

No More Timber, More Non-Timber?

Joost Foppes & Sounthone Ketphanh, May 2001¹

Abstract

The IUCN/NTFP Project is the first major project to work on Non-Timber Forest Products (NTFP) development in Lao PDR. This paper summarizes main Project findings on potentials and constraints for NTFP development. How can the NTFP sub-sector develop after the Project ends in March 2001?

NTFPs are uniquely essential for the Lao national economy, both for subsistence and trade, NTFPs are key elements in poverty alleviation, forest and biodiversity conservation, land use planning and allocation, substitution of shifting cultivation and industrial development. Every project or program aimed at rural development or biodiversity conservation in Lao PDR should have an NTFP strategy, similar to the way each project should have a gender/equity strategy. The diversity of NTFPs requires multiple, locally fine-tuned solutions. Local people can generate solutions in a framework of participatory group strengthening. Such a framework requires a network of exchange and support services. A number of constraints remain. These constraints are partly social (e.g. lack of concepts about nature conservation), partly economic (e.g. poor market structure) and partly technical (lack of knowledge/skills).

Continued support is needed to overcome these constraints. Some operational options are:

- A strong national training & research program to support local level NTFP programs
- Add an NTFP strategy to all rural development and nature conservation programs in Lao PDR
- Set up NTFP development support units at Province and District level
- Specific NTFP program for forest dwelling ethnic minorities to emancipate themselves socially reduce poverty, preserve their cultural heritage and protect their environment
- National program for forest products marketing/trade support
- A permanent institution for ethno-botanic data collection and storage
- A regulatory framework to strengthen community rights and stimulate fair trade

The focus of NTFP development needs to be at local levels, and all other efforts should be directed to support such local activities. Government and donors will have to make choices how they will support NTFP development at each level. A case is made for a multi-partner networking approach.

1. Introduction

In Lao PDR, Non-Timber Forest Products (NTFPs) are an important but neglected sector of the national economy. Their role is becoming even more important as national income from timber declines fast. The IUCN-NTFP Project has been the first major project to explore the potential role of NTFPs in Lao PDR. The Project identified models of sustainable use of NTFPs, which contribute to poverty alleviation, forest and biodiversity conservation, land use planning and allocation, substitution of shifting cultivation and industrial development.

Various social, economic and technical constraints prohibit a rapid adoption of such models. It is unlikely that these constraints can be overcome without continued support for the NTFP sub-sector. The IUCN-NTFP Project will end in March 2001. Therefore it is important to develop options for future support before the end of that project.

The NTFP sub-sector has many stakeholders - village communities, Government authorities, traders/companies, NGOs, international donors, international conservation agencies, individual conservation and development specialists. This paper aims to inform all interested organizations and individuals, so they may:

- review what has been learned so far on potentials and constraints of NTFPs;
- define options for follow-up support activities and programs;
- identify interested parties to participate in such follow-up programs.

2. Lessons on the potentials of sustainable NTFP use

2.1 Introduction

The main findings from the IUCN/NTFP Project are:

- NTFPs make an important but often neglected contribution to the Lao National economy
- NTFPs play a key role in poverty alleviation, forest conservation, land use planning and allocation, substitution of shifting cultivation and industrial development
- The diversity of NTFPs requires multiple, locally fine-tuned solutions
- Local people can generate solutions in a framework of participatory group strengthening
- Such a framework requires a network of exchange and support services

We will illustrate these findings with some examples in the sections below.

2.2 NTFPs in the national economy

Most of the Lao population depends on NTFPs for their existence. This, together with the relatively low population density and high proportion of forest cover, makes Lao PDR a unique country in the region. An average rural family of five persons consumes on average the equivalent \$280 per year in NTFPs (including fuel wood). There are 800000 rural families (4 million people) who live in rural arm, consuming the equivalent of US\$224 million per year in NTFPs. Thus NTFPs provide perhaps 40% of total NTFPs family shadow income (see table 1). Subsistence use of NTFPs could contribute up to 20% of the GNP (US\$261 per capita in 1998, according to ADB, 1999).

Table 1. Simplified model of the economy of an average Lao rural household of five persons (from Foppes & Ketphanh, forthcoming)

Income category	US\$	%	Remarks	Source of data/estimate
Forest foods	\$200	28%	Bamboo-shoots/fish/greens etc.	K. Clendon, IUCN-NTFP, 1999
Firewood	\$40	6%	Firewood & local use wood	Southavilai T. & T. Castren, 1999
Other NTFPs	\$40	6%	Medicines/rattan/bamboo etc.	Sounthone Ketphanh, p. c.
Total NTFPs	\$280	40%	Almost equal to rice!	
Rice	\$350	50%	350 kg paddy/person/year	Various IUCN-NTFP field reports
Total non-cash	\$630	90%	Almost no cash income	
Cash income	\$70	10%	NTFPs 55%, livestock 30%	Various IUCN-NTFP field reports
Total income	\$700	100%	NTFPs provide 44% of non-cash and 55% of cash income!	

Internal trade of NTFPs from rural areas to cities is difficult to estimate. Cash income to local villagers from NTFP sales might amount up to \$31 million per year (55% of \$70 per family for 800000 families). NTFPs provide roughly US\$ 6 - 7 million per year or 2% of total export income for Lao PDR. The value of internal trade would then be \$23 - 24 million per year.

The relative importance of NTFPs for export is growing, as the value of timber exports is declining. Exports of several key products have risen considerably over the last few years. This raises questions of sustainability. Cardamom and malva nuts, both used in China as medicines, are the most important export products, together representing 60% - 70% of the total NTFP export value (Foppes & Ketphanh 1997). The main export destinations are China, Thailand and Vietnam. However, the trade is difficult to trace. Most NTFPs leave the country in a raw state because there is little capacity for processing NTFPs. There is a great potential for

improved marketing/processing of NTFPs.

2.3 NTFPs, poverty alleviation and food security

The most important use of NTFPs is for subsistence. Eighty percent of the Lao population live in rural areas and rely heavily on forest products for food and shelter. Local people consider edible bamboo shoots, fish, vegetables, and wildlife as the most important products from the forest. In Salavan province, the IUCN-NTFP project found that virtually all other foods except rice were derived from the forest (Clendon 1998). Not surprisingly, the most successful village conservation activities are often related to food, e.g. fish protection zones (Baird et al. 1999, Kritcharoen, forthcoming).

Apart from subsistence, NTFPs were found to provide on average 55% of family cash income of villages near forests. Sales of livestock were the only other main source of cash income. In times of rice shortage, poor families go into debt to borrow rice. Such debts often force people to harvest and sell forest products in a destructive manner. Rice banks can reduce pressure on forest resources by reducing chronic debt situations (Dechaineux 1998).

NTFPs provide a low-cost survival system securing food, housing and medicinal needs. Their importance cannot be overstated. Every rural development project in Lao PDR should have an NTFP strategy similar to the way each project should have a gender/equity strategy.

2.4 NTFPs and forest conservation

Protected areas are the corner stone for biodiversity conservation in Lao PDR. The Government has set aside 12% of the country's land area (30000 km²) as protected areas. These areas are quite intensively used by the hundreds of village communities that live in and around each of them. The Government has the daunting task to involve these communities in the management of these areas. NTFPs are the main reason why people go into the forest; therefore they are potentially a powerful incentive for rural communities to manage forest resources. A good example is the case of malva nuts in Southern Lao PDR (see Box 1)

Box 1: The potential of Malva nuts in participatory protected area management

Malva nuts (*Scaphium macropodum*, syn. *Sterculia lychnophora*), "mak chong" in Lao, are a popular medicine in China, where they are known as "pandahai". They are not really nuts, but rather desiccated fruits that produce an edible jelly when submersed in water. These fruits are only collected from wild stands, occurring mainly in two large national protected areas, Dong Hua Sao and Xe Pian, in Southern Lao PDR. The trees produce fruits only once every 3 - 4 years, during a few weeks in the month of April. In such years, malva nuts provide a massive income to tens of thousands of local people who collect these fruits.

The economic interest in this product provides an excellent incentive for co-management by village communities. The IUCN-NTFP Project and the IUCN Biodiversity Conservation Project are developing harvesting agreements with villagers to reduce cutting of trees and to reduce conflicts between villagers and outside collectors. Better harvesting arrangements could also reduce harvest losses, now estimated to be 80%, due to rains. If losses could be reduced to 60% harvests would double, adding millions of dollars to the national economy.

2.5 NTFPs and land use planning and allocation

Allocation of land to village communities is an important policy of the Lao Government. It aims to improve sustainable land use, based on the assumption that people will have more incentives to take care of land if they have ownership or other access rights. It also provides a new basis for taxation. Whereas agricultural land is usually allocated to private households, forestland is usually allocated to village communities. The IUCN-NTFP Project has shown that a focus on NTFPs can help to delineate forest blocks according to practical use and it can assist communities in formulating use rules. This applies especially to villages near protected areas and villages in shifting cultivation zones (Soydara & Phoutharath 1997).

2.6 NTFPs and substitution of shifting cultivation

In many mountainous areas of Lao PDR, shifting cultivation is the dominant mode of production. The Government aims to reduce shifting cultivation to reduce perceived risks of erosion and forest loss. Sustainable alternatives to shifting cultivation remain to be identified. A variety of economically important NTFPs are collected from forests that are derived from shifting cultivation (see Box 2).

All these products are suitable for domestication or more intensive cultivation in long cycle rotations on steep hill slopes. The IUCN-NTFP Project supported local communities to set up their own on-farm planting trials of various NTFPs. More testing is needed to develop a variety of multi-cropping agroforestry systems that could include these crops. Local people have a wealth of local knowledge on NTFPs to bring into such a research process. There is a big potential for sustainable substitution of shifting cultivation through domestication of NTFPs.

Box 2: Typical NTFPs from Northern Lao PDR, found in forests derived from shifting cultivation

1. broom grass (*Thysanolaema maxima*), exported to Thailand to make broom, 200 ton/year
2. sweet palm fruits (*Arenga westerhoutii*), exported to Thailand to make sweets, 600 ton/year
3. paper mulberry (*Broussonetia papyrifera*), exported to Thailand to make paper, 500 ton/year
4. benzoin (*Styrax tonkinensis*), exported to France for perfume industry, 50 ton/year
5. peuk meuk (? , *Urticaceae*), exported to China to make glue and joss-sticks, 700 ton/year
6. eaglewood (*Aquilaria sp.*), exported to Middle East as incense, 20 ton/year
7. bitter bamboo (*Indosasa chinensis*), exported to China as fresh edible shoots, 200 ton/year
8. cardamom (*Amomum sp.*), exported to China as medicine, 500 ton/year

2.7 NTFPs and industrial development

Most NTFPs exported from Lao PDR are raw products, sold at a low price. The potential for processing and quality improvement is large, if present regional trade barriers can be removed. Some private sector initiatives have started to tap this potential (see Box 3). Local markets also have a big potential (see Box 4). Lao PDR could improve its markets by focussing on NTFPs in regional trade networks, such as the ASEAN group of countries.

Box 3: Examples of private sector investment in NTFP processing industries for export

Production of "sa" paper from the paper mulberry (*Broussonetia papyrifera*) is becoming a rapidly growing home industry in the tourist city of Louang Phabang. A small factory in Luang Namtha is experimenting with the distillation of the high priced 'kelsma' oil, the essence of eaglewood (*Aquilaria crassna*). Such initiatives, if coupled to a program of sustainable cultivation, could bring wealth to many people.

Box 4: The potential of bamboo processing for the local market

The IUCN-NTFP Project did a feasibility study on the production of steam-pressed bamboo mats used as house construction material for ceilings and walls. Lao PDR imports hundreds of thousands of these mats yearly. All these mats are imported from Vietnam, where over a hundred small-scale factories exist. Laos PDR has a wealth of bamboo resources, there is an excellent potential for such small-scale bamboo processing industries, focussing on the local market (Huy 1999, Phuu, forthcoming).

For many Lao NTFPs however, it is difficult to get to know the marketing chains and processing steps. More specialized feasibility studies by experts in the fields of essential oils, Chinese medicines, resins and oleoresins, rattan/bamboo handicrafts etc. are needed. Lao PDR need to develop a capacity to analyze and study regional markets of NTFPs.

3. Lessons on the process of developing sustainable NTFP use systems

3.1 Diversity of NTFPs requires multiple, locally fine-tuned solutions

The IUCN-NTFP Project has identified over 700 species of NTFPs during rapid rural appraisals. Each village has its own unique mix of NTFPs. Precise understanding of local ecology and local vegetation is required to design an appropriate management system. This understanding resides with the local communities. Therefore each village community should develop its own set of solutions, if it wants to maintain a sustainable level of production of NTFPs (see Box 5).

Box 5. The complexity of NTFP use patterns

The village of Ban Nong Hin in Champasak, Southern Laos, counts 50 families, who can easily enumerate 353 NTFPs which they collect from the forest. These include 127 plant food products, 149 medicinal plants, 6 fish species, 25 other rural food products, 18 fiber products (for weaving, building etc) and 17 commercial products of which 7 are resinous products (Lamxay, in press). They distinguish 10 forest/landscape types where they collect these products, covering 8000 ha of forest. For one of these 10 forest types alone, they can show more than 30 forest blocks on a sketch map. They consider wildlife, fish and rattan as the most rapidly depleting products and made agreements among themselves to regulate use in specific forest blocks or parts of rivers. They also started to experiment with domestication of rattans and cardamom in gardens near the village. This example shows how the complexity of NTFP use patterns requires locally fine-tuned solution. It also indicates the wealth of indigenous knowledge that exists among rural communities.

3.2 local people can generate local solutions

Local people are very creative and capable of generating local solutions, if they are given an opportunity to do so. Outside facilitators (e.g. district staff, NGOs, village leaders, etc.) can help communities to start working on sustainable solutions, through a participatory group approach. Once such a process is started, local people have a great ability to experiment and select solutions (see Box 6). Field workers such as district officers can learn to use these methods in a series of about 5 - 10 monthly workshops of 2 - 3 days each. The IUCN/NTFP Project prepared and tested training manuals for this purpose (Phoutharath, forthcoming).

Box 6. Selling bamboo shoots in Oudomxay: a successful case of participatory group building

In the village of Nam Pheng, Oudomxay, villagers used to be very poor, and could not produce enough rice to feed the community all year round. In the dry season they collected off-season bamboo shoots for sale, but the income was never enough. The IUCN/NTFP project assisted them to analyze their problems (Soydam, 1998).

In a series of meetings, the community gradually realized that they could improve their sales if they would all team up and sell for a fixed price, in a fixed place, not measured per bundle but measured per kilo. The community continued to discuss this idea until every family agreed to join the village selling group. The results were above all expectations. In five months, the village sold more than 50 ton of shoots and earned 50 million kip (on average 1 million per family), at least four times more than the year before. The community also gained 5 million kip in a village development fund, setting aside 100 kip for every kilo sold (1US\$ was 2500 kip in the first half of 1998).

As a result, the community started to be very interested in monitoring and managing its bamboo forests. There is a lesson here how to sequence activities in group-development. It may be better to start with an income raising activity (e. g. an NTFP selling group) or a wellbeing improvement activity (e. g. rice banks), before venturing into forest management or sustainable harvesting agreements.

3.3 The need for a network of exchange and support services

Local people can develop local solutions, but they cannot do it without support from outside facilitators. A network of services providing information exchange, technical, social, credit and other services needs to be available. The IUCN-NTFP Project developed and tested a number of models for delivering such support services. Examples that worked well are summarised in Box 7. The Project worked with an intensive support system in a few villages. The next challenge is to support many villages with a more extensive support system.

Box 7: Models of networking support to NTFP user group, from the IUCN-NTFP Project

- Work closely with selected appropriate local institutions at all levels.
- Organize and train province/district level field teams, who facilitate participatory processes at village community level.

- Use RRA techniques to record local knowledge, stimulate problem analysis and raise conservation awareness (ranking lists, forest walks, calendars, sketch maps, etc).
- Use participatory techniques (PRA) to facilitate user group development and identify options for action.
- Identify and support 'entry point' starter activities, e. g. rice banks, planting trials, marketing groups, land allocation processes.
- Apply participatory monitoring methods.
- Share results through workshops at village, district, province, national and regional levels.
- Improve local networking through stake-holder workshops focussing on specific topics.
- Villager-to-villager exchange visits and study tours for effective exchange of local information.
- Provide examples from other countries to local user groups through international networks (e. g. IUCN) by workshops, study tours, e-mail exchange, literature and magazines.
- Use examples of successful villages for study tours by outsiders from other villages, provinces, and other countries.

4. Strategies to overcome remaining constraints

The IUCN-NTFP Project has identified the clear potential for NTFP based development strategies in Lao PDR. At the same time, the Project came across a number of constraints that work against the adoption of sustainable NTFP use practices, (angles et al. 1998, Foppes and Ketphanh 2000). These constraints need to be overcome if sustainable NTFP use strategies are to be successfully adapted throughout the country. Box 8 summaries key constraints and suggested strategies to overcome them

Box 8. Key strategies to overcome constraints to sustainable NTFP use

Key Constraints	Key strategies to overcome constraints
1. Social constraints (Concepts about forests and nature are not conducive to conservation)	1. Raise national conservation awareness, preserve the rich indigenous cultural heritage
2. Tenure/legal constraints (Lack of security of community)	2. Clarify and strengthen community rights to manage forest rights to forest land) resources
3. Economic constraints (History of war, Asian economic crisis, fall of timber prices)	3. Diversify production strategies, strengthen regional economic alliances (e. g. ASEAN)
4. Marketing constraints (Lack of transparency, dominance of outside buyers, lack of marketing skills/concepts)	4. Build capacity to analyze and identify markets, disseminate marketing/price information, clarify regulatory systems, create support systems for investors in NTFP based industry and handicrafts
5. Technical constraints (Forest management/monitoring, biodiversity values, domestication/processing all need more research)	5. Invest in adaptive research to develop methods for forest management/monitoring, inventory and monitoring of biodiversity values, user group strengthening, NTFP domestication/processing
6. Capacity constraints lack of trainers, lack of recorded knowledge, lack of cooperation within country and within region)	6. Build a nation-wide capacity to facilitate community based NTFP activities, through training of trainers
7. Networking constraints (socio-political, technical)	7. Exchange of information through multi-partner approach and networking
8. Funding constraints in Government budgets	8. Raise awareness of the social importance and economic value of s among central decision-makers

5. Options for future NTFP development

How can stake-holders utilize the great potential of NTFPs for sustainable development in Lao PDR more effectively? The focus of NTFP development needs to be at local levels, and all other efforts should be directed to support such local activities. A large number of facilitators will be needed. Where could such field change agents be found? Quite a few existing local institutions have the mandate and people who could be trained to become 'grass-roots' level NTFP facilitators (see Box 9).

Box 9: Examples of existing institutions with a mandate and staff to work on NTFP development

Province/district institutions suited to provide facilitation support to local communities	Nation level institutions suited to provide training/research support to team of facilitators
Village organizations	Foreign aid support to national institutions, NGOs
Lao Women's Union	Lao Women's Union
Education Department/Youth Union	National Agriculture and Forest Research Institute
District/Province Agriculture and Forestry Offices	Medicinal Plants Institute
District/Province Departments of Health, Rural Development, Trade, Industry and Handicrafts	Handicrafts Development Center
Agricultural Credit Institutions	Chamber of Commerce
Abbots/monks	Banks, other formal/informal credit providers
Foreign aid and NGO projects/programs	Committee for Planning and Cooperation
Military settlements close to forests	National Bureau of Statistics
Private sector traders/industries	Departments of Forestry, Fisheries, Trade, Education, Health, Industry and Handicrafts

5.1 Options for local level NTFP development

The main actors are the village communities of Lao PDR. They need support from local facilitators. Often, such facilitators already exist at village, district and province levels working as volunteers, officers or trainers in existing development programs and projects. Such programs could benefit from the addition of an NTFP strategy. Such a strategy would include elements such as:

- training/awareness raising of staff on role of NTFPs and value of participatory approach
- rapid participatory NTFP inventories
- special attention to NTFP use in planning of community activities
- activities on income raising through marketing/processing, sustainable harvesting and domestication of NTFPs
- activities to safeguard access to NTFPs for poor and disadvantaged groups
- activities to safeguard biodiversity through NTFP based forest management
- tools for monitoring changes in NTFP use and availability
- incorporation of NTFP related goals in the project planning cycle

All projects and programs aimed at rural development and biodiversity should have an NTFP strategy, just like they already have strategies on gender and equity. This is the first option for Government, NGO and other aid agencies aiming to support NTFP activities at local level.

Specific NTFP support units or programs at province/district level may have to be set up to support and guide NTFP based activities in various existing programs and projects. These units could follow the model developed by the field teams of the IUCN-NTFP Project. This is a second option.

All rural communities in Lao PDR use NTFPs, but often the communities who live inside or at the edge of forests are more dependent on NTFPs than others. Because they live close to the forest, these communities are best placed to look after the forest. They hold a wealth of knowledge on forests and NTFPs, which is a part of their cultural heritage. These communities often belong to ethnic minorities who are handicapped in their development by their remoteness. Specific NTFP based development programs should be set up for these forest dwelling ethnic minorities to emancipate themselves socially, reduce poverty, preserve their cultural heritage and protect their environment. This is a third option for local NTFP development support.

5.2 Options for developing a support network for NTFP development

Local communities need support from local facilitators. Local facilitators need support from a network of services providing training, research support, information exchange, technical, social, credit and other services. A number of support models were developed and tested by the IUCN-NTFP Project (see section 3.3). There are also existing institutions that could deliver the trainers and researchers to support local level institutions (see Box 9). Some institutional gaps need to be filled, particularly on socioeconomic training and research, ethno-botanical training and research and marketing systems analysis training and research.

The most important need is for a network of training and research support on the national level. Because the needs for support from the field ranges between disciplines so diverse as socioeconomic monitoring, ethno-botany or marketing analysis, there is not one institution that can provide all these needs. What is needed is a networking approach, which allows for informal exchanges of information between many partners. Such a network needs a central coordinating unit, which is independent from any of the partners to avoid governance constraints, yet able to build strong links with all partners.

There is a specific need for a program to record and store ethno-botanical, to effectively monitor national biodiversity (Ridsdale 1998). Lao PDR has been curiously overlooked by botanists: hundreds of species remain to be identified and described. There is no reference herbarium in the country. Local people have a rich store of local knowledge on forest species, which needs to be recorded before it is lost.

- Two other specific national level support needs were mentioned earlier:
- National program for forest products marketing/trade support (see 2.7)
- Regulatory frameworks to strengthen community rights and stimulate fair trade (see 4).

5.3 Conclusions

Government and aid organizations will have to make choices how they will support NTFP development at each level. Some options are:

- Add a NTFP strategy to all rural development and biodiversity conservation projects/programs in the country.
- Set up NTFP development support units at Province and District level.
- Specific NTFP programs for forest dwelling ethnic minorities to emancipate themselves socially, reduce poverty, preserve their cultural heritage and protect their environment.
- National research and training program to support locally adapted NTFP programs.
- National program for forest products marketing/trade support.
- Permanent institution for ethno-botanic data collection and storage.
- Create a regulatory framework to strengthen community rights and stimulate fair trade.

Lao PDR has a remarkable opportunity to build a strong NTFP sub-sector as a basis for sustainable economic development in the Southeast Asia region. It also has the best chances to preserve its rich biodiversity and cultural heritage by strengthening its rural communities. It is not too late, if we all make an effort!

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