Towards Sustainable Rural Livelihoods in Northern Laos

Contribution to the Integrated Rural Development Program in Luang Namtha, Northern Laos

Report of a mission to Luang Namtha Province, Laos PDR
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# TABLE OF CONTENT

## SUMMARY

1 **BACKGROUND**

2 **LAND AND PEOPLE OF NORTHERN LAOS**
   2.1 Geography
   2.2 Climate
   2.3 Vegetation
   2.4 People

3 **THE GTZ RURAL DEVELOPMENT PROJECTS**
   3.1 The Integrated Rural Development Programme Luang Namtha
      3.1.1 Target area
      3.1.2 The Target Population
      3.1.3 The Goal
      3.1.4 The Project Components
      3.1.5 Land Use Planning

4 **LIVELIHOODS OF THE HILL TRIBES IN THE TARGET AREAS**
   4.1 Farming Systems
   4.2 The importance of forests
   4.3 The Role of Non-Timber Forest Products
   4.4 Legal Framework and Land Tenure
      4.4.1 The quota system for NTFPs

5 **PRODUCTION, PROCESSING AND MARKETING IN LUANG NAMTHA**
   5.1 Selected products and their markets
   5.2 Stakeholders involved
      5.2.1 The successful Mr. Tong Mue
      5.2.2 Friends of the Upland Farmer, FUF
      5.2.3 Lao Farmers’ Products Vientiane
      5.2.4 PADETC
      5.2.5 NAFRI/FRC
   5.3 Processing and value adding
   5.4 Trade structure and value chain
   5.5 Constraints to marketing
      5.5.1 At Village level
      5.5.2 At exporter level
   5.6 Market opportunities
      5.6.1 Opportunities for Sing District
      5.6.2 Opportunities for Nalae District
   5.7 International market access
      5.7.1 Environmental standards
      5.7.2 Fair Trade and Social standards
      5.7.3 Quality and Quality Assurance
      5.7.4 Organic Standards
   5.8 Certification and premiums

6 **STRATEGIES TO SUSTAINABLE RURAL LIVELIHOODS**
   6.1 Improved land use planning and land allocation
   6.2 Power to the village
6.3 Creation of protection zones
6.4 Promotion of agroforestry systems
   6.4.1 Forest gardens ................................................................. 46
   6.4.2 Contour hedgerows .......................................................... 46
6.5 Promotion of SMEs

7 RECOMMENDATIONS
7.1 General Recommendations
   7.1.1 On Village Level ............................................................ 48
   7.1.2 Private Sector ................................................................. 49
   7.1.3 Government institutions on District-, Provincial- and National level……………… 50
7.2 Recommendations for the IRDP Luang Namtha
   7.2.1 Sing District .................................................................... 51
   7.2.2 Nalae District .................................................................. 51

ANNEXE 1 TERMS OF REFERENCE 52
ANNEXE 2 PROGRAM OF THE MISSION 53
ANNEXE 3 LIST OF SOME PLANT-BASED NTFPS FROM NORTHERN LAOS 56
ANNEXE 4 NTFP HARVEST CALENDAR 57
ANNEXE 5 REFERENCES 58
SUMMARY

With an estimated per capita income of US$320 in 2001, Lao PDR is the poorest and least developed country in the East Asia region. More than three-quarters of the population live on less than US$2 a day. Lao PDR's social indicators are among the worst in the region, and closer to the average for Sub-Saharan Africa.¹

Most rural households engage in a wide variety of on-farm and off-farm activities, combining hunting, fishing and gathering with agriculture, horticulture, animal husbandry and forestry. Shifting cultivation is the dominant mode of agriculture in the hills. With long fallow cycles, this rotational system provides stable upland rice yields and plenty of wildlife and Non-Timber Forest Products (NTFPs), which thrive in the regenerating forest fallow. Due to population growth, however, fallow periods are declining rapidly, resulting in increased weed growth, poorer soils, lower rice yields, increased erosion and a decline in NTFPs. The Government tries to end shifting cultivation by resettling villages in valleys, introducing land allocation programs and promoting permanent agriculture. But the program is not very successful because the rural population is not sufficiently involved in the process. Opium production and addiction remains a problem and alternative sources of income have yet to be developed. Very important for the development of a sustainable rural livelihood is the land allocation and land use planning carried out by the District Agricultural and Forest Offices and assisted by the GTZ Integrated Rural Development Programme.

The majority of the Lao population lives in rural areas and relies heavily on forest products for food, shelter and income. Edible bamboo shoots, fish, wild vegetables and wildlife are the most important products from the forest. In fact, most foodstuffs except rice are collected from the forest.

Many authors, as well as interviews in villages in Luang Namtha Province, suggest that non-timber forest products account for over 50% of rural household incomes and rank only second to livestock. Some of the more important NTFPs that are marketed in Luang Namtha Province include:

Cardamom (Amomum sp) exported to China and Korea as medicine;
Sweet palm fruits (Arenga westerhoutii), in Nalae District, exported to Thailand from Bokeo to make sweets;
Broom grass (Thysanolaema maxima), exported to Thailand to make brooms,
Peuak meuak (Boehmeria malabarica), exported to China to make glue and joss-sticks,
Paper mulberry (Broussonetia papyrifera), exported to Thailand to make paper,
Bitter bamboo (Indosasa chinensis), exported to China as fresh edible shoots,
Mak khen (Zanthoxylum rhetsa), pepper-like spicy fruits used locally and in China as condiment.
Cultivated cash crops play only a minor role in most upland villages and typically include (depending on the district) maize, sesame, peanuts, chilies, job’s tears and ginger. In Muang Sing District (Luang Namtha Province) also coffee and some tea are cultivated.

¹ World Bank’s Web Site
Since there is practically no processing industry in the country, Laos has become a cheap source of unprocessed raw materials for the neighboring countries, especially for Thailand and China.

Bamboo shoots, rattan shoots, wild vegetables, frogs, snails and game are also sold in local markets. The dominating role of NTFPs for the rural development can be explained by

- NTFPs are a key component of rural family economy and national economy,
- NTFPs are a vital provider of food security, especially during emergencies,
- NTFPs contribute to sustainable livelihoods by their diversity,
- NTFPs make conservation more acceptable to local governments,
- NTFPs are undervalued but contain a great potential for industrial development,
- NTFPs provide a strong economic incentive for participatory forest conservation.\(^2\)

Usually, all family members are engaged in collection of NTFPs but men concentrate more on hunting and fishing. Since hunting becomes less important due to government restrictions and depletion of game, women spend increasingly more time in the forests then men.

Although the consumption of and trade in, NTFPs is of utmost importance to the livelihoods of the rural communities, most rural people would prefer alternative forms of livelihoods rather than gathering. Households that manage to make a living from agricultural production and animal husbandry tend to use forest products much less than poor households with no livestock and limited access to arable land. The poorer the household, the more it depends on collection of NTFPs. Declining soil fertility leads to shortages of rice, increasing the pressure on the natural resources for food supply and for sale to buy rice. This is a typical vicious cycle in which many rural households are trapped.

The Government of Lao PDR has identified the development of the NTFP sub-sector as a national priority as NTFPs are the key to survival for many rural dwellers in Lao PDR living on a subsistence level. However, the provincial government of Luang Namtha, is currently engaged to replace thousands of hectares of forest land into rubber plantations and, to a lesser extent, into sugar cane plantations, aiming at the Chinese market. The sustainability of this program has yet to be proven.

Constraints that are related to the economic development of the rural households of Luang Namtha Province can be summarized as:

- Slash & burn, over harvesting and inappropriate harvesting diminish natural resources,
- There is a lack of organizational market structure on village level,
- The lack of processing facilities and processing knowledge leave collectors, farmers and traders with small percentages of all revenues earned in the NTFP and agricultural sub-sectors,
- The quality of the products does often not meet market requirements,
- The value chain of many products exported is not transparent to the producers and even to the exporters,
- There are hardly any small and medium sized enterprises (SMEs) that could add value to the raw materials and augment the production of cash crops,

The GTZ program should tackle these problems on three levels:

\(^2\) IUCN, 2002
- Village level,
- Government/Institution level,
- Private sector level.

General recommendations for the GTZ program include:

- Support the establishment and development of village producer and marketing groups,
- Enable producer groups to improve quality of raw materials to be marketed,
- Support the establishment and development of village resource management groups,
- Promote the idea of productive “Forest Gardens”,
- Promote cultivation of NTFPs,
- Facilitate the creation and development of small and medium enterprises, SMEs,
- Assist suitable SMEs in processing technology and marketing tools,
- Make use of existing companies and NGOs, such as Friend of the Upland Farmer Co. in Luang Namtha, Laos Farmers’ Products and PADETC, both in Vientiane,
- Promote price transparency across the value chain (Market Information System),
- Assist and train DAFO and PAFO staff,
- Establish a NTFP network in collaboration with Forest Research Centre.
1 BACKGROUND

The Rural Development Project in the Bokeo Province and the Integrated Rural Development Programme in Luang Namtha have decided to join forces in preparation of an extended Integrated Rural Development Program in Mountainous Areas of Laos, to be started in 2004. One of this concerted effort was a mission carried out by the author in April/May 2003 to look into the potential development of Non-Timber Forest Products (NTFPs) and special crops, and to make recommendations regarding processing and marketing of the products. The intention of both projects to commission this study is to diversify the agricultural production in the target (ethnic minority) villages to increase rural incomes, reduce the necessity of slash-and-burn farming systems and to offer alternatives for the production of opium.

The consultant, who was accompanied by Mr. Bounyong Thongmalayrong, Natural Resource Management Specialist of the GTZ-Luang Namtha program visited four villages in two districts of Bokeo Province, two villages in Muang Sing District and one village in Nalae District of Luang Namtha Province. Interviews were carried out in the villages, using Participatory Rural Appraisal (PRA) methods. Discussions with PAFO, DAFO, exporting companies, custom offices, the Forest Research Centre and many other stakeholders in the provinces and in Vientiane completed the mission.

A separate report is made for the RDP Bokeo.

2 LAND AND PEOPLE OF NORTHERN LAOS

2.1 Geography

Northern Laos lies between 18° and 22°30’ north latitude and 100° and 105° east longitude, while Luang Namtha Province is situated between about 20°30’ and 21°30’ north latitude and between about 100°30’ and 102° east longitude. While the southern parts of the country can be considered tropical, the hills of northern Laos have a more subtropical environment, considering the latitude and elevation.

Below 1000 m, the GTZ project region can be considered subtropical moist zone, while areas above this altitude belong to the subtropical lower montane belt, including wet and rain forest zones.

The highlands of northern Laos are extensions of the vast Shan highlands of Myanmar and southern China. Elevation of the project regions is usually between 400 m and 1500 m and can reach up to 2000 m. There are two major rivers that drain these mountain ranges: the Mekong and the Namtha which is a tributary to the Mekong river.

The mountains are separated by wide and fertile alluvial-filled valleys. It appears that the soils of northern Laos are still unclassified and not fully understood. The soils of the steeper mountains are mostly red-yellow podzols that are derived from acidic parent rocks. These acidic soils are mainly deposited in the upland plateaux and thinly on the hill slopes. They are
poor in water retention and fertility and usually have little organic content. Cultivating these soils on slopes is hazardous as they are easily erodable.

Figure 1: Administrative map of Northern Laos

At lower elevations, there are also reddish-brown laterite soils, which are more deeply weathered and only slightly acidic. Though not very fertile, they are stable and capable of retaining more water, resist erosion and can hence withstand swidden agriculture. Some reddish brown soils that have developed from the weathering of limestone are more susceptible to erosion but they are also less acidic. Finally, along the rivers, there are the most fertile alluvial soils which are used for paddy and vegetables.

### 2.2 Climate

The climate of northern Laos is influenced by the dry Northeast Monsoon and the wet Southwest Monsoon. Four distinct seasons can be distinguished:

from November to February, the Northeast Monsoon brings low temperatures, dry air and little or no rain. The coolest month is January, where the mean temperature is between 19-24°C and at night temperatures can drop to below 0°C above 1000m. Between March and April the transitional pre-monsoon period is hot and dry. Swidden fields are burned during this season making the entire region smoky and dusty. “Mango rain” may occur during this period.

The Southwest Monsoon, which occurs from May to October is the rainy season. The hottest month of the year is May, just before the rainy season starts. During this time the mean temperature in the mountains is 27-31°C. Heavy rainfalls can be expected throughout this season. Annual mean precipitation is between 1500 and 2000 mm. The post-monsoon season is the fourth season, occurring in October and characterised by gradual change in wind direction from the south and south-west to the west and then north. The rainfall decreases and stops in November.

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3 Source: Lao National Geographic Department, 2000
4 Anderson 1993
2.3 Vegetation

Laos is one of the most forested countries in Asia and in terms of biodiversity it ranks as one of the richest countries in the region. The forests contain over 10,000 species of fauna and flora. Estimates of forest cover for the whole country range from 41 to 47%.

The seasonal climate coupled with the complex topography has resulted in a natural vegetation pattern consisting of both evergreen and deciduous forest patches and resulting in high species diversity. Human interaction has further influenced the forests that prevail today. The structure and species composition depends on three main factors: moisture, altitude, and human interaction.

The moisture of a particular site is strongly related to rainfall, topography, and geology. Although lowland areas have less rainfall, plants can often access ground water. Fog in valley and lowland areas provides moisture in the dry season. Valleys and concave slopes provide more moist conditions than ridges and convex slopes.

Highland areas have lower temperatures than lowland areas. The occurrence of frost causes sharp transitions in the vegetation. Topography plays a significant role with exposed ridges and shady valleys supporting different vegetation than intermediate areas.

Human interaction plays a very important role in Northern Laos, which has been inhabited by different ethnic groups for many years. Each ethnic group has developed its characteristic forms of land use shaping the environment they live in. The interactions with the forest include shifting cultivation, timber and fuelwood harvesting, cultivation in the forest and collection of various non-timber forest products.

Three main forest formations and five local vegetation types can be distinguished:

**Montane evergreen broad-leaved forest** is the characteristic and predominant vegetation type covering altitudes between 1000 m and >2000 m. The structure of these forests is simpler than in the lowland and monsoon forests, with very few emergents and poorly developed under story/shrub layers. The trees forming the canopy are almost entirely evergreen and reach a dense cover. Dominant tree families are Fagaceae and Lauraceae, mixed with Theaceae, Magnoliaceae, Myrtaceae, Juglandaceae, and Elaeocarpaceae. Common species include *Castanopsis hystrix*, *C. mekongensis*, *Lithocarpus truncatus*, *Litsea glutinosa*, *Actinodaphne henryi*, *Schima wallichii*, *Syzygium yunnanensis*, *Elaeocarpus austro-yunnanensis*, *Paramichelia baillonii*, *Engelhardtia* spp. Smaller trees in the under story include *Machilus salicina*, *Olea rosea*, *Aporusa* spp. Today many of the montane broadleaf forests have been converted to scrub or degraded habitat, primarily as a result of widespread shifting cultivation:

**Monsoon forests** prevail in altitudes between 800 m and 1000 m. The structure of these forests is characterised by a less closed canopy formed by emergents with big crowns which shed their leaves during the dry season, whereas the under story and middle story layer remains evergreen. In this transitional zone between subtropical evergreen broad-leaved forest an evergreen tropical rainforest a mix of evergreen and deciduous tree species can be found. Typical tree families are Moraceae, Sapindaceae, Anacardiaceae, Tiliaceae, and Leguminosae. Common species include *Ficus altissima*, *Toona sinensis*, *Nephelium chrysseum*, *Altingia excelsa*, *Bischofia javanica*, and *Colona floribunda*. On dryer sites *Bombax ceiba*, *Erythrina stricta*, and *Bauhinia variegata* are common.
Tropical evergreen rainforest occurs in moist areas and in altitudes up to 800 m. In mature forest stands the largest trees reach up to 50 m in height, or more in the case of *Parashorea chinensis*. The middle storey is at 20-25 m; a well developed under storey can be found. Epiphytic ferns, orchids, and semi-epiphytes such as *Scheflera* spp. and *Ficus* spp. are abundant on the trees. These forests are dominated by members of the plant families Myristicaceae, Guttiferae, Lecythidaceae, Rubiaceae, and Meliaceae. Dipterocarpaceae are only occurring below 700 m. Besides the above mentioned *Parashorea chinensis* common species include *Dipterocarpus turbinatus*, *Toxicodendron succedanea*, *Pometia tomentosa*, *Barringtonia macrostachya*, *Terminalia myriocarpa*, *Chisocheton siamensis*, *Tetrameles nudiflora*, *Medinilla trichotoma*, *Horsfieldia glabra*, *Myristica yunnanensis*, *Knema* spp., *Garcinia* spp., *Mitrephora* spp., *Pittosporopsis kerrii*, and *Baccaurea ramiflora*. Locally abundant palm species include *Caryota ochlandra*, *Calamus* spp., and *Pinanga* spp. Also characteristic are a variety of palms including *Arenga saccharifera*, *Caryota*, and *Calamus* spp.

Local vegetation types include limestone forest, pine forest, bamboo forest, river gallery forest and deciduous forests.

Although most of the forests are modified, mainly by shifting cultivation, this does not necessarily mean a reduction in biodiversity. Forests, derived from shifting cultivation, are rich in non-timber forest products. According to Foppes and Ketphanh (2000), typical NTFPs found in secondary forests in northern Laos include Cardamom (*Amomum sp*), sweet palm fruits (*Arenga westerhoutti*), broom grass (*Thysanolaema maxima*), peuak meuak (*Urticaceae*), paper mulberry (*Broussonetia papyrifera*) and bitter bamboo (*Indosasa chinensis*).

### 2.4 People

There are officially 68 ethnic groups in Laos, classified according to language, history, religion, customs, dress etc. Lao traditionally divide themselves into four categories – Lao Loum, Lao Thai (Thai), Lao Theung (Mon-Khmer) and Lao Soung (Hmong-Mien). These categories are described briefly below.

**Lao Loum**

The Lao Loum (Low Lao) are an ethnic sub-group of the Thai-Kadai peoples who have proliferated throughout South-East Asia. They speak the Lao language and traditionally live in the Mekong River valley or along its tributaries. The Lao Loum live a sedentary subsistence lifestyle based on wet-rice (mainly glutinous rice) cultivation.

**Lao Thai**

Like the Lao Loum, to whom they are related, the Lao Thai live along river valleys but rather in upland valleys than in the Mekong floodplains.

The Lao Thai have resisted absorption into mainstream Lao culture and have, in general, maintained animist beliefs. They cultivate wet rice as well as mountain rice and some practice swidden agriculture.

The various Lao Thai groups are distinguished from one another by the colour of their clothing, or by the area of habitation. The largest of the Lao Thai groups is the Thai Dam (Black Thai), who live in upland valleys of northern and eastern Laos.

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5 extracted from Apel 2001
Lao Theung
The Lao Theung (Upland Lao) are Austro-Asiatic (Mon-Khmer) peoples living on mid-altitude mountain slopes in northern and southern Laos with the Khamu being the largest group. The Khamu, who can be divided into eight sub-groups, originally come from Xishuangbanna District of China’s Yunnan Province and are believed to have been in Laos long before the arrival of the lowland Lao. They practice swidden agriculture and grow mountain rice, coffee, tobacco and cotton. The Lao Theung have a much lower standard of living than any other of the major ethnic groups. Most trade between the Lao and the Lao Theung is still done by barter.

Lao Sung
The Lao Sung (High Lao) group those tribes that live at altitudes above 1000 m. They are the most recent immigrants who came from Myanmar, Tibet and southern China within the last century. The largest group within the Lao Sung are the Hmong, who can be divided into four main sub-groups. The Hmong practice slash-and-burn agriculture, raise cattle, buffaloes, pigs and chicken, and their main cash crop is opium. The Hmong are the only tribal people who make clothing from hemp. Many of them still grow hemp (Cannabis sativa) for its strong fibre.

The second-largest group are the Mien, related to the Hmong and equally being opium poppy cultivators.

Other Tibeto-Burman hill tribe groups include the Akha, who are especially frequent in Luang Namtha Province. The are the most distinctively dressed, wearing silver-coloured, pointed headpices and black skirts. Swidden farming is the primary occupation of the Akha and historically they are major growers of opium. They raise many dogs (which are eaten) and livestock that are used for food, ceremonies and for sale.

3 THE GTZ RURAL DEVELOPMENT PROJECTS

The Rural Development Project in the Bokeo Province and the Integrated Rural Development Programme in Luang Namtha, which will merge to become the Integrated Rural Development Programme in Mountainous Areas of Laos in 2004 are situated in the extreme north-west of Laos. Luang Namtha Province borders to China and Myanmar, while Bokeo Province shares borders with Myanmar and Thailand. Except for the Chinese border, the Mekong river forms almost all of the international borderline of the two provinces. China and Thailand play a very important role in terms of marketing of goods and services for the two provinces. There are also strong ethnic and family links between the rural population in the two provinces and that of the three neighboring countries.

3.1 The Integrated Rural Development Programme Luang Namtha

Luang Namtha is one of the country’s least developed provinces, largely because of the conditions in which the various ethnic groups in the mountain villages have lived for generations. About 80% of the hill people live under the poverty line.

3.1.1 Target area

Luang Namtha Province is composed of five districts, namely Muang Sing, Long, Luang Namtha, Viangphoukha and Nalae. The total population is 130,000 and the land area 9,325
km². There are 497 villages comprising 21,400 households. 6 84% of the villages practice slash-and-burn agriculture. Opium remains an important cash crop with 1,687 ha under opium poppy (corresponding to 10,428 kg). The addiction rate is reported to be 3.9%. 7 In terms of cropped land, opium poppy comes second to rice.

The project activities began in April 2001 following the completion of the Integrated Food Security Programme (IFSP). The first phase of this project will end in early 2004. The project targets villages in the Muang Sing and Nalae Districts. In Muang Sing the project works in seven sub-districts comprising of 72 villages with a total population of 26,438 and 5,283 families. In Nalae, six sub-districts are targeted by the project.

There are clear differences between the two districts with regards to topography, ethnicity, agricultural systems and (potential) markets. Most of the Province is mountainous and many villages are inaccessible (with the exception of river transport) during the rainy season. This is especially the case for Nalae District which also seems to have a higher forest cover than Muang Sing. The project activities seem to concentrate more on Muang Sing District and little information is available about Nalae. Generally speaking, the situation (ethnicity, forest use, market) in Nalae is more comparable to that of Bokeo Province while Muang Sing has very different features described further below.

3.1.2 The Target Population

The main ethnic minority in Muang Sing District are the Akha, probably the poorest ethnic group in Laos, that lives in the high mountains. The Akha practice slash-and burn agriculture that produces low yields of rice. Food, income and building material come from the forests that are more and more depleted by the increasing demands of a growing population. Major cash crop however, is opium poppy which has been grown traditionally. Many Akha villages where inaccessible to most of the Government services and the improvement of the livelihoods of the people in the high mountains was seen as an impossible task. The Government of Lao PDR had therefore decided to resettle the Akha people to the lowlands, where they could benefit from better social services and cultivate paddy rice to improve their food supply. Another reason for the resettlement scheme is also to put an end to slash-and burn agriculture. Many Akha have moved to lowlands and could thus improve their standard of living. However, problems with other ethnic groups in the lowlands occur and many Akha people where not able to adapt to the complete new way of live and social as well as economic problems resulted in increased opium addiction rates. The choice of target villages for the project’s interventions is made in close consultation with district authorities who are implementing the project plans.

3.1.3 The Goal

The main goal of the project is to “improve the target population’s total quality of life” by participation of villagers in their own development process and by capacity building at community and government level. 8

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6 Agricultural Census Office 2000
7 UNDP 2001
8 IRDP 2003
3.1.4 The Project Components

Emphasis of the project’s activities is on agriculture, the primary means of livelihood in the province. Other areas of intervention are health, detoxification, education, human resources, land use planning and ecotourism. The activities in agriculture and land use planning are briefly described here.

Agriculture. By the end of the first decade of this century, the government of Lao PDA wants to have stopped shifting cultivation. By the end of 2005, the government intends to have stopped cultivation of opium poppy. The objectives of the project’s agriculture activities are therefore to enable the Akhas to meet these deadlines by adopting modern land use methods and to find attractive alternatives for the opium production.

Priorities, as defined by the project, are, among others, to

- Encourage adoption of sustainable rice farming systems
- Introduce second rice crop during dry season
- Diversify production at village level
- Assist in the formation of voluntary self-help groups.

The project also promotes integrated farming methods that include ruminent-based farming as well as fish farming. In an effort to diversify agricultural production, the project is considering to promote cultivation of cardamom, rattan shoots, maize, cotton, sugarcane and sunflower. Nurseries have been put up to raise fruit trees, coffee and Peuak meuak seedlings but there seems to be a lack of dissemination of cultivation methods as well as planting material.

Land Use Planning. The IRDP Luang Namtha has started to assist district authorities with improved LUP/LA exercises in 2002. Their impacts have yet to be analyzed. The procedures are described below.

3.1.5 Land Use Planning

LUP is practiced to conserve forest resources, control shifting cultivation, reduce the area under opium plantation, increase agricultural production and to offer land tenure rights to villagers. Participatory land use planning is a major aspect of the work of all District Agricultural and Forest Offices (DAFO). It is considered the key to the village development process. The project emphasizes on integrating the land allocation process into the land use planning in order to optimize the effectiveness of the DAFO staff. The participatory approach, together with capacity building, leads to more responsibility and the feeling of community ownership to the villagers.

Land use planning/land allocation (LUP/LA) is the basis for the national process of defining land zonation for forest areas and individual user rights based on certified land use titles. Secure tenure arrangements are seen to be an essential prerequisite for creating a supportive climate for investment of smallholders in agriculture and forestry. The identification of land for the development of paddy is another objective.

During the LUP/LA process at village level 5 different forest categories (protection, conservation, production, rehabilitation and degraded) are distinguished. The degraded forest land can be either allocated for agricultural production or for reforestation activities. For all land with forest cover Village Forest Management Agreements (VFMA) need to be signed.
specifying the area and the future management regime. These agreements are kept very
general and do not contain precise forest management practices.

The LUP/LA procedures are supposed to be carried out by a team of 4-6 District staff during a
period of 5-10 days per village. The procedures are divided into 10 (previously 8) steps as
summarized in Table 1.

About 40% of all villages in Muang Sing and Nalae districts have been covered by a previous
LUP/LA exercise. The district authorities intend to cover all villages by the year 2005.

Table 1: Overview of the LUP/LA Procedures

<table>
<thead>
<tr>
<th>Stages</th>
<th>Main Activities</th>
</tr>
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<tbody>
<tr>
<td>Stage 1</td>
<td>Preparation of LUP/LA activities (training of staff, preparation of materials, villager consultations)</td>
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<td>Stage 2</td>
<td>Village boundary survey, land use zoning, forest surveys and land use mapping</td>
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<td>Stage 3</td>
<td>Data collection and analysis concerning land tenure, socio-economic conditions and needs</td>
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<tr>
<td>Stage 4</td>
<td>Village land use planning and land allocation meeting</td>
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<tr>
<td>Stage 5</td>
<td>Agricultural field measurements</td>
</tr>
<tr>
<td>Stage 6</td>
<td>Preparation of forest and agricultural agreements and transferring rights to villagers</td>
</tr>
<tr>
<td>Stage 7</td>
<td>Land use management extension</td>
</tr>
<tr>
<td>Stage 8</td>
<td>Monitoring and evaluation</td>
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<tr>
<td>Stage 9</td>
<td>-</td>
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<td>Stage 10</td>
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Source: Rock, 2003

The Technical Appraisal Report on the Spatial Planning and Natural Resources Management (NRM) Component within the RDMA summarizes some of the impacts of the previous LUP/LA as:

Positive effects:
- Some villagers have received additional paddy fields,
- Village boundaries have been clearly demarcated; boundary and land use conflicts been reduced,
- Villagers have more land use security,
- Some alternatives to shifting cultivation have been identified and destruction of natural resources has decreased

Negative effects:
- Not all steps of LUP/LA have been conducted, no follow up, no extension work, no monitoring,
- In some cases, LUP/LA led to reduced agricultural production area and subsequent reduction in fallow periods, thus resulting in increased poverty.\textsuperscript{9}
- LUP/LA has not led to increased investments in land,
- Villagers are still reluctant to pay land tax for newly allocated agricultural or forest land.\textsuperscript{10}

The previous LUP/LA exercises have often resulted in an increase in the protected areas and the endorsement of land use restrictions, rather than providing the local population with secure access rights to assure their livelihood.

Complementary and improved measures in land use planning, land allocation and natural resource management are needed to sustain any form of livelihood improvement in the long term. The improved procedural and technical methodologies,\textsuperscript{11} implemented by the Nam Ngum Watershed Management and Conservation Project, NAWACOP in Xieng Khouang Province should be considered and applied in the future RDMA.

4 LIVELIHOODS OF THE HILL TRIBES IN THE TARGET AREAS

Livelihood is the way people make a living. Before making any recommendations about improving agricultural systems in the project area, we have to understand how rural people live and what strategies they have to improve their standards of living. Only than can we find ways to improve and sustain rural livelihoods. Sustainable forms of livelihood are therefore the key to rural development.

UNDP has come up with a definition of Sustainable Livelihood (SL) that is simple and clear: “SL is the capability of people to make a living and improve their quality of life without jeopardizing the livelihood options of others, either now or in the future”.\textsuperscript{12}

“[Sustainable livelihood thinking] centers on enabling poor people to overcome conditions which force them to take the short view and live 'from hand to mouth', or 'from day to day'. It seeks to enable them to get above, not a poverty line defined in terms of consumption, but a sustainable livelihood line which includes the ability to save and accumulate, to adapt to changes, to meet contingencies, and to enhance long-term productivity.”\textsuperscript{13}

The main problem in the livelihood system of the people of Northern Laos is certainly poverty, as experienced by the rural households as:
- Food insecurity
- Low income
- Insufficient savings and investments (expressed in shortage of livestock as this is the main form of saving/investment in rural areas)

\textsuperscript{9} Ethnic minorities have systematically been allocated only 3 plots per family for rotational shifting cultivation, based on area units per labour force in the household – resulting in shortening of fallow periods to 2 years and hence in reduced soil fertility and yields.
\textsuperscript{10} Rock 2003
\textsuperscript{11} such as a revised PRA-based situation assessment at village level, a complete set of socio-economic and land-use data for each target village, use of enlarged aerial photos, strengthening of village-based organizations and the linkage of LUP with village development planning
\textsuperscript{12} Concept Paper on the Sustainable Livelihood Approach; UNDP/SL website
\textsuperscript{13} Chambers R., 1987, Sustainable Rural Livelihoods: a strategy for people, environment and development, cited in Raintree J. and V. Soydara, 2001
• The complexes that are responsible for this problem relate to:
• The declining productivity in swidden-based upland farming system
• The declining productivity of non-timber forest products
• The failure to alternative income sources to transform the rural economy

Most rural households in Luang Namtha, as well as in the whole country, engage in a wide variety of on-farm and off-farm activities, such as agriculture, animal husbandry, hunting, fishing, gathering and forestry. Subsistence strategies are combined with income generating activities to improve the standard of living. The most important livelihood systems in the province are a variety of farming systems and the dependence on Non-Timber Forest Products (NTFP). Forests play a major role in the land use systems.

4.1 Farming Systems

Land use in Luang Namtha is still rather extensive, due to the relatively low population density. However, increasing population pressure results in more intensively forms of land use that are no longer sustainable. Most of the hill tribes practice slash-and-burn agriculture, also known as shifting cultivation, or swidden farming, which is the principle form of upland farming systems. Because of its importance, this traditional land use system will be described in more detail.

Figure 2: A field in shifting cultivation, prior to sowing of upland rice

The upland vegetation of Luang Namtha province consists of forests in various stages of succession and fields under active cultivation. Most of the forests can be defined as secondary forests, being in an earlier or later stage of succession as part of the shifting cultivation practiced. If properly managed, shifting cultivation can be considered appropriate for the environmental conditions. It involves clearing the land of forest, burning the cut debris, planting crops on the ash-rich soils for short periods of one to three years and abandoning the plot to allow it to regenerate during a fallow period of many (10-20) years. During the fallow period soil fertility returns through the natural vegetation. Most of the nutrients of tropical soils are contained within the plant biomass rather than in the soil. Nutrients in tropical soils

14 Raintree J. and V. Soydara, 2001
15 swidden farming comes from an old English word, swithe, referring to the burned clearings in the heathlands of the British Isles hundreds of years ago
are easily mineralized and leached into deeper soil levels, inaccessible to the plants. Swidden farming takes advantage of the plant nutrient source by cutting and burning the plant material during the dry season and using the readily soluble ash, rich in phosphorus, potash and many other minerals as fertilizer. Local people have adapted this system because it is efficient and difficult to replace by any other system, given the physical environment and the socio-economic situation of the ethnic minorities. Slash-and-burn agriculture has to be considered an integral part of the local people’s tradition. Farmers only use very simple hand tools, such as hoes, machetes, dibble sticks for planting seeds, knives, sickles and other sharp tools for weeding. There is no mechanization, no plowing and animals are hardly used in land preparation.

Table 2: Major farming systems in Luang Namtha Province

<table>
<thead>
<tr>
<th>Farming system</th>
<th>Description</th>
<th>Market orientation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowland rainfed system</td>
<td>Cultivation of glutinous rice varieties during rainy season only. Rice yields usually higher than for upland rice. Buffalo and cattle for draft, free ranging of animals during dry season. Home gardens with vegetables and fruit trees are maintained. Pigs, poultry, fish and NTFPs are important sources for food and income. Limited extent of this system in LNT.</td>
<td>Rather low. Some fruits, vegetables, animals and NTFPs are sold in local market</td>
</tr>
<tr>
<td>Lowland irrigated system</td>
<td>Double cropping of improved rice varieties possible but not very common. Dry season vegetables grown near town markets. Use of off-farm inputs such as fertilizer and pesticides during dry season. Few livestock due to shortage of grazing land, buffaloes used for ploughing. Fishponds are common. Limited use of NTFPs. Farmers are better off than in the other systems. Very limited extent of this system in LNT</td>
<td>Medium. More products sold in local market</td>
</tr>
<tr>
<td>Upland rainfed farming</td>
<td>Shifting cultivation of rice, often intercropped with cucumber, taro, sesame and chilli on sloping land with fallow periods of 2-7 years. Farm size 0.5 to 1.5 ha. Other crops include maize, cassava, groundnut, cotton, sugarcane. Cattle, pigs and poultry are principle livestock. Adoption of paddy where possible. Upland households depend heavily on NTFPs for food, construction material and income. Households are very poor. Most common farming system in the project area.</td>
<td>Medium to high. Livestock and NTFPs sold in local market. In Muang Sing District strong market orientation towards China. Rapid extension of sugarcane land for Chinese factory. In Nalae, some NTFPs for China, but mostly exported to Thailand via Bokeo</td>
</tr>
<tr>
<td>Highland farming</td>
<td>Similar to upland farming, with the exception that high altitude crops, especially opium poppy are grown. In some areas temperate fruit trees such as plum, peach and apple can be found. Opium is the most important cash crop but households are poor as well. Very common in LNT.</td>
<td>Medium to high with emphasis on opium.</td>
</tr>
</tbody>
</table>
Maintenance of soil fertility requires long enough fallow periods (10-20 years) and relatively large amount of land. When fallow periods drop to below seven years soil fertility can no longer be maintained and subsequently crop yields drop. Because of population growth, together with government regulations that restrict the amount of land available to the farmers for cultivation, traditional shifting cultivation methods are no longer sustainable as the fallow periods are more and more reduced. This leads to reduced soil fertility, increase in weeds, increased risk of soil erosion, lower yields of rice and hence insufficient food supply and income.

There are basically three farming systems in Luang Namtha: lowland paddy (limited extent), upland shifting cultivation and highland farming. These systems can be further sub-divided as shown in table 2. It has to be born in mind, however, that these farming systems rarely come in their pure forms. Very often, there are mixed forms of farming systems as animal husbandry is practiced and home gardens maintained.

4.2 The importance of forests

The hill tribes of Laos live to a large extent from the forests. People collect timber, fire wood, non-timber forest products and they go hunting and fishing in forest streams. The forest vegetation is also used as biomass in shifting agriculture. Without the regrowth of secondary forests during the fallow periods there wouldn’t be enough biomass to release nutrients for crop production. For many years, the local hill people have developed and successfully practiced techniques for utilizing forest ecosystems in a sustained, integrated manner. Forests also play an important role in watersheds to prevent flooding and sedimentation of rivers.

Figure 3: Forest cover in Northern Laos

Over the last fifty years, forests have rapidly declined due to growing population and logging pressures.\(^{16}\) Mainly three reasons are responsible for the removal of forests. The primary cause is certainly the development of new agricultural land for the steadily growing population. Since only relatively small areas in the country are suitable for agriculture, forests where and are removed from most of the lowland areas for the

\(^{16}\) Foppes and Ketphanh, 2000
development of wet rice cultivation. Gradually, an ever increasing population cleared and cultivated more marginal land in the foothills and mountains.

The second cause of deforestation is legal and illegal logging, which has been a very profitable business because of valuable species of hardwood, such as teak. The third reason is the clearing of forests for slash-and-burn agriculture which the government of Laos wishes to stop.

The cost for clearing the forests is very high: the productivity of cleared tropical forest land when used for growing crops is usually exhausted after a few years, while the ongoing destruction of forests is having serious large-scale consequences for soil fertility and the water cycle even affecting the climate. Moreover, the irreversible loss of plant and animal species, that goes hand in hand with the forest destruction, is drastically reducing sustainable livelihoods for the hill tribes. Certain interest groups may profit in the short term from this destruction but in the long run, whole regions will be impoverished.

In this context, the policy of the Luang Namtha provincial government to cut virtually thousands of hectares of dense forests in Muang Sing District for rubber-, and to a lesser extend, sugar plantations is difficult to understand. The rich biodiversity of the forests, on which the local population has been dependent for many years, is being replaced by mono cultures that only supply single products for the Chinese markets without having local market potential. Under the dense canopy of the rubber plantations no other plants can grow.

Apart from the ecological problems caused by clearing the forests for rubber plantations, there are also economic concerns. In other countries, most of the planted rubber is grown between 15°N and 10°S where the climax vegetation is lowland tropical forest and where the climate is hot and humid throughout the year without distinct changes in temperature and without pronounced dry seasons. These are certainly not the conditions of Muang Sing District. It can therefore be expected that the yields of tapped latex will be much lower than average.

Figure 4: Clearing of forests for rubber plantations

Another ecological concern is the rapidly increasing cutting of forests for sugar cane plantations in Sing District. If not grown on rich alluvial soils, sugar cane has the tendency to rapidly impoverish the soils, especially in hilly terrain. Farmers are provided with mineral

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17 Purseglove, 1968
fertilizer and herbicides by the Chinese sugar factory across the border, but the fertilizer cannot make up for the loss in organic matter that inevitably will occur.

Through the intensified cooperation with the Chinese agro-industry, the provincial government of Luang Namtha hopes to put an end to shifting cultivation and to create employment for the rural population. While there is absolutely nothing wrong with this approach, the method of implementation will have many implications:

- People have much less access to the forests and their products on which they depend so much,
- The environmental effects (loss of biodiversity, increase in soil erosion risks, watershed problems) are probably more severe than those of shifting cultivation,
- Farmers are forced to supply raw material, without much possibility to add value to their products,
- Farmers depend on one single market with little potential to develop other markets for rubber and sugar cane,
- The economic viability of producing rubber and sugar cane in Laos for the Chinese factories must be questioned.

4.3 The Role of Non-Timber Forest Products

The term “Non Timber Forest Product” encompasses all biological materials other than timber which are extracted from forests for human use. These include foods, medicines, spices, essential oils, resins, gums, latexes, tannins, dyes, ornamental plants, wildlife (products and live animals including fish), fuel wood and raw materials, notably rattan, bamboo, small wood and fibers.\(^\text{18}\)

The value of forest products was often only expressed in timber, neglecting the importance of other resources. The main reason for this is the fact that most of these products are used for rural subsistence or local markets and that they often go unrecorded in official statistics, which focus on nationally traded goods. Another reason is the lack of a clear definition of these products and instead of grouping them they are often divided among forestry, agriculture and horticulture. Finally, modern forestry has favored timber and large-scale enterprises. In recent years much more attention has been given to the importance and value of NTFPs.\(^\text{19}\)

Although there are no study results available on the importance of NTFPs for Luang Namtha Province, the IUCN-NTFP project, carried out between 1995 and 2000 in 28 villages throughout the country, provides a lot of information relevant to most Lao provinces. The top ten NTFPs used for subsistence in Lao PDR are: \(^\text{20}\)

1 edible bamboo shoots (food) 6 frogs (food)
2 fish (food) 7 mushrooms (food)
3 vegetables (food/ medicines) 8 edible rattan shoots (food)
4 wildlife (food) 9 bamboo canes (construction, basketry)
5 rattan canes (tools, construction) 10 pandan mats (weaving)

\(^{18}\) de Beer, J.H. and M.J. McDermott, 1996
\(^{19}\) de Koning, 2002
For most rural households in Luang Namtha Province, NTFPs provide food, medicine, fodder, fuel, thatch and construction materials and non-farm income. These products are particularly important in relieving the 'hunger periods' in the agricultural cycle, and in smoothing out other seasonal fluctuations. Poor households, in particular, depend on these products for their livelihood because they usually have more access to the forest than to other resources. Women usually rely more than men on NTFPs for household use and income. Beside rural people NTFPs are also important for urban consumers and traders.\textsuperscript{21}

![Figure 5: NTFPs sold at Namtha market](image)

Forest products collected by the Akha of Sing District include: \textsuperscript{22}
- 16 varieties of bamboo shoots
- 5 varieties of rattan shoots
- 13 varieties of roots, especially Mak Daeng
- 15 varieties of tree and scrub flowers such as banana flowers
- 21 tree and scrub leaves
- Raisins, including Kisi (Damar gum)
- 10 varieties of mushrooms
- Edible grasses

Furthermore, over 60 animal species are hunted, including, frogs, snails, insects, birds, rodents and large game.

However, due to rapid deforestation and over-exploitation the availability of NTFPs is declining in many regions. This threatens the food security, income potentials and also the traditional way of living of the rural population.

Most people in Luang Namtha live in rural areas where they depend on NTFPs, both for subsistence and for income. Villagers mention edible bamboo shoots, rattan shoots, wild vegetables, fish and wildlife as the most important foodstuffs extracted from the forests. But also materials for construction, weaving and handicrafts are important for the villagers.

\textsuperscript{21} FAO, 1995
\textsuperscript{22} Compiled by Laurent Chazee
NTFPs provide a low-cost survival system securing food, housing and medicinal needs which can not be overstated. They also provide a security system in times of food shortage or other emergencies. Apart from pure subsistence, NTFPs were found to provide also on average 55% of family cash income of villages near forests as shown in table 3.\(^{23}\) Sales of livestock are the only other main source of cash income.

Table 3: Ranking of income sources by villagers\(^{24}\)

<table>
<thead>
<tr>
<th>Income Source</th>
<th>Use</th>
<th>Ranking %</th>
</tr>
</thead>
<tbody>
<tr>
<td>NTFP</td>
<td>NTFP</td>
<td>Total</td>
</tr>
<tr>
<td>Cardamom</td>
<td>Medicinal</td>
<td>9.5</td>
</tr>
<tr>
<td>Fish</td>
<td>Food</td>
<td>7.0</td>
</tr>
<tr>
<td>Wildlife</td>
<td>Food</td>
<td>5.8</td>
</tr>
<tr>
<td>Damar resin</td>
<td>Exudate</td>
<td>5.6</td>
</tr>
<tr>
<td>Bamboo shoots</td>
<td>Food</td>
<td>3.0</td>
</tr>
<tr>
<td>Rattan canes</td>
<td>Fibre</td>
<td>2.6</td>
</tr>
<tr>
<td>Sapan bark</td>
<td>Exudate</td>
<td>2.5</td>
</tr>
<tr>
<td>Bong bark</td>
<td>Exudate</td>
<td>2.0</td>
</tr>
<tr>
<td>Rattan shoots</td>
<td>Food</td>
<td>1.8</td>
</tr>
<tr>
<td>Yang oil</td>
<td>Exudate</td>
<td>1.8</td>
</tr>
<tr>
<td>Other NTFPs</td>
<td></td>
<td>13.6</td>
</tr>
<tr>
<td><strong>Total NTFPs</strong></td>
<td></td>
<td><strong>55</strong></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Livestock</td>
<td></td>
<td>24</td>
</tr>
<tr>
<td>Rice</td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>Other crops</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>Labour</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Off-farm income</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td><strong>Total other income</strong></td>
<td></td>
<td><strong>45</strong></td>
</tr>
</tbody>
</table>

Also on a macro-economical level, NTFP play an important role. They provide about $6-7 million per year or 2% of total income for Lao PDR (table 4). Their relative importance is growing, as the value of timber exports declines. The main export destinations are China, Thailand and Vietnam. Due to the almost non-existence of a national processing industry, only raw materials are exported.

Table 4: Exports of NTFPs from Lao PDR\(^{25}\)

<table>
<thead>
<tr>
<th>Year</th>
<th>Quantity (MT)</th>
<th>Value (million USD)</th>
<th>Average price (USD/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>2,391</td>
<td>3.65</td>
<td>1.5</td>
</tr>
<tr>
<td>1996</td>
<td>2,112</td>
<td>1.79</td>
<td>0.8</td>
</tr>
<tr>
<td>1997</td>
<td>4,617</td>
<td>5.22</td>
<td>1.1</td>
</tr>
<tr>
<td>1998</td>
<td>6,790</td>
<td>5.52</td>
<td>0.8</td>
</tr>
</tbody>
</table>


\(^{24}\) Ibid.

\(^{25}\) UNDP, 2001
In times of rice shortage, about one half of all rural families get in debt to borrow rice. Such debts often force people to harvest and sell forest products (timber, wildlife and NTFPs) in a destructive manner.

While the average annual income from NTFPs accounts for 41% of total household income, it accounts for only 24% in the “richest” group, where off-farm activities and livestock provide the bulk of income, and 90% of total income for the “poorest” group. This shows the relative importance of NTFPs for poor villagers.

The use of some of these NTFPs is relatively new for the rural population and the trade with neighboring countries only started recently. This is probably due to the fact that the infrastructure in Laos improved in the last decade and the presence of these NTFPs is diminishing in the neighboring countries. But the increased use also has negative effects on the resource base which has started to diminish. Many people interviewed during the mission indicated that at least some of the NTFPs are getting rarer and villagers have to walk longer distances for gathering. Most affected plants are Tutien (sticky bark), bitter bamboo and rattan. But also eagle wood and chuang wood are badly affected. Reason for this are, among others, unsustainable methods of harvesting which destroy the plants or seriously affect their regrowth. The survival of the plants depends largely on which part of the organism is harvested. Harvesting of fruits hardly affects the regeneration of the mother plant. A good example is cardamom: the fruits are harvested whereas the plant multiplies mainly through rootstocks. Plants harvested for their stems or as a whole, however, can quickly become critically depleted, if mother plants are not maintained or some pant part is not left to regenerate.

Compared to its neighbors Laos is thinly populated (20 persons/square km) and still has relatively large forest covers and rich NTFP resources. A lot of NTFPs also grow in cultivated areas or fallow land like broom grass or paper mulberry. However, also in Laos the sustainable use of NTFPs is threatened by rapid deforestation, the general state of poverty among rural people, market pressure from outsiders and uncertainty on forest access rights giving little incentives for communities to manage their forests in a sustainable manner.

Furthermore, lack of access to (market) information, unstable prices, difficult transport situation, and, last not least, lack of processing capacity are characteristic for the NTFP sub-sector.

A review of the NTFP sub-sector in Laos by IUCN reveals that NTFPs have good potential for:

- Poverty alleviation, food security, gender and social equity,
- Conservation of forests, biodiversity, landscapes, watershed and
- Development of sustainable forest-based commerce and industry.

This potential is an attractive proposition for local communities, the private sector, the national government and conservationists, because:

- NTFPs are a key component of rural household economies and the national economy,
- NTFPs are a vital provider of food security, especially during emergencies,
- NTFPs contribute to sustainable livelihoods,

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26 Ibid. interviews with 191 families in 5 villages on the Nakai Plateau
27 de Koning, 2000
28 Foppes and Ketphanh, 2000
29 IUCN, 2002
• NTFPs are undervalued but contain a great potential for industrial development,
• NTFPs make forest conservation more acceptable to local governments,
• NTFPs provide strong economic incentive for forest conservation.

4.4 Legal Framework and Land Tenure

In Laos, all lands are the property of the national community, represented by the Government of Lao PDR (GoL) and only user rights can be obtained by individual people. Basically there are two types of land tenure for agricultural land:

• temporary land use rights in form of Temporary Land Use Certificates (TLUC) for up to 3 years, which cannot be transferred, leased or pledged as collateral, and
• long-term user rights evidenced by a Land Title (LT). Permanent land use rights can be obtained after the land has been managed and used in accordance with the defined objectives and in line with the regulations. They can be transferred, leased or pledged as collateral. 30


As part of the decentralization policy, the province is classified as strategic unit, the district as planning and budgeting level and the village as implementation unit.

Land tax exemptions have been introduced to promote private investment and sedentarized land management systems. Tax exemptions for three years apply for land converted to permanent cultivation of crops, fruit trees, livestock raising and newly cleared paddy fields.

Land Use Planning and Land Allocation (LUP/LA) are the basis for land zonation for forests and individual user rights based on certified land use titles. The land/forest allocation has been developed as one of major policy initiatives to stabilize and reduce shifting cultivation, thus contribute to conservation and rehabilitation of forest resources. Also, the switch to a market oriented economy forms the baseline of the allocation policy which expects long term investment in resource use by villagers through awarding ownership. 32

For mountainous areas the government wants to transform the “low-input low output” shifting cultivation system into higher productivity production systems and considers the “Focal Sites” approach one of the cornerstones for poverty alleviation in rural areas. Focal sites are rural areas in which the government concentrates its development efforts to alleviate poverty among the inhabitants. As part of this approach, upland villages are relocated in order to facilitate access to development services. The resettlement takes two forms:

• Consolidation of upland villages or integration into larger lowland communities, which is seen as the most cost-effective way of making development services available to scattered and remote communities; in some districts a target of at least 50 households per village has been formulated

30 Rock, 2003
31 Ibid.
32 Kitamura, 1999
- Relocation of an entire village, due to high dependency on shifting cultivation and unavailability of sufficient productive land resources in the neighborhood\textsuperscript{33}

The Forest Law (1996) of Lao PDR recognizes five categories of forests for which different exploitation and management provisions apply. These are summarized in table 5.

Table 5: Forest categories as described in Lao legislation\textsuperscript{34} 

<table>
<thead>
<tr>
<th>Category (Forest law 1996)</th>
<th>Allocation</th>
<th>Applicable legal documents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 : Production Forest</td>
<td>At national level</td>
<td>PM Decree 59 (2002): sustainable forest management of production forest areas MAF Regulation 221 (2000): harvesting of wood and NTFPs Draft MAF regulation on sustainable forest management of production forest areas</td>
</tr>
<tr>
<td>2. (Watershed) Protection Forest</td>
<td>At provincial, district and village level</td>
<td>Forestry law (1996)</td>
</tr>
<tr>
<td>4. Regeneration Forest</td>
<td>At village level</td>
<td>Forestry law (1996)</td>
</tr>
<tr>
<td>5. Degraded Forest</td>
<td></td>
<td>MAF Regulation 196 on plantations</td>
</tr>
</tbody>
</table>

The Forest Law provides a legal framework for the NTFP sub-sector and distinguishes between customary use and commercial use of NTFPs. Article 30 states:

- The customary use of forest, forest land is the use of forests, forest land and forest produce which has been practiced for a long period and is recognized by society and/or law.
- Customary use includes the collection of non-prohibited wood for fences and fuel, the collection of forests produce, hunting and fishing of non-prohibited species for household consumption and other uses following custom (…).
- The customary use of forest, forest land and forest products must be in accordance with village regulations on forest and forest land which the village authority has determined (…)

Customary rights include the sale of non-restricted NTFPs for commercial purposes. To that effect, a village level association has to be formed and this association will sign management contracts with PAFO\textsuperscript{35}.

Commercial exploitation may be carried out in Production Forest Areas (PFAs). The responsibilities are formulated in PM Decree 59 (2002):

\textsuperscript{33} Rock, 2003
\textsuperscript{34} IUCN, 2002
\textsuperscript{35} Provincial Agricultural and Forestry Office
MAF\textsuperscript{36} is responsible for the coordination with all relevant sectors. PAFOs are responsible for the implementation of instructions for sustainable management of PFAs under their jurisdiction and to guide and monitor implementation. DAFOs\textsuperscript{37} are responsible for the organization of the implementation of production forest management plans. The actual management activities itself are carried out jointly by Forest Management Units (FMUs) and Village Forest Organisations (VFOs) including inventory and planning, harvesting and sales.

Article 25 of the Forest Law states, among others:
- The harvesting of other products such as mushrooms, roots, tubers, shoots, leaves, flowers, bark, resins, and gum must be carried out according to specific village regulations issued by concerned agencies.

MAF regulation 221 (2000) provides the regulations referred to in the Forestry Law. It prescribes:
- Certain NTFPs may only be harvested in a specific season
- The requirement of harvesting permits and plans
- Conditions under which harvesting is prohibited
- A monitoring system and penalties

It is assumed that these guidelines and article 25 apply to production forests only and hence for the commercial exploitation.

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
- Exploitation of rattan by cutting all stems (in a stand)
- Exploitation of forest products for their fruits, flowers or leaves by cutting down the tree
- Exploitation of forest products for their bark by stripping the tree of all its bark
- Exploitation of forest products for oil or resin by burning or using chemicals to extract large amounts of oil or resin at once, which causes the tree to die
- Exploitation of forest products for their roots or shoots by taking out all shoots or roots at once.

A customary sale of NTFPs is exempt of regulations, as opposed to conducting business for considerable profit. This principle is based on the fact that such sales are often important to fulfil direct economic need at household level.

4.4.1 The quota system for NTFPs

Every year, quotas are set for the commercial collection and trade of non-timber forest products. Companies interested in trading NTFPs have to apply to PAFO for quotas for those products they wish to purchase. Based on the companies’ planning, PAFO sends the proposed

\textsuperscript{36} Ministry of Agriculture and Forestry

\textsuperscript{37} District Agricultural and Forestry Office
quota to MAF for approval. After approval, PAFO invites the Provincial Trade Office, District Governor Deputy and the companies applying to a meeting in which the quotas are distributed among the companies. Quotas, although set per province, are given for specific zones within the districts. For example, in Bokeo Province, the following quotas are distributed on average to five export companies:

<table>
<thead>
<tr>
<th>Product</th>
<th>Quota</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sugar-Palm fruits</td>
<td>700-800 tons</td>
</tr>
<tr>
<td>Cardamom</td>
<td>30-40 tons</td>
</tr>
<tr>
<td>Broom grass</td>
<td>30-40 tons</td>
</tr>
<tr>
<td>Mulberry bark</td>
<td>30-40 tons</td>
</tr>
<tr>
<td>Peuak meuak</td>
<td>30-40 tons</td>
</tr>
<tr>
<td>Rattan fruits</td>
<td>20 tons</td>
</tr>
</tbody>
</table>

After receiving the quotas, the companies, through their middle men, contact the villages within the respective zones to supply the material.

At various levels, different taxes and fees have to be paid by the companies, all involving additional papers to be filled in and submitted to different offices. The following taxes are applied:

<table>
<thead>
<tr>
<th>Tax</th>
<th>Rate</th>
<th>Destination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Resource tax</td>
<td>3-5% of value</td>
<td>Paid to PAFO(^{38})</td>
</tr>
<tr>
<td>District Management tax</td>
<td>2% of value</td>
<td>Paid to DAFO</td>
</tr>
<tr>
<td>Export tax</td>
<td>3-5% of estimated export value</td>
<td>Paid to tax office</td>
</tr>
</tbody>
</table>

In addition to the official taxes, companies, or rather their middle men, sometimes also pay a village levy for NTFPs purchased, that goes into the village development fund. Typically, 6% of the value bought where paid to the villages in Bokeo Province. This system, however, does not seem to be practiced in Luang Namtha.

The taxes are only charged for forest products that are collected in the wild. For agricultural products, including NTFPs that are cultivated, there are no such taxes.

5 PRODUCTION, PROCESSING AND MARKETING IN LUANG NAMTHA

5.1 Selected products and their markets

As has been pointed out, NTFPs are the most important products for the rural population in Luang Namtha.

Most of the edible NTFPs consumed by the villagers are also sold in local markets in Muang Sing, Luang Namtha and Nalae. Many of the NTFPs exported from Luang Namtha are medicinal and aromatic plants (MAPs) destined for the neighboring countries of China and Thailand. Medical cardamom (amomum spp) is second only to coffee as the highest earning agricultural export of Laos. According to the Chief of Forestry and Environment Section of

\(^{38}\) might be shifted to DAFO in future
DAFO in Muang Sing, the most important NTFPs exported from the district are given in table 6:

Table 6: Most important NTFPs traded in Muang Sing District, Luang Namtha Province

<table>
<thead>
<tr>
<th>Product</th>
<th>Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardamom</td>
<td>China and Korea, partly via Thailand</td>
</tr>
<tr>
<td>Various medicinal plants</td>
<td>China</td>
</tr>
<tr>
<td>Peuak meuak, (Tutieng)</td>
<td>Thailand and China</td>
</tr>
<tr>
<td>Broom grass</td>
<td>Sold to Friend of Upland Farmer, FuF for Thailand</td>
</tr>
<tr>
<td>Bamboo shoots</td>
<td>taken individually across Chinese border to local market there</td>
</tr>
<tr>
<td>Chuang wood (Sassafras albidum)</td>
<td>For the extraction of Sassafras oil 39 (International market)</td>
</tr>
<tr>
<td>Eagle wood (Aquilaria mallaccensis)</td>
<td>For extraction of the resin Agar 40 (Middle East market)</td>
</tr>
</tbody>
</table>

No information was available about quantities or values exported from Sing District. However, discussions with villagers indicate that NTFPs are becoming less important at least in some villages that are involved in other activities. This is due to the increased orientation of market crops, especially rubber and sugarcane, towards China. During a visit to the village of Chapoukeun, the consultant learned that the village previously sold NTFPs valued at around 6 million kip (ca. US$530) to Chinese traders. This year, however farmers are pre-occupied with preparation of sugarcane fields and have less time for collecting. Also, the traders don’t seem to come as before, probably because of low market prices for NTFPs. During the visit, some villagers have returned from the forest where they had spend two days in the search of chuang wood to be delivered to the factory which was established six months ago. However, they returned empty handed (apart from the meat of wild boar) as the resources of chuang wood had already been exhausted within this short period since establishment of the extraction plant.

Although the importance of NTFPs for cash income has declined (at least for the time being) in this village, forest products are still collected for subsistence use.

Cash crops are not yet grown in large quantities, with the exception of sugar cane which is expanding rapidly since last year. Luang Namtha, together with Phongsaly, is the biggest producer of sugar cane in Laos. 41 However, the situation is changing, especially for Muang Sing and Namtha Districts, where more and more cash crops are produced. Rubber cultivation is planned for 10,000 ha. 42 Both products are intended for the Chinese market. Other cash crops include rice 43 maize, sesame, water melon, soya, tobacco, coffee, tea, chilies, garlic and opium. Most of these are marketed locally or sold to China. Fruits are produced in some places but most are for home consumption.

39 By a Chinese „bush extraction plant“ in Sing District
40 by an Indian extraction factory in Muang Sing. The provincial governor has meanwhile prohibited the exploration, exploitation and trade of both chuang and eagle wood. The eagle wood factory had to close down in May 2003
41 25,000 tons/month are exported via Pang Thon border post between Oct. to March, according to customs
42 MAF, 2002
43 LNT produces a surplus of rice of which 3,000 tons are traded, partly to China (MAF, 2002)
The situation in Nalae District is quite different from that in Muang Sing. According to the Chief of the District Trade Office in Nalae, the highest income in the district comes from the sale of NTFPs, which are, economically, much more important than cash crops. The most important NTFPs traded are listed in table 7.

**Table 7: Most important NTFPs traded in Nalae District, Luang Namtha Province**

<table>
<thead>
<tr>
<th>Product</th>
<th>Official average quantity (MT)</th>
<th>Price/kg (kip)</th>
<th>Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peuak meuak, (Tutieng)</td>
<td>&gt;100</td>
<td>2,500</td>
<td>Thailand and China</td>
</tr>
<tr>
<td>Sugar palm fruits</td>
<td>60</td>
<td>1,500</td>
<td>Thailand via Bokeo</td>
</tr>
<tr>
<td>Pao pia (wild yam?)</td>
<td>15</td>
<td>2,000</td>
<td>China</td>
</tr>
<tr>
<td>Broom grass</td>
<td>10</td>
<td>1,000</td>
<td>Thailand via Bokeo and FuF, China</td>
</tr>
<tr>
<td>Cardamom (red)</td>
<td>6</td>
<td>15,000-17,000</td>
<td>S. Korea via FuF</td>
</tr>
<tr>
<td>Mak kha (wild ginger fruit)</td>
<td>4</td>
<td>3,000-5,000</td>
<td>China</td>
</tr>
<tr>
<td>Po sa (Paper mulberry bark)</td>
<td>1</td>
<td>1,000</td>
<td>Oudomxai</td>
</tr>
<tr>
<td>Bamboo shoots</td>
<td>?</td>
<td>2,000, fresh</td>
<td>Local market</td>
</tr>
<tr>
<td>Bitter bamboo shoots</td>
<td>?</td>
<td>4,000, fresh</td>
<td>Local market</td>
</tr>
<tr>
<td>Rattan shoots</td>
<td>?</td>
<td>1,000 for 4 sticks</td>
<td>Local market</td>
</tr>
<tr>
<td>Wild vegetables</td>
<td>?</td>
<td>2,000 fresh</td>
<td>Local market</td>
</tr>
<tr>
<td>Mae larvae&lt;sup&gt;45&lt;/sup&gt;</td>
<td>?</td>
<td>20,000 alive</td>
<td>China and Thailand</td>
</tr>
</tbody>
</table>

It has to be pointed out that the quantities recorded by the Trade Office do not reflect the reality as much larger quantities are exported illegally.

In Nalae, some initiatives where taken to cultivate some NTFPs: since the year 2000, Friend of Upland Farmer, FuF, assisted by DAFO, have distributed about 200,000<sup>46</sup> cardamom seedlings from China to six villages of the district. The first seedlings will come into production this year. The GTZ project, also through DAFO, had distributed Tutien (Peuak meuak) to three villages within Nalae district. However, according to the chief of DAFO, most of the tutien plants did not survive, probably because of poor site selection, poor maintenance by the villagers and lack of follow up. The provincial and district governments would like to see more tutien planted as there is good market for it.

The project also promotes the production of shellac on pigeon pea (Cajanus cajan) but there are still a lot of problems to be solved. According to Mr. Katha, the agricultural advisor of the project, one family can produce up o 40 kg of shellac, valued at kip 10,000 to kip 12,000 per kg.

Cash crops in Nalae are much less developed than in Muang Sing with Maize being the most attractive crop.<sup>47</sup> Other cash crops are rice, tobacco, soya, sesame and chili.

Prices for some of the cash crops produced in Nalae and Muang Sing are given in table 8.

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<sup>44</sup> prices paid by middle men/trader to collector/producer (Exchange rate in May 2003: 1 US$=11,000 kip

<sup>45</sup> large insect (beetle?) larvae, living in 2 species of bamboo; consumed as aphrodisiac in China and Thailand

<sup>46</sup> In 2000, 44,000 seedlings, in 2001, 150,000

<sup>47</sup> However, maize is not a suitable crop for sloping agriculture but should be cultivated in the lowlands, on alluvial soils
Table 8: Prices for some cash crops in Nalae and Muang Sing

<table>
<thead>
<tr>
<th>Product</th>
<th>Price (kip/kg)</th>
<th>Comment</th>
<th>Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maize</td>
<td>600</td>
<td>With cop</td>
<td>Local, China, FuF</td>
</tr>
<tr>
<td></td>
<td>800</td>
<td>Seed only</td>
<td></td>
</tr>
<tr>
<td>Rice</td>
<td>800</td>
<td>Non-decorticated</td>
<td>Local</td>
</tr>
<tr>
<td>Tobacco</td>
<td>10,000</td>
<td>Dry/cured</td>
<td>Local</td>
</tr>
<tr>
<td>Soya bean</td>
<td>1,500</td>
<td></td>
<td>Local, FuF</td>
</tr>
<tr>
<td>Sesame</td>
<td>10,000</td>
<td></td>
<td>Local, FuF</td>
</tr>
<tr>
<td>Chili</td>
<td>15,000</td>
<td>Long variety</td>
<td>Local</td>
</tr>
<tr>
<td></td>
<td>25,000</td>
<td>Short (bird’s eye)</td>
<td>Local</td>
</tr>
<tr>
<td>Sugar cane</td>
<td>120,000</td>
<td>Per ton</td>
<td>China</td>
</tr>
</tbody>
</table>

5.2 Stakeholders involved

Stakeholders concerned with agricultural products and/or NTFPs can be divided into three groups:

- Farmers/collectors
- Private sector
- Public sector

The first group has been described in a previous chapter already. An example of a farmer is given in the following box:

5.2.1 The successful Mr. Tong Mue

Mr. Ton Mue is a poor Akha farmer in the village of Huayna Kang, Sing District. Because of his economic situation he became addicted to opium, which he also produced on his land. As one of the target villages of the Rural Development Programme, Huayna Kang no longer grows poppy opium and Mr. Mue is now “clean” after having taken part in a detoxification program.

He has a small plantation of half a hectare, where he mainly grows coffee and pineapple. Most other villagers have given up coffee cultivation because of very low prices over the last few years. Mr. Mue, however loves his coffee and puts value to it by traditionally roasting it in a wok. Assisted by a GDS expert of the project, he now plans to sell his ground, roasted village coffee to the tourist office in Sing for 15,000 kip for a 200-gram pack. This is many times more than he would get for a kg of green coffee beans.

There is another fascinating thing about this man: after starting to cultivate his permanent plantation (before, he only practiced slash-and-burn agriculture), Mak khen trees (Zanthoxylum retsa)\(^{49}\) started to grow spontaneously in the plantation, giving light shade to the coffee trees. Mr. Mue let them grow and has started to harvest the fruits, for which he found a market in Sing and across the Chinese border. This year, he harvested about 50 kg, which he sold for 1.5 million kip plus a pig and 8 chickens. For the next year, he expects to earn up to 3 million kip from the sale of Mak khen alone. Mr. Mue says the coffee requires a lot of work for little return, while he earns kip 25,000/kg of Mak khen, and all he does is harvesting, drying and selling. As he loves both plants, Mr. Mue wants to continue developing his plantation in this way – it seems, a perfect combination of NTFP and cash crop.

\(^{48}\) prices paid to producers by middle men or obtained at local market

\(^{49}\) yielding a pepper-like spicy fruit
The private sector is not very well developed in Luang Namtha. While the local market is mainly served by the producers themselves, exports to China are done by Chinese middlemen, based outside the country. Products to be exported to Thailand are usually bought by middlemen of export companies based in Bokeo Province. Only one company that deals with NTFPs and agricultural produce has been identified and is described below.

5.2.2 Friends of the Upland Farmer, FUF

Address: P.O.Box 100
Luang Namtha 03000
Phone/Fax: +856 (86) 211155
Email: FUF@loxinfo.co.th
Contact: Peter Dutton, Director

FUF was founded to assist upland farming communities develop viable livelihoods and maintain vital forest resources. Since the registration as an NGO was not possible in Lao PDR, FUF is registered as a non-profit business. The goals of the company are:

To promote the production of NTFPs and agricultural products
To provide a link between farmers and the markets, both domestic and foreign, which will guarantee fair prices and a regular income to producers
To cooperate in participative development initiatives by villagers to provide basic services and sustainable livelihoods
To promote the conservation and sustainable use of natural resources through education and more efficient agricultural production.

So far, FUF is operating in the districts of Namtha, Viengphukha and Nalae where they have, for instance, distributed cardamom seedlings to 20 villages. The company operates through DAFO staff who train the farmers, give instruction about planting and harvest and do the monitoring. An extension officer of FUF, Mr. Seun Phan, is responsible for coordination and based in Nalae. With the help of DAFO, villages are selected, agreements with villagers signed, before seed material is distributed. Cardamom seedlings are free, but villagers have to return three seedlings for each one received, within a period of two years, so that these can be distributed to other farmers.

FUF buys cardamom, broom grass, maize, soya and garlic from the contracted villages. Other products are under consideration. Some processing facilities, such as dryers, corn sheller, threshers and storage bins are available, as well as tractors with implements.

FUF would be interested in cooperating with GTZ by marketing products from target villages, provided that GTZ can assure extension work and primary processing (e.g. drying). Potential products are: cardamom, chilies, garlic and other spices that are non-perishable. In order to aim at western markets (Europe or US) the company would need technical assistance in processing, quality assurance, marketing and organic certification.

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50 with the exception of some local traders who buy products from remote villages
51 according to FUF brochure
5.2.3 Lao Farmers’ Products Vientiane

P.O.Box 330
Vientiane
Tel.: 021.313976
lfs@laotel.com
Contact: Mr Dr Sisaliao Svengsuksa

The company has a small jam factory on the outskirts of Vientiane in Ban Saphantong Tay and processes products from some villages in the south. Apart from jams, fruit juices, pates, mulberry leaf green tea, glutinous rice, dried bananas and vacuum bamboo shoots are being produced. Since it was difficult to develop a local market, the company concentrates on exporting to fair trade organizations in France (Artisans du Monde) and Germany (Gepa). There is also a small shop in Vientiane.

It was not possible to talk with the director, but it would be worthwhile to exchange information and investigate the possibility to work together as Lao Farmers’ Product have gained a lot of experience in processing and marketing agricultural products as well as NTFPs.

5.2.4 PADETC

Address: P.O.Box 2147
Vientiane
Tel./Fax: +856-21-215 909
Email: padetc@laotel.com
Contact: Mr. Sombath Somphone, Director

The Participatory Development Training Center, PADETC is promoting participatory processes for sustainable development. Activities include Youth Leadership Training and Appropriate Technology involving identification, testing, adaptation of appropriate technologies and promoting them through training and setting up of small scale enterprises.

According to its director, PADETC would be interested in cooperating with GTZ. Activities carried out by them could be the development of a product up to marketing, including training of farmers (e.g. in “green” packaging) and development of a SME.

The most important stakeholder in the public sector, relevant to the Integrated Rural Development Programme, other than DAFO and PAFO, is the National Agriculture and Forestry Research Institute NAFRI.
5.2.5 NAFRI/FRC

Address:
The National Agriculture and Forestry Research Institute
P.O.BoX:811,Vientiane,Lao PDR
Telephone/Fax:(856 21) 732047
Email:soilmsec@laotel.com
Contact: Mr. Southone Ketphane, Director of NTFR Section

The National Agriculture and Forestry Research Institute (NAFRI) is a research organization under the supervision of the Ministry of Agriculture and Forestry (MAF) and has equal status with the line departments under MAF. It undertakes integrated agriculture, forestry and fisheries adaptive research in order to provide technical information, technical norms and results for agriculture, forestry, and fisheries development strategy formulation in accordance with the government policy.

NAFRI was established in 1999, by combining existing agriculture, forestry, livestock, and fisheries research center. NAFRI assists the Ministry of Agriculture and Forestry in providing technical information and appropriate technologies for further strategic development.

The Forest Research Centre (FRC), as part of NAFRI, recently created the Non-Timber Forest Research Section (NTFR) that deals with the development of the NTFP sub-sector. This includes research on domestication/cultivation of NTFPs. Some of the former staff of the IUCN-NTFP project, including Joost Foppes, is now working at NTFR Section.

NAFRI and especially the FRC would be interested in cooperating with the GTZ by creating a network on NTFPs, doing research and on-farm trials as well as training in NTFP cultivation on behalf of the GTZ program.

5.3 Processing and value adding

The policy of the Government of Lao PDR is to promote the export of processed, finished or semi-finished products, rather than raw materials. Actually, the export of unprocessed NTFPs is banned but since the implementation of such a ban is seen as a transformation process, the government still allows exports of raw materials through the allocation of quota. There are also certain import restrictions in place in neighboring countries to prevent competition from Laos. However, with the establishment of the ASEAN free trade zone in 2005, these restrictions will disappear.

Despite the government policy, Laos is a supplier of raw materials for agricultural commodities and NTFPs to its neighbors. There is virtually no established processing industry in the country, apart from some limited initiatives mentioned above. Processing at village level is naturally limited to basic operations such as simple air drying. Villagers usually have very little information about necessary processing steps and value adding. There is also a lack of facilities where products could be processed and stored in the villages. However, in collaboration with trading companies, villagers could do much more than they do today. With adequate training and some basic creation of processing facilities, where products can be cleaned, dried, sorted and stored under hygienic conditions, farmers could add more value to their products and obtain higher prices.

52 PM Order 15, 2001 cited in IUCN, 2002
If not sold in local markets, agricultural products and NTFPs are exported in their raw form by traders who usually don’t add any value to the products. There is little information about the processing steps taken in the importing countries, especially China and Thailand. Some market information research would help to better understand the requirements of the neighboring countries and to introduce at least some processing steps within Laos.

On the other hand, there seem to be very few small and medium sized companies (SMEs) that could initiate the transformation of raw materials to final products. The business environment is not very favorable for the establishment of private companies and a severe lack of financial resources would be a barrier to their development.

Figure 6: Processing is very limited in Laos (here at Lao Farmers’ Products)

Furthermore, consumers of processed products, especially those in towns like Vientiane, seem to prefer the western-style products brought in from Thailand rather than buying “local”. A lot of marketing promotion for locally produced products would be required in order to sell these products within the country. Hotels, restaurants and the tourism industry in general should play a leading role in promoting local products.

5.4 Trade structure and value chain

The trade structure for NTFPs and agricultural products is quite different in Sing and Nalae Districts. As has been pointed out earlier, Muang Sing is strongly attached to the Chinese market economy of Xishuangbanna District, Yunnan Province. As mainly raw materials are exported almost directly from the farmers, via middle men, the trade structure remains quite simple. No information is available about the value chain behind the Chinese border.

Nalae District is more oriented towards Thailand and products are transported through Bokeo Province. Transport is done on the Namtha and Mekong rivers. However, there are also traders who buy products in Nalae for the market in Namtha and for China.

No export companies have been identified or visited in Luang Namtha. A rather simplified structure of the supply chain is shown in figure 7.
No analysis of the value chain for NTFPs was made in Luang Namtha Province. However, prices for some products traded in Bokeo Province have been collected during the mission. It can be assumed that the situation is somewhat typical for the trade in raw material throughout the country. A typical example for the development of prices along the value chain is given in figure 8. The Sugar palm fruit (Mak tao) is the largest NTFP commodity traded in Bokeo province. The villagers collect, boil and dry the fruits, before they are collected from the zonal middle men who transports them to the district middle man, who, in turn bulks up the product for export. Some further drying and sorting may be done, as necessary, by the district middle man or the exporter himself.

Figure 8: Price shares for Sugar palm fruits at different trade levels

Figure 8 shows that the margins at the different trade levels are not very high. While the collectors receive 53 percent of the export price for the raw material, the middle men and the

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53 based on interviews at different trade levels in Bokeo in May 2003
exporters realize margins of 13, 16 and 18 percent respectively. From these margins, transport cost and taxes have to be paid. The margins increase along the value chain but remain low because of the fact that little value is added within the country. It can be assumed that the margins in Thailand, the country of import and processing, are much higher.

5.5 Constraints to marketing

Constraints identified in marketing NTFPs and agricultural products are manifold. They are briefly described below

5.5.1 At Village level
- Depletion of natural resources lead to reduced supply and increased effort for collection of NTFPs,
- Prices for some products (e.g. cardamom) fluctuate very much which is not fully understood by the villagers,
- Prices paid by middle men are often not attractive enough,
- Middle men do not come regularly,
- Apart from local market, no access to other markets,
- Local (village/town) markets have limited capacity and most producers offer same products,
- Lack of knowledge about processing steps and value adding,
- Insufficient information about markets and market prices,
- Villagers are not organized in marketing groups.

5.5.2 At exporter level
- No processing, no packaging, hence no added value,
- Lack of knowledge about regional and international markets (who are the stakeholders in Thailand and China?)
- Supply often inconsistent in quantity and quality (preparation of products at village level insufficient, villagers don’t collect/produce enough),
- Lack of competence and capacity among exporters to train farmers,
- Product quality often insufficient, yielding low market price (Mak tao boiling, immature Dok khem),
- Dependency on Thai (and Chinese) market as raw material supplier,
- Illegal traders, who do not pay taxes competing with exporters,
- Cooperation with villages/farmers insufficient,
- Complicated tax system for NTFP.

5.6 Market opportunities

Since Laos has a rather small population, the local market is limited although a lot of products that are, or could be, produced locally are imported from Thailand or China. The agricultural marketing system has been partially liberalized, in line with the official policy of the government. In general there is free movement of goods and even the unrecorded cross-border
trade is flourishing with little official control. Goods move according to economic principles of supply, demand and transport cost. This results in a wide variety and availability of products in most market places. There is a regular supply to the urban markets from well-defined production areas. Vegetables move quickly from the farm or assembly point and arrive fresh at the retail market. Transport cost and traders’ margins are rather low because of a large number of small farmers, collectors and transporters.\textsuperscript{54}

The choice of products and the target market depends on several factors:

Agro-climatic conditions  
Accessibility and transport  
Distance to market  
Market information  
Specific comparative advantages

The mountains and river valleys of Luang Namtha offer a wide variety of agro-climatic zones but the slopy topography does not allow to cultivate other than perennial crops, except in the valley bottoms.

Places near urban markets could supply a wide range of fresh vegetables but the further a village is away, the more difficult it becomes to compete with producers nearer to the market. Remote villages, therefore, should concentrate on non-perishable products that have low volume and higher value. However, this normally requires a certain degree of processing, which in turn is difficult to introduce in remote villages.

5.6.1 Opportunities for Sing District

Sing District is already producing quite large quantities of water melons and small garlic for the Chinese market. There is certainly potential for expansion. Other agricultural products that seem to have a good market in China include\textsuperscript{55} onions, coffee, maize and probably tropical fruits. The cultivation of crops is mostly organized by Chinese traders themselves and there is little the project can do. It can be expected that the Chinese influence will continue to grow and change the trade structure of this district.

Good potential exists also for NTFPs, especially for cardamom, various medicinal plants, Peuak meuak, (Tutien), Mak khen and bamboo shoots that are exported to China. The NTFP sub-sector has good potential for further development through the project by cultivating the plants in forest gardens managed by the villages.

The increasing tourism in Muang Sing is an opportunity that should be further developed. Villages that are involved in eco-tourism could be trained as guides to identify, collect and prepare NTFPs and could produce small handicrafts that could be bought by the tourists. The markets of Muang Sing and Namtha are too small as to offer good opportunities for increased agricultural or NTFP production. A certain potential may have “ethnic” products such as traditionally roasted coffee but also mulberry leaf tea and maybe dried fruits that could be sold to local tourists via the tourist office.

\textsuperscript{54} MAF, 2002  
\textsuperscript{55} Sugar cane is not mentioned here as this should not be promoted in the uplands
5.6.2 Opportunities for Nalae District

Emphasis should be put on cultivation of NTFPs such as Peuak meuak, cardamom, mulberry paper, rattan and bitter bamboo shoots. It seems that the demand is higher than the district can supply sustainably and, with a view to the restricted availability of flat agricultural land, NTFPs have the best potential to increase the income of the rural population.

The project should try to establish close links to the company Friend of the Upland Farmer, that has the potential to buy a wide variety of products in quite large quantities from the district. The advantage is that FUF has already established contacts with some villages, which could be further extended. A further advantage of such a collaboration would be that FUF can supply regional markets within South-East Asia but also international markets in Europe and the US.

Apart from NTFPs, some cash crops are well suited to be integrated into agricultural systems and are also sought by FUF. These include chilies, garlic, soya bean and ginger (?)which are also interesting products for international markets.

5.7 International market access

Laos as a landlocked country has some disadvantages over its neighbors when trying to access international markets. There are no direct exports from Laos to Europe or other international destinations. All goods would be transshipped through Thailand (Bangkok). This makes Lao products more expensive and hence less competitive. On the other hand has the country an exotic reputation, especially because of the largely unspoiled forest resources and the diverse ethnic minorities living in the mountains of Northern Laos. These are assets, one could use to find special niche markets for some of the products. Currently, there are not many products that are developed enough to find buyers in Europe or the US. A starting point would be non-perishable products that are widely used and have many potential buyers. These typically include sesame, beans but probably also glutinous rice and dried spices (garlic, chilies, ginger).

Strategies that could improve market access should emphasize on quality, sustainability, social justice and specific niche markets. Certification to certain standards could further improve the market position of Lao export companies. There are many standards that can be related to plant products. These can be grouped as:

- Environmental standards
- Fair Trade and Social standards
- Quality and Quality Assurance
- Organic standards

The major organizations and procedures related to these standards are described below.\textsuperscript{56}

5.7.1 Environmental standards

\textit{Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)}

\url{www.cites.org}

\textsuperscript{56} partly extracted from Pierce et al, 2002
An international accord to ensure that international trade in wild species does not threaten their survival. The convention has three appendices for listing species of concern. Appendix I covers species threatened with extinction. Trade in such species is limited to exceptional cases. Appendix II is for species not immediately threatened with extinction, but of concern. Trade in these species is controlled and monitored to ensure their survival. Appendix III is for species that are protected in at least one country, the delegation of which has asked other signatories to assist in controlling its trade.

**Forest Stewardship Council (FSC)** [www.fscoax.org](http://www.fscoax.org)

The FSC accredits 3rd party certification programs that assess sustainable forest management. Their 10 principles and criteria provide a framework that all accredited certifiers must adhere to, addressing issues ranging from laws and regulations to indigenous rights, worker safety, management planning, protection of wildlife habitat, soil and water conservation and plantations. The principles and criteria make few direct references to non-timber products that enter the natural products trade. A draft principle 11 for non-timber forest products, NTFP (available electronically from [www.fscus.org](http://www.fscus.org)) was proposed in 1997 but never adopted. The organisation currently approves non-timber forest products, including botanicals, on a case-by-case basis. To date, only chicle and maple syrup have been granted the right to carry the FSC logo.

**Rainforest Alliance’s SmartWood Program** [www.smartwood.org](http://www.smartwood.org)

SmartWood’s is an FSC-accredited certifier of forest management operations. The Rainforest Alliance has also developed *Generic Guidelines for Assessing Non-Timber Forest Products* to provide further depth with respect to NTFP management. This document elaborates NTFP-specific criteria and indicators and contains useful class (e.g. roots, leaves, barks, etc.) indicators. The Smart Wood *Generic Non-Timber Forest Products Addendum* gives guidance to timber operations and certification assessors on how to include NTFPs into existing management assessments. The *Non-Timber Forest Products Addendum with Special Reference to Maple Syrup* provides specific examples of how to tailor the generic NTFP addendum’s indicators to a specific species. These and other documents are available in the manual “Tapping the Green Market: Certification of Non-Timber Forest Products” edited by Shanley, Pierce, Laird and Guillen, and due out from Earthscan, London in early 2002 ([www.earthscan.co.uk](http://www.earthscan.co.uk)).

### 5.7.2 Fair Trade and Social standards

**FairTrade Labeling Organizations International (FLO)** [www.fairtrade.net](http://www.fairtrade.net)

FLO is the worldwide Fairtrade Standard setting and Certification organisation. It permits more than 800,000 producers and their dependants in more than 40 countries to benefit from labelled Fairtrade.

FLO guarantees that products sold anywhere in the world with a Fairtrade label marketed by a National Initiative conforms to Fairtrade Standards and contributes to the development of disadvantaged producers. Fairtrade standards assure fair wages, decent living conditions, freedom of association, and a number of other social principles for tropical producers of commodities such as coffee, bananas, honey, juice, tea, and sugar. Fairtrade criteria also outline minimum environmental regulations for production.

**IFAT (International Federation for Alternative Trade)** [www.ifat.org](http://www.ifat.org)
The International Federation for Alternative Trade (IFAT) is a global network of Fair Trade Organizations. With over 160 members in more than 50 countries, IFAT aims to improve the livelihood of disadvantaged people in developing countries by linking and strengthening Organizations that offer just alternatives to unfair trade structures and practices. It is a federation to promote Fair Trade and a forum for the exchange of information to help members increase benefit to producers.

Social Accountability International (SAI) [www.cepa.org](http://www.cepa.org)
Originally an initiative of the Council on Economic Priorities, SAI is an accreditation agency for the SA 8000 standard on human rights and worker welfare. Specific theme areas covered include child labour, forced labour, health and safety, compensation; working hours, discrimination; discipline, freedom of association and collective bargaining, and management systems.

5.7.3 Quality and Quality Assurance

Codex Alimentarius [www.codexalimentarius.net](http://www.codexalimentarius.net)
International standards governing the safety and purity of food products. Guidelines address food hygiene; food Labeling; food import and export inspection certification systems; organic guidelines for production, processing, Labeling and marketing; nutrition Labeling; food additives; contaminants; etc. New proposals would have the organisation create stricter guidelines for dietary supplements.

US Food and Drug Administration FDA; [www.fda.gov](http://www.fda.gov)
Various guidelines, including GMPs. The US FDA website provides information on a variety of GMP standards for food, drugs and functional/dietary ingredients.

5.7.4 Organic Standards

The European Union’s 1991 regulation governing organic production, processing and Labeling of agricultural products and including general provisions for harvest of wild plant material. All agricultural products marketed as organic within the European Union have to comply with this EU regulation. Certification has to be done by authorised certification bodies only.

International Federation of Organic Agriculture Movements (IFOAM) [www.ifoam.org](http://www.ifoam.org)
IFOAM is an umbrella organisation for the organic agriculture movement and acts as an accrediting agency. The basis of accreditation is strict adherence to the organisation’s basic standards. IFOAM is currently drafting an organic forestry standard that would include language on NTFPs (the language of which parallels the draft FSC principle on NTFPs that was never passed).

The United States organic production regulations, including very general provisions for harvest of wild material. The USDA is also an accrediting organisation for national and international inspection bodies. The NOP is the basis for all audits of accredited organic certification organisations.
Organic certification has probably the best potential to improve market opportunities for exporters from Laos.

Generally, there are two possibilities to export organic produce to the EU:

- Inclusion of a third country (non-member of the EU) into the “third country list”, according to Article 11(1) of the EU regulation for organic agriculture 2092/91 (EEC);
- Issue of an import authorisation by a European competent authority (Article 11(6)) for products originating in third countries that do not appear on the third country list.

The European Commission has recognised that some third countries operate production rules and certification systems that are equivalent to the European system. Approved products, provided that they have been inspected and certified by one of the approved bodies, may be imported and marketed freely as organic within the European Union. The Regulation 94/92 (EEC) lays down detailed rules. EU authorities are required to evaluate and approve a third country’s organic standards and its organic inspection system as being equivalent to the requirements within the EU. In cases where inspections are carried out by private certifiers, the EU will evaluate the exporting country’s system for accrediting private certifiers. The evaluation of the third country system includes physical visits by independent experts or by the Commission’s own experts. Approved countries (currently six) appear on a list annexed to Regulation 94/92 (EEC). The list may specify approved regions, production units, or inspection bodies within the country. Through this method, inspection bodies are approved by the EU only for their work within the country on the Article 11 list, but not for certifications outside the country. However, the process of being accepted on this list is long and only a few countries have so far managed to be accepted.

According to Article 11(6) of regulation 2092/91 (EEC) government competent authorities in individual EU Member States may authorise an importer to import products from a country not included in the Article 11 list. This provision is commonly referred to as the ‘importer derogation’. In order for imports to be approved under this method, the importer must furnish the Member State with sufficient evidence to show that:

- The imported product was produced according to organic production rules equivalent to EU standards;
- The imported product was subject to inspection measures equivalent to EU inspection requirements;
- The inspection measures will be permanently and effectively applied; and

Each importer must obtain a separate authorisation for each imported product. If an importer imports the same product from different countries or with certifications from different certifiers in the same country, a separate authorisation must be obtained for each.

The majority of products currently entering the EU are imported through the import authorisations and not from countries on the Article 11 list.

Inspection and certification of organic products in third countries can be realised by direct certification through inspection bodies with admission in the European Union or the USA, by co-certification or by local inspection bodies in third countries (local certification). Only the EU authorities demand that inspection bodies from third countries have to be supervised.
Direct certification
Inspection/certification bodies authorised in the EU or accredited in the U.S.A inspect farms, small scale farming co-operatives, processors and exporters of organic products. The internationally active inspection body may also employ local staff in case of direct certification.

Co-certification
Inspection bodies, not authorised at the importers location, carrying out inspections in a third country may collaborate with an authorised body in order to be co-certified. The certification has to be examined by the co-certifying body by means of another certification decision and will be confirmed if all requirements are fulfilled.

Local certification
Inspections and certifications in third countries can also be carried out by local inspection bodies, which are resident in the third country (local certification). Inspection and certification are implemented on the basis of equivalent production rules and inspection measures.
Inspection bodies, carrying out inspections in third countries for import of organic products into the EU, need to be supervised to prove that they comply with the requirements of ISO Guide 65 and EN 45011.

5.8 Certification and premiums
The various standards and certifications described above do not necessarily imply a premium paid to the producer/exporter. However they may be useful to improve or maintain market access.

Only organic certification usually leads to a premium paid by the importer or processor. However, there is no guarantee for such a premium, although 20 to 30 % above conventional prices are usually accepted. Demand and offer decide on whether these premiums are paid or not. Organic exporters should not count too much on the premium but see the certification as a comparative advantage to access the market and to be able to serve different market niches.

6 STRATEGIES TO SUSTAINABLE RURAL LIVELIHOODS
The divers situation in the province, with regard to collection of NTFPs, agricultural production and marketing necessitates a broad approach to improve the livelihoods of the upland farmers. It is certainly not enough to select some products which seemingly have a good market potential and expect the rural communities to develop these into profitable crops. Strategies that aim at sustainable forms of rural livelihoods have to acknowledge that there cannot be a recipe that fits to all situations within the province. Even between neighboring villages, situations and preferences of the people might be very different calling for a strong participatory approach towards development of the rural livelihoods.

6.1 Improved land use planning and land allocation
Some of the negative aspects of the land allocation procedures carried out by the district authorities have already been mentioned in a previous chapter. The weakest point is lack of a real participatory approach and it seems that land allocation is perceived as a tool for
eradicating shifting cultivation rather than for improving livelihoods and alleviating rural poverty.\textsuperscript{57} The Lao-Swedish Forestry Programme (LSFP) has developed improvements to the land allocation methodology of which the most important aspect is the switch from Land Allocation to Land Use Zoning.

Land use zoning describes the delineation of zones of forest and agricultural land within the village boundaries. It occurs after village boundary demarcation and before land allocation and is a starting point for village land use planning and village management agreements. The aim is to enable villagers themselves to work out rules for the utilization and management of natural resources within these zones.

LUP/LA should be conducted in stages, depending on the availability of funds:\textsuperscript{58}

- **Stage 1:** a) Data collection and analysis, b) village boundary delineation, c) forest and agricultural land use zoning and d) the preparation of interim village agreements for the management of forest and agricultural land use zones.
- **Stage 2:** Detailed land use plans for the various forest land use zones could be prepared based on a more thorough investigation, after various problems have come to light.
- **Stage 3:** Agricultural land allocation could be made, based on a clear understanding of the land use and land ownership patterns within the delineated agricultural zone.

It is assumed that the improved Participatory Land Use Planning and Land Allocation (PLUP/LA), as planned for the future RDMA, will increase the productivity of the allocated land and reduce pressure on the communal natural resources.

The PLUP/LA process is the basis for the other strategies described below as it creates a framework in which forest and agricultural land management rules can be progressively developed by the villagers and it facilitates networking activity between neighboring villages.

### 6.2 Power to the village

The hill tribes of northern Laos have learned to survive as largely independent economies with minimum input from outside. The dependency on the forest for food, income and building material continues to be a critical aspects of their livelihood. As marginalized communities living under difficult conditions, their future depends on sustaining the natural resource base, while integrating improved production systems. It is therefore important to promote self-reliance based on community management of local resources as this offers a good opportunity for conservation and development.

Villagers often have difficulties in finding markets for their products, be it NTFPs or cultivated crops. Very often, the only possibilities they have are the local weekly markets the women can reach by foot or depending on the middlemen who may come to the village or not.

The introduction of new market crops requires some degree of organization, for the production as well as for the marketing, including transport.

\textsuperscript{57} UNDP, 2001
\textsuperscript{58} Leuangkhamma et al, 2001
The establishment and development of village producer and marketing groups would be an important tool for a self-reliant livelihood within the villages. Such groups would be able to introduce new crops, access new markets, negotiate better prices, enhance quality, undertake initial processing such as better drying, sorting and grading. Village producer groups would be better suited to process raw materials into final products than individual villagers. Examples are: making brooms rather than selling the broom grass, making craft items from rattan and bamboo.

The establishment and development of village resource management groups would give more power to the village in creating protection zones and developing protection laws on village level. These could include the creation of fish protection zones and NTFP management zones.

6.3 Creation of protection zones

The creation of protection zones is an important tool for the conservation and regeneration of natural resources. Fish is an important source of protein for the local population but also generates income. A growing rural population, increased interest in commercial fishing and the introduction of more intensive fishing methods have all contributed to deplete fish resources. It would be therefore natural to properly manage the wild fish resources. Fish conservation zones have emerged as a very popular concept over the last ten years or so. Fish is considered by most rural people as a forest product as fishing is often carried out in forest streams and rivers. Because of the importance of fish interest in sustainable fish management is very high.

Fish management systems have to take into account the complex system of seasonal water flows and fish migration pattern. Fish migrate from main streams to spawn in wetland and paddy fields as water levels increase during the rainy season. During the dry season, water and fish recede back to the main streams, giving fishermen many possibilities to catch fish traveling in one direction or another at any time of the year. Fish management systems include:

- Declaration of No-fishing zones in well defined strips of the main river. These areas act as refuge for fish during the period of peak fishing pressure in the dry season
- Bans on stream blocking allows fish to move into spawning areas such as wetlands and paddy fields at the beginning of the wet season
- Bans on destructive fishing methods such as using explosives, chemicals or electricity
- Juvenile fish conservation by banning of scoop-netting of juvenile fish
- Regulations for fishing in paddy fields.

The Community Based Rural Development Project for Conservation of the Nam Beng/Nam Mau Watershed in Oudomxay Province, implemented by the German Agro Action, had inaugurated a natural fish conservation area at the Nam Mau River, Kon Kaen Village in November 2002. Fishing was banned on a 900 m long strip within the village. Since the monitoring is very simple in this system it was evident that within a short period the fish population in the protection zone grew very fast, providing increased food supply and income to the village community.

59 Foppes and Ketphanh, 2000
60 DWHH, 2003
61 Lothar Konzelmann, personal communication
The concept of protection zones could also be extended to NTFPs. In forest areas, where certain species are over collected and hence becoming rare. The village itself could put a temporary ban on the collection of these species.

6.4 Promotion of agroforestry systems

As has been pointed out earlier, resources of many non-timber forest products are more and more depleted resulting in reduced levels of harvesting and consumption. This has also let to opportunistic gathering whereby other forest products, that might still be abundant, are increasingly exploited as well. As forest resources are declining, more time and labor have to be allocated for gathering forest products, leaving less time for other activities, especially for households with low labor capacity. This results in increased hardship for women in maintaining family food supply.62

On the other hand, the slopy lands of northern Laos are not suitable for the intensive cultivation of annual field crops, including rice. The hills need to maintain a forest cover that protects the low land from floods and sedimentation of rivers and that acts as a water reservoir.

So, how can the forest cover be maintained and the productivity of the land be improved at the same time? The solution is the cultivation of NTFPs and some cash crops in agroforestry systems.

Agroforestry systems are agricultural systems, that deliberately include trees in their production patterns. Agroforestry is a collective name for land-management systems that optimize the economic and ecological benefits created when trees and/or shrubs are integrated with crops and/or livestock. Defining and creating an agroforestry system is more than simply including trees. The key is to maximize the number of beneficial connections formed between trees and other elements on the farm. Agroforestry is about mimicking and recreating the natural web of life, creating an integrated farm system (like an ecosystem) with a multitude of beneficial connections between trees and other parts of the farm. Some agroforestry systems are very simple, forming just a few connections. Others are more complex, and their form and function can ultimately resemble a multi-storied forest that provides food and income to the rural population.

There are two basic categories of agroforestry systems: simultaneous and sequential.

In a simultaneous system, trees and crops or animals grow together, at the same time on the same piece of land. These are the systems in which trees and crops compete most for light, water and nutrients. Competition is minimized by spacing and other means. Trees in a simultaneous system should not be growing fast when the crop is growing rapidly, to minimize competition. Trees should have roots that reach deeper than the crop roots. They should have a small canopy, so they do not shade out too much light from the crops.

In sequential systems, crops and trees take turns in occupying most of the same space. The systems generally start with crops and end with trees or vise-versa. The time sequence keeps competition to a minimum. Trees in a sequential system should grow rapidly when crops are not growing, recycle nutrients from deep layers, fix nitrogen and have a large canopy to help suppress weeds. An example for a sequential system is shifting cultivation.

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62 Clendon, 2001
Two simultaneous agroforestry systems, where NTFPs can be integrated, are described briefly below:

Forest gardens
Hedgerow intercropping (alley cropping)

6.4.1 Forest gardens
A forest garden (also referred to as agroforest) is a plant community that resembles a natural forest in that it is generally multistrata and contains large, mature trees and shade-tolerant understorey plants. Forest gardens are managed in such a way as to optimize yield of useful plants and products while minimizing labor input. Once established, forest gardens don’t need weeding, watering or plant protection as all is cared for by the forest itself. A suitable non-timber forest product for the forest garden is cardamom (Amomum spp) as it needs shade only sufficiently supplied in (secondary) forests. Thus cardamom as a cash crop could play an important role to protect natural forests. Many more plant species, that supply food and medicine, could be multiplied or introduced into forest gardens. More research work, however, is needed to identify potential NTFPs for forest gardens and to develop planting patterns.

6.4.2 Contour hedgerows
In hedgerow intercropping or alley cropping trees are planted across the hill slope on land along with crops; the crops are grown in alleys between the rows of trees. The aim is to maintain soil fertility by planting nitrogen-fixing leguminous shrubs in areas where shortage of land makes long fallow periods difficult or impossible. The hedgerows are regularly pruned and the pruned plant material is placed on the ground as mulch.

Some NTFPs and cash crops that could be suitable to be planted between hedgerows are:

Por sa (paper mulberry)
can stand light shade and can be integrated in hedgerows with trees like acacia or other leguminous shade trees.
Improvement: when cutting branches, leave one shoot to help regeneration

Rattan
For more advanced farmers, in areas where natural stands are relatively far away

Bitter bamboo
Has good market in China as fresh shoots

Peuak meuak
needs support trees; grows near rivers or streams

Mak tao (sugar palm)
Integrated into hedgerows? (needs a long time before first harvest)

Job’s tears
Grows like sugarcane, yields within 3-4 months
Field crop with fast return and good market

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63 only suitable for rather gentle slopes
To be planted between hedgerows

Lime trees
To be integrated into hedgerows for cash income

Chillies
Easy to grow between hedgerows, good market locally but also internationally, high return

6.5 Promotion of SMEs

The necessity to develop producer and marketing groups within the villages has already been pointed out. However, there are limitations as to what villagers can do regarding processing and marketing of products. Certainly, primary processing steps can be carried out by the villagers, provided they receive adequate training. Marketing groups can help to bulk up products, organise transport and sell the village produce to town markets where they can fetch better prices than in local weekly markets.

When it comes to secondary processing, product development and international marketing, other structures than village groups are needed. This can best be done by the private sector, represented by small to medium sized companies (SMEs). The private sector plays a crucial role in processing agricultural products as well as NTFPs and to open up markets inaccessible to village producers.

There are very few companies that process NTFPs and agricultural products and add value to them. The private sector needs to be supported and further developed in order to improve the livelihoods of the people in the target villages. Existing companies, such as Friend of the Upland Farmer and Laos Farmers’ Products, both working together with village groups, should be given priority by helping them to find markets for sustainably produced products. The development of other SMEs, that could be involved in value adding, should be assisted as well.

Local service providers, such as PADETC, should be used to train villagers and develop products.

A good starting point for the development of SMEs probably is to collaborate closely with provincial Chambers of Commerce who take the role as coordinating organisations.
As a result of the above report it is possible to propose a number of recommendations for the development of a sustainable livelihood of the hill tribes of northern Laos as well as for a sustainable NTFP and agricultural industry.

A sustainable industry is one which:

- Generates economic value (economic sustainability)
- Reduces poverty and inequality (social sustainability)
- Regenerates/preserves the environmental resource base (environmental sustainability)

Social sustainability is concerned primarily with the livelihoods of those involved in the sector. The security, sustainability and standard of those livelihoods is to a large degree dependant upon the sustainable utilisation of NTFP resources; something which is in turn influenced to a large extent by the livelihoods of those involved in the trade.

Of course social and environmental sustainability are also closely related to economic sustainability and clearly there is a strong case for businesses involved in the sector to adopt sustainable practices. There is a great deal of synergy and overlap between strategies that can be adopted to enhance sustainability and strategies to promote overall growth of the sector.

7.1 General Recommendations

7.1.1 On Village Level

- Support the establishment and development of village producer and marketing groups. Such groups would be of value to negotiate better prices, enhance quality, undertake initial processing such as better drying, sorting and grading; bulk products up and transport products;

- Enable producer groups to improve quality of raw materials to be marketed. Incomes of collectors and producers in the villages can be greatly enhanced by assisting them to market products with a better quality. Examples are: boiling of sugar palm fruits (Mak tao), cleaning of broom grass, drying of cardamom, processing of paper mulberry (Por Sa). The issue of improving product quality on village level should have a very high priority as this has been stressed by all trading companies and middle men interviewed;

- Assist village producer groups in processing raw materials into final products. Although there are only limited potentials, these should be realized to leave more value adding in the villages. Examples are: making brooms rather than selling the broom grass, making craft items from rattan and bamboo;

- Support the establishment and development of village resource management groups on village committee level. The role of these groups should be to create protection zones and develop protection laws on village level. A good example is the creation of fish protection zones within village boundaries. This is a good starting point for village institution building as positive effects (increase in fish supply, higher incomes) are
realized within a short period. The same concept could be extended to forest resources, especially to NTFPs. Village resource management groups could be initiated during the land use planning activities of the GTZ programs;

- Promote the idea of productive “Forest Gardens” that produce useful plants, such as cardamom, rattan and bamboo shoots in a more intensive way, while maintaining and protecting the forest cover. Site and plant selection should be done by the villagers, in close co-operation with the Forest Research Centre, FRC. Forest gardens could be established in individual forest plots or in village community forests after land allocation is completed. Forest gardens necessitate the establishment of (NTFP) nurseries. These should be developed by interested people within the villages rather than on DAFO level;

- All forestry and agricultural activities in the uplands should be based on organic and sustainable principles that do not depend on off-farm inputs, such as chemical fertilizers or pesticides as these render the villagers more dependent on outside interest groups;

7.1.2 Private Sector

The private sector plays a crucial role in processing agricultural products as well as NTFPs and to open up markets inaccessible to village producers. Due to the critically underdeveloped private sector in Laos PDR most products are sold as raw materials with a minimum of value adding remaining in the country. Without support of the private sector, there is little hope to improve the livelihoods of the people in the target villages. Recommendations for the support of the private sector are:

- Work closely together with the chambers of commerce in the provinces in order to facilitate the creation and development of small and medium enterprises, SMEs;

- Assist suitable SMEs to better access attractive loans to overcome shortages of working and investment capital. One of the main constraints to the sustainable development of SMEs is lack of working capital to finance purchase, transport, processing and storage of raw materials but also to make necessary investments for improved equipment and machinery;

- Assist suitable SMEs in processing technology and marketing tools in order to build up business performance and competitiveness;

- Make use of existing companies and NGOs that are involved in processing and marketing of agricultural products and NTFPs. Currently, there are three institutions of interest: Friend of the Upland Farmer Co. in Luang Namtha, Laos Farmers’ Products and PADETC, both in Vientiane (see also relevant chapter in report);

- Carry out market studies in Thailand and China to better understand the value chain and stakeholders of some of the raw materials exported from Laos. The aim is to transfer at least some of the processing steps and hence value adding to Laos and to establish more direct links between the producers and the players at the end of the value chain;
• Look at ways to provide up to date market information and promote price transparency across the value chain for the most important NTFPs and agricultural products. This could be integrated into a Market Information System, MIS, managed by a local consultancy group or by the Chamber of Commerce;

### 7.1.3 Government institutions and NGO’s on District-, Provincial- and National level

With the view of a sustainable development of the program, government authorities should be involved in the planning and execution of the activities as much as possible and useful, despite problems with motivation, allowances etc. Activities should include:

- Assist DAFO and PAFO in improving data collection and data processing with regard to the trade in NTFPs and agricultural products. A realistic database would help in planning Natural Resource Management Systems and to develop a local, private sector;

- Assist PAFO to develop a quota system for NTFPs that is based on the abundance and status of the target plants/products rather than on the exporters’ planning only;

- Investigate the potential to develop a low cost monitoring system, using proxy indicators for assessing changes in the status of at risk species. The ability to identify on an ongoing basis, species that require some form of protection and the development of appropriate protection regimes/programs is obviously essential and should be part of the quota system of PAFO. The Forest Research Centre, FRC should be involved in formulating criteria for the assessment;

- The tax collection system for NTFPs managed by PAFO and is regarded by the private sector as very complicated and bureaucratic. Investigations should be made by PAFO whether this system can be simplified;

- PAFO and DAFO staff need to be trained in all aspects related to the collection, processing and marketing of NTFPs;

- Since NTFPs are of overwhelming importance to the livelihoods of the entire rural population of Laos, concerted efforts should be taken by all stakeholders to work together towards sustainable use of non-timber forest products. The establishment of a NTFP network could make use of the vast information already available in the country. A first workshop, in which the modalities of a network are discussed, should be organized by GTZ and facilitated by the Forest Research Centre, FRC. Participants invited should include chambers of commerce, PAFOs, Friend of Upland Farmer, Laos Farmers’ Products, PADETC as well as other TA- programs such as GAA and NCA.

### 7.2 Recommendations for the IRDP Luang Namtha

There are important differences between Sing and Nalae Districts. While Nalae District appears to be a rather neglected, under-developed area for which NTFPs are of utmost importance for the rural population, the Sing District is increasingly drawn into the market economy of the Chinese Yunan Province to which it borders. Large areas of forest are currently being cleared for rubber plantations and also sugar cane. NTFPs in Sing District
become less important for the rural population as rubber and sugar cane seem to offer better income alternatives. However, the two cash crops render large parts of Sing’s rural population dependant on the single Chinese market while the multitude of forest products is being decimated at breathtaking speed. While the GTZ program can do little to stop this development, it should work towards diversification of cash crops in order to reduce the dependence on two crops that have no other market elsewhere.

7.2.1 Sing District

1) Investigate the potential to put up private (village) nurseries for NTFPs. There is certainly demand for cardamom, Peuak Meuak (Toutieng), Por Sa (paper mulberry) and for various fruit trees;
2) Carry out a market study on Tutieng: processing steps, market volume, major players, potential to do at least part of the processing in Luang Namtha. This would allow to add more value to the product and to generate more income to target villages;
3) Carefully promote planting Mak Khaen (Zanthoxylum rhetsa) in agroforestry systems above 1000 m altitude. The current market price is very attractive but the market potential is not known. Too fast a development may lead to rapid market saturation and slumping price;
4) Muang Sing is an attractive tourist destination which offers good opportunities for ethnic village groups to sell handy crafts (as already done) as well as tea and coffee packed in attractive packaging. Important here is the development of a brand with reference to the (ethnic) producer group;
5) Linking eco-tourism with NTFPs: trained village guides could introduce the collection, processing and preparation of NTFPs to interested tourists.

7.2.2 Nalae District

As indicated above, Nalae District, due to its remoteness, is not interesting for the Chinese agro-industry. Non-timber forest products play a much more important role for the population than in Sing District. There is no direct international border and most products are either sold locally or bought by an export company from Bokeo (e.g. sugar palm fruits, tiger grass). Some products (Tutieng, Mak Kha/wild ginger) are bought by Chinese traders however. Friend of the Upland Farmer, FUF, is very active in Nalae District and distributed about 200,000 seedlings of the Kuan Tung variety of cardamom from China to six villages in the district.

1) Establish contact with Friend of the Upland Farmer, FUF, in order to link target villages with that organisation for contract production of cardamom, chillies and other products. In case of collaboration with FUF, this organisation may need technical assistance in processing, organic certification and marketing;
2) Investigate the potential to put up private (village) nurseries for NTFPs. There is demand for cardamom, Peuak Meuak (Toutieng), Por Sa (paper mulberry) and for various fruit trees. Especially Tutieng is rapidly depleted by over collection and needs replanting. Villagers seem to be interested in planting but they also state that they depend on the Chinese traders who do not come regularly;
3) Because of many similarities with Bokeo Province, co-ordinate more activities with the GTZ Bokeo program;
4) As in all areas, processing on village level needs to be improved by adequate training and the establishment of village processing units. This also requires the establishment of producer groups.
Für den Kurzzeiteinsatz von Herrn Ulrich Helberg, Helberg Consult International Organic Agriculture & Environment, Witzenhausen, Deutschland

Einsatzorte und Zeitraum:
1. Provinz Bokeo, Laos – 7 Tage, Mai 2003
2. Provinz Luang Namtha, Laos – 7 Tage, Mai 2003


- Welche Kulturen (Gewürze, Heilkräuter, Sonderkulturen etc.) und Produkte (NTFP) werden in den genannten Regionen traditionell angebaut bzw. gesammelt? Wie können deren Erträge und/oder deren Management verbessert werden.

- Welche bisher nicht eingeführten Kulturen könnten unter den agro-klimatischen Bedingungen der Projektregion wachsen und versprechen ein Potenzial im Rahmen des durch die Projekte angestrebten Ziels der Einkommensdiversifizierung.

- Wie können die Nachverbesserprozesse (Lagerung, Trocknung, Aufbereitung, Weiterverarbeitung etc.) der identifizierten Kulturen und NTFP optimiert werden, um eine Verbesserung der Qualität und damit des Erlöses zu erzielen.

- Welche Verarbeitungsstufen, die bisher erst nach dem Verkauf der Rohprodukte außerhalb der Projektregionen durchgeführt werden, können die Bauern selbst vornehmen, mit dem Ziel der Vermarktung eines Zwischenproduktes auf höherer Veredelungsstufe?

- Welche Vermarktungsmöglichkeiten (potenzielle Aufkäufer, Großhändler, Märkte, Marktstrukturen etc.) gibt es für die einzelnen Produkte regional und, wenn möglich, international. Welche Preise können bei Ausschöpfung des Potenzials erzielt werden? Für welche Produkte sind insbesondere Potenziale bei der Vermarktung als zertifiziertes Bioproduct erkennbar?

- Welche Voraussetzungen, Restriktionen, Anerkennungsverfahren und Potenziale sind für die Zertifizierung von organischen Produkten aus Laos zu beachten?

<table>
<thead>
<tr>
<th>Date</th>
<th>Place/Activity</th>
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<tbody>
<tr>
<td>April 26, 2003</td>
<td>Flight from Frankfurt</td>
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<tr>
<td>April 27</td>
<td>Arrival in Vientiane</td>
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</tbody>
</table>
| April 28        | Meet with GTZ staff; Planning of mission  
Meet with Mr. Michael Schultze, Chamber of Commerce, Koblenz  
Visit of Lao Farmers’ Project shop  
CIAT  
Mr. Rod Lefroy, Peter Horne; discussion about the agric. Sector |
| April 29        | Meeting with Mr. Joost Foppes, FRC; discussion about NTFP sector  
Visit to NAFRI (National Agric. And Forestry Research Institute), FRC (Forest Research Centre), NTFR (Non-Timber Forest Research Section)  
Mr. Southone Ketphone, Director  
Discussion about potential cooperation  
PADETC  
Mr. Sombath Somphone, Director  
Discussion about potential cooperation  
SCC Natura  
Mr. Carl Gustav Mossberg  
Exchange of information |
| April 30        | Travel to NTFP market at 52 km, Rd. 13  
Society Development of Forest Export-Import  
Mr. Somsack Chanthaphonh, Director  
Discussion about NTFP trade |
| May 1           | Planning of further activities with Bounyong, Preparation of PRA questions for village interviews                                               |
| May 2           | Travel to Huay Xai, Bokeo Province  
PAFO  
Meeting with staff about NTFP quota etc.  
Done Chane village, Nam Nhone area  
Village meeting and PRA (35 villagers) |
| May 3           | Travel to Pha Oudom District (together with Holger Grages and Jan)  
Huay Sang village  
Village visit |
<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
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</table>
| May 4  | Village meeting with 80 villagers  
Meeting with middle man (zonal level) for Bokeo Dev. Co.  
Mr. Chang Gong (buys NTFPs in the zone)  
Discussion about NTFP trade  
Travel back to Huay Xai |
| May 5  | Provincial Tax Office, Huay Xai  
Discussion about trade in NTFP and agric. products; quota system  
Phet Huong Huang Co.  
Mr. Thongphet Nyotsomsii, Director  
Discussion about trade in NTFP and agric. products; quality issues, collaboration with villagers  
Bokeo Development Co.  
Mr. Bounliam Southavilay, Director  
Discussion about trade in NTFP and agric. products |
| May 6  | Done Chane village, Tonpheung District  
Village meeting and PRA (20 villagers present) |
| May 7  | Meeting with GTZ, PAFO, DAFO  
Presentation of preliminary results of the mission to Bokeo  
Meeting with Mr. Peter Schröder, GTZ-Consultant  
Discussion about sustainable agric., integration of NTFPs and cash crops etc. |
| May 8  | Travel to Luang Namtha by car  
Friend of the Upland Farmer, FUF  
Mr. Peter Dutton, Director  
Visit of the company, discussion about potential cooperation  
Ctd. travel to Muang Sing |
| May 9  | Meeting with Mr. Phillipe Constant, GDS  
Visit of the former DAFO tree nursery in Ban Pak Khong  
Custom Office in Ban Pak Khong on the Chinese border  
Discussion about exports from Sing  
Mion International Co.  
Eagle.wood factory in Muang Sing  
Visit of the factory and discussion about purchase, processing and marketing of eagle wood oil  
DAFO  
Mr. Wountan, Forestry and Environment Section  
Discussion about trade in NTFP and agric. products |
<table>
<thead>
<tr>
<th>Date</th>
<th>Location/Event</th>
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</table>
| May 10  | Huaynakang village, Thong Mai, Sing District  
Visit of farmer Mr. Tong Mue, together with Phillipe Constant  
Visit of a “wild” Chinese sasafras oil (Chuang wood) factory  
Champoukeun village, Mom, Sing District  
Visit of the village and village meeting |
| May 11  | Travel to Nalae  
Meeting with Sebastian Behrle, GDS and Mr. Khatha, agricultural advisor to the GTZ program.  
DAFO  
Mr. ? Chief  
Discussion about trade in NTFP and agric. products in Nalae  
Meeting with Mr. Seun Phane, Extension officer for FUF  
Discussion about the company’s activities in the district |
| May 12  | District Trade Office  
Mr. Tong Ee, Chief  
Discussion about trade in NTFP and agric. products  
Mok Yong village, Nalae District  
Village meeting about NTFPs and agric. crops  
Travel to Namtha |
| May 13  | Travel to Oudomxai  
“Community Based Rural Development Project for Conservation of the Nam Beng/Nam Mau Watershed”  
Mr. Lothar Kinzelmann, Project Manager  
Phillipe and Anne, GDS  
Discussion about the project and visit to two villages  
Travel to Luang Prabang |
| May 14  | Flight back to Vientiane |
| May 15  | Meeting with Joost Foppes, FRI  
Documentation |
| May 16  | Return flight to Germany |
| May 17  | Arrival at home |

N.B. Nearly all visits carried out with Bounyong Thongmalayvong, Natural Resource Management Specialist at GTZ-LNT
## ANNEXE 3 LIST OF SOME PLANT-BASED NTFPS FROM NORTHERN LAOS

<table>
<thead>
<tr>
<th>Local name</th>
<th>Common name</th>
<th>Scientific name</th>
<th>Family</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Mak tao</td>
<td>Sugar palm fruit</td>
<td><em>Arenga westerhoutii</em></td>
<td>Palmae</td>
<td>edible fruit</td>
</tr>
<tr>
<td>Nyod tao</td>
<td>Sugar palm stem</td>
<td><em>Arenga westerhoutii</em></td>
<td>Palmae</td>
<td>edible stem</td>
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<tr>
<td>Peuak meuak</td>
<td>Incense bark</td>
<td><em>Debreaea hypoleuca</em></td>
<td>Urticaceae</td>
<td>bark fibre/exudate</td>
</tr>
<tr>
<td>Po sa</td>
<td>Paper mulberry</td>
<td><em>Broussonetia papyrifera</em></td>
<td>Moraceae</td>
<td>bark fibre</td>
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<tr>
<td>Dok khaem</td>
<td>Broom grass</td>
<td><em>Thysanolaema maxima</em></td>
<td>Gramineae</td>
<td>Grass inflorecense</td>
</tr>
<tr>
<td>Mak vai</td>
<td>Rattan</td>
<td><em>Calamus spp.</em></td>
<td>Palmae</td>
<td>Fruit</td>
</tr>
<tr>
<td>Mak naeng</td>
<td>Cardamom</td>
<td><em>Amomum spp.</em></td>
<td>Zingiberaceae</td>
<td>Medicinal</td>
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<tr>
<td>Mak pee</td>
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<tr>
<td>Mak kha</td>
<td>Wild ginger</td>
<td><em>Alpinia bracteata</em></td>
<td>Zingiberaceae</td>
<td>Fruit</td>
</tr>
<tr>
<td>Phak koud</td>
<td>Fern</td>
<td><em>Gleichenia linearis</em></td>
<td>Gleicheniaceae</td>
<td>Edible leaf</td>
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<tr>
<td>Mak ku</td>
<td>Edible leaf</td>
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<td>Phak pa</td>
<td>Leaves</td>
<td><em>Various</em></td>
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<td>Edible leaf</td>
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<td>Phak khoun</td>
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<td>Phak ven</td>
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<td><em>Marsilea quadrifolia</em></td>
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<td>Phak val</td>
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<td>Phak nok</td>
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<td><em>Centella asiatica</em></td>
<td>Umbelliferae</td>
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<tr>
<td>VAI</td>
<td>Rattan</td>
<td><em>Calamus spp.</em></td>
<td>Palmae</td>
<td>Edible shoots</td>
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<tr>
<td>Yot vai</td>
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<tr>
<td>Dok wai</td>
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<tr>
<td>Vai hang nou</td>
<td>Calamans</td>
<td><em>Calamus javanensis</em></td>
<td>Palmae</td>
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<tr>
<td>vai deng</td>
<td>Calamans</td>
<td><em>Calamus sp.</em></td>
<td>Palmae</td>
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<tr>
<td>Vai sawang</td>
<td>Calamans</td>
<td><em>Calamus palustris</em></td>
<td>Palmae</td>
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<tr>
<td>Nor mai</td>
<td>Bamboos</td>
<td><em>Various</em></td>
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<td>Nor khom</td>
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<tr>
<td>Mai hok</td>
<td>Bamboo</td>
<td><em>Dendrocalamus hamiltonii</em></td>
<td>Gramineae</td>
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<tr>
<td>Mai san</td>
<td>Bamboo</td>
<td><em>Bambusa nana</em></td>
<td>Gramineae</td>
<td>Edible shoots</td>
</tr>
<tr>
<td>Mai hia</td>
<td>Cephalostachyum virgatum</td>
<td>Gramineae</td>
<td>Edible shoots</td>
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<tr>
<td>Mai lai</td>
<td>Bamboo</td>
<td><em>Gigantochloa albociliata</em></td>
<td>Gramineae</td>
<td>Edible shoots</td>
</tr>
<tr>
<td>Benzoin</td>
<td>Benzoin</td>
<td><em>Styrax tonkinensis</em></td>
<td>Styracaceae</td>
<td>Resin</td>
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<tr>
<td>Chan dai</td>
<td>Dracaena cambodiama</td>
<td>Liliaceae</td>
<td>Medicine</td>
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<tr>
<td>Mak khene</td>
<td>Wild pepper</td>
<td><em>Zanthoxylum rhoins</em></td>
<td>Rutaceae</td>
<td>Spice</td>
</tr>
<tr>
<td>Pheuak bong</td>
<td>Bong bark</td>
<td><em>Notaphoebe umbelliflora</em></td>
<td>Lauraceae</td>
<td>Aromatic oil</td>
</tr>
<tr>
<td>Mai ketsana</td>
<td>Eagle wood</td>
<td><em>Aquilaria sinensis</em></td>
<td>Thymelaeaceae</td>
<td>Aromatic oil</td>
</tr>
<tr>
<td>Mai pungwan</td>
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<td><em>A. agallocha</em></td>
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<tr>
<td>Mai ko</td>
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<td><em>Dendrocalamus latifolius</em></td>
<td>Gramineae</td>
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<tr>
<td>Mai phai ban</td>
<td>Bambusa</td>
<td><em>Bambusa blumeana</em></td>
<td>Gramineae</td>
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<tr>
<td>Mai sang phai</td>
<td>Bambusa</td>
<td><em>Bambusa nana</em></td>
<td>Gramineae</td>
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<tr>
<td>Khisi</td>
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<td><em>Shorea obtusa</em></td>
<td>Dipterocarpaceae</td>
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<td><em>S. siamensis</em></td>
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N.B. These plants where most often named by villegers intervied in Bokeo and Luang Namtha. The Ex-IUCN-NTFP project lists some 650 NTFPs for Laos (Source: Joost Foppes)
# ANNEXE 4 NTFP HARVEST CALENDAR

<table>
<thead>
<tr>
<th>Product/Month</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
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<th>Sep</th>
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ANNEXE 5 REFERENCES


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