

# **Experiences with Market Development of Non-Timber Forest Products in Lao PDR**

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## **Abstract**

Some 70% of the Lao people live in upland communities. Marketing of Non-Timber Forest Products (NTFPs) is their main source of cash income. Most of this income is used to buy rice, as rice shortages are a key issue in upland livelihoods. Therefore marketing of NTFPs is directly linked to food security in the uplands of Lao PDR.

The key trend in NTFP marketing is an increased demand from cross-border markets (China, Vietnam, Thailand). This leads to rapid depletion of some products from the forests (e.g. rattan, orchids, bark products). It also leads to more conflicts between communities on the use of common forest resources. Many local initiatives exist to increase production of NTFPs in gardens.

Yet income from NTFP marketing does not increase. There is a lack of Government regulations on NTFP trade to support private sector development. Prices remain low as products are mainly sold raw, as there are little initiatives to add value through quality improvement or processing. Information on quality criteria or processing methods is not available. There are no systems for capturing and disseminating market information.

The Lao Government and various foreign donor supported projects are supporting local initiatives to link farmers to markets, to manage common forest resources in a context of participatory land use planning and to promote domestication of NTFPs. Some good examples exist of organizing clusters of upland communities to cooperate with the private sector in setting up more efficient and profitable marketing systems.

Recently, the various stakeholders in the NTFP sub-sector have started to make agreements on how to develop NTFP Market Information Systems (MIS) at province level. A national taskforce has just started to develop an MIS at the national level.

At all these levels there is an urgent need to establish partnerships with organizations in China, Vietnam and Thailand, to collect and disseminate NTFP market information. The aim of this paper is to inform individuals and organizations in these countries who deal with marketing development and market information about the situation in Lao PDR and to invite them to discuss modes of possible future collaboration on cross-boundary NTFP market research.

## 1. Role of NTFP marketing for upland communities in Lao PDR

Roughly 70% of the 5.5 million inhabitants of Lao PDR live in the uplands (UNDP, 2001). These communities are characterized by relative poverty, lack of access to primary services, great ethnic diversity, rapid population growth and dependence on shifting cultivation. Lifting these communities out of poverty, providing basic services, reducing negative effects of shifting cultivation and linking communities to markets are key policy objectives of the Lao Government (NPEP, 2004).

Upland communities depend primarily on upland farming, livestock raising and gathering of non-timber forest products (NTFPs). Most of what an upland family produces is consumed directly in the family, only a small part of the produce enters into markets. Food security is a key concern to upland families. They have to cope with regular rice shortages due to poor and unreliable rice production from upland farming systems.

Gathering of NTFPs is the key coping strategy for food security, both directly and indirectly. Direct consumption of forest foods fills a large part of the daily diet (Clendon, 2001). Selling NTFPs brings the daily cash needed to buy rice. Livestock is primarily the source of savings for upland families, who try to limit sales of livestock to big occasions such as paying doctor's fees in case of illness, marriages and funerals.

### **Box 1 Typical NTFPs exported from Lao PDR, found in fallows derived from shifting cultivation, with an estimate of the export volume per product per year.**

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

(Source: Foppes & Ketphanh, 2000)

Roughly 45 % of upland family cash income is derived from NTFP marketing (Foppes and Ketphanh, 2003).

**Table 1: Family cash income from NTFPs per year in four province (values reverted to US\$ equivalents to compensate currency changes of Lao kip (LAK), over time).**

| Location                   | Khammouan | Sayabouri | Luang Prabang | Sekong |
|----------------------------|-----------|-----------|---------------|--------|
| Year of data collection    | 1997      | 2001      | 2001          | 2003   |
| No of villages sampled     | 5         | 12        | 16            | 3      |
| Cash income/family/year \$ | \$ 170    | n.a.      | \$ 259        | \$ 155 |
| NTFP cash income \$        | \$ 69     | n.a.      | \$ 127        | \$ 12  |
| NTFP cash income %         | 41%       | 44%       | 49%           | 8%     |
| livestock cash income %    | 32%       | 8%        | 23%           | 0%     |
| other cash income %        | 27%       | 46%       | 18%           | 92%    |

Sources: Khammouan: (Foppes and Ketphanh 2000), Sayabouri: (Foppes, Phoutharath et al. 2001) Luang Prabang: (Yokoyama 2003) Sekong: (Rosales, Kallesoe et al. 2003).

It is important to note that cash income is only a minor part of the total family budget. In two case studies, non-cash income contributed up to 75-84% of total family income, cash income only 16-25% (see table 2). NTFPs provided up to half of the non-cash income, with an equivalent value of \$269-398 per family per year. NTFPs contributed 39-44% of the cash income, equivalent to about \$200-359 per family per year. More than half of all cash income was used to buy rice, as many upland families cannot produce enough rice to feed their families.

**Table 2: Two estimates of cash and non-cash income per family per year of rural upland households, with special emphasis on the role of NTFP gathering (original values were converted to US\$ equivalents to compensate for currency changes of Lao kip (LAK) over time). Sources: Foppes and Ketphanh, 2004, Rosales e.a. 2003.**

| Location                           | Khammouan (5 villages) | Sekong (3 villages) |
|------------------------------------|------------------------|---------------------|
| Year                               | 1997                   | 2003                |
| Cash income per family per year \$ | 170                    | 155                 |
| NTFP cash income \$                | 69                     | 12                  |
| NTFP cash income %                 | 41%                    | 8%                  |
| livestock cash income %            | 32%                    | 0%                  |
| other cash income %                | 27%                    | 92%                 |
| Non-cash income/family/year \$     | 519                    | 815                 |
| NTFPs for subsistence \$           | 200                    | 359                 |
| NTFPs for subsistence %            | 39%                    | 44%                 |
| Rice consumption                   | 46%                    | 32%                 |
| Firewood                           | 8%                     | 6%                  |
| Other subsistence use              | 7%                     | 18%                 |
| Total cash/non-cash income \$      | 689                    | 971                 |
| cash income % of total income      | 25%                    | 16%                 |
| non-cash income % of total income  | 75%                    | 84%                 |
| \$ of total income from NTFPs      | 269                    | 398                 |
| % of total income from NTFPs       | 39%                    | 41%                 |
| Expenditures for rice buying \$    | 111                    | 87                  |
| Rice buying as % of cash income    | 65%                    | 56%                 |

## 2. Trends in NTFP marketing development

The main trends in NTFP market development in Lao PDR are:

- *Rapid increase in cross-border market demand for NTFPs.*
  - The main markets for Lao NTFPs are China, Vietnam and Thailand. Many new ventures are opened up every year, always on initiative of foreign buyers. Most NTFPs are sold in cross-border markets, yet there is little information gathered along cross-border marketing chains, e.g. for medicinal plants going to China.
- *Rapid depletion of some natural NTFP resources, e.g. barks, orchids, rattans.*
  - The main reasons for this decline are increased market pressures on NTFP resources, loss of forests due to commercial logging and conversion to agriculture, rapid population growth and massive population movements

during and after the war of 1964-1975, growing insecurity on land tenure and access rights, despite Government efforts to regulate this. Table 3 illustrates how communities assess this trend.

**Table 3: Changes in off-takes per effort units for 3 key NTFP's over 10 years (1989-1999), assessed by villagers of Ban Nong Hin, Champasak, 17/2/1999. (Source, Foppes and Ketphanh 2000)**

| NTFP            | 10 years ago   | Today  |
|-----------------|--|--|
| <b>Wildlife</b> | Plenty of wildlife: turtles, monitor lizards, deer, snakes, jungle fowl, other birds. You could easily hunt them in your backyard. There was no outside market, no selling. Only our village hunted (9 families only). | Many species disappeared: turtle, deer, jungle fowl, birds. You can walk for 48 hours and still not get anything. Market demand is big, prices are getting higher (1 mouse-deer costs 12,000 kip). Many outsiders come to hunt in our forest. Village has 57 families now. |
| <b>Fish</b>     | You could catch 4-5 kg within 1 hour. There were only 9 families. No selling, no destructive methods used, only traps and nets.  | You can not even get 0.5 kg in 1 hour. There is not enough to feed all our 57 families. Strong outside market (2,500 kip/kg). Destructive methods used by outsiders: explosives, guns, poison. Decline: 90%  |
| <b>Rattan</b>   | In 1 day, you could get 300 stems, or as many as a man can carry. We used to also have big diameter rattan, now only small diameter species.   | You can only get 20-30 stems in a day. Harvesting has intensified over the last 2 years. 1 stem sells for 200kip. We know there is no quota but we need to sell anyhow. Decline: 90%.  |

- *Increased conflicts between communities on use of shared forest resources.*
  - One forest block is often used by more than one community. Due to population growth, increased market demand for forest products, needs for livestock grazing and firewood, competition among communities is rapidly increasing. Inevitably, this intensive competition for limited forest resources resulted in conflicts of interest between villages. There is no appropriate level for resolving such conflict between the village level, the traditional unit of organization in Laos, and the district level, which covers over 100 villages. Various organizations are experimenting with developing forest use rules for clusters of villages, in a context of participatory land use planning.
- *Many local initiatives to domesticate NTFPs in gardens can be found at community level.*
  - Local communities have a great amount of local knowledge on biodiversity and NTFPs that can not be found anywhere else. Local innovators used this knowledge to develop locally adapted NTFP production systems. Yet these initiatives are not linked to formal research and extension systems, only rarely are they scaled up through extension.
- *Increasing awareness of the need for more efficient market regulations.* The present system of giving quota reduces profits for all stakeholders and does not promote sustainable production:
  - Giving quota to a limited number of registered traders lowers the price for upland communities and does not produce optimal tax income to the state.
  - Systems of taxation and implementing trade rules are confusing and inefficient, they discourage local entrepreneurs as combined tax costs range from 20-50% of export price.

- Registered traders complain about the lack of validity of contracts. Many unregistered traders are still competing with registered traders, this lowers the margins and reduces accumulation of capital needed for investment in the sector.
- The only criteria used for giving quota is an assessment of the financial capability of traders/ e criteria for giving quota to traders are not linked to any assessment of the effect of harvesting on natural resources. There are no methods for linking off-take to sustainable harvesting and/or replacement of lost natural resources by planting NTFPs in gardens.

### **3. Constrains in NTFP marketing development in Lao PDR**

During a stakeholder workshop in Luang Prabang, July 2005, some 200 participants from private sector, government, research and development organizations concluded that the main constraints in NTFP marketing development in Lao PDR are:

- Low incomes because of low productivity and dependence on foreign markets
  - Village producers are not market-oriented
  - Low productivity and low quality, lack of technology , processing,
  - Unstable markets, low prices
  - Limited validity of contracts, investors not protected against small traders
  - Lack of basic infrastructures, lack of credit facilities,
  - Lack of regulations that support market development
- Lack of mechanisms to access market information:
  - Lack of data on product quality, price, methods of data collection,
  - No assessments or reviews are made of the situation,
  - No mechanisms for information exchanging market information,
  - District officers lack capacity to improve market access,
  - Nobody takes responsibility on Market Information, no budgets available
- Lack of models for successful rural market development:
  - Lack of coordination between stakeholders
  - Few models and mechanism in place to promote rural micro-enterprises
  - Few examples of product quality improvement are ready for up-scaling,
  - Very few companies are ready to invest in product processing

### **4. Local initiatives linking farmers to markets**

In all provinces of Lao PDR, local government and aid-supported rural development projects are promoting NTFP production. Only a few organizations have tried to tackle the difficult topic of marketing. Here we present three cases of success in linking farmers to markets, one with NTFPs, two with agricultural products:

- The bitter bamboo shoots selling group, IUCN, Oudomxay
- The clusters of villages marketing peanuts, CIAT, Xieng Khouang
- The district market information system for maize, PCADR-PASS, Sayabouli

**Box 2: bitter bamboo shoots in Oudomxay: case of a village NTFP selling group, IUCN**

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 bitter bamboo shoots (*Indosasa sinensis*) for sale, but the income was never enough. The IUCN/NTFP project assisted them to analyze their problems. 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. Every family agreed to join the village selling group.

The results were above all expectations. In five months, the village sold more 47 tons of shoots and earned 50 million kip or US\$6,670 (on average 1 million or US\$130 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. The selling group is still active at the time of writing this paper (2005). This case had a number of impacts:

- From 1998 to 2002, the poverty rate in the village was reduced to half (from 33% to 18%)
- Village reached full food security by buying rice from bamboo shoot income
- Child mortality went down as medicines could be bought more easily
- Education improved as villagers could fund a teacher to work in their school
- Villagers installed a number of new infrastructures: a rice bank, a 2 room school, 3 water tap, an electricity generator and village electricity system, a rice mill, 2 hand tractors etc. All of these were funded by the revenues of the selling group
- Individual family cash expenses increased as people could afford more for clothes etc.
- The community enforces a set of harvesting regulations to protect their bamboo forests

A similar selling system was adopted by 7 surrounding villages. Many other organizations have started NTFP development projects as a result of visiting the Nam Pheng site, which has become quite famous throughout northern Laos. E.g. during a workshop in 2005, district officers of Oudomxay Province reported 112 villages where NTFP planting, harvesting and selling activities are promoted. In a workshop in Vientiane, 2004, over 50 organizations reported NTFP selling activities throughout all provinces of Lao PDR.

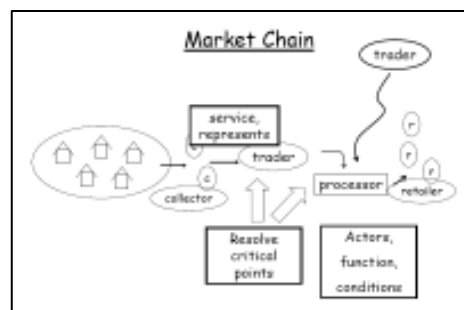
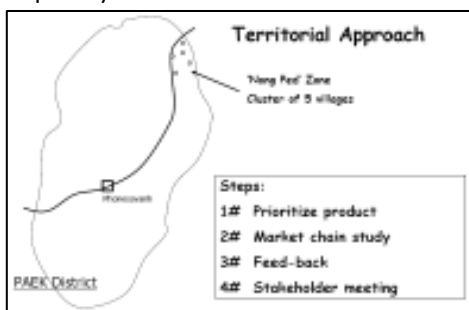
*Source: Morris and Ketphanh, 2003*

### Box 3: Peanut marketing by village clusters in Xieng Quang, CIAT

This case was developed as part of the Small Scale Agriculture Enterprise Development for Uplands, CIAT/SADU, by John Connel and Ounkheo Phattamavong.

Typical agricultural extension approaches often focus on improving farmer technologies, which often take 3-5 years to develop. When marketing problems occur, it is too late to address them. CIAT's agro-enterprise approach works the other way round: it starts with an understanding of markets and acts upon it.

Instead of working village by village, CIAT used a territorial approach, working with a cluster of villages. They set up a committee of villager representatives. CIAT works with this committee to prioritize products, analyze market chains and determine possible actions in a participatory manner.



In a series of stakeholder meetings, villagers and local entrepreneurs focused on peanuts as the most promising crop and identified a number of ways to improve product quality and quantity. The response was impressive. Within one season, all five villages in one cluster were able to double their production of peanuts. They were able to delay selling to get a better price for their products and started to deal directly with larger traders in town.

Following a farmer field trip to another province, some farmers started setting up their own peanut shelling units. This is a good example of the emergence of new business development services. A local machine maker started a new enterprise by making peanut shelling machines.

In short, a number of changes occurred in the marketing chain of peanuts:

- production was expanded
- two new types of enterprises occurred: 1: machine construction, 2: farmer/shellers
- direct trading occurred between farmers and traders
- the activity of specialized shellers stimulated more farmers to get into peanut farming

Now farmers in the areas are trying to apply the same approach to cattle and buffalo marketing.

The agro-enterprise approach provides many good lessons learned:

- Working with village clusters to select products. Zonal representatives participate in market chain surveys and in meetings with traders.
- Linking village clusters with traders ensures rapid expansion of production through improved understanding of market requirements and production constraints.
- Rapid expansion of production created a demand for improved technologies. Farmers were quick to engage in participatory technology development (PTD).

The main challenge that remains is for villagers, district and province staff to adapt this new approach. Start working with village clusters, focus more on traders and markets. Extension staff need to become confident in applying this approach and bring traders and farmers together. CIAT will continue to apply the lessons learned from this approach to new sectors (e.g. livestock) as well as to new provinces (Luang Prabang).

Source: Foppes and Phommasane, 2005

**Box 4: District Market Information System for Maize, PCADR-PASS, Sayabouli**

The project "Projet Commercialization et Appui du Developpement Rural/Point d'Appui Sayabouli Sud" (PCADR/PASS) supports farmers in four southern districts of Sayabouli to improve and commercialize agricultural production. A preliminary analysis of the marketing chains of maize and other export products revealed the follow key issues:

- Lack of transparency in price information makes farmers loose money
- Storage losses further reduce farmers profits
- Lack of on-farm processing reduces farmers ability to add value to products

To solve these problems, the project put in place systems for training extension workers, improved storage systems and a simple market information system (MIS). The MIS was set up in 14 villages. Every two weeks, market prices and other information is collected for 14 products in these 14 villages. At the same time, a fax with actual prices for these products is obtained by fax from the province agricultural office in Loei Province, Thailand, which is the main export destination. All this information is analyzed, summarized and sent back within two days to all 14 villages, in the form of a poster that is displayed on a signboard in each village. This system is implemented by the district commerce officer and one project staff member. Through this system, farmers were able to get better prices for their products.

Besides price information, the project also produced lists of all traders and companies involved in maize marketing, with names and telephone numbers. This booklet is a kind of "yellow pages" for maize marketing in Sayabouli.

The project also took farmers on study tours to Thailand, which resulted in a better understanding of the varieties of maize to be planted (hybrid vs non-hybrid). The project set up a system of distributing suitable planting materials to farmers. Appropriate storage barns made from local materials were also introduced, which reduce storage losses significantly.

In short, the approach of this project could be summarized as follows:

- 1 market chain analysis to understand issues and select key products
- 2 linking farmers to markets through study tours, keep this going
- 3 setting up a recurrent price information system with clusters of villages
- 4 selecting key activities to improve production (seed and storage), implement

*Source: Foppes and Phommasane, 2005*

From these cases, a few common elements seem to emerge for improving market access of rural producers:

- Identifying products, identifying traders, mapping out marketing chains, overviews of market information per province or district
- Training extension staff and farmers in market survey and micro-enterprise skills
- Linking farmers to markets, strengthening farmer groups, clustering villages, exchange visits, study-tours to traders in neighboring countries, etc.
- Identifying options for adding value by planned production, improving quality, processing, storage, making business plans, etc.
- Agreements between stakeholders to circulate market information frequently at local levels by regular workshops, a weekly market information sheet, etc.
- Arrangements for contract farming, supply of inputs and technical information,
- Transparent, streamlined and supportive trade quota and tax policies
- National level information databases, policy support mechanisms



## **5. Networking to develop market information systems**

Upland communities in Lao PDR still have the benefit of access to relatively large tracts of land, compared to neighboring countries. Yet they mainly use these resources for subsistence use. Adding income from marketing agriculture and forest products remains difficult for many reasons. Replacing products that are depleted in the wild with plantations takes time and often requires a considerable initial investment in land preparation and maintenance. Poor road access keeps transport costs high, it is difficult to invest in technology that could add value to products, it is difficult to store products and benefit from seasonal price changes.

Underlying all these difficulties is one common element: lack of information on markets. Who are the customers, where are they based, how is the price set, what are the quality standards, how can we process, store, package and handle products.

Local communities, companies, government and development projects all are becoming aware that they need collaborate to find and share market information. SNV, NAFRI, LSUARFP, Lux-Development and FAO organized a stakeholder workshop in Luang Prabang, 5-6 July 2005. Around 200 participants discussed ways of improving market information systems (MIS) in Lao PDR. The main outcome was that stakeholders would work together to set up a local MIS in each of the nine provinces represented. Such a province level MIS will be built on the existing examples in the country (see section 4 above). It is understood that information exchange has to start from local networking, linking farmers to companies, mapping out the market chain and disseminating bi-weekly information sheets.

On top of these efforts, a national MIS taskforce will be set up to bring information from all provinces together and disseminate this information in and outside the country. The taskforce will also organize network meetings, at least one per year at national level.

## **6. Need for regional collaboration to study cross-border trade**

Most of the forest and agricultural products exported from the uplands are sold to neighboring countries. Lao traders and producers badly need more information on these cross-border markets. For China, the main gate to Laos is through Yunnan Province. The Lao MIS taskforce would be very interested to develop initiatives for marketing research on cross-border marketing chains for upland products, in collaboration with Chinese, Vietnamese and Thai marketing research organizations. Besides marketing chain analysis, topics for co-operation could include:

- Strengthening local communities to organize NTFP production and marketing groups entrepreneurs by organizing producer associations
- Improving business support services for rural micro enterprises
- Strengthen associations of producers and traders at province/national level
- Developing cross-border market and price information systems
- Improving marketing/quota systems and link them to ecological sustainability criteria/indicators
- Adding value by introducing quality control and product processing techniques
- Study the potential of standards-based systems, e.g. product certification
- Linking NTFPs to eco-tourism (tourist are interested in learning about NTFP use)
- Efficient and equitable systems for taxation of trade in upland products
- Regional Agreements on tariffs, on protection of endangered species, etc.

We hope that this paper may contribute to such cross-border co-operation.

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## **8. List of acronyms**

|                 |  |
|-----------------|--|
| CDS             | Centre for Community Development Studies   |
| CIAT            | Centro Internacional d' Agricultura Tropical   |
| FAO             | Food and Agriculture Organization  |
| FRC             | Forest Research Center   |
| IUCN            | Nature Conservation Union  |
| LAK             | Lao Kip (national currency)  |
| LSUAFRP         | Lao Swedish Upland Agriculture and Forestry Research Program                         |
| Lux-Development | Luxembourg Development Program   |
| MAF             | Ministry of Agriculture and Forestry   |
| MIS             | Marketing Information System   |
| NAFRI           | National Agriculture and Forestry Research Institute                                 |
| NERI            | National Economic Research Institute   |
| NTFP            | Non-Timber Forest Product  |
| NPEP            | National Poverty Eradication Program   |
| PCADR/PASS      | Projet Commercialization et Appui du Developpement Rural/Point d'Appui Sayabouli Sud |
| PDR             | Peoples Democratic Republic  |
| SNV             | Netherlands Development Organizations  |
| UNDP            | United Nations Development Program   |
| WWF             | World Wildlife Fund  |