

Development of Sustainable Supply Chains for NTFP and Agricultural Products for the Northern Districts of Sayaboury Province, Lao PDR

IFAD/GTZ Programme RLIP - RDMA

Rural Livelihood Improvement Programme - Integrated Rural Development in Mountainous Areas in Northern Lao P.D.R. Programme

Results of a mission carried out 6 to 25 November 2005



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LIST OF ABBREVIATIONS AND ACRONYMS

ASEAN	Association of South East Asian Nations
DAFEO	District Agriculture and Forestry Extension Office
DPCU	District Programme Coordination Unit
LAO PDR	Lao People's Democratic Republic
RLIP	Rural Livelihoods Improvement Programme in Attapeu and Sayabouri
GoL	Government of Lao PDR
GTZ	Gesellschaft für Technische Zusammenarbeit GmbH
ICS	Internal Control System
IFAD	International Fund for Agricultural Development
LA	Land Allocation
LUP	Land Use Planning
LWU	Lao Women's Union
M&E	Monitoring and Evaluation
MAF	Ministry of Agriculture and Forestry
msl	Meter above sea level
NAFES	National Agricultural and Forestry Extension Service
NAFRI	National Agriculture and Forestry Research Institute
NGPES	National Growth and Poverty Eradication Strategy
NSRDP	Northern Sayaboury Rural Development Project
NTFP	Non-Timber Forest Product
PAFO	Provincial Agriculture and Forestry Office
PPCU	Provincial Programme Coordination Unit
PRA	Participatory Rural Appraisal
RDMA	Integrated Rural Development in Mountainous Areas in Northern Laos
TA	Technical Assistance
VAC	Village Administration Committee
VEW	Village Extension Worker
VVW	Village Veterinary Worker

CURRENCY EQUIVALENTS

November 2005

USD 1.00 = Lao kip (LAK) 10,850

USD 1.00 = Thai Baht (BHT) 40.39

BHT 1.00 = LAK 265

ACKNOWLEDGMENTS

The author would like to thank the GTZ staff in Lao PDR, especially Dr. Jens Kallabinski, the GTZ Team Leader, for commissioning this study.

Special thanks go to our team, consisting of Mr. Thipamphone, Natural Resource Management Advisor, Mr. Khatha, Agricultural Extension Advisor, both of the GTZ programme, as well as Mr. Phansy (assistant to Mr. Khatha) and Mr. Kamlah (M & E Forestry for RLIP). The atmosphere, in which we worked, was fruitful and relaxed, even under sometimes difficult traveling conditions.

In each District, we were accompanied by the respective Programme directors, who gave valuable information about their intervention areas. Special thanks go to Mr. Sathung Thikey (Sanyabouri), Mr. Phuwang Khongsap (Hongsa), Mr. Saisanah Solangkunh (Ngeun), Mr. Sien Keobuahome (Sianghone) and Mr. Chian Peng Utomkhan (Khop).¹

Also the District Governors assisted the team wherever possible. Many thanks to Mr. Peng (Sanyabouri), Mr. Somwang Indawong (Hongsa), Mr. Thongdy Papuaone (Ngeun), Mr. Somlith Peuakeo (Sianghone) and Mr. Thongwan of Khop District.

Many thanks also to all Provincial and District officers who did not hesitate to spend quite a lot of time with us explaining their views of the current situation and sharing, with us, ideas how to improve.

Also many thanks to the many traders we met during the mission. It was amazing how openly we could talk about quantities traded, problems in purchasing and marketing the products and about sensitive company details.

Last but not least the author would like to thank the villagers of Ban Naphoung (Hongsa), Ban Donsavang (Ngeun), Ban Namai (Sianghone), Ban Hatngam (Khop) and Ban Namon (Sayabouri) for their patience with the team to answer sometimes boring questions but also for the lively discussions about how to improve the villagers' economic situation. Of course, the lao-lao shared between villagers and the team helped a lot to freely discuss all matters concerned.

¹ Sorry, if names are not always correctly spelled

SUMMARY

As in other mountainous areas of Lao PDR, the rural population in the five northern Sayabouri Districts depends heavily on Non-Timber Forest Products, **NTFP**, for food, shelter and income. In all villages visited, the income from NTFP was over 50 % of total income². The most important market NTFPs are palm fruit (mak tao) paper mulberry (po sa) and bong bark (peuak bong). The single most important market NTFP in the upland villages is palm fruit whose income is in many villages higher than all agricultural products combined. 800 to 1000 tons of mak tao have been exported from Sayabouri Province last year. Practically all households are engaged, at least seasonally, in the collection of NTFPs. However, the situation is changing and villagers find it more difficult to access forest products due to destruction of natural habitats (in case of palm fruits), overuse (bong bark) or unsustainable harvest methods. Paper mulberry, the second most important NTFP is increasingly sought after and natural stands have been reduced drastically. Fortunately, most villagers have started to plant paper mulberry using wild shoots as seedlings. Soon most Po sa will come from cultivation. About 800 tons were exported last year. A total of about 2,200 tons of the four most important market NTFPs are exported from Sayabouri Province annually with a trade volume of about USD 665,000. Although there is a strong market demand, it will probably not be possible to increase the volume of NTFPs and hence the incomes from this product group with the exception of paper mulberry, which is increasingly being cultivated by the villagers. For all other forest products, it would already be an achievement to maintain current collection volumes on a sustainable level. This can be achieved by cultivating NTFPs.

Livestock is another important source of income but due to losses through diseases there is often no or little surplus of cattle or buffalo that could be sold. Some villages have lost so many animals that it will take years to build up the herds to former numbers. More intensified vaccination campaigns and veterinary services could help reduce the number of fatal diseases and hence contribute to higher village incomes. A total of about 2,200 head of cattle and buffalo have been exported or sold to other provinces in 2004 with a trade volume of USD 550,000. There is certainly scope to extend the livestock sector where pasture land is available.

Agricultural products become increasingly important in Sayabouri Province. Apart from rice, which is produced in all villages and exported in large quantities to other provinces, to Thailand and China, there is a growing demand from Thailand for maize, groundnut, soybean and sesame. Over 14,000 tons of maize, with an export value of USD 1.0 million³, 3,460 tons of groundnuts (USD 780,000), 1,040 tons of Job's tears (USD 156,000) and 720 tons of sesame (USD 430,000) were produced in the five northern districts.

Quality is a very important issue and frequently the base for debates between villagers and traders. While villagers often complain about low prices, the traders complain that they have to meet the market requirements and get lower prices from their Thai buyers for poor quality delivered.

Good **road access** to villages is the key factor for an improved marketing strategy. Remote villages are either completely cut-off market outlets or receive much lower prices than their counterparts with easier access by the traders.

² Given the agricultural production figures, there are certainly also many (lowland) villages more geared towards crop production rather than NTFP

³ Values based on own calculation

Marketing of village products is done on an individual level. There is no form of communal marketing and villagers interviewed did not believe that this could work. Communal marketing would necessitate a high degree of organisational skills, storage capacity and capital. None of these factors can be found at village level. While Villagers are usually aware of current market prices, they need more training and extension service to produce products according to market requirements. The traders/exporters in the northern Districts of Sayabouri Province are usually small enterprises, registered at district level as individual businesses or, as in Sianghone and Khop, also as trader groups. Exporting agricultural products, livestock or NTFPs is often complemented by other activities, such as retailing at local level. Most exporters hand over the goods to Thai importers, who usually act as middlemen for other trading or processing companies in Thailand. Only very few Lao traders deliver directly to processing companies in Thailand. Over 80% of all goods traded in the five Districts are exported to Thailand, while the balance goes to Luang Prabang or Oudomxai, especially, when Thai traders offer low prices. China is becoming an interesting market as well. Chinese traders usually offer much higher prices than the Thai market. Most traders indicated that they are not able to satisfy the demand of the market for NTFPs, livestock and agricultural products, such as maize, rice and groundnuts.

While the potential to **add value** to village products in Sayabouri Province is limited (due to limited market size, buying power, processing and marketing skills, as well as lack of capital), the export of quality-improved raw materials, both to neighbouring, as well as to overseas countries, offers opportunities, where the province has some advantages. There is an opportunity to focus on speciality markets, namely organic markets, in Europe, USA and Japan provided the production, especially of soybeans, can be kept GMO⁴-free. This is not guaranteed, as Thailand and China may provide GMO-seeds to Lao PDR. It is therefore of utmost importance for the future export potential to organic and environmentally-friendly markets, that the government of Lao PDR develops a GMO-policy framework.

One of the preconditions to go into value-added export agriculture is to organise producers and traders in order to overcome the current weak trading structure and to improve services provided to the farmers so that they can produce according to market requirements. A model of a **sustainable supply chain** for RLIP – RDMA is proposed in this report whereby villagers and traders join forces with the view to collect, grow and market NTFP and agricultural products in a responsible manner and in a quality demanded by the market. In order to achieve this, standards on how to collect, grow and store the products have to be developed together with producers and traders. Simple product specifications, regarding variety, grade, colour, cleanliness, moisture content etc. need to be set by the traders and communicated to the producers. To realise this theoretical model, the consultant proposes the creation of District-based **Producers' & Traders' Associations**, registered under the District Trade offices. The aim is to develop a sustainable, quality oriented supply chain with improved market prospects.

⁴ Genetically Modified Organisms

1 INTRODUCTION AND RLIP/RDMA BACKGROUND

The aim of this study, which was carried out between 5th and 25th November 2005, was to look into the potential development of Non-Timber Forest Products (NTFPs) and special agricultural crops, and to make recommendations regarding processing and marketing of the products. The intention of the programme 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. Thipamphone, Natural Resource Management Advisor, Mr. Khatha, Agricultural Extension Advisor, both of the GTZ programme, as well as Mr. Phansy (assistant to Mr. Khatha) and Mr. Kamlah (M & E Forestry for RLIP), visited all five northern districts of Sayabouri Province. Interviews and lengthy discussions were held with PAFO, DAFEO, Trade offices, Tax Departments as well as with villages, to get an overview about the current situation concerning collection, cultivation and marketing of village products. It has to be mentioned here, that, we have tried to get as precise data as possible by checking and cross-checking the information collected from various levels. As expected, the data concerning production and trade of NTFPs and agricultural products, including livestock, provided by DAFEO and Trade offices differed quite a lot from information gathered from villagers and traders. However, all interviewees tried their level best to support the team and it has to be acknowledged that we had very open discussions on all levels, leading to a general picture that seems to be not too far from the reality.

The Government of Laos had proposed a Rural Livelihoods Improvement Programme in the provinces of Attapeu and Sayabouri as an option for the International Fund for Agricultural Development, IFAD, financing in 2005, as part of the National Growth and Poverty Eradication Strategy, NGPES (2). After approval, the Rural Livelihoods Improvement Programme, RLIP, funded by IFAD is considered the second phase of the Northern Sayaboury Rural Development Project (NSRDP), which provided assistance to agricultural development, income diversification, rural infrastructure development and capacity-building in the districts of Hongsa, Ngeun, Sianghone and Khop. The second phase of the project, which started in October 2005, added Sayaboury District to the four previous target districts and also includes three districts in Attapeu Province. The RLIP will work in districts that are “very poor” (Sayaboury and Sianghone) or “poor” (Khop, Ngeun, Hongsa) (2).

The programme will be the first externally supported development programme to support directly the implementation of the National Growth and Poverty Eradication Strategy (NGPES) and is designed to contribute to the goal of reducing those living in poverty by half from 48% in 1990 to 24% of the population by 2015. As rural development is at the centre of the Government’s development and poverty eradication efforts, the programme will focus on improving the economic and social opportunities for poor rural households, including those who have resettled, to improve their livelihoods through investment in economic development and natural resources management, rural infrastructure and economic and social services. The programme will also provide an input into the formulation of future pro-poor policies to support the NGPES covering, among others, land allocation, phasing out shifting cultivation, eradication of opium poppy cultivation and empowerment of women (1).

The Government of Laos, GoL, had requested the German Government, through GTZ and DED, to provide the Technical Assistance in the RLIP in Sayaboury Province. For the past ten years, the GTZ has been working in mountainous areas of northern Laos and currently carries out the Programme *Integrated Rural Development in Mountainous Areas in Northern Lao PDR* (RDMA) in the provinces of Bokeo and Luang Namtha. A pre-appraisal mission recommended to expand the GTZ RDMA programme to the five northern districts of Sayaboury Province. A joint GTZ/IFAD appraisal mission in October 2004 then further clarified the future programme design. The second phase of the project will have a stronger focus on the uplands. Beyond the more technical aspects, more emphasis is given to credit and marketing aspects (3).

There will be 112 target villages in the five Sayaboury districts, but for the start of RLIP/RDMA in 2005-2006, 18 villages have been selected. The GTZ will provide technical assistance and management advice and finance all activities related to demonstration and piloting activities, concept development and capacity-building (4). GTZ and DED will provide grant assistance as goods and services for six years. The DED will send a Development Advisor for upland agriculture and another one for the marketing component. The latter is expected to arrive in January 2006. The expatriate GTZ advisor holds the position of the Team Leader.

An interim evaluation at the end of the NSRDP concluded that the project has supported the development of various cash crops, but with limited information on the future market prospects, marketing structure and channels. The project has not addressed adequately the complex issue of working with shifting cultivators in developing new cropping systems on sloping land – new systems that would allow for decreasing fallow periods and be consistent with the dual objective of poverty alleviation and shifting cultivation stabilization. This would include more work on cultivation and sustainable management of NTFPs and other land-based activities or non-farm activities. For livestock, the project has made a substantial effort in animal health management but very little in feed management, though it is widely recognized that the two are complementary for increasing livestock productivity (5).

1.1 Target group

The programme's target group consists of poor and food insecure households living in the upland and lowland areas including those that have recently moved from the remote uplands and resettled in more accessible areas. Women will be an important part of the target group because of their disadvantaged position in the society and their important role in productive and reproductive activities.

1.2 Programme components

According to (1) the programme activities are grouped under the components:

Social Development with sub-components community development (CD), health, drug detoxification and rehabilitation and education. Community development will be the starting point for programme interventions at village level. The health and education subcomponents will provide much-needed social infrastructure (i.e. drinking water supply schemes, sanitation, primary schools and adult literacy training).

Economic Development and Natural Resources Management with the subcomponents agriculture, off-farm income generation, rural micro-finance and natural resources management. This component is designed to enable poor households to become food self-sufficient and to generate increased incomes and to improve the management of natural resources. The programme will also support the development of the support services required e.g. savings and credit, marketing and agro-processing.

Rural Infrastructure including investment in local roads.

Institutional Development and Capacity Building with the sub-components strengthening capacity for policy analysis and management and coordination of the investment programme. The Provincial Programme Coordination Unit (PPCU) and the District Programme Coordination Units (DPCUs) will coordinate implementation and manage the community development and rural micro-finance sub-components.

2 THE PROGRAMME AREA – NORTHERN SAYABOURI

Despite its proximity to the capital Vientiane, Sayabouri Province, and especially its northern part, is one of the most remote provinces in Lao PDR.

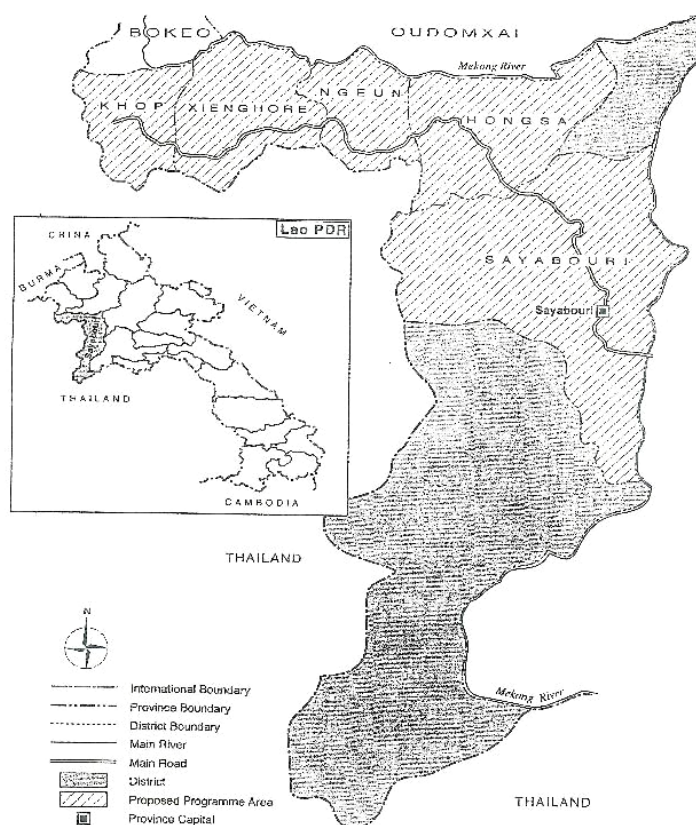


Figure 1: Location of the programme area. Source: (1)

Because of the topography, the programme area remains amongst the most inaccessible in the country. Most roads become impassable during the wet season, while access in the dry season

is often limited to four-wheel drive vehicles. The northern districts of Sayabouri Province consist of small river basin systems with limited flat lowland, at an altitude of around 200 masl surrounded by large upland areas of rolling to steep hills, up to an altitude of 1,000 masl). The dominant soil types in the hills are Ferric Acrisols of moderate fertility which is easily depleted. These soils are very light with a sandy loam and occur on slopes from less than 5° to over 25° posing moderate to severe erosion risks. They have severe limitations regarding permanent cropping. The Acrisols are therefore mainly suitable for tree crops and forage production. The second most common soil types are Haplic Luvisols which are found on the floors and lower slopes of the upland valleys. These are formed by a sedimentation process from the surrounding hills and have loamy sand or finer texture with significant quantities of silt and clay. These soils are suitable for a range of crops including irrigated rice. The lowland valley floors are predominately Eutric Cambisols which are also free draining to allow the successful development of rainfed paddy.

The Programme area has a monsoonal climate with average annual rainfall of 1 300 mm occurring mainly during the period of April to October. Temperatures are adequate to support most crops throughout the year but are too low to support tropical/subtropical crops in December and January.

The land use is dominated by wood and shrub land and open forest with shifting cultivation being the major land occupation. The main physical constraints to agriculture are the long dry season and light soils.

The total population in the five programme districts is around 150,000 belonging to 27,000 households, an average household size of 5.7 persons per family. The average population density is 18 persons per km². There are 153 total villages in the 5 programme districts out of which 112 have been selected as target villages. 50 percent of the population in the programme area in Sayaboury Province are considered poor.

Table 1: some basic socio-economic data about the Programme districts

Parameter/District	Sayabouri	Hongsa	Ngeun	Sianghone	Khop	Total
Population	70,613	26,355	14,707	26,878	18,303	156,856
Area (km ²)	4,200	1,762	566	1,285	679	8,492
Population density (P/Km ²)	17	15	26	21	27	18
Number of households	11,847	4,360	2,569	5,301	3,335	27,412
Ø HH Size	6.0	6.0	5.7	5.1	5.5	5.7
N° of Villages	102	56	26	45	29	258
Ø Paddy land/HH (ha)	0.31	0.50	0.22	0.42	0.34	0.36
Ø upland farm size (ha)	0.41	0.30	0.28	0.37	0.38	0.37
Cattle (head)	5,832	6,789	2,873	5,828	4,195	25,517
Buffalo (head)	8,546	4,790	2,613	4,508	3,946	24,403
Pig (head)	22,607	6,734	3,844	6,688	5,295	45,168
Production forest (ha)	60,600	-	-	11,512	29,791	101,902
Protection forest (ha)	-	20,329	10,868	12,822	11,104	55,123

Source: (6)

2.1 Livelihoods of the target population

Land use in northern Sayabouri is still rather extensive, due to the relatively low population density. However, increasing population pressure results in more intensively forms of land uses that are no longer sustainable. Subsistence agriculture is the dominant occupation, with some 94% of all economically active persons over the age of fifteen being engaged in agriculture within the programme area.

Most of the hill tribes practice slash-and-burn agriculture which is the principle form of upland farming systems. 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 10 to 20 years. During the fallow period soil fertility returns through the natural vegetation. 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. 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.

Factors, such as increasing population, government policy to stabilise shifting cultivation and resettle upland villages, as well as the allocation of small areas of agricultural land, have shortened fallow periods to as little as two or three years. Agricultural practises, which have evolved over time, are now being applied to short-term rotations with the result of diminishing soil fertility and weed infestation. Especially the problem of increased weed growth demands an increased labour input.

There are basically three farming systems in the province: intensive lowland paddy, upland shifting cultivation and highland farming. 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. Most upland families however remain unable to achieve food security and fields under shifting cultivation continue to be a dominant feature of the landscape. This is putting increasing pressure on the forest as most families seek to meet the deficit through consumption and sale of non timber forest products (NTFPs).

There is a higher level of poverty in upland villages than in lowland villages. In the upland villages many people do not have sufficient rice for the whole year. Around 10% of households have sufficient rice for the whole year, while most others suffer acute food insecurity. Many beg or borrow rice in exchange for providing labour. The poorest households include widows with small children, the disabled and ill, the indebted and new families with small children and few assets inherited from their parents. The poor and poorest groups depend heavily on non-timber forest products and on daily wage labour as sources of livelihoods. The children from the poorest households often do not attend school as they help their family collect NTFPs and with other activities to find food.

In lowland villages in Sayabouri some poor households have access to 0.2 - 0.5 ha of paddy land, which may not be their own and few have a small home garden for growing vegetables. The poor and poorest households may have pigs and chickens but very few have a buffalo and/or cattle. Both the poor and the poorest households have relatively weak social networks, low social status and are not regarded as being creditworthy.

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. Over the last fifty years, forests have rapidly declined due to growing population and logging pressures. 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.

Poverty in the upland villages is mainly the result of external factors of recent decades namely war, and more recently government policies to eliminate opium production, stabilise shifting cultivation and resettle remote villages in more accessible locations. These dislocations have upset the delicate balance built up over centuries between the villagers and their particular agro-ecological environment. Resettlement of hill people who practise shifting cultivation on small parcels of agricultural land (often lowland), has proved difficult. Villagers, who do not have knowledge of sedentary or lowland agricultural techniques, have great difficulty adjusting. The techniques they use are appropriate for long-term rotational cropping, not sedentary mono-cropping. Sometimes the area of agricultural land allocated is too small for sustainable production. This situation is aggravated by incompetent agricultural field staff, which has received little training in extension methodologies and usually do not speak the language of the hill people (8).

2.2 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.⁵

As in other mountainous areas of Lao PDR, the rural population in the five northern Sayabouri Districts depends heavily on Non-Timber Forest Products, NTFP, for food, shelter and income. Collecting NTFPs is a common source of livelihood. In all villages visited, the income from NTFP was over 50 % of total village income⁶. NTFPs sold and/or exchanged include rattan and bamboo shoots, mushroom, fish and frogs. NTFPs 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 the traders in the district capitals.

⁵ de Beer, J.H. and M.J. McDermott, 1996

⁶ Given the agricultural production figures, there are certainly also many villages more geared to crops rather than NTFP

The most important market NTFPs are palm fruit (mak tao) paper mulberry (po sa) and bong bark (peuak bong). 800 to 1000 tons of mak tao have been exported from Sayabouri Province last year. Practically all households are engaged, at least seasonally, in the collection of NTFPs. However, the situation is changing and villagers find it more difficult to access forest products due to destruction of natural habitats (in case of palm fruits), overuse (bong bark) or unsustainable harvest methods. Paper mulberry is increasingly sought after and natural stands have been reduced drastically. Fortunately, most villagers have started to plant paper mulberry using wild shoots as seedlings. Soon most po sa will come from cultivation. About 800 tons were exported last year. The situation of the fruit palms is somewhat different; the encroachments of paddy field in the humid and fertile fruit palm habitats and the destructive consumption of the young shoots reduce the natural stands which otherwise proliferate easily. As cultivation takes too long, the only method for a sustainable use of mak tao is conservation of the natural stands and banning of collection and consumption of the shoots. Bong bark has equally a good market but naturally, collection of the bark kills the tree. Bong bark should therefore only be collected from bong plantations. The trees can be harvested as from the fifth or sixth year. Another important NTFP exported is broom grass (dok khem).

2.3 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 (18).

The Government of Lao PDR has issued and revised a large number of legal documents with regard to land and natural resources. Some of the outputs were: the Forestry Law (1996), the Water Resource Law (1996), the Land Law (1997), the Environmental and Protection Law (1999), MAF Instruction on the Stabilisation of Shifting Cultivation (1998), MAF Regulation on the Management of Village Forests (2001).

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.

- 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 Forest Law (1996) of Lao PDR recognizes five categories of forests for which different exploitation and management provisions apply. These are summarized in table 2.

Table 2: Forest categories as described in Lao legislation (19)

Category (Forest law 1996)	Allocation	Applicable legal documents
1 : Production Forest	At national level	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
2. (Watershed) Protection Forest	At provincial, district and village level	Forestry law (1996)
3. Conservation Forest (NBCAs)	At provincial, district and village level	PM Decree 164 (1993): Establishment of National Biodiversity Conservation Areas MAF regulation 524 (2001): Management of NBCAs and Wildlife
4. Regeneration Forest	At village level	Forestry law (1996)
5. Degraded Forest		MAF Regulation 1996 on plantations

- The Forest Law provides a legal framework for the NTFP sub-sector and distinguishes between customary use and commercial use of NTFPs. 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.
- Commercial exploitation may be carried out in Production Forest Areas (PFAs). The responsibilities are formulated in PM Decree 59 (2002).

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 fulfill direct economic need at household level.

2.4 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 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. In Sayabouri province, the following quotas are distributed on average to the traders:

Table 3: Quotas issued for NTFP for Sayabouri province in 2004/2005 (selected items)

NTFP	Quota
Palm fruits	800 tons
Paper mulberry bark	700 tons
Broom grass	300 tons
Bamboo shoots	800 tons
Eagle wood	5 tons

Source: PAVO statistics

After receiving the quotas, the traders contact the villages within the respective zones to supply the material.

The quotas are not based on any assessments of natural resources but only on the application of traders through the DAFEO offices. The quota system for NTFP is nothing else but part of the planned economy, which encompasses all sectors. The districts are expected to “fulfill” the quotas in the same way they have to cope with the other planned activities. The only reference of the quota system to the natural resources is the collection of a natural resource royalty in lieu of replanting NTFP species that have been collected (see below).

2.5 Taxes and royalties

At various levels, different taxes and royalties have to be paid by the traders, all involving additional papers to be filled in and submitted to different offices.

Traders who seek to buy products from villagers have to register with the village chief. Reason for this is to trace back the origin of the product, to collect taxes from the trader and for statistical purposes. Products, such as NTFPs, agricultural products and livestock sold by villagers to a trader are liable to a sales tax paid by the trader. Each village has a tax collector who registers all sales within his respective village and collects the sales tax. 50% of this tax remains in the village, of which 20% is used for official use (e.g. paper, pens), while the remaining 30% are kept by the tax collector as remuneration. The other 50% of the tax are remitted to the District tax office. The current tax rate is not fully understood by the consultant but for 1 ton of palm fruits, for instance, 20,000 kip have to be paid at village level. Equally, per head of cattle or buffalo, 20,000 kip are charged. An additional fee (e.g. 5,000 kip/cattle) has to be paid for a certificate of origin, issued by the village chief, which is required to transport the produce across the provincial border.

For any produce transported out of the province a tax is also levied at the border.

A MAF instruction of October 1999 to the PAFOs regulates the Natural Resource royalty collection procedure for NTFPs. It states that, whoever collects non-timber forest products, has to replant the species or pay a specific Natural Resource royalty. This paper lists details for many individual plants and parts of plants that have to be replanted or paid for. Example: For 1 ton of paper mulberry collected, the trader has to replant 15 trees or pay USD 5/ton; for 1 ton of broom grass collected, replant 5 shoots or pay USD 2/ton; for 1 ton of palm fruit collected, plant 10 trees or pay USD 1.5/ton; for eagle wood, depending on the grade (A – C) 15 to 30 trees have to be planted or USD 2 to USD 5 per kg collected have to be paid. PAFO and DAFEO are supposed to assist traders and/or villagers to organize and document the planting. In reality hardly anybody does plant the trees. According to DAFEO staff, most traders prefer to pay the levy.

If a trader can prove to the DAFEO staff that NTFPs purchased originate from cultivated plants, no natural resource royalty is charged as it is only applied to forest products that are collected in the wild. For agricultural products, including NTFPs that are cultivated, there is no such royalty. This increasingly concerns paper mulberry as it stems more and more from cultivation.

Traders don't have to pay income tax. Instead, a 35% tax is levied on the (assumed) profit made after the products are exported or transported to other provinces. This profit tax is based on assumed purchase and selling prices for the goods. The current market prices are assessed several times during the year and 5% profit⁷ based on the purchase price is assumed. This profit is then taxed with 35%. There are no price controls as such but the fixation of commodity prices is done for taxation purposes only. Product prices are negotiated between traders and villagers, although some produce prices are more or less stable.

When products are exported an export tax is charged as well, depending on the goods. Double taxation at provincial and district borders⁸ are an obstacle to the free trade even within the country and reduces the proportion of the market price received by the producer. The taxation system is hampering the private sector's investment in agro-marketing. However the districts depend on the taxes collected to fulfil their duties. Khop district, for instance, has collected 600 million kip in various taxes in 2004 but the district budget fell short by 500 million kip which had to come from the province.

⁷ According to the tax office in Hongsa

⁸ The districts also charge transit tax (1%) for goods transported through the district

3 **MARKETING OF VILLAGE PRODUCTS**

The upland families are poorly educated, very often cut-off road networks and until recently have had little contact outside their own villages. Contrary to their lowland counterparts, they are not yet self sufficient in food and are only partly engaged in the market economy. Until very recently opium was the major source of monetary income for a good number of villages. Meanwhile, many upland villages are engaged in the sale of non-timber forest products, livestock and agricultural products. Villages with good road access increasingly react to the demand of local traders for various products, such as ginger, Job's tears, maize, groundnut and soybean.

The commercialisation of non-timber forest and agricultural products depends on the availability of markets and easy access to them. The local market in Sayaboury Province is small because of the small population and it will remain limited. However, there is an increased demand by the local traders for NTFPs, soybean, maize, groundnuts, fresh fruits and vegetables and livestock in almost all districts. The demand for local rice too is expected to increase. There is some demand from other provinces, like Oudomxai for rice or Luang Prabang for many agricultural products and livestock. However, also these provinces can only absorb limited quantities. Producers in Sayaboury Province therefore depend on export markets if the production is to be significantly increased. All five northern districts share or are adjacent to the border with Thailand and most products are exported to this neighbouring country. Despite higher transport costs, China is becoming increasingly important as potential export market and exports of timber, NTFPs and agricultural products to China have increased significantly over the past few years. Looking at the production and trade figures, the northern districts of Sayaboury are rapidly moving into the cash economy, especially with agricultural products. Improved roads and other means of communications that are being opened up provide marketing opportunities for all sorts of products.

Traders frequently state that they could increase exports of most commodities if the supply would allow. Mr. Phan, a trader of NTFP in Muang Hongsa, confirmed that he could sell any quantity of palm fruit to his long-term client, a processing company in the Thai town of Nan. Last year he could only supply about 50% (60 tons) of the quantity ordered because of lack of supply from the district. Most traders in NTFPs confirmed that the problem is not a lack of markets but a lack of supply due to diminishing resources and inconsistent product quality.

There is also an increased demand for agricultural products. Apart from rice, which is produced in all villages and exported to other provinces, to Thailand and China, there is a growing demand from Thailand for maize, groundnut and sesame. For the latter however the demand seems to fluctuate according to Thailand's own production. Job's tears are exported mainly to Taiwan, either through Thailand or Luang Prabang. However, the market seems to be saturated at the moment and leaves little room for expansion. Especially for maize, Thai traders distribute (sell) hybrid seeds through the Lao traders and buy off the harvest at the end of the season. Cultivation of these cash crops is a rather new phenomenon in the province and is not accompanied by adequate training and extension services. This results sometimes in frustration for both, producers and traders as expectations concerning yields, prices or quality are not met. As the traders are usually not trained agriculturalists, they leave the cultivation (or rather the experimentation with it) with the farmers who have to bear the risks. When it comes to buying, farmers are sometimes unhappy with the prices obtained, while the traders complain that the quality does not meet the expectations or market requirements.

3.1. Non Timber Forest Products

A total of about 2,200 tons of the four most important market NTFPs are exported from northern Sayaboury annually with a trade volume of about USD 665,000. It will probably not be possible to increase the volume of NTFPs and hence the incomes from this product group with the exception of paper mulberry, which is increasingly being cultivated by the villagers. For all other forest products, it would already be an achievement to maintain current collection volumes on a sustainable level.

Table 4: Some selected NTFPs traded in the five districts of the programme area

NTFP	Quantity (tons)	Export value (US\$)
Palm fruit (Mak tao)	800 – 1000	270,000
Paper mulberry (Po sa)	800	300,000
Bong bark (Peuak bong)	250	45,000
Broom grass (Dok khem)	180	50,000
Total	Ca. 2,200	665,000

Source: interviews with local traders

3.1.1 Product profile: palm fruit

Description:



Palm fruit (mak tao) is the fruit of *Arenga westerhoutii*, a native palm to South East Asian humid forests. Sometimes this palm tree is confused with the sugar palm *Arenga pinnata*, which is used to extract a sugar juice and also occurs in the same habitats. *A. westerhoutii* grows to a height of about ten meters with leaves up to 8 m long. The leaflets are stiff, and oblong in shape, green on top, and grey underneath. Each palm tree has on average four fruit bunches. The tree only bears fruits once in its life, usually after about 18 years. It takes one year from flowering until the fruits can be collected; thereafter the palm dies.

Figure 2: bunches of palm fruits prior to collection

Habitat:

Mak tao is widespread and proliferates freely in humid forests. Usually the tree can be found along streams in forest valleys. In Laos the palm is distributed naturally in northern provinces such as Luang Namtha, Oudomxai, Luang Prabang and Sayaboury. According to villagers the natural stands are declining because of expansion of paddy fields and unsustainable uses.

Harvesting and processing:

Harvesting of sugar palm fruits is done usually from November to March. In some villages, collectors have to walk up to seven hours to reach areas rich in mak tao. They stay in the forest for two days until they have collected and prepared a sufficient quantity to be collected. The pre-mature fruits are harvested mainly by climbing trees and cutting down fruit bunches or in some cases by felling the palm. According to own estimates the yield of palm fruits is approximately 250 to 350 kg/tree, yielding 80 to 120 kg of endosperm (seeds). For the use of palm wine one tree can produce up to 200 litres of palm juice. After harvesting, the fruits are boiled for ca. 30 minutes to reduce fermentation and to remove the aggressive fluid developed by the fruits causing intense itching and burning whenever it comes into contact with the skin. Handling mak tao fruits before boiling therefore requires caution. After boiling, the fruits are cut at one end and the seed (endosperm) is squeezed out of the fruit (see fig. 3). It is then often soaked in water, mainly to increase weight, and then filled in gunny bags of ca. 45 kg each. Boiling and soaking is done in the forest, near the trees. The seeds are then carried to the roadside where the traders pick them up. The final processing has to be done within a few days. This requires rapid transport to the processing factory.



Figure 3: Mak tao endosperms in the fruit and graded after boiling

Uses:

The Arenga palm tree has numerous uses. The main economic use is the collection of the seeds which are used in Thailand for desserts. The shoots can be cooked in a variety of local soups. This is the most destructive use as the tree has no chance to reach maturity. The consumption of the young shoots is one reason that this species becomes rare in some areas. Leaves are used as roofing material. Besides, the juice can be harvested from the apex of the flowers to be processed for an alcoholic drink.

Markets and economy:

Almost all palm fruits collected in Sayabouri province are exported to Thailand for further processing by canning factories. Lao PDR is the main supplier of mak tao as natural stands in Thailand become rare. Only a very small portion of the harvest is sold to domestic markets. During the time of harvest, one family collects and prepares on average about 70 kg of saleable fruits. This quantity yields an income of about 630 baht (USD 16). The price has been stable over the past years and villagers are generally satisfied with the price. The average price paid by the traders is 8 baht/kg for grade B (white fruits soaked in water). A smaller portion of the harvest has to be sold as grade C (blackish fruits, which can be bleached by the processor). The price could be increased to 11 baht for grade A (white, dry fruits) but villagers find it difficult to reach this grade as the quality aspect is little understood. Sometimes the seeds turn reddish after boiling and it is not clear why this is so. It may be due to premature or late harvest, prolonged or insufficient boiling.

The exported quantity from Sayabouri province is about 800 to 1,000 tons/year with an export value of about USD 275,000.

Improvements/cultivation:

There is certainly need to carry out some research on preparation of the fruits to obtain better quality grades. This should include the determination of the ideal ripeness stage and harvest period, and the boiling procedure. In order to maintain sustainable collection levels the natural habitats need to be protected from fire and encroachment of paddy fields and the consumption of the young shoots should be banned on village level. Although cultivation of mak tao is possible the time lap between planting and harvesting render this unattractive for the villagers.

3.1.2 Product profile: paper mulberry

Description:



Paper mulberry (*Broussonetia papyrifera*) of the mulberry family (Moraceae) is a deciduous, fast-growing tree that grows to a maximum height of about 12 - 15 m if allowed to grow, but in practice it is usually harvested at a much shorter height when the stems are about 2.5 cm in diameter and 3–4 m tall. It regrows readily after cutting. Leaves are ovate, 20 cm long, and are either unlobed or variably deeply lobed. The twigs are hairy reddish brown; the bark is tan and smooth.

Figure 4: A stand of paper mulberry trees

Habitat:

Paper mulberry is native to Laos and other Asian countries. It grows fast in the forests, especially in humid areas. It proliferates by means of its 1.5 - 2.0 cm fruits which are spread by wildlife. Because of increased collection the natural stands are declining. Villagers therefore have started to cultivate Po sa by planting cuttings and young shoots. This is usually done in humid areas, near streams. Once established, paper mulberry then spreads from its root system, forming dense thickets. Paper mulberry can quickly colonize disturbed areas. In many countries, including the US, the species is considered an invasive pest.

Harvesting and processing:



Po sa is coppiced during the dry season and the bark is stripped from the branches and dried. The smallest branches of 2 – 5 cm thickness produce the best quality bark. Once cut these are quickly replenished and can be cut again the following year. The bark is peeled from the cut stems to obtain a single long strip. The outer bark is scraped off using the common bush knife and the inner bark or bast is then washed and dried until collected by the traders. Generally, there are three different grades, from A to C. Grade A is the fine-textured clean and white bark of young, fine and light stems. To produce grade A bark, the stems need to be harvested every six months. Grade B is derived from thicker stems and is not so fine in texture, while grade C is of poorer quality, often mouldy and with traces of the outer bark.

Figure 5: Removing the paper mulberry bark

The first processing steps are time-consuming especially if grade A bark is produced. Villagers therefore mainly produce grade B from the thicker stems, because it is easier and faster to process. One person can produce a maximum of 5 kg of grade B mulberry bark per day.

In Sayabouri province there is probably no further processing and hence value added. Further processing to paper takes place in Thailand and, to a much lesser extent, in Luang Prabang and probably Vientiane. The traditional paper-making process has changed little over the centuries. Batches of 25 kg of the dry bark are first boiled, together with the same quantity of wood ash for about 5 hours in big open cauldrons over a fire to soften the fibre. It is then left to cool and soak overnight before the water is changed and the fibre washed many times. Dyes are added if necessary and the fibre is beaten to a pulp. The pulp is rolled into balls of about 200 g which are then dissolved in a water basin. A wooden frame of 60 x 90 cm size with a fine mesh is then washed in the basins and the fibres are captured on the screen to produce the paper sheets. One woman can produce up to 100 sheets per day. This process can be observed at the handicraft village in Luang Prabang. The bulk of mulberry paper, however, is nowadays produced by industrial and semi-industrial methods.

Uses:

The bast fibre from the inner bark of paper mulberry is used in the manufacture of paper, especially handmade paper, gift papers, cards, umbrellas, lamp shades and many other handicraft articles. Paper mulberry also has numerous other uses, such as traditional medicine (fruits, sap, leaves bark and roots), fodder for livestock and firewood.

Markets and economy:



There is a small but growing market for paper mulberry in Luang Prabang and Vientiane, especially because of the growing tourism industry. Total national consumption, however, is probably not exceeding 100 tons per year. In Luang Prabang, a large processing company is Sainam Khan, which used to export large quantities of processed mulberry paper to Thailand until about five years ago. Processing is done on a semi-industrial level.

Figure 6: Some paper mulberry products

However, nowadays Thailand no longer imports processed paper but prefers to buy the raw material only. The company is therefore concentrating on the local market, which is said to be rapidly expanding. Currently, Sainam Khan processes about 30 tons per year. There are many small handicraft businesses i.e. in the Sangkhong Posa Handicraft Village in Luang Prabang, which also process Po sa traditionally, but rather for demonstration purposes. Most of them get the processed paper from Sainam Khan.

The bulk of the estimated 800 tons paper mulberry raw material from the five northern Sayabouri districts with an export value of about USD 300,000 is exported to Thailand where it is graded and further processed. The best quality grades are re-exported while the other grades are used by the Thai handicraft industry. Beside Thailand, one of the biggest producers of mulberry paper in the world is Japan which buys large quantities of the raw material and also the paper from Thailand.

The collection and preparation of paper mulberry is not very attractive for the villagers. A maximum of 55 baht (USD 1.40) for a day's work can be earned with this activity by one person considering the current farm gate price of 11 baht/kg. The price of 13 baht offered for grade A does not justify the much increased efforts for collection and preparation. Although all grades are produced by the villagers, no grading is done to obtain a better price for the higher grade. According to villagers the price for grade A should be around 20 baht to make it economically interesting. Despite the low prices most villagers prepare Po sa because it is usually easily accessible and can be processed when there are no other activities carried out.

Improvements/cultivation:

Paper mulberry bark is collected from natural stands, plantations and intercropping systems. Collection from natural forests is declining in favour of more management-oriented systems because of resource depletion in the wild. Intercropping production systems are possible and practiced in some cases. However, plantations of pure stands are more common. A limiting factor for mulberry plantations is lack of labour. The yields of paper mulberry bark vary greatly. The preferred spacings are 1.5 x 1.5 m (5 067 kg of dry bark/ha) and 2 x 2m (5 440 kg of dry bark/ha) as they give a fairly high yield, good quality bark and trees that are easy to harvest (7).

3.2 Livestock

Livestock is another important source of income in the programme area. Most families keep livestock, such as chicken, pigs, cattle and buffaloes which are managed extensively. Productivity is poor due to disease, internal parasites and poor nutrition (especially through the dry season). *Haemorrhagic septicaemia* and *Toxocara* cause major losses in cattle and buffalo. Although vaccination usage is increasing, the numbers treated are insufficient to prevent serious annual outbreaks of disease. Outbreaks represent a serious economic loss and there is often no or little surplus of cattle or buffalo that could be sold. Some villages have lost so many animals that it will take years to build up the herds to former numbers. More intensified vaccination campaigns and veterinary services could help reduce the number of fatal diseases and hence contribute to higher village incomes. A total of about 2,200 head of cattle and buffalo have been exported or sold to other provinces in 2004 with a trade volume of USD 550,000. There is certainly scope to extend the livestock sector, especially in upland villages, where potential pasture land is available. Improved pastures, using a mixture of grass and leguminous species, will add to the productivity of this sector. However, with a growing human and cattle population, this model will only be sustainable up to a certain level.

3.3 Agricultural products

The agricultural land is cleared in January-February, burned in March-April and planted with the first rains in May. Without cultivation seeds are dibbled into a small hole in the ground. Farmers plant a mix of traditional upland rice varieties to spread the risk. Weed control is the major labour input. Rice yields are 0.50-2.0 t/ha, depending on the stage of the rotation and the season. The pattern is similar at higher altitudes except that families there tend to keep more free-range cattle.

Especially for villages situated near the roads, agricultural products become increasingly important. Apart from rice, which is produced in all villages and exported in large quantities to other provinces, to Thailand and China, there is a growing demand from Thailand for maize, groundnut and sesame. For the latter however the demand seems to fluctuate according to Thailand's own production. Job's tears are exported mainly to Taiwan, either through Thailand or Luang Prabang. However, the market seems to be saturated at the moment and leaves little room for expansion. Especially for maize, Thai traders distribute (sell) hybrid seeds through the Lao traders and buy off the harvest at the end of the season. Cultivation of these cash crops is a rather new phenomenon in the province and is not accompanied by adequate training and extension services. This results sometimes in frustration for both, producers and traders as expectations concerning yields, prices or quality are not met. As the traders are usually not trained agriculturalists, they leave the cultivation (or rather the experimentation with it) with the farmers who have to bear the risks. When it comes to buying, farmers are sometimes unhappy with the prices obtained, while the traders complain that the quality does not meet the expectations or market requirements.

Quality is a very important issue and frequently the base for debates between villagers and traders. While villagers often complain about low prices, the traders complain that they have to meet the market requirements and get lower prices from their Thai buyers for poor quality delivered. Indeed, villagers soak palm fruits in water to increase weight, harvest old, big branches of paper mulberry instead of young ones to obtain higher and faster yields or add

stones to bags of maize or other grains. All this leads to downgrade the product resulting in lower prices paid by the trader. The moisture content of grains and pulses is one of the key issues that may render the products either unfit for human consumption due to increased bacterial counts, moulds or phytotoxins or, at least, force the trader to re-dry, incurring product weight losses and reduced profits.

According to statistics provided by PAFO for the year 2004, over 14,000 tons of maize, with an export value of USD 1.0 million⁹, 3,200 tons of groundnuts (USD 780,000), 1,040 tons of Job's tears (USD 156,000) and 720 tons of sesame (USD 430,000) were produced in the five northern districts. While significant quantities of maize are produced in all districts, other crops are only available in smaller quantities in Hongsa, Ngeun and Sianghone. 83% of all groundnuts produced in the Province grow in Khop District, while Sayabouri is the district with the highest production of maize, soybean, vegetables and sugar. It also produces large amounts (2,300 tons) of pineapple. Without counting rice, fruits and vegetables, over 20,500 tons of agricultural products with an estimated value of USD 2.6 million were produced in the five programme districts in year 2004/2005. It can be assumed that at least 80 % of the produce is exported. Cross border trade is generally undertaken formally and informally. Formal border trade is conducted through appropriate customs procedures at the border in accordance with rules, regulations, and agreements and customs tariffs are collected. Informal cross border trade bypasses or evades appropriate customs procedures. The IMF estimate informal trade at 20 to 30% of the total trade volume but Thai banks estimate informal trade at up to 50% of the total trade volume (11).

The following tables give an overview of the agricultural production in the target area. As expected, rice accounts for the largest cultivated area and highest production among all agricultural products. Over 90,000 tons of rice are produced in the five districts most of which is consumed locally. Only about 22 % of the total rice production originates from upland cultivation (see table 4).

Table 5: Rice production in the Programme area*

District	Lowland rice		Upland rice		Irrigated rice	
	ha	tons	ha	tons	ha	tons
Sayabouri	3625	12689	4908	9700	2800	11200
Hongsa	2202	8806	1289	2336	2099	11296
Ngeun	554	2247	730	1322	404	1818
Sianghone	2246	10557	1950	3508	1120	5269
Khop	1129	3613	1283	2309	961	4236
Total	9,756	37,912	10,160	19,175	7,384	33,819

Figures for 2002; Source (6)

⁹ Values based on own calculation

Table 6: Some selected agricultural products in the Programme area in 2004/2005*

District Product	Maize		Peanut		Sesame		Job's Tears		Soybean	
	ha	tons	ha	tons	ha	tons	ha	tons	ha	tons
Sayabouri	671	5313	135	270	230	184	200	500	58	116
Hongsa	552	2821	83	101	375	299	0	0	7	4
Ngeun	561	2897	4	6	234	210	105	420	0	0
Sianghone	298	1462	46	171	33	26	21	52	3	5
Khop	296	1956	851	2643	0	0	27	69	0	0
Total	2,378	14,449	1,119	3,191	872	719	353	1,041	68	125
Value (US\$)		1,084,000		780,000		430,000		156,000		40,600

*Dry season and rainy season combined; Source: PAFO statistics and own calculation

The rapid increase in agricultural production becomes obvious when comparing the figures with previous statistical data. The production of maize, for instance, increased by 450 % from 3,200 tons in 2002 (6) to 14,500 tons in 2004.

It can be assumed that agricultural production will continue to increase given the strong demand from Thailand.

3.4 Transport and export costs

Products exported to other Lao provinces are usually transported from Hongsa to Thasuang on the Mekong (26 km), and from there by ship to Luang Prabang or from Thasuang further upstream on the road to Oudomxay (3). Cross border trade between the northern districts of Sayabouri and Thailand is mainly done via Ngeun (Laos) to Nan (Thailand) or via Khop (Laos) to Chiang Kham in the Thai Phayao province.

Transport costs are a decisive factor for marketing village produce. Since the local market is very limited, producers and traders are obliged to find markets in other provinces and abroad. Especially when it comes to international marketing Lao PDR has the disadvantage of being landlocked and hence has no direct access to an international port, making transit through neighbouring countries obligatory.

For the international trade, Laos has different transit routes:

Through Thailand, there are three main transit corridors:

- Thanaleng transit corridor: from Vientiane to Bangkok: 642 km;
- Savannakhet transit corridor: from Savannakhet to Bangkok: 663km;
- Pakse Transit Corridor: from Pakse to Bangkok: 747 km.

Through Vietnam, there are two main transit corridors:

- Road No. 8 from Paksane (Laos) to Cua Lo Port, Vinh (Vietnam): 257 km
- Road No. 9 from Savannakhet (Laos) to Danang port (Vietnam): 944km (10).

So far, Vietnam is not a market outlet for products from Sayabouri province.

Among the five official crossing points for transit trade between Lao PDR and Thailand, the crossing point Thanaleng near Vientiane and Nong Khai in Northeast Thailand is the most important. In the absence of appropriate processors and handlers in Sayabouri, who are

equipped for, and experienced in, international trade, products that are exported to other countries will have to be transported through the Thanaleng/Nong Khai border point. Nongkhai is the most important province in Thai-Lao border-trade and is the largest exporter to Lao PDR. Thailand is considered the most convenient transit corridor even though inland freight is very expensive. Until recently, Lao trucks were not allowed to enter into Thai territory and only five transport operators of Thailand were authorized to perform transit transport between Laos and Thailand. Only in 2004, goods transport operation has been opened free for all transport operators of both two sides (11). According to a trader in Sayabouri, there are no Lao transport companies that serve Bangkok port directly. All goods are transhipped in Nong Khai to Thai trucking companies. At present, there is a couple of international freight forwarder, such as Geodis and Schenker but they are managed from Bangkok. Lao trucking companies only arrange for the movement of cargo to and from Nongkhai.

Export costs from Vientiane to Bangkok are calculated in table 6 for a 20' container that could carry, for instance, about 12 – 14 tons of soybean or rice. The export costs are the basis for calculating FOB¹⁰ costs that are usually quoted to overseas buyers.

Table 7: Export cost for a 20' container from Vientiane to Bangkok Port by road

Transport leg	Distance (km)	Cost
Vientiane – Thanaleng	15	-
Thanaleng – Nongkhai	5	USD 116
Border formalities	-	USD 35
Transload in Nongkhai	-	USD 50
Transit charge	-	USD 20
Customs :	-	
- Laos Side	-	USD 13
- Thai Side	-	USD 13
Nongkhai – Bangkok port	650	USD 306
Bangkok Port	-	
1. Container stevedorage	-	USD 21
2. Container wharfage	-	USD 22
3. Lift on/off charges	-	USD 17
4. THC ¹¹	-	USD 68
5. B/L ¹² Charges	-	USD 13
Thai Customs	-	USD 6
TOTAL FOB	670	USD 700

Source: (11)

Unofficial payments can increase the regular export costs. Traders report that 'Tea money' must also be paid at Bangkok port for port and Thai customs related services. Non-payment would result in possible disappearance or non-loading of cargo on feeder vessel (11).

Local transport costs depend on the accessibility of the villages and the general road conditions. A trader in Khop calculates local transport cost of 100 kip/kg within the district for agricultural products or NTFP (except for paper mulberry, which has a lower weight than

¹⁰ Free On Board

¹¹ Terminal Handling Charge

¹² Bill of Lading

other products). That includes collecting the goods from the villagers to the godown for bulking-up, and transport to the border post. Local road transport is usually done by means of 4-5 ton trucks. The transport leg from Hongsa to Ngeun border post was stated by local traders with 100 kip/kg. Transport costs from Hongsa to Luang Prabang amount to 240 kip/kg (3), while the leg from Luang Prabang to the Thanaleng/Nong Khai border post costs another 250 kip/kg according to Sainam Khan company in Luang Prabang. The owner of the company stated the transport cost for a 40' container carrying 27 tons of soybeans from Nong Khai to Bangkok port to be 40,000 baht, or 20,000 baht for a 20' container (13 tons). This would come to a total of 3.40 baht/kg. An alternative route from Luang Prabang on the Mekong to Huaixai (Bokeo) via Chiang Khong (Thailand) and Chiang Rai to Bangkok would amount to 3 baht/kg.

The sea freight for a 40' container from Bangkok to a major European port is currently US\$ 3,500; while a 20' container costs US\$ 1,800. Transit time is between 26 and 30 days. Freight to Japan (Osaka) is US\$ 1,200 or US\$ 700 respectively and transit time 8 – 10 days (13). The estimated transport and CAF¹³ costs for a 20' container carrying 13 tons of soybeans from northern Sayabouri to Bangkok port are given in table 7 below.

Table 8: Example of transport and export costs for a 20' fcl¹⁴ soybeans (ca. 13 tons)

Transport lag	Cost US\$
Hong Sa – Luang Prabang	287
Luang Prabang – Vientiane/Thanaleng	299
Thanaleng – Nong Khai	116
Nongkhai – Bangkok port	306
Border formalities and port charges (see table 3)	278
Sea freight to Europe	1,800
Total	3,086
Cost per kg CAF European port	0.24

The export costs for soybeans of US\$ 0.24/kg are equal to the current world market price for this commodity and show the disadvantage of the landlocked situation of Lao PDR and the remoteness of northern Sayabouri in particular.

Transport and export costs to Japan would amount to US\$ 0.15/kg CAF Osaka rendering this market more feasible.

3.5 Stakeholders, Trade structure and Value Chain

A state owned Agro-Industrial Development Company is engaged in the marketing of agricultural produce, specifically paddy, from the farmers. The buying price is determined by the Government, inputs are supplied to a limited number of farmers for paddy production, the cost of which is recovered at the time of harvest. This scheme is applicable exclusively to irrigated areas where the yields are comparatively high and the water supply assured. The state company is not active in the upland villages that depend on local traders for the marketing of agricultural produce, livestock and NTFP. No large private enterprises have entered into agro-marketing activities. The future development of local Chambers of

¹³ Cost And Freight

¹⁴ Full Container Load

Commerce would be one way to promote private sector participation in agro-marketing, with Government liberalising the economy fully in the near future.

Villagers market their products individually. Farm gate prices for most products, including NTFPs are quite low. Most produce is sold to traders who come to the farm. In many cases the trader has earlier supplied inputs or cash to the family or the village middle man in order to secure his supplies. However, if other traders who come by offer better prices the villagers may sell their produce to those. This is often reason for conflicts between villagers and traders. Traders come and buy directly in the villages or they use village middlemen, whom they give advances to collect from their fellow people. The middleman usually purchases the products the same day the trader comes with the truck, which is loaded immediately. Village middlemen usually don't like to bulk up products, as they fear weight and other losses, if the goods are stored for several days or even weeks. The risks are considered too high. In the present system, the risks are spread among all individuals. Prices are negotiated between the middlemen or the trader and the villager on an individual basis, depending on product quality. However, usually average prices are paid.

Village incomes from sales of NTFP, livestock and agricultural products are rather low, especially for upland villages. Examples of village incomes are given in table 8.

Table 9: Incomes from sales of products for some selected villages in 2004

Village: Ban Donsavang, Ngeun district; 60 HH, Population : 431			
Product	Quantity sold (tons)	Selling price (kip/kg)	Income (kip)
Paper mulberry	4.7	3,000	14,100,000
Palm fruit	15.0	2,300	34,500,000
Bong bark	0.4	1,000	4,000,000
Broom grass	1.5	2,500	3,750,000
Peuak meuak	0.3	3,000	900,000
Rattan shoots	8.0	2,000	16,000,000
Total NTFP (kip)	29.9		73,250,000
<u>Total NTFP (US\$)</u>			<u>6,751</u>
Maize	30.0	560	16,800,000
Job's tears	10.0	1,500	15,000,000
Sesame	5.0	4,500	22,500,000
Total agric. Products (kip)			54,300,000
<u>Total agric. Products (US\$)</u>			<u>5,005</u>
Cattle	0		0
Buffalo	0		0
Total livestock (kip)*			0
<u>Total livestock (US\$)</u>			<u>0</u>
Total Village income (US\$)			11,756
Distribution of income		NTFP	57 %
		Agriculture	43 %
		Livestock	0 %

*not enough livestock for sale

Village: Ban Namai, Sienghone district; 54 HH, Population : 394			
Product	Quantity sold (tons)	Selling price (kip/kg)	Income (kip)
Palm fruit	20.0	2,050	41,000,000
Paper mulberry	3.0	2,600	7,800,000
Bong bark	22.0	1,000	22,000,000
Broom grass	5.0	2,500	12,500,000
Sa khan	1.0	1,000	1,000,000
Mae san (bamboo worm)	0.5	23,000	115,000,000
Total NTFP (kip)	51.5		199,300,000
Total NTFP (US\$)			18,368
Maize	2.0	560	1,120,000
Ginger	4.0	5,600	22,400,000
Rice	2.0	1,000	2,000,000
Total agric. Products (kip)			25,520,000
Total agric. Products (US\$)			2,352
Cattle	20	Ø/head 1,800,000	36,000,000
Buffalo	3	Ø/head 2,600,000	7,800,000
Total livestock (kip)			43,800,000
Total livestock (US\$)			4,036
Total Village income (US\$)			24,756
Distribution of income		NTFP	74 %
		Agriculture	10 %
		Livestock	16 %

Village: Ban Hatngam, Khop district; 133 HH, Population : 999			
Product	Quantity sold (tons)	Selling price (kip/kg)	Income (kip)
Palm fruit	9.0	2,050	18,450,000
Paper mulberry	5.5	2,600	14,300,000
Bong bark	3.5	1,000	3,500,000
Broom grass	9.0	2,500	22,500,000
Sa khan	1.0	1,000	1,000,000
Mae san (bamboo worm)	2.5	25,000	62,500,000
Total NTFP (kip)	30.5		122,250,000
Total NTFP (US\$)			11,267
Sesame	2.0	5,600	11,200,000
Rice	15.0	1,150	17,250,000
Total agric. Products (kip)	17.0		28,450,000
Total agric. Products (US\$)			2,622
Cattle	30 in total*	Ø/head 1,800,000	
Buffalo		Ø/head 2,600,000	
Total livestock (kip)			61,440,000
Total livestock (US\$)			5,662
Total Village income (US\$)			19,551
Distribution of income		NTFP	58 %
		Agriculture	13 %
		Livestock	29 %

* Usually, number sold is higher, but due to diseases, 34 head have died

Village: Ban Namone, Sayabouri district; 296 HH, Population : 1,569 (very old village)			
Product	Quantity sold (tons)	Selling price (kip/kg)	Income (kip)
Palm fruit	24	2,300	55,200,000
Paper mulberry	5	3,000	15,000,000
Broom grass	1.5	2,000	3,000,000
Kisii	1	2,000	2,000,000
Yahua (?)	0.3	1,000	300,000
Total NTFP (kip)			75,300,000
<u>Total NTFP (US\$)</u>			<u>6,940</u>
Rice	15	1,000	15,000,000
Maize	20	500	10,000,000
Job's tears	10	1,200	12,000,000
Sesame	5	6,000	30,000,000
Total agric. Products (kip)			67,000,000
<u>Total agric. Products (US\$)</u>			<u>6,175</u>
Cattle	22	2,500,000	
Buffalo			
Total livestock (kip)*			55,000,000
<u>Total livestock (US\$)</u>			<u>5,069</u>
Total Village income (US\$)			18,184
Distribution of income		NTFP	38 %
		Agriculture	34 %
		Livestock	28 %

There is no form of communal marketing and villagers interviewed did not believe that this could work. Communal marketing would necessitate a high degree of organisational skills, storage capacity and capital. None of these factors can be found at village level. In general, villagers said that they are satisfied with the present system, especially for products with stable prices, such as palm fruit and paper mulberry. Problems arise when prices fluctuate, creating an insecure situation. Villagers are usually more or less well informed about current market prices as several traders buy from them, offering only slightly different prices. Also contacts to relatives in other areas and radio broadcasts from Thailand contribute to knowledge about market prices.

Apart from registered traders who are taxed and who try to keep good relations with the villages, also non-registered, “part-time” or “opportunistic” (3) traders frequent the villages if they see a market opportunity. Since they don’t invest and escape tax paying, they can offer higher prices, somewhat upsetting the more established system. On the other hand, these traders create a competition that also benefits the farmers.

The traders/exporters in the northern districts of Sayabouri Province are usually small enterprises, registered at District level as individual businesses in the name of the owner or, as in Sianghone and Khop, also as trader groups. Very few traders have a formal registration as a company, which has to be done at provincial level. Registered traders have been brought under the umbrella of Business Associations under the District Offices of Trade. The Business Associations have been placed directly under the Deputy District Governors - Social and Economic Development. However, these associations seem to be rather a formality to satisfy the requirements of the Provincial Department of Trade. Exporting agricultural products, livestock or NTFPs by the local traders is often complemented by other activities, such as retailing at local level. Most exporters hand over the goods to Thai importers, who usually act

as middlemen for other trading or processing companies in Thailand. Only very few Lao traders deliver directly to processing companies in Thailand. A simplified model of the current supply chain set-up is given in figure 7.

Over 80% of all goods traded in the five Districts are exported to Thailand, while the balance goes to Luang Prabang or Oudomxai, especially, when Thai traders offer low prices. The local market in the Province is very restricted and offers market opportunities only to those producers in the vicinity of the District Headquarters. China is becoming an interesting market as well. Chinese traders usually offer much higher prices than the Thai market. Maize, for instance, is exported to Thailand for 3 Baht/kg while at the Chinese border it fetches 5 Baht. However, additional transport costs eat up the benefits and for most traders from Sayabouri Province exporting to China is only an option under certain circumstances.

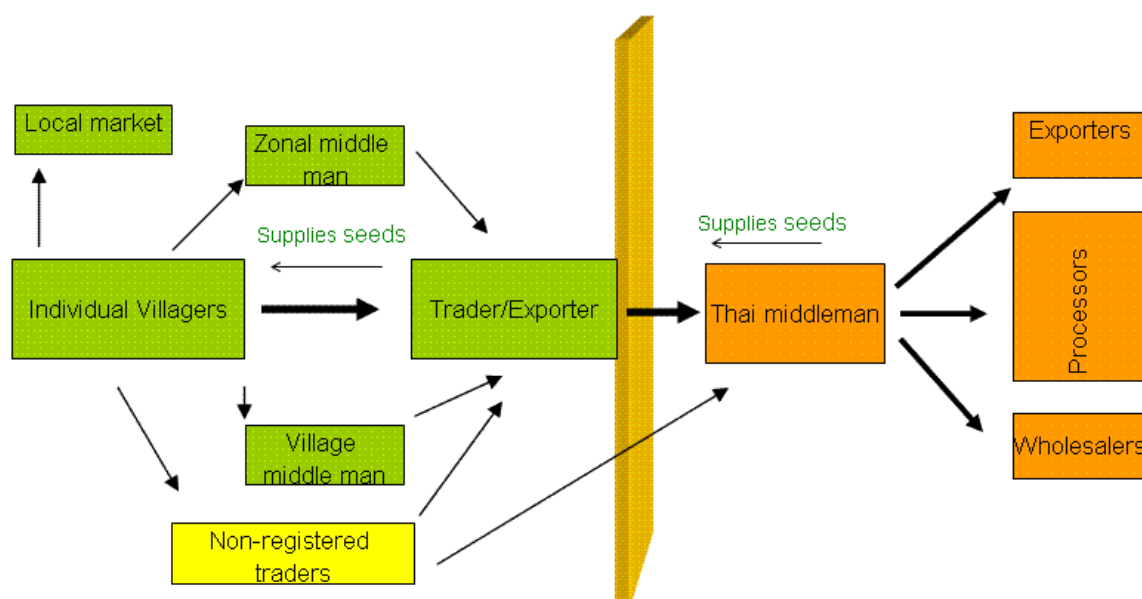


Figure 7: Current supply chain for NTFP and agric. Products in northern Sayabouri

There is a general perception that traders would exploit the villagers by dictating low prices and making high profits. In reality, the margins for the traders are rather small, especially because of the fact that no value is added to the product within Lao PDR. Typically, the export price for a commodity is between 25 and 50 % higher than the purchasing price at village level. This may look relatively high at first sight but considering transport costs, taxes, and, in some cases, weight loss the margin for the local trader is usually not above 10% over the purchasing price. Figure 8 shows an example of the cost structure for palm fruit from the village to the Thai factory. In this example, the Thai factory buys the palm fruit at 15 baht/kg at factory gate. The villagers receive 54 % (equiv. to 8 baht/kg paid by the trader) of the factory price while the village middle man (if there is one), who acts on behalf of the trader, gets 5 %. The local trader, who sells at 12 baht/kg, receives 8 % (equiv. to 1.20 baht/kg), provided he pays all taxes. The Thai importer receives 15 % (equiv. to 2.25 baht/kg) if he sells directly to the factory. Usually, however there are other middle men involved with whom he has to share. The transport cost is calculated in this example at 5 % of the factory price.

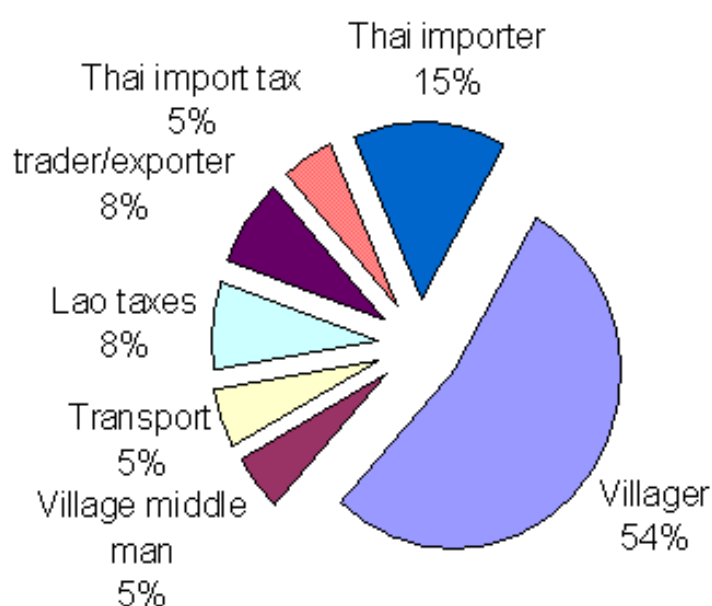


Figure 8: Cost structure and share of factory price for palm fruit (mak tao)

Source: own calculation

Considering the low raw material prices, the figure above shows that a trader can only make enough money by selling large quantities as the margin per kg is low. This is also a reason why it is usually not attractive for villagers to engage in other marketing forms than selling to the local trader who comes with his own transport to the village. Despite the fact that the local traders can be considered small operators, their turnover can be quite impressive by local standard. Table 9 below shows the sales of NTFPs and agricultural products of three traders¹⁵ from Ngeun and Sayabouri Districts who have made turnovers of between US\$ 234,000 and US\$ 445,000 in 2004.

Table 10: Sales and turnovers (2004) of three selected traders in northern Sayabouri

Trader 1			
Product	Export quantity (tons)	Selling price (baht/ton)	Turnover (baht)
Paper mulberry	85	13,000	1,105,000
Palm fruit	170	11,000	1,870,000
Bong bark	20	6,800	136,000
Broom grass	10	15,000	150,000
Maize	60	2,500	150,000
Sesame	15	24,500	367,500
Ginger	200	23,000	4,600,000
Buffalo	50 head	13,000/head	650,000
Cattle	50 head	7,000/head	350,000
Total (baht)			9,378,500
Total (US\$)			234,400

¹⁵ Names are not given for obvious reasons

Trader 2			
Product	Export quantity (tons)	Selling price (baht/ton)	Turnover (baht)
Paper mulberry	35	18,000	630,000
Palm fruit	53	11,000	583,000
Maize	1,500	2,500	3,750,000
Ginger	200	23,000	4,600,000
Buffalo	500 head	13,000/head	6,500,000
Cattle	250 head	7,000/head	1,750,000
Total (baht)			17,813,000
Total (US\$)			445,325

Trader 3			
Product	Export quantity (tons)	Selling price (baht/ton)	Turnover (baht)
Paper mulberry	150	14,800	2,220,000
Palm fruit	250	11,000	2,750,000
Kisii	100	11,500	1,150,000
Broom grass	100	11,500	1,150,000
Maize	300	3,000	900,000
Sesame	170	30,000	5,100,000
Job's tears	200	5,600	1,120,000
Total (baht)			14,390,000
Total (US\$)			359,750

Figures for quantities and prices provided by the traders. The ginger price in 2004 of 23 baht/kg was exceptionally high.

Each of the five districts has its own, specific market opportunities, even though Thailand is the overwhelming market for all districts. The districts of Sayabouri and Hongsa have no border checkpoints and export their goods via Kenthao in south Sayabouri and Ngeun, respectively. Ngeun and Khop have both their own border checkpoints while Sianghone is experiencing a border conflict with the neighbouring Thai District of Song Kwae. Since very recently, the Thai authorities have banned any import from Sianghone in excess of 50,000 Baht. This comes at a time where traders started to export the current maize harvest and other products. Sianghone has no official border post and this is the reason given by the Thai authorities although exports through this border have never been a problem before. The real reason might be a conflict between Thai traders and other interest groups. The Lao traders, who are currently stranded with their products, consider exporting to China instead but are hesitating as their Thai counterparts had supplied the seeds, at least for maize, and are waiting for the harvest. The Sianghone District authorities try to negotiate with their counterparts but seem to be rather helpless with this situation.

At each border post a different group of Thai traders seems to dominate the import of the goods from the respective Lao District and, according to local traders, it is not possible to bypass these groups. This was also confirmed by the District authorities. However, this might be due to the fact that the local traders have no contact to other traders or importing companies. At least one trader in Hongsa and one in Sayabouri have direct contacts with a processing company for palm fruits in Thailand. Most traders indicated that they are not able to satisfy the demand of the market for NTFPs, livestock and agricultural products, such as maize, rice and groundnuts. While insufficient supply was given as the main reason, other reasons are lack of capital, storage capacity and other activities carried out by the traders. None of the traders in Sayabouri Province seems to export to other countries than Thailand, and, to a much

lesser degree, China. They all lack capital, storage and packing facilities and also information about overseas markets.

3.6 Processing and value added

Lao PDR is a supplier of agricultural raw materials and NTFPs to her neighbors. This holds true for Sayabouri province. There is virtually no established processing industry in the province; processing at village level is naturally limited to basic operations such as simple sun drying, boiling palm fruits or drying paper mulberry bark. 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. Also at the traders' level, the situation is similar. Very simple storage facilities is all what is available. There are 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 is a barrier to their development. There is a general lack of skills, experience, market knowledge and, especially, funds. Examples where companies tried to add value to the products for the Thai market (semi-processing of palm fruit in Bokeo, processing of paper mulberry in Luang Prabang) have failed, because the Thai market did not accept the concept. Import duties for processed products on the Thai side aggravated the situation. In case of paper mulberry, processors in Luang Prabang used to export large quantities of paper pulp and sheets but the Thai buyers invested in their own processing plants and since then import only the raw material. However, there is some potential to improve product quality and increase village incomes. 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. This has to be done in collaboration with the traders as they have market access and more information about market requirements. Beside the local traders, collaboration with established companies that process and/or export agricultural products will be necessary to offer better opportunities to the villagers of the northern Sayabouri districts. Under the present conditions, investing into processed products does not seem to be promising. There is much more potential to improve the supply base and concentrate on sustainability and quality issues.

4 DEVELOPMENT OF A SUSTAINABLE SUPPLY CHAIN MANAGEMENT

One of the preconditions to go into value-added export agriculture is to organise producers and traders in order to overcome the current weak trading structure and to improve services provided to the farmers so that they can produce according to market requirements. Besides the setting-up of an organisational structure that brings together villagers and traders, standards have to be developed and followed that deal with environmental aspects of collection and cultivation of NTFP and agricultural products as well as with product quality. These have to be in line with international standards. Regardless of the market envisaged, a sustainable supply chain management should be developed. Sustainability should not only

focus on the natural resources but also on the economic sustainability that offers the villagers long-term perspectives. A simplified model of this is given below:

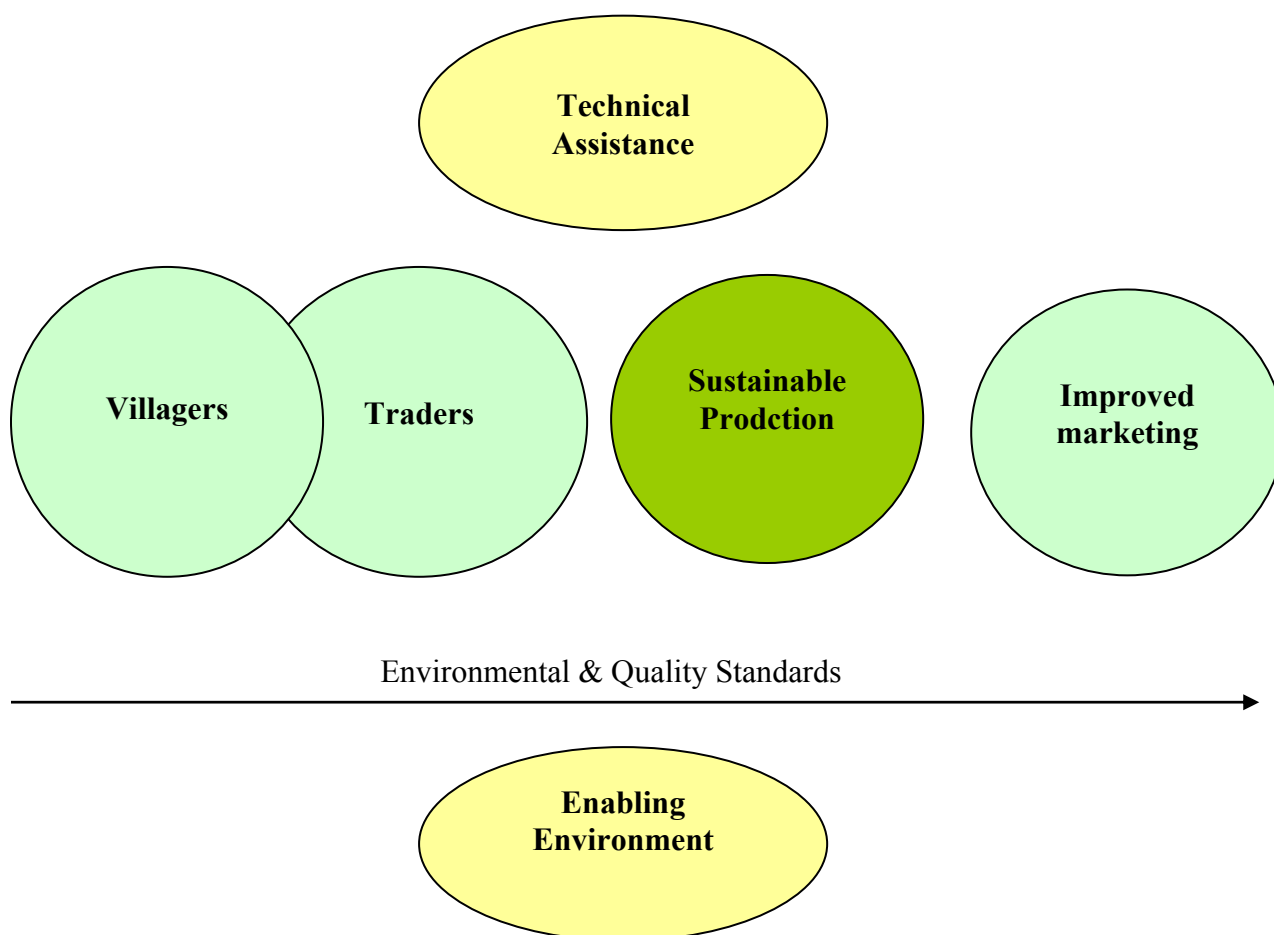


Figure 9: Model of a sustainable supply chain for RLIP - RDMA, Sayabouri

Under this model, villagers and traders join forces with the view to collect, grow and market NTFP and agricultural products in a responsible manner and in a quality demanded by the market. In order to achieve this, standards, that are understandable for the villagers, on how to collect, grow and store the products have to be developed together with producers and traders. Simple product specifications, regarding variety, grade, colour, cleanliness, moisture content etc. need to be set by the traders and communicated to the producers. While the RLIP – RDMA Programme gives the technical assistance to develop and apply standards and specifications, the Provincial Trade Department, through the District Trade Offices, improve the enabling environment by cutting export taxes and liberalise, or better, simplify, cross-District and Province trade. As a result of these consorted efforts the marketing of quality products will strengthen the relationships with the buyers across the borders and, hopefully, will lead to better producer prices. To realise this theoretical model, the consultant proposes the creation of District-based Producers' & Traders' Associations, registered under the District Trade offices. The concept of the associations is described below.

4.1 Creation of District Producers' & Traders' Associations

4.1.1 Description

Considering that villagers in Lao PDR usually are not able to directly access markets other than local retail markets because of lack of a market oriented organisational structure, capital, means of communication, transport, and marketing skills, they need to join forces with traders who usually are better prepared to market the products. Instead of trying to invent a complete new marketing structure, the current marketing set-up should be improved and better organised. The proposal is based on the assumption that the major market for most products from Sayabouri Province will remain Thailand, while some products may be sold to processors and exporters within Lao PDR.

The proposed association is meant to streamline marketing activities in Sayabouri Province by the sustainable use of natural resources and improved organisation of stakeholders involved. A Producers' & Traders' Association will be composed of individual villagers or, preferably, villagers' groups as producer groups and traders/exporters as their marketing arms. Traders may be individuals or small groups of traders. Both parties will enter into contractual arrangements with the view to better plan the collection of NTFPs and the production of agricultural crops in quantities and qualities demanded by the market.

The associations will be registered with the respective District Trade Office, where the association is based. A meeting room could be provided by the Trade Office or by DAFEO, when needed.

Depending on the types of the products, several associations may be formed in the same villages, with different (specialised) traders, e.g. one trader may deal with marketing of NTFPs and/or agricultural products while another is involved in marketing livestock.

Obligations for the traders will focus on commitment for purchases and price agreements with producers, while obligations for producers concern sustainable collection and cultivation as well as quality standards.

Villages engaged in an association will receive intensified assistance from the programme, especially in terms of training, improved infrastructure and inputs (planting material).

Traders will benefit from better organised and trained producers and should be exempted from certain taxes in order to facilitate inter-provincial and international trade. The benefits from these tax exemptions should go to the villagers in kind of better prices.

The combined efforts of villagers and traders, assisted by DAFEO staff and the RLIP-RDMA Programme, will eventually lead to a more sustainable use of natural resources by protecting threatened species, cultivating certain NTFPs and growing agricultural crops according to appropriate land use methods i.e. by reducing soil erosion and depletion of soil fertility. The overall effect will be an increased village income while maintaining productive land resources.

4.1.2 Overall Aim

To develop a sustainable, quality oriented supply chain with improved market prospects.

4.1.3 Specific Goals

To use natural resources, especially NTFPs, in a sustainable manner in order to allow continuous income for the rural population;

To improve product quality of NTFPs and agricultural products on village level in order to increase income through better prices;

To improve information flow between villagers and traders concerning market trends, prices and potential new market opportunities;

4.1.4 Activities

Select some pilot villages in each of the five Sayabouri Districts that are interested in joining the association after having been informed about the goals and procedures;

Collect precise information regarding current production, collection and incomes in the pilot villages for future monitoring and evaluation;

Determine, together with the villages concerned, needs for training and (planting) material;

Contact all registered traders in the Districts (through the Trade Offices) and inform them about the possibility to create a Producers' & Traders' Association;

Facilitate the development of contract production for agricultural products, such as sesame and soybeans between the producers' and traders' associations and potential buyers (e.g. NPI, Bokeo or Sainam Khan in Luang Prabang).

Identify villages where certified organic production of rice, sesame and soybeans could be started (see also next chapter);

Train DAFEO staff in sustainable production/collection methods, quality control and marketing aspects;

Carry out research work on collection and processing of palm fruits (mak tao) with regard to optimum harvest time determination, boiling and grading;

Carry out research work on improvement of paper mulberry (Po sa) processing, especially concerning use of improved tools (compare with cinnamon production in Sri Lanka – curved knives);

In order to improve supply base and to reduce pressure on natural resources, promote the cultivation of NTFPs with good market prospects, such as paper mulberry and Bong bark.

Develop training material for sustainable collection and quality-oriented processing; especially for palm fruits and paper mulberry. Use video material where possible and laminated demonstration charts with photographs;

Organise bi-lateral trade meetings between District Offices and trader with their Thai counterparts with the view to facilitate and increase exports from Sayabouri Province.

4.2 Market opportunities

As has been pointed out earlier, the local market in Lao PDR in general and in Sayabouri Province specifically, is limited due to the small population and low buying power. Some scope exists for the substitution of imported goods from Thailand, such as fruits and vegetables. However, this is only an option for producers in the vicinity of District markets as transport of perishable goods is difficult and expensive given the poor road system.

Good local and export market opportunities exist certainly for cattle and buffalo. The meat market is always undersupplied and traders don't have problems to find buyers for the animals. Prices are attractive to the producers and have been rising over the last few years due to an ever increasing demand. Large available pasture land in the uplands allows developing the livestock sector, although the growth should go hand-in-hand with an improved animal husbandry system to reduce conflicts between growers and animal keepers. The integration of animals in the agricultural system (by utilizing the animal manure) will play a crucial role in a sustainable land use system. The importance of the animals as a social security with savings function for the rural population cannot be overstressed. With regard to marketing, the animals have the advantage that they can be sold at any time of the year if need arises and they can be walked over long distances without depending too much on the road system. This makes the livestock sector particularly interesting for remote upland villages. Preconditions to develop this sector are improved vaccination campaigns and the availability of village funds to build up the herds.

Although the market opportunities for NTFPs are good, at least as far as the demand is concerned, there is little option to increase the production above the current levels. Natural resources are declining because of destruction of NTFP habitats and unsustainable collection methods. Collection of the forest products is time consuming, laborious and mainly an activity of the poorest families in the village. If villagers have alternative incomes from agriculture or other they prefer to concentrate on these rather than collecting forest products. However, because the poorest households depend most on NTFPs, this sector needs to be developed further by training villagers in sustainable collection methods and quality standards and by promoting the cultivation of paper mulberry, bong trees and other promising species. The introduction of sustainable uses of NTFP resources will at least contribute to maintain the current collection level.

The provincial government plans to plant 50,000 ha of rubber trees in the five northern districts over the next five years. While this appears to be an ambitious plan, on the district level the DAFEOS are busy to implement the plan imposed on them. Khop District, for instance, has already raised 80,000 seedlings of rubber trees, which are going to be planted out next year (although nobody seems to know where). Based on the assumption that the Chinese economy continues to grow, a recent study on the rubber sector in Luang Namtha (14) sees good long-term market prospects for natural rubber. However, it certainly is difficult

to predict the market situation for a commodity that comes only into production in nine to ten years from now. The situation in Sayabouri is also not comparable to Luang Namtha, where the plantations were developed with direct Chinese involvement and in proximity to the market. There is an option that rubber can also be sold to Thailand to substitute the local production there but no arrangement have been made with potential Thai buyers.

Naturally, rubber is a NTFP in its original habitat, the Amazon basin, and it could be used as a NTFP to add value to the upland forests of northern Sayabouri, provided it was integrated as an additional forest species. However, this vision appears to be too optimistic and the provincial authorities would rather like to see large plantations than an integrated system. The development of rubber plantations in northern Sayabouri is only possible by removing the existing (fallow) forest cover and thus reducing the wealth of a naturally grown forest with all the different products sustaining the lives of thousands of poor upland families to a mono-product plantation depending on a single foreign market with all the risks associated with it. There is also the risk that agricultural inputs, especially herbicides that usually go along with such industrial plantations, become widespread in the region and will be used on other crops as well, causing risks not only for the watersheds but also for the development of market products that are based on a concept of sustainability and ecology. However, since the introduction of this new tree crop in the province cannot be prevented, it should be done at least in an integrative and sustainable manner minimizing the risks for the village populations. If the introduction of rubber is done in this way i.e. by mixing with other species (e.g. in contour lines) or by developing small group plantations, rubber could become an interesting market crop adding to the diversity of the upland products. Again, training is vital, not only during the planting period but also during the live span of the plantations.

On a short and medium term, agricultural crops probably have the best potential to better integrate the rural populations into the market economy and to increase village income. The choice of crops and the target markets depend on several factors:

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

The mountains and river valleys of northern Sayabouri offer a wide variety of agro-climatic zones but the slopy topography does not allow cultivating other than perennial crops. Intensive cultivation, therefore, is only possible on the hill plateaus and in the valley bottoms. The remoter a village, the more difficult it becomes to compete with producers nearer to the market or with better road access. Remote villages, therefore, should concentrate on non-perishable products with higher value.

The cultivation of maize has seen a vast increase, especially in southern Sayabouri, but also in the northern districts maize is becoming popular as the demand from Thailand is very strong. Maize is relatively easy to grow, store and transport and villagers are ready to cultivate it. The low farm gate price of 500 kip (non-decorticated to 700 kip/kg (decorticated) is compensated for by the high yield of 2,000 to 3,000 (up to 5,000) kg per hectare. However, maize is certainly not the ideal crop for the upland region. The crop can potentially deplete soil fertility and increase the soil erosion risk. In order to make maximum use of the high yielding potential of the hybrid varieties, the seeds are often distributed together with mineral fertilizer

and herbicides. These inputs not only render the farmers dependent on their suppliers, but also bear the risk that chemical inputs become more and more widespread in the uplands with all the negative effects on surface and underground water and soil erodability. Also, the concept of marketing ecologically grown products from the region would be put at risk. The low market price of maize makes this crop unattractive for remote villages because of relative high transport costs. Only lowland villages close to the Thai border will benefit from this crop.

Other crops with good market potential are soybean and sesame, both well adapted to upland conditions. These crops, together with Job's tears, also have a market potential outside Thailand. That there are alternative markets shows the example of the company Sainam Khan in Luang Prabang, which exports 1,500 tons of Job's tears directly to Taiwan. The Taiwanese buyer has given a loan of over USD 400,000 for the installation of an industrial drier with a capacity of 120 tons/day. The company has also started to export (chemical-free) soybeans to Japan with 210 tons exported in 2004. The price obtained is over 30 % above current world market level. According to the owner of the company, Mr. Boupheet Sayavong, even with his huge drying and packing unit, he could not satisfy the Japanese demand. He has been experimenting with different soybean varieties and buys now hybrid seeds and inoculants from Thailand, which he distributes to farmers in Luang Prabang. The Japanese buyer has rejected the local soybean varieties but accepts the Thai varieties "CM 60", "MK 35" and "GH 6" because of higher protein and oil content. In order to avoid problems with mould and, consequently, phytotoxins, such as aflatoxin, varieties with a long growing cycle should be preferred which allow harvesting the beans after the end of the rainy season. "MK 35" has a 115 day growing cycle while the others are short-cycle varieties of 92 to 95 days. This variety therefore seems to be the most promising. When sowing for the first time, the seeds need to be "inoculated" with a specific bacterium (rhizobium) that allows the fixation of nitrogen in the root nodules and hence increase yields. A positive effect of soybean cultivation is that, through the nitrogen fixation, the soil fertility is maintained, rendering this crop (as well as other beans and groundnuts) very important in crop rotations. Through the nitrogen fixation, soybean also helps to increase yields of upland rice, if planted in a rotational system. However, the relatively low yield combined with a low price make soybean economically less attractive for farmers.

Sesame is grown as a minor crop in the province but has a good potential not only because of a strong demand but also because of the relatively high value (5,000 kip/kg at farm gate) reducing the importance of transport costs. This makes sesame an interesting crop also for remote villages that still depend on opium production. Table 10 provides a comparison of revenues for various crops. This table shows that sesame has the highest revenue per hectare and is only second to opium production (although far from it).

Table 11: Revenues for some selected agricultural crops

Crop	Yield (kg/ha)	Farm gate price (kip/kg)	Revenue/ha (kip)	Revenue/ha (US\$)
Upland rice	1,500	1,000	1,500,000	138
Maize	3,000	700	2,100,000	193
Soybean	800	2,500	2,000,000	184
Sesame	700	5,000	3,500,000	322
Opium *	8	1,160,000	9,280,000	855

* Calculation of opium yields and prices after (15)

The company Sainam Khan in Luang Prabang is generally interested in buying soybeans from Sayabouri but the owner doubts that it will be economically viable to transport the beans from other than Sayabouri District, because of the transport costs. The company had already made efforts to distribute seeds in Sayabouri but because DAFEO staff wanted to help remote villages, which were too difficult to access, this effort was given up. Sainam Khan is also interested in buying sesame seeds.

Another marketing option is the company Natural Products International, Inc. (NPI)¹⁶ in Bokeo Province, which has been promoting the growing of soybeans in Laos for eight years. The company has a processing plant that produces feed for animals (poultry, pigs, dairy cattle and fish) for the local market in Laos. Recently, the company has won a contract to produce Corn/Soy Blend (CSB) for the World Food Programme's school feeding project in Northern Laos. According to the General Manager, Tom Love, the need for soybeans and other grains is growing rapidly. The company is interested in the possibility of purchasing soybeans, sesame and other grains from Sayabouri if transport cost and prices allow. Their business model has been to introduce soybeans to a new area and, when there is enough production, to establish a buying station which includes a grain storage facility. The model involves teaching farmers how to grow, selling them seeds, buying their harvest, processing the soybeans into value-added products, and selling the finished products in local markets. Currently there are over 600 families growing soybeans under contract for NPI. The soybean mill is located in Huayxai, Bokeo Province.

Laos may be one of the poorest countries in Asia in terms of national per capita income, but it is one of the richest in terms of diversity. This is an opportunity for marketing also specialty products such as different rice varieties. Laos is home to an astonishing diversity of traditional rice varieties, reflecting the country's proximity to the crop's prehistoric centre of origin. According to the International Rice Research Institute (IRRI) Lao farmers apply 3,169 distinct rice variety names. This record confirms Laos as a primary centre of rice biodiversity. Combining glutinous and aromatic characters are the so-called "boutique" rice, which include many traditional Lao varieties and others grown and consumed in Thailand and Cambodia. "Boutique" rices are considered to have the greatest potential for export markets (16).

4.3 Potentials for Certified Organic Products

While the potential to add value to village products in Sayabouri Province is limited, the export of quality-improved raw materials, both to neighbouring, as well as to overseas countries, offers opportunities, where the province has some advantages. These are, in short, the availability of fertile land and low labour costs. As the current exports of rice, maize, sesame and soybeans show, these products can be produced and exported at, or around, world market prices, which are mainly influenced by the large American producers, despite relatively high transport costs in Lao PDR. However, the producer prices are quite low and do not encourage farmers to improve product quality.

As the use of chemical fertilisers and synthetic pesticides is still very low in the Programme area, this could be an opportunity to focus on speciality markets, namely organic markets, in

¹⁶ NPI is registered as a for-profit company with the Lao government. The bylaws of NPI state that all profits stay in Laos in order to expand the business. NPI employs fifteen nationals to work in the office and the factory, and is managed by three fully-funded American families, none of whom draw a salary from the company.

Europe, USA and Japan. While most of the soybeans and maize in the leading producer countries meanwhile consist of genetically modified varieties, there is an increasing demand among the consumers in the industrialised countries to buy GMO-free products. International standards for organic agriculture for instance, strictly prohibit any use of genetically modified organisms in organic foodstuffs. This is one reason why the organic markets in these countries grow steadily. It gives small producing countries, like Lao PDR, the opportunity to access these growing markets, provided the production can be kept GMO-free. This is not guaranteed, as Thailand and China may provide GMO-seeds to Lao PDR. It is therefore of utmost importance for the future export potential to organic and environmentally-friendly markets, that the government of Lao PDR develops a GMO-policy framework that allows producers and consumers alike to cultivate and live without GMO-products. Organic certification of some of the crops with good export potential would add value to the products and allow, by obtaining premium prices, to pay higher prices to the producers. Organic certification has probably the best potential to improve market opportunities for exporters from Laos. Only organic certification offers a premium paid by the importer. Although there is no guarantee for such a premium, 20 to 30 % above conventional prices are usually accepted. The example of Sainam Khan company shows that similar premiums are even possible without certification, giving hope to increase premiums, for instance, for organic soybeans in Japan. 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 different markets and hence diversify market opportunities.

Japan is not only the largest consumer but also a net importer of soybeans. According to a study by *The Organic Standard* (17), Japan imports not less than 96.5 % of conventional (non-organic) and over 99 % of organic soybeans to satisfy the national demand. This is a potential which could be tapped.

Other emerging and fast growing organic markets are Thailand and China (mainly Hong Kong).

There is certainly also a market for organic speciality rice in Europe but more investigations are needed to identify potential buyers, who could also be interested in investing in such a venture.

Generally the prospects for certified organic production and marketing of agricultural products, such as speciality rice, sesame and soybeans are good. Provided an enabling environment is created, chances of the country to become a competitive exporter to speciality markets could greatly be enhanced. The Programme should consider developing this, for Lao PDR, new system to open up new markets and to diversify the marketing channels. With the setting-up of the Producers' and Traders' Associations a basic organisational structure would be in place to facilitate not only production and marketing, but also organic certification. The expected price premiums paid by the buyers in the target markets Japan and EU will compensate for the relatively higher transport costs for landlocked Lao PDR. There is also some scope for a Public Private Partnership (PPP) with foreign investors provided the local organisational structure is able to deal with the complex export trade requirements, especially as far as the organic trade is concerned. This will need extensive training and technical assistance to both, producers and traders.

It has to be mentioned here that, under the current marketing structure, international trade, other than direct trade with Thai or Chinese middlemen, is not feasible. The local traders met by the consultant lack skills, experience, capital and facilities to enter into international trade.

If the organic export market will be developed, collaborating with an agricultural export company becomes vital. This company should be in the position to provide storage space, processing and packing facilities and be willing and able to segregate the handling of organic from non-organic products. The export company, as well as the producers and local traders will have to be inspected annually by a recognised certification body. In order to access the organic markets in Europe and Japan, the certification body should be recognised by the EU commission and be accredited to the Japanese organic standards system, JAS.

In order to facilitate organic certification, Internal Control Systems need to be developed for the organic producer groups. An Internal Control System (ICS) is a documented quality assurance system that allows the external certification body to delegate the annual inspection of individual group members to an identified body/unit within the certified operator¹⁷. As a consequence, the main task of the certification body is to evaluate the proper working of the ICS. Internal Control Systems are always linked to organic smallholder group certification. Due to the size of their farm it is for most of the smallholders impossible to pay for annual inspection by an external certification body as required by the regulations of the major organic markets (EU, USA, Japan).

There are two common types of smallholder groups that are eligible for smallholder group certification:

- a) A group of farmers (e.g., a cooperative) sets up an internal control system and also organises joint buying and marketing of the organic produce from the farmers in the organic programme. The group owns the organic certificate.
- b) A processor or exporter contracts various small farmers to produce certain organic crops for him. The processor or exporter is the ICS operator and organizes all internal control procedures. He owns the organic certificate.

A certification body cannot move towards inspection and certification of a group unless the internal control system is in place. The minimum requirements before smallholder group certification can take place are:

- There are competent personnel implementing the internal control system;
- The core documentation is complete, which includes completed farm or site maps/sketches, a completed grower identification system, some form of farm/field records, farmer agreements and yield estimates;
- The internal inspection protocol is described & implemented;
- There is a monitored and documented conversion period in place;
- The mechanism to remove non-compliant farmers from the producers' list is in place and executed.

There are several recognised certification bodies¹⁸ operating in Thailand, Cambodia and Laos, that could be contracted for the organic certification.

¹⁷ IFOAM Definition

¹⁸ e.g.: Ecocert (www.ecocert.de), ACT (www.actorganic-cert.or.th), QCI (www.qci.de)

The project PROFIL¹⁹ (Promotion of organic farming and marketing in Lao PDR) which started in March 2004 with support from the Swiss agency HELVETAS, has initiated activities with the objective to:

- liaise among government institutions and NGO's in attempts to introduce an enabling environment for organic agriculture;
- generate the development of standards and legislation for organic agriculture;
- facilitate certification through internationally accredited bodies;
- introduce a local certification system.

4.4 Constraints to marketing

Beside the opportunities described above, there are also constraints that will make improved marketing efforts difficult. First of all, the infrastructure, and here especially the road conditions in the northern districts are a major obstacle for the villagers to access the markets. Traders are very reluctant to approach remote villages, distribute seeds and other material if they are not sure to be able to transport the goods after harvest. During and after the rains many roads become impassable. Villages situated far from major roads are almost cut off market access and remote villages have to accept lower prices for their products if traders come at all.

Villagers depend almost totally on local traders (registered and unregistered) who, in turn, depend on the Thai middlemen at the nearest border posts. There are no direct contacts between villagers and companies in other provinces that add value to local products and/or export to overseas markets. Producers often don't know or don't understand what the market requirements are especially concerning product quality. Traders have difficulties in training the producers according to market needs. Although examples of good collaboration between traders and villagers exist, there is a general lack of effective organisational structures that could improve marketing activities.

Market opportunities that exist, to a certain degree, in the district capitals can only benefit those producers living near these urban centres. For most other villagers the distance to the markets is too large.

Although alternative marketing channels exist, these options are not capitalised upon because of lack of information, training and infrastructure. Villagers are not able to directly access other markets because of lack of capital, product quantities, storage capacity, transport and marketing skills. Also the local traders in the districts are not able to do much more than transporting and bulking up because they also lack capital and facilities where the products could be stored, cleaned, graded and packed. Although the local traders have an important role to play, they have not the capacity to directly access foreign markets apart from the existing contacts with Thai middlemen. They will therefore remain the local marketing arm of the producers.

There are virtually no SMEs in the five districts that add value to the village products and that could open up new marketing channels.

¹⁹ www.laosorganic.com/

Other processors and exporters who could access other markets can only be found outside Sayabouri Province, namely in Luang Prabang, Bokeo and Vientiane. Only with these established companies will it be possible to open new markets. Because of the distance to these traders, only villages with good road connection will benefit from this opportunity.

5 CONCLUSION AND RECOMMENDATIONS

The development of a sustainable, market-oriented supply chain management that offers opportunities for local, regional and international markets is strongly recommended for the five districts of Sayabouri Province, where the joint RLIP – RDMA Programme is operating. Emphasis should be placed on a diverse marketing strategy in order to reduce dependence on single markets.

There is some scope to increase fruit and vegetable production as well as the number of livestock for the local and regional markets. The strong demand for all kinds of agricultural products and NTFPs from Thailand and China offers opportunities for increased production. Serving these markets has to be done in an environmentally responsible manner to protect the fragile ecology of the mountainous areas. Beside the ecological impact, the introduction of agricultural inputs, such as chemical fertilisers and pesticides, would render the producers dependant on their suppliers/buyers with the potential to be trapped in a debt cycle. With improved training and extension services and the set-up of an organisational structure, involving local traders and villagers, the local and regional market opportunities could be much better capitalised upon.

The (still) natural environment of the mountainous areas of Sayabouri Province, the low levels of crop pests and diseases and the relatively high soil fertility render the Programme intervention area also suitable for organic agricultural production of crops with good market opportunities in industrialised countries. Potential crops include speciality rice varieties, sesame and soybeans. Interesting export markets for organic products are mainly Japan and Europe and, increasingly Thailand and China. With an intensified extension service, the set-up of Internal Control Systems (ICS) and, eventually, organic certification according to international standards the prospects for this new approach look good. The weakest factor however is the existing trade structure with local traders who have neither the capacity nor the facilities to render the products exportable (re-drying, cleaning, sorting/grading, quality control, packing). The local traders will remain intermediate traders, a role they have been playing until now. An export company with good storage and processing facilities as well as international market experience (and good knowledge of the English language!) will need to be integrated in the marketing system. Such a company may only be found outside the province.

The following recommendations are made for the RLIP – RDMA Programme:

Because of the fragile ecosystem and the fact that agricultural yields cannot compete with the more productive southern districts, northern Sayabouri should concentrate on sustainable, eco-friendly and if possible, organic production systems because the natural environment is the comparative advantage of this region. Premiums paid for organic products in the growing markets of Thailand, China, Japan and Europe will offset the lower yields and higher transport costs.

As a prerequisite for all future marketing activities the development of an organisational structure involving producers and local traders is vital. The creation of District Producers' & Traders' Associations, as described above, is therefore strongly recommended. In order to facilitate extension services, training and marketing of the produce, it is preferable to start with the selection of villages with good road access. It would also be an advantage, especially for an eventual organic certification, if the entire village would agree to join the association and to comply with its internal regulations.

Meetings with RLIP – RDMA staff, DAFEO, interested traders and villagers should be held to discuss the concept and to start with one or two pilot associations. Internal regulations for the association and product specifications for the major cash crops should be elaborated and trade agreements made between traders and villagers.

The companies Sainam Khan (Luang Prabang) and NPI (Bokeo) should be approached to present the new marketing concept with the aim to establish long-term relationships between these companies and the associations. Preferably, concrete agreements should be reached as to which products could be produced by the associations for the companies.

Some villages should be selected for certified organic production of speciality rice, sesame and soybeans. Preferably, the entire villages should produce according to organic principles, including all crops in the rotation, to make certification easier and less costly.

As the producers will not be able to bear the costs of certification, the initial financing could come from the programme but, as soon as possible, the exporting company or the importer will have to take over the costs. This would also imply that the certificate holder will be either the exporter or the importer.

There is some potential for a PPP-project for speciality rice. Local rice varieties shall be collected for samples and presented to potential importers with the aim to develop a PPP project. However, this necessitates the collaboration with a rice mill that can process the raw rice according to market requirements.

ANNEXES

1 Terms of Reference

Für den Kurzzeiteinsatz von **Herrn Ulrich Helberg**, Helberg Consult International Organic Agriculture & Environment, Witzenhausen, Deutschland

Einsatzorte und Zeitraum: Provinz Saybouri, Laos – 14 Tage Einsatz im Land + 4 Tage Vor- und Nachbereitung, November 2005

Die traditionelle landwirtschaftliche Produktionsweise in den nördlichen Bergregionen von Laos ist der Wanderfeldbau. Reis, das wichtigste Produkt der Landwirtschaft, wird von den kleinbäuerlichen Betrieben oft in Subsistenzwirtschaft angebaut. Der Anbau von Schlafmohn und die Produktion von Opium dienten bis vor kurzem als Haupteinkommensquelle der Bergbevölkerung. Die Diversifizierung der ländlichen Produktion ist eine der Grundlagen zur Steigerung des ruralen Einkommens sowie zur Einschränkung des Wanderfeldbaus und der Opiumproduktion. Daraus ergeben sich folgende Fragestellungen, die im Rahmen des Kurzzeiteinsatzes geklärt werden sollen:

- 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 Nachernteprozesse (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 Veredlungsstufe?
- Welche Vermarktungsmöglichkeiten (potenzielle Aufkäufer, Großhändler, Märkte, Marktstrukturen etc.) gibt es für die einzelnen Produkte lokal, regional und international. Welche Preise können bei Ausschöpfung des Potenzials erzielt werden? Für welche Produkte sind insbesondere Potenziale bei der Vermarktung als zertifiziertes Bioprodukt erkennbar?
- Welche Voraussetzungen, Restriktionen, Anerkennungsverfahren und Potenziale sind für die Zertifizierung von organischen Produkten aus Laos zu beachten?
- Bei der Darstellung der Ergebnisse der Studie soll der Wertschöpfungskettenansatz (value chain approach) berücksichtigt werden.
- Hinweise zu möglichen PPP-Maßnahmen auf der Grundlage des PPP-Ansatzes der GTZ werden erwartet.

2 Programme of the mission

Date	Organisation/Person(s) met	Activity
6/11/2005		Arrival in Vientiane
7/11	GTZ: U. Sabel-Koschella, J. Kallabinski, Khatha	Briefing about the mission
	RDMA/ Mr. ThipAmphone, RLIP/ Mr. Kamlah	Flight to Luang Prabang and travel to Sayabouri
8/11		Travel to Hongsa
	DPI/ Mr KhamSouk, Deputy Provincial Governor, Hongsa; RLIP/Mr. Phuwang Khongsap; Programme Director	Briefing about the mission
9/11	RLIP-RDMA office, Hongsa	Preparation and programming of the mission
10/11	Mr. Somvang Indanvong, Hongsa District Governor, Mr. Phuvang Khongsap, Programme Director	Introduction, discussion about marketing issues
	DAFEO, Hongsa: Mr. Phon Savat, Deputy, Mr. Tong Pan, Administration, Mr. Bunyavong, Deputy Forestry Unit	Discussion about activities and plans of DAFEO; data collection
	District Tax Office, Hongsa	Discussion about tax collection system
	District Trade Office, Hongsa: Mr. Sonesanith Phetsay, Head of Trade Office	Data collection
	Mr. Siphane Sibounma, trader of agricultural products in Hongsa	Discussion about marketing of agric. Products and collaboration with producers
	Mr. Phane, trader of NTFP in Hongsa	Discussion about marketing of NTFPs and collaboration with collectors
11/11	Village Ban Na Pung, Hongsa District	Visit of the village, discussion with village representatives about marketing issues
		Travel to Muang Ngeun
12/11		Visit of Ngeun border market and crossing to Thai side
	Mr. Thongdee PapuaOne, District Governor, Ngeun	Introduction, discussion about the aim of the mission
13/11	Mr. Saisanah Sohlangkhoun, Programme Director for Ngeun accompanied the team during the stay	Team discussion and further planning
14/11	DAFEO, Ngeun: Mr. Bonkhong Thambalak, Acting Director	Discussion about activities and plans of DAFEO; data collection
	Mr. Nanethed Panyasone, trader of agricultural products and NTFP in Ngeun	Discussion about marketing of NTFPs and agric. Products, collaboration with villagers
	Mr. Khamnouane Keovansay, trader of livestock, NTFP and agricultural products in Ngeun	Discussion about marketing of NTFPs and agric. Products, collaboration with villagers
15/11	Village Ban Donsavang, Ngeun District	Visit of the village, village meeting, discussion about marketing issues
		Travel to Sianghone
	Mr. Sien Keobuahone, Programme Director for Sianghone accompanied the team during the stay	
16/11	Dr. Shomlith Peuakeo, District Governor and Mr. Khanboly, Deputy District Governor,	Discussion about district plans and problems with Thai border

	Sianghone District	
	DAFEO: Mr. Khamchan, Director and the entire staff	Staff meeting with the team; discussion about marketing potentials, data collection
	Sianghone Traders' Association (Unit): Mr. Syphane and Mr. Noyin, representatives	Discussion about functioning of the association and member groups, marketing, problems with product quality
	Trade Office, Sianghone: Mr. Ouandy, Director, Mr. Savay Konkham, Deputy of Tax Office	Data collection, information about registration procedure of traders
	Mrs. Soumhong, trader of agric. Products, in Sianghone District	Discussion about marketing of agric. products, collaboration with villagers
	Mr. Keo, trader of agric. Products, in Sianghone District	Discussion about marketing of agric. products, collaboration with villagers
17/11	Mr. Bantchan Yothavong, largest trader of livestock in Sayabouri District	Discussion about marketing of livestock, collaboration with villagers
	Village Ban Namai, Sianghone District	Visit of the village, village meeting, discussion about marketing issues
		Travel to Khop District
18/11	Mr.Chanpheng Outomkham, Programme Director for Khop accompanied the team during the stay	
	Mr. Thongvane, District Governor, Khop	Introduction, discussion about the aim of the mission
	District Trade Office: Mr. Khamtsy, Head	Data collection, information about registration procedure of traders
	DAFEO, Khop District: Mr. Kham Muang, Deputy Director and staff from all sections	Staff meeting with the team; discussion about marketing potentials, data collection
	Traders' Association (Unit), Khop: Mr. Nankham, representative for 8 group members for agric. Products and NTFP	Discussion about functioning of the association and member groups, marketing, problems with product quality
	DAFEO	Visit of rubber tree nursery with 80,000 seedlings
19/11	Traders' Association (Unit), Khop: Mr. Khamy, representative for 6 group members for agric. Products and NTFP	Discussion about functioning of the association and member groups, marketing, problems with product quality
	Village Hatngam, Khop District	Visit of the village, village meeting, discussion about marketing issues
		Return travel to Hongsa, overnight stay
20/11		Travel to Sayabouri
	Mr.Sathung Thikey, Programme Director for Sayabouri accompanied the team during the stay	
21/11	DPI: Mr. Khamphout, Provincial Programme Director	Briefing about the mission and experience made so far
	PAFO: Mr. Khongseh, Deputy Director	Discussion about quota system for NTFP, data collection for province
	Department of Trade, Sayabouri Province: Mr. Bonatsep Chief of Administration	Data collection for provincial trade, registration of traders and companies
	DAFEO, Sayabouri District: Mr. Inthanavong, Chief	Discussion about marketing potentials, data collection

	Saychalen Company: Mr. Visay and Mrs. Peng, Directors, traders of NTFP and agric. products	Discussion about marketing of agric. Products and NTFP, collaboration with villagers
22/11	Village Ban Namon, Sayabouri District	Visit of the village, village meeting, discussion about marketing issues
	District Trade Office, Sayabouri: Mr. Bounthiane, Head of office	Data collection
23/11	Provincial Cabinet: Mr. Sombhat Dyalieure, Provincial Governor, Mr. Mek Phanlah, Dep. Prov. Governor, Mr. Khansuk, Dep. Prov. Governor, Mr. Nyamyong, Director, DPI, Mr. Somdy, Deputy, Dep. Of Trade, Mr. Khamphut Deputy, Programme Director, Mr. Tiantavar, Programme Director	Presentation of preliminary results of the study mission
		Travel to Luang Prabang
	Sangkhong Posa Handicraft Village	Visit of paper mulberry processing
24/11	Sainam Khan Company: Mr. Bounphet Sayavong, processing of paper mulberry, exporter of agric. products	Visit of the company including the industrial drier of agric. Products; discussion about potential collaboration with villagers from Sayabouri Province
		Flight to Vientiane
	GTZ office: Mr. U. Sabel-Koschella, J. Kallabinski	Wrap-up meeting
25/11		Return flight to Germany

The consultant was accompanied during all visits by Mr. ThipAmphone, Natural Resource Management Advisor. During most of the time, Mr. Khatha Lamache, Agric. Extension Advisor and his assistant, Mr. Phansy as well as Mr. Kamlah, IFAD M&E Forestry Advisor where also part of the team.

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