it set up is not understood for bamboo. In the past several proposals by investors have been declined or are still under consideration. Often investment proposals have to go through a time-consuming approval process. The department so far involved in evaluating requests has been DPI. (*is this a role for DIOC? Have they been involved?*).

DPI Houaphanh is in the process of setting up a business information center to attract and support potential investors. More information is however required as to understand its role and workings.

DIOC/PAFO/DPI should be able to provide information on investment opportunities with regard to productivity of agricultural or forestry products, price information, market trends. This is often not developed at province level and depending on research institutes such as NAFRI in Vientiane.

Research institutions

At provincial level no research institutes are present. The most relevant institute is NAFReC (Northern Agriculture and Forestry Research Centre) based in Luang Prabang. It is supposed to coordinate with the Provincial Agriculture and Forestry Office (PAFO)

and the Provincial Agriculture and Forestry Extension service (PAFES) to disseminate research results within 8 northern provinces of Lao PDR. Its capacity is however limited and to date has no outreach in Houaphanh.

3.6 Governance

Resources in Laos are owned by the government, while giving villagers the opportunity to sustainably use them. NTFP income plays an important but secondary role in the livelihood diversification strategy of rural households. This is important to understand as it will limit their investment and risk taking in engaging in the NTFP or bamboo sub-sector.

Quotas requested by traders are decided upon by the authorities with no consultation with villagers. Once a quota is approved DAFO staff and the trader approach a village for harvest after which villagers are merely treated as labourers instead of the custodians of the resources.

The land allocation system providing villagers with clearer land rights has not worked well and is still not transparent. As such villagers have little incentive to actively manage resources or invest in land.

Prices for NTFP products, including bamboo are decided upon by traders who need to deal with a complex system of quotas and taxes depressing prices for them and subsequently for villagers. Traders also take risks when buying products from producers and have high transport costs.

Profits for handicraft producers are not unusual low or high (50-60%), but labour costs are often not calculated into the prices. Traders receive between 23-55% profit and retailers 15% for which they do not have to do much. This is different for the sale of raw bamboo canes to traders who export to Vietnam. It is not known how much the Vietnamese industry makes, but the trader and villagers in Laos have to do with a third each for the price received in Vietnam. From Thanh Hoa it is known that premium products such as parquet are exported for 70 USD/m². Profits seem high, but what costs are made is unknown.

An overview of the access to the bamboo sub-sector is presented in Table 7.

Table 7: Backward and forward access for VC actors

Actor	Type of access	Mechanism to maintain access
Producers	Access to village forests with bamboo and handicrafts skills for certain products	<ul style="list-style-type: none"> • Access is open through customary rights and for household livelihood strategy • Rights to sell bamboo for commercial purposes requires approval from provincial and district authorities • Built up trust of many years with traders for handicrafts
Collectors	Network with producers, retailers, foreign factories	<ul style="list-style-type: none"> • Advanced payments to producers • Limited negotiation (restricted to quota and Vietnam prices) • Built up trust of many years with Lao villages and Vietnamese industry • Proximity to Vietnam border

Semi-Processor	Network with producers, foreign factories	<ul style="list-style-type: none"> • Advanced payments • Limited negotiation (restricted to quota and Vietnam prices) • Access to technical know how • Access to finance through family/contacts in Vietnam • Reliable supplies to processor
Processor (Vietnam)	Network with collectors, semi-processors and domestic & export market	<ul style="list-style-type: none"> • Access to technical know-how • Built up trust of many years with Lao traders • Access to market demand • Access through relatives in Laos

3.7 Gender and Social Inclusion Dimension

Role of women

Women play a main roles role in:

- Bamboo shoot collection, processing and sale
- Bamboo processing into handicrafts
- Providing labour in the semi-processing bamboo factory

Women have considerable opportunities to earn an income by selling handicrafts. However, their share of the final sale is limited due to lack of information on prices and lack of negotiation skills. No group formation has been taking place yet.

Involvement of social groups

Houaphanh province counts 91% poor villages in which 65% poor household live. Their livelihood is based on agriculture, some livestock and the collection of NTFPs for own use or sale. The province counts numerous ethnic groups who mainly live in poor and remote rural areas, with little to no access to markets and services. Currently some trade of bamboo products takes place in areas with reasonable road and market access. However, the poor have little opportunity to engage in the bamboo value chain unless they live near accessible bamboo resources or have developed market appreciated skills. Often, as in other villages, they are not organised and have little to no negotiation power.

3.8 Environmental dimension

Bamboo canes and shoots are dominantly collected from village forests where a large range of bamboo species grow. Bamboo frequently forms impenetrable thickets growing virtually everywhere where the original vegetation has been removed. This is the case with the northern districts.

The harvest of bamboo is not destructive if only a few canes or shoots are selected from a clump. Bamboo has a fast regeneration through underground rhizomes producing new culms as annual shoots. In addition bamboos also flower and produce seed. Many species flower every 15-70 years. When bamboos flower, all plants of a particular stand flower simultaneously, from the small new shoots to the tall culms. The whole stand then dies, leaving behind a bed of seeds and carpets of wild seedlings. Because of its fast growth, easy propagation, soil binding properties and early maturing, bamboo is ideal for afforestation on degraded soils, soil conservation and social forestry programmes.

Bamboo produces four to five times more biomass than most trees do. Over the entire life of a plantation 70-74 tonnes per ha can be expected. A cluster of canes often consists of between 10-60 canes and can have a yearly production of 5-10 shoots (10-40 kg).

In Houaphanh bamboo resources are yet to be of economic value for farmers. Large areas are cut or burned and converted into agricultural land. Even though bamboo is becoming an interesting option in Viengxay district, it is cleared because the resources are too distant from roads to sell products.

Recently, Houaphanh authorities have issued an order to halt the harvest of bamboo shoots for trade due to a belief that bamboo stocks in the forest are declining. It is not sure how this information has been collected but no harvesting guidelines or resources assessments have been developed to measure harvest impact.

Some bamboo such as Mai Louang and Mai Phan is grown in upland rice fields, but this is not significant. Plantations of Mai Louang have only been promoted by the Vietnamese government and now are high in demand by the bamboo industry. Vegetative reproduction by rhizomes, culm cuttings and stumps is a common method to propagate bamboo.

4. Strategic Issues, constraints and opportunities

SNV aims to reduce poverty by increased production, income and employment (PIE) as well as improved inclusion of the poor in VCs.

With its good resource base and proximity to the Vietnamese bamboo industry Houaphanh has the potential to develop its domestic bamboo handicraft markets and to increase exports of semi-processed products and raw materials.

Low cost of bamboo and labour and the large number of rural poor potentially involved in this rapidly growing sector can increase their income and employment as well as promote equity and empowerment, while ensuring the sustainable management of its resources. Besides, western markets are acting favourable to bamboo as a wood substitute.

Table 8 provides lessons learned of the VCA study and desk study. It presents opportunities and constraints for the development of the bamboo sub-sector in Houaphanh for each actor group. Wholesalers and retailers are omitted as insufficient information was available for a suitable analysis.

Table 8: Opportunities and constraints identified in the bamboo value chain in Houphanh

Value Chain Actors	Opportunities	Constraints
<p>Producers</p> <ul style="list-style-type: none"> • Gatherers • Handicraft producers • Plantation operators 	<p>Regulations</p> <ul style="list-style-type: none"> • Laws provide an intention to decentralise and implement participatory natural resource management - customary rights of villagers to collect NTFP for household use are recognised <p>Marketing</p> <ul style="list-style-type: none"> • Tourism industry is growing, thereby creating a market for traditional handicrafts. At national level handicraft markets are growing (Vientiane, Luang Prabang) <p>Organisation/skills/technology</p> <ul style="list-style-type: none"> • All members of the household can be involved in handicraft development, making it a suitable industry for women and elderly people <p>Environment</p> <ul style="list-style-type: none"> • Bamboo rich districts are able to provide huge employment opportunities for the dominant population of poor ethnic minorities living in the area • Bamboo is easy to plant and is highly productive, being competitive with agricultural crops on marginal lands 	<p>Regulations</p> <ul style="list-style-type: none"> • Unresolved tenure, particularly access and user rights to natural resources (land allocation) do not provide incentives to manage natural resources • District created quota and subsequently monopoly gives no options for villagers to choose a better price or service from competing traders (villagers are sometimes forced to accept a lower price) <p>Marketing</p> <ul style="list-style-type: none"> • Taxes and fees paid by traders are deducted from the price paid to the farmers. • Reliance of rural handicraft producers on local markets with limited opportunities for demand growth. <p>Organisation/skills/technology</p> <ul style="list-style-type: none"> • No village groups are organised thereby limiting their negotiation power with traders • Lack of understanding on marketing workings • Quality of traditional handicrafts is low <p>Environment</p> <ul style="list-style-type: none"> • Bamboo resources are not yet considered economical and converted into cash crops and upland rice • Little planting initiated yet of commercial bamboos, such as Phan and Louang bamboo
<p>Traders / collectors</p> <ul style="list-style-type: none"> • Domestic • Cross-border 	<p>Regulations</p> <ul style="list-style-type: none"> • Countries buying from Laos raise little to no taxes on imports of raw products • No quota are needed for planted products <p>Marketing</p> <ul style="list-style-type: none"> • Growing interest from buyers in Vietnam for the supply of raw and semi-processed bamboo • Growing linkages with neighbouring industries in Vietnam 	<p>Regulations</p> <ul style="list-style-type: none"> • Taxation policies on processed goods between countries are a hindrance for entrepreneurs • The quota system is not transparent and open to corruption, time consuming and increases costs and lower competitiveness • Quota is limited to districts, thereby reducing competition between traders and keeping prices low for farmers • Few mechanisms or services are in place to promote SMEs

		<p>Marketing</p> <ul style="list-style-type: none"> Limited domestic market for handicrafts High cost of transportation, due to lack of quality roads <p>Organisation/skills/technology</p> <ul style="list-style-type: none"> No trade association has been set up for improved negotiation with foreign markets Little coordination between license providing, tax collecting departments, resulting in a complex and time-consuming regulatory system (over regulation) <p>Environment</p> <ul style="list-style-type: none"> Quota is argued not needed for products that are not in danger of depletion by over-harvesting, such as abundant and fast growing species (like bamboo)
<p>Processors</p> <ul style="list-style-type: none"> Domestic Cross-border Products Technology applied 	<p>Marketing</p> <ul style="list-style-type: none"> Current interest from investors for establishing processing workshops, and buyers for the supply of raw and semi-processed bamboo <p>Organisation/skills/technology</p> <ul style="list-style-type: none"> Recent experience in supporting supply chain development in Thanh Hoa, Vietnam could be extended to Houaphan Processing innovations are relatively easy available and affordable Growing linkages with neighbouring industries in Vietnam 	<p>Regulations</p> <ul style="list-style-type: none"> Few mechanisms or services in place to promote SMEs <p>Marketing</p> <ul style="list-style-type: none"> Lack of processing industries Pre-processing plants do not run at full capacity because the supply of bamboo is restricted by the low prices paid to the villagers High cost of transportation, due to few and low quality roads <p>Organisation/skills/technology</p> <ul style="list-style-type: none"> Low technology usage and capital investment
<p>Enabling environment</p>	<p>Regulations</p> <ul style="list-style-type: none"> Government intends to create a good environment for the (foreign) investment Good initiatives to promote exports (AFTA, product promotion strategies etc.) Bamboo development fits shifting cultivation eradication policy <p>Marketing</p> <ul style="list-style-type: none"> Demonstrable recognition of bamboo as an attractive 	<p>Regulations</p> <ul style="list-style-type: none"> Lack of recognition (and strategy) of the potential of the bamboo sub-sector by national and provincial authorities and consequently unclear policy and operating context: <ul style="list-style-type: none"> natural resource management and forestry policies are inappropriate for bamboo business and investment climate for investors and enterprises is not well developed <p>Organisation/skills/technology</p> <ul style="list-style-type: none"> Reliable export records are not available and do not

	<p>livelihood for farmers (semi-processing plant in Viengxay). Government authorities are becoming aware of the economic value of bamboo</p> <ul style="list-style-type: none"> • Expansion to 10 borders to improve access to markets in Vietnam 	<p>match provincial quota, resulting in revenue losses and no incentive to manage resources sustainable</p> <ul style="list-style-type: none"> • Collaboration between government departments at district and province level is limited with roles and responsibilities unclear • Overall capacity in terms of number of staff and skills (i.e. implementation regulations, market understanding, resource assessment) of provincial, but especially district staff is limited <p>Environment</p> <ul style="list-style-type: none"> • Provincial and district bamboo management plan do not exist
--	--	---

5. Conclusions and recommendations

5.1 Should SNV intervene?

In a stakeholder meeting with of the Governors office, DPI, DOIC, PAFO and PTO in Xam Neua representatives were introduced in the potential of the bamboo sub-sector in Houaphanh province.

The majority of the government officials were unaware of the bamboo value chain potential and appreciated the awareness the study created and are interested to be engaged in improving its efficiency.

Due to this positive attitude SNV sees good opportunities to engage in the bamboo value chain.

5.2 Potential interventions

The decentralised nature of decision making and policy implementation means that bamboo sector development will need to be led by provincial authorities. At provincial level SNV believes that raising awareness and capacity building is initially crucial for government departments (DPI, DIOC, PAFO) for them to better support the chain. Further focus is proposed in districts that border Vietnam and have ample bamboo resources like in Viengxay and Xiengkhor. In these districts OHK will start working in 8 pilot villages on livelihood development. Xamtai district is believed to have similar potential both for its bamboo resources and handicraft development. However, more information is needed before a decision can be made. For an overview of proposed interventions see table 9.

Table 9: Proposed bamboo value chain interventions in Houaphanh

Main intervention area	Issue	Activities	Participants/clients	Support
Enabling environment	Provincial authorities need to fully recognise the potential of bamboo sub-sector for the development of the province and act upon this by creating an enabling environment.	<p>1. Studytour, to help understand:</p> <ul style="list-style-type: none"> market developments and trends the potential for poverty alleviation evolution of the policy environment the importance of private sector and community partnerships supply chain organisation and market linkages the need to maintain a competitive edge through the development of new products <p>2. Workshop discussion on potential action</p>	All provincial departments	SNV, OHK
	Develop simple provincial bamboo strategy aiming at supporting the bamboo industry	<p>Stakeholder workshops with involved provincial departments:</p> <ul style="list-style-type: none"> workshop in which the bamboo vision of the province is agreed upon and defined followed by an action plan acting upon the chosen direction as well as identifying responsibilities for departments and persons. 	Provincial departments, lead by DPI	SNV
	Creating business friendly, supportive environment	<p>1. Workshops discussing taxes, regulations, land allocation, tenureship, quota system (to be specified)</p> <ul style="list-style-type: none"> discuss implications at provincial of bamboo strategy (i.e. harvesting and trading of bamboo and NTFPs; reforestation tax for bamboo) improve coordination between departments involved in bamboo sub-sector provincial workshop discussing lessons learned from the field (i.e. clarify current tax system, improve transparency) <p>2. Assist the province to develop a information centre and integrating bamboo facts (products, trends, prices)</p> <p>3. Assist province in promotion and investment plan</p> <p>5. Developing a one-stop-shop mechanism</p>	Provincial departments, lead by DPI	SNV
	National level	<p>Support is needed by Forestry Sub Working Group (FSWG) on on-going revision of the forestry law / NTFP policy</p> <ul style="list-style-type: none"> invite facilitators from national level to clarify and discuss these (i.e. village cluster enterprise) 	PAFO, DAFO	MAF, MIOC, MOC
	Capacity building	<p>Organisational structure:</p> <ul style="list-style-type: none"> Training clarifying roles and responsibilities of departments in the value chain (IDOS, leadership) Leadership training <p>Increase understanding of market workings and develop marketing skills and</p>	DPI, DIOC, PAFO	SNV
			DIOC, DPI,	SNV

		<p>doing business.</p> <ul style="list-style-type: none"> • Create interest for small profits but a large supply • Increase access to finance by SMEs • Improve awareness of the SMEs of bank requirements • Improve financial products offered by FIs suited to SME needs • reduce business development costs (tax incentives) • increase market knowledge and make available • conduct market research • developing business skills • transfer technology and knowledge 	associations, CoC	
		<p>Handicraft product development:</p> <ul style="list-style-type: none"> • Studytour to create insight in handicraft market through VTE based shops and Vietnam handicraft villages • Invite innovators to train in popular handicraft products • Test out small scale handicraft sales at Viengxai caves • Study potential for development in Xiengkhor, Sobbao, Xamtai districts • Lease/purchase simple machines at village level (need possibly finance) 	Private sector, village handicraft groups, DIOC	SNV, handicraft shops, experts, PUM
		<p>Industrial Technology development:</p> <ul style="list-style-type: none"> • Raise awareness with industrial technology from Vietnam and China • Demonstration of technology 	district, trader, factory, DIOC	OHK?
		<p>Forest management development:</p> <ul style="list-style-type: none"> • Improve understanding of bamboo management • Improve understanding sustainable harvesting techniques • implications of sustainable harvesting • Develop resource assessment skills and scientific NTFP assessment techniques supporting management decisions • Develop provincial and district bamboo management plan • Adapt management and tax regulations accordingly • Improve negotiation skills of villagers 	DAFO, PAFO	SNV
Resource management	Develop village lead bamboo management	<p>Participatory development/adaptation of:</p> <ul style="list-style-type: none"> • management plans • harvesting guidelines • planting models 	Village groups, DAFO, NAFREC	
Experimenting	Piloting	<p>Testing:</p> <ul style="list-style-type: none"> • sustainable resource management models (bamboo shoot, stem, etc) • land rights • enabling environment multistakeholder workshops • business climate multistakeholder workshops • feedback to authorities on implications adapted regulations • handicraft designs workshops 	PAFO, DAFO, NAFREC, villages, handicraft expert, National level	

Once interventions are implemented and lessons learned the emergence of associations will be supported. These may include:

- Forest management groups
- Producer groups
- Trade associations
- Industry associations

NOTE: The current understanding of the bamboo value chain in Houaphanh is still limited and certain gaps of information still exist.

Before certain interventions are carried out further study or information is required with regard to:

- prices paid in the VC (per actor, per product; what is the demand?, what quality is required?)
- costs made by the actors (transport, taxes, fees; can these be lowered? can supply be increased in order to cover costs better?)
- analysis of the pricing system (do the price margins reflect reality?, are prices paid too low?, by whom?, why?)
- better understanding of the flow of products (bamboo shoots, canes, handicrafts, semi-processed products)
- workings of the various regulations (are taxes a problem? will prices increase significantly by lowering tax and abolishing quota?, what is exactly holding investments back?, which department is involved?, what is the status of land/forest tenure?, is it an issue?)
- review at national level with regard to laws and regulations (i.e. currently a review is carried out on the quota system)

5.3 Potential clients and partners

To create an enabling environment for value chain development, government departments will have to strengthen their performance and relate better to other stakeholders like producers and traders. The following are crucial institutes that will need support at provincial and sometimes district level:

Clients

- DPI (planning and investment)
- DOIC (enterprise development, taxation)
- PAFO and DAFO (forest management, regulations, extension)
- PTO (handicrafts)

In order to develop the bamboo value chain provincial partners are needed for collaboration to maximise its contribution to impact. These are:

Partners

- Oxfam Hong Kong (OHK) and their program Prosperity Initiative are recently engaging in the bamboo sector in Laos as part of a larger Mekong program. In Houaphanh OHK will be involved in resource management and livelihood development in 8 villages in Xiengkhor and Viengxay districts. PI is planning to study the returns to investment in a number of sectors in which they are active, like NTFPs and tourism.

- GRET, a French NGO, has extensive experience in the bamboo value chain in developing sustainable harvesting and production techniques in Vietnam, just across the border with Houaphanh.
- The Poverty Reduction Fund (PRF). The provincial government supports poor rural households in districts. Activities concern 1. rural infrastructure like road access, water, health clinics, schools, electricity; and 2. facilitate productive activities to generate income through a village development fund and trainings.

Local service providers (LCB)

To date no knowledge is available on LCB's in Houaphanh province. SNV will need to identify potential candidates or consider to build one up.

Private sector

The handicraft sector is little developed and there is no knowledge if an association exists. Further study is required.

Two semi-processing factories are active in Viengxay district producing for the Vietnamese industry. These medium sized enterprises are examples of awareness of a growing industry over the border.

A range of traders are active in the province. These are both Lao and Vietnamese and have knowledge and contacts with the Vietnamese bamboo industry. They are not organised.

5.4 Priorities

The potential for growth of the bamboo sub-sector is for the export of raw and semi-processed products benefiting the poor and SMEs. However, Houaphanh needs to improve the efficiency of the bamboo vc and be more innovative with regard to product development.

Most constraints identified in the bamboo value chain all lead to the lack of awareness and thus focus at provincial level. It is therefore crucial to start working on the enabling environment. A provincial strategy needs to be developed first in order to guide an enabling business climate benefiting from the market demand. Once this is stimulated and the processing industry and product development (semi-processed products, handicrafts) pick up, prices will improve and the productivity increases. This is likely to provide incentives to sustainable manage bamboo resources.

To enable such changes it is crucial to build capacity of the involved departments at province and district level, so that they in turn are able to support the value chain actors by allowing them to participate in decision making processes.

Thus summarised priorities are:

- VI. Developing an enabling environment for the bamboo sub-sector (provincial bamboo strategy)**
- VII. Increasing value added by processing bamboo stems**
- VIII. Empowering villagers with improved negotiation skills**
- IX. Developing sustainable harvesting methods for bamboo shoots and stems**
- X. Decreasing costs for bamboo traders**

References

- Boupfa, L. and S. Phimmavong. 2006. Laos Resource Mapping and Farmer Input Market Studies of the Vietnam-Laos Bamboo Feasibility Study. National University of Laos, Oxfam Hong Kong.
- Boupfa, L., J. Foppes, P. Wanneng, B. Sayasouk and B. Souphanthong. 2006. Case study on Bamboo Marketing in Lao PDR. ICRAF-SEANAFE Project "Markets for Agroforestry Tree Products". NUOL, World Agroforestry Centre.
- CHAMPA LAO CO., LTD. 2006. 2nd Household income and expenditure survey for the forest management and community support project (FORCOM). MAF, JICA.
- Chandrasekharan, C. 2005. Effective Policy, Law and Regulations for Sustainable Development and Marketing of Non-wood Forest Products. Report on the Second Consultancy Mission. FAO.
- Enterprise & Development Consultants. 2006. Analysis of Sample Value Chains and Bamboo Processing Enterprises in Laos With a focus on Houaphan, Xieng Khoang and Vientiane. For Oxfam Hong Kong / MPDF Mekong Bamboo Sector Feasibility Study.
- FAO. 2006. Non-wood forest product community-based enterprise development: a way for livelihood improvement in Lao People's Democratic Republic. by Thibault Ledecq, Vongvilay Vongkhamsao and Sophie Grouwels, Forestry Policy and Institutions Working Paper No.16. Rome
- Foppes, J. and P. Wanneng. 2007. Improving Governance in the Non-Timber Forest Products (NTFP) Sub-sector of Xiengkhouang province. Mission report. SNV, GPAR, UNDP.
- Foppes, J., V. Sengsavanh, M. Victor, V. Soydara and S. Ketphanh. 2005. The marketing of Touttiang, a non-timber forest product from the Northern Provinces of Lao PDR. ICRAF.
- Governors Office, DPI, DloC, PAFO and SNV. 2007. Xam Neua Interviews results from Ett, Xieng Khor, Sobboa and Viengxai districts in Houa Phan province.
- GPAR. 2001. The District in the Local Administration in Lao PDR. Recent developments, challenges and future trends. UNDP Lao 97/009.
- Helberg, U. 2005. Development of Sustainable Supply Chains for NTFP and Agricultural Products for the Northern Districts of Sayaboury Province, Lao PDR. IFAD/GTZ Programme RLIP – RDMA
- Juliard, C., C. Benjamin, M. Sassanpour, A. Ratovonomenjanahry and P. Ravohitrarivo 2006. Madagascar Aromatic and Medicinal Plant Value Chain Analysis. Combining the value chain approach and nature, health, wealth and power frameworks. microREPORT #70. ACDI/VOCA, IRG, AMAP BDS, Knowledge and Practice Task Order, FRAME, USAID.
- Keuleers, P. 2001. The District in the Local Administration in Lao PDR. Recent developments, challenges and future trends. GPAR – Governance and Public Administration Reform Project.
- Kurukulasuriya, M. 2006. Sustainable development of water resources, water supply and environmental sanitation. Multiple Use of Water for Opium Eradication. 32nd WEDC International Conference, Colombo, Sri Lanka.
- MAF, 2004. Forestry Strategy to the Year 2020 (FS2020) of the Lao PDR. Ministry of Agriculture and Forestry, Lao PDR.
- NAFRI, NUoL, SNV. 2007. Non-Timber Forest Products in the Lao PDR. A Manual of 100 Commercial and Traditional Products. The National Agriculture and Forestry Research Institute. Vientiane, Lao PDR.
- National Statistical Census NSC 2003-2005.

- Oxfam Hong Kong (OHK), International Finance Corporation – Mekong Private Sector Development Agency. 2006. Mekong Bamboo Sector Feasibility Study. Prepared by Enterprise Opportunities Ltd.
- Pearse, C. 2006. The social and economic impact of the construction of the Nam Ham and Nam Ven Roads, Houaphan Province, Lao P.D.R. ILO
- Poverty reduction fund <http://www.prflaos.org/>
- Rogers, P., S. Phimpinith, P. Ladouanglerd. 2004. Houaphanh: birthplace of the Lao PDR – A Provincial Tourism Action Plan. SNV.
- Sigaty, T. 2003. Report on legal framework of forestry sector for Forestry Strategy 2020 Lao PDR.
- SNV Lao PDR. 2007a. Proposal – Choices that will shape our future, discussion paper for all advisors meeting 14 June 2007. Strategy Development Process Translating Strategy to Practice.
- SNV Lao PDR. 2007b. Strategic Plan 2008-2009, Including Management Agreement 2008.
- Sophathilath, P. 2006. Lao PDR Poverty-Environment Nexus Case Study: Non Timber Forest Product (NTFP). Prepared for poverty and environmental nexus study II, The Pen Project Group, EASEN/DECRCG/EASPR, WORLD BANK. NAFRI.
- Thongphanh, D. Undated. Does Decentralisation Meet the Needs of Local People? Implementing Land and Forestland Allocation In two Local Communities, Lao PDR. Faculty of Forestry. National University of Laos.
- UNDP. 2002. Lao PDR Human Development Report 2001: Advancing Rural Development. United Nations Development Programme, Vientiane.
- Weijers, P., K.B. Amin Raj, M. Rahman (Eds.). 2006. Value-chain Assessment for the Jute Sector in Bangladesh. GTZ-PROGRESS, SEBA Ltd.

Appendix 1: Bamboo/NTFP related legislation

Box 1: Selected legal documents related NTFP sector development		
Years	Name of legal document	Main contents
1991	National Tropical Action Plan	Laid foundation for most of the forestry sector activities throughout 1990s
1991	Government Decree No. 67	Responds to "illegal or incorrect logging" practice and related environmental impacts by government control over logging operation by enacting "Logging Ban" in natural forests.
1992	Government Decree No. 99	Provides critical mean for implementing the Government Strategy for stabilization of shifting cultivation but establishing the right of possession and use of forest land allocated under policies and programmes of MAF
1993	Government Decree No. 164	Declared the establishment of the first 18 National Biodiversity Conservation Areas (NBCA) throughout the country. Currently there are 20 NBCAs.
1994	National Environmental Action Plan	Recommended the development of environmental policy, establishment of legal framework, integrating of national environmental concerns into national planning system and the establishment of environmental assessment systems.
1996	Forestry Law	Sets a broad framework and an integrated approach to sustainable management of forests in Lao PDR. It designates all of the land areas in the country as forest land, with an exception of established paddy. Article 28 allows the use of NTFP for household consumption in accordance to village regulation endorsed by DAFO.
1997	The Land law	Provides overall framework for environmental protection, decentralization, participatory natural management; and a legal basis for LUP/LA programmes
1999	Prime Minister's decree No. 189	Sets out a number of regulations for the field implementation of the Forestry law, especially forest land classification and forest land use planning into NBCAs, production forest, protection forest, village forestry, and provide a basis for the establishment of forest development fund.
1999	Prime Minister's Order No 11	Intends to strength the Government central role in regulating and controlling forestry activities in order to halt and reverse the alarming forest destruction.
	International legal frame work	Lao PDR ratified: World Heritage Conservation (1995); the Convention on Biodiversity (1996); and the Framework Convention on Climate Change (1996), but is not a party to CITES or Ramsa Convention on Wetlands. Being in process of the preparation of a National Biodiversity Strategy and Action Plan.

Source: Morris. J, Hicks. E, Ingles. A, and Ketphanh. S, 2004

Appendix 2: Quotas and taxes

According to several references (FAO, 2006; Helberg, 2005; Sophathilath, 2006) regulations describe the following procedures for the quota application process and tax collection from harvested products.

Companies interested in trading NTFPs apply for quotas for products they wish to obtain to the district agriculture and forestry extension office. They pass the quota requests to PAFO. Based on the companies' plans, the PAFO seeks approval for the quotas from the Ministry of Agriculture and Forestry (MAF). Criteria for assessing the size of the quota are amongst others:

- financial and technical capacity of the company to realize the proposed extraction and export
- the ecological assessment of the amount of product available for harvesting. (in practice, provincial and district staff do not have these skills, means or knowledge and no assessment is undertaken)

Once provincial annual quota is approved by MAF, PAFO holds a meeting with the Provincial Trade Office and District Governor office and allocated quotas are divided to DAFOs to implement. Quotas are issued for specific zones within each district. The allocated quota is further divided to interested traders who enter into a NTFP buying contracts with DAFO. These contractors are not allowed to collect NTFP directly from forests, but buy them from villagers who are eligible for NTFP harvesting. All collected NTFPs must be sold to designated buyers, representatives of traders or village NTFP marketing groups.

Traders in NTFPs have to pay different taxes and royalties, all of which involve paper work at different offices. Traders seeking to buy NTFPs from villagers have to register with the village chief to ensure that products can be traced back to their origins. Product prices are generally negotiated by traders and villagers.

Taxes paid by traders:

- 50% of the tax remains in the village
- 20% for official use and
- 30% as remuneration for the tax collector;
- 50% goes to the district tax office.

Another source mentions: when a product is transported to the border from the district, traders have to pay the following additional taxes:

- 3% to the DAFO: MAF instruction (1999) to PAFOs regulates the collection of royalties on NTFPs, requiring NTFP collectors to replant the species harvested or pay a natural resource royalty. Royalty rates vary according to the NTFP. I.e. for every tonne of paper mulberry collected, 15 trees have to be planted or a royalty of US\$5 paid.
- 5% of the purchase price is paid to the district finance office.
- 5,000 kip/tonne is paid to the district commerce office.
- 3% goes to the trade department at the border.

Traders also have to pay a 1% transit tax for transport from district to district, and often double that for transport out of the province.

If a trader can prove to DAFO that NTFPs purchased originate from cultivated plants, no natural resource royalty is charged as it is only applied to wild forest products.

Appendix 3: Houaphanh Policy environment

(Source: Oxfam Hongkong, Livelihood Assessment In Viengxay and Xiengkhor Districts, Houaphanh Province, June-July 2007)

Houaphanh authorities are promoting 5 strategic economic sub sectors including,

- agricultural products, such as rice (*khao khai noi* a local variety), maize, peanut, soybean, job's tear and pumpkin seed, pineapple, sweet plum
- livestock such as cattle, buffalo, pig, poultry
- forestry, rubber and many NTFPs like sticklac (white and red variety), paper mulberry, broom grass, peuak meuak and mak khor; tea
- handicraft
- tourism

Agriculture and Forestry

Authorities are promoting the concept of developing production groups as a means to receive services and achieve surplus. Processed products: tea, bamboo, soybean.

Provincial is promoting and providing convenience to both domestic and foreign investment.

- Special policy for tax and revenues and 3-year grade period.
- For the general issues, such as foreseen for contract farming and natural resources management, especially the measure to cope with soil quality issues after large land has been used to grow maize, the provincial has produced a technical guideline that will be soon published and implemented.
- Technical assistance from the province to facilitate linkages with buyers as to guarantee prices.

For land allocation, the implementation is underway using the Kum Ban or Development based village cluster as a framework for land use and land allocation.

Handicraft and Industry

Houaphanh has been promoting silk and cotton products, with the LWU involved in traditional products and pattern reservation. The project also involves weaving skills training, exhibition, looking for markets and advertisement and promotion.

There is no special promotion for any agro processing with few industries in the province (wood processing, soybean oil pressing, bamboo processing, tea).

Trading

DIOC has been facilitating cross border trade, domestic trade and market prices and has made contacts with private companies in Vietnam to invest in the province. The identification of potential products can be useful to further help the development of arrangement.

Viengxay and Xiengkhor Districts

Both districts have some supporting policies promoting business incl. special taxes, facilitating cross-border trade and investment in agricultural and forestry sector. With Vietnam, a range of border points are in place.

Authorities have been promoting large scale commercial maize production, with private companies' providing services and the price guarantees.

Xiengkhor, cannot produce enough food and surplus. High value crops, as the alternative to livelihood development, have been identified (maize, soybean, white sesame seed, fruit tree, industrial tree and livestock).

The district stimulates foreign investment with 3-5 year grace period, and tax policy for foreign investment is treated in similar policy for domestic investment.

Viengxay and Xiengkhor are supporting activities of many assistant projects:

- Government Production Promotion initiatives in village and district levels
- Consortium
- Against Hunger
- Poverty Reduction Fund (income generation, village revolving fund, saving and credit scheme)

Tax in Xiengkhor:

Export tax for NTFPs

- Tax is waived local small volume of trade
- Vietnamese cross border trade with special application and approval, tax is also waived.

Internal tax

- Short cycle crops: 7,000 kip/ha
- Rice 5,000 kip/ha
- Maize 7,000 kip/ha
- Private company collecting in large volume pay 2% tax of their total cost

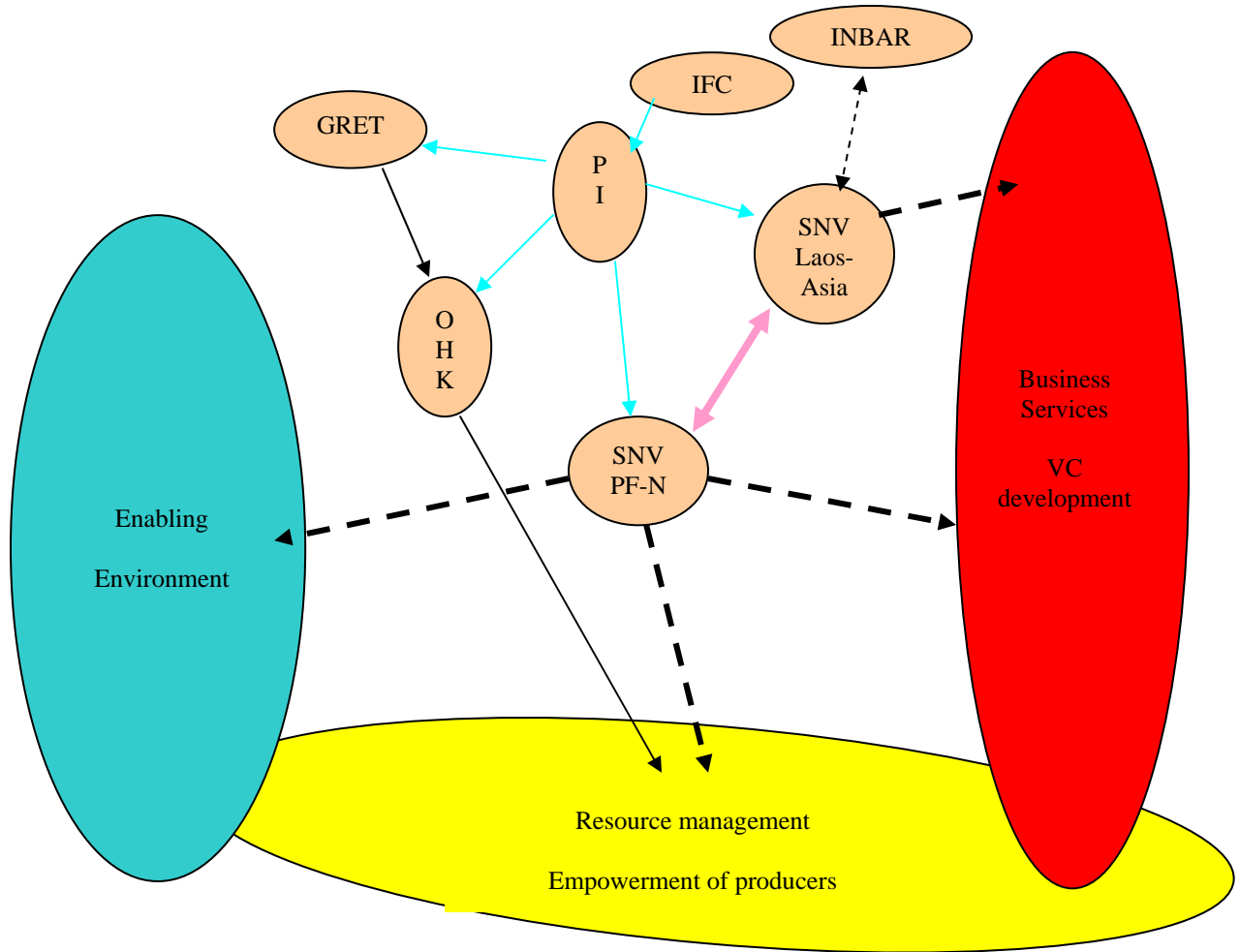
Import tax is waived for:

- Pesticides
- Seed/seedling varieties

Both districts support the concept of CBNRM.

- Bamboo shoots can be considered for export in the future if it is better managed
- Domesticating and marketing of NTFPs.

Appendix 4a: Simplified actor constellation of bamboo VC in Houaphanh



Appendix 4b: Actor constellation of bamboo VC in Houaphanh

