SCALING SIDEWAYS AND UPWAYS: Identifying Factors that Affect the Adoption of Forest-Based Livelihoods Development Interventions in Lao PDR[1]

Executive Summary

Properly planned and executed interventions in the management and marketing of non-timber forest products (NTFPs) by forest-dependent communities in Lao People's Democratic Republic (PDR) can simultaneously reduce poverty and assist in the conservation of forest biodiversity. Evidence of significant and sustained improvements in rural livelihoods arising from such NTFP-related interventions has been seen in several pilot villages in Oudomxai province in northern Lao PDR. In these cases, the NTFP interventions that stimulated these changes were facilitated by an integrated conservation and development project that concentrated its field work in 12 pilot villages. Even more interesting and significant is the extent to which successes at pilot sites were replicated locally by others (scaling sideways), and the degree to which the project influenced the way rural development is pursued nationally, through improved policies and programs in the forest sector (scaling upways).

Local replication and improved forest sector policies and programs are very important for a country like Lao PDR, where 80 percent of the population lives in more than 10,000 villages and have rural livelihoods that are highly dependent on the use of tree and forest resources, especially NTFPs. The study investigated to what extent, how, and why the following interventions undertaken by the National Agriculture and Forestry Research Institute/The World Conservation Union (NAFRI/IUCN) NTFP project at Ban Nampheng were replicated elsewhere. These include:

- rice banks to address food insecurity that drives overexploitation of NTFP resources
- forest land allocation and planning for sustainable NTFP use and management
- NTFP marketing groups and a village development fund created by a local tax on sales
- NTFP processing and grading
- domestication of NTFP species with high market demand

Most of these NTFP-related interventions undertaken at the pilot villages are now found to some extent across the whole country, being spread by a large number of development assistance projects. The most effective means of spreading the ideas to other development projects has been the movement of staff who worked at pilot villages, who either move to other new projects or into influential positions in the government of Lao. The study also found that local replication was happening outside of government and nongovernment development projects for a variety of reasons.

A major finding of the scaling upways study is that it is a project's perceived success at the local level, and to some extent the visibility of the sideways spread of some interventions, which leads to serious national recognition. The involvement of division and departmental directors in NAFRI/IUCN project activities facilitated the flow and exchange of project outcomes during and after the life of the project. This created a lasting impact on national policy as they were the key people involved in drafting subsequent sector policy and strategy papers.

Some key recommendations for follow-up action by various actors in Lao PDR are provided in the interest of enhancing the impact of past NTFP development experience. A number of suggestions are also provided that, while relevant to Lao PDR, are also of relevance to the scaling upways and sideways of similar forest-based livelihood interventions outside of the country. The role of forests in Lao PDR's Poverty Reduction Strategy Paper (PRSP) is also considered, providing a backdrop for the recommendations.

[1] Original document prepared by Andrew W. Ingles, Sounthone Kethpanh, Andy S. Inglis, and Khamphay Manivong, IUCN, June 2006.

Introduction

> "The forests of Lao PDR are one of few potential sources of sustainable economic growth for the country. A relatively large amount of remaining forest resources and the high level of forest dependence by local communities, coupled with the extent of rural poverty in Lao PDR, present unique opportunities and challenges to combine forestry with poverty alleviation approaches to help meet national development goals." (Morris et al. 2004)

From 1995 to 2001, IUCN and the NAFRI of Lao PDR, with funding from the government of the Netherlands, implemented a project to promote the sustainable use of NTFPs. The project had the dual aims of improving rural livelihoods and conserving forest biodiversity. Pilot sites were selected and used by the project to learn about and demonstrate forest-based livelihood interventions that would help achieve these aims. It was envisaged that successes at the pilot sites could be replicated locally by others, and that the project's lessons would have a positive influence on the way development is pursued nationally, through improved policies and programs in the forest sector. *Any local replication of interventions would represent a **scaling sideways** of the project's impacts; and, a positive influence on development policy within the forest sector would represent a **scaling upways** of the project's work.*

While the project's lessons and its impacts at pilot sites have been assessed and documented previously, the extent to which the project's work has been scaled sideways and upways has not been investigated until now. This report presents the findings of a rapid assessment of the nature and extent of such scaling sideways and upways. The assessment was undertaken between December 2005 and April 2006, approximately 10 years after the project began work in pilot sites, and four years after the project ceased operations. The aim of the assessment was to identify factors that determine how lessons learned from development interventions involving forest-based livelihoods are adopted into national policy frameworks or locally replicated at sites in Lao PDR outside the project area. Additionally, information on the role of forests in the PRSP of Lao PDR is also included[2].

The following sections provide some background information about the role of NTFPs in rural livelihoods, the NTFP project, and its impact at one of the pilot sites (i.e. "ground zero" for measuring sideways scaling). This is followed by an outline of the study and presentation of its findings. Some recommendations relevant to enhancing the impacts of projects through scaling sideways and upways mechanisms are offered in the final section.

Background

The Relevance of NTFPs to Rural Livelihoods and Forest Conservation in Lao PDR

Despite the economic growth achieved over the last 15 years, Lao PDR remains one of the poorest countries in the world, having the fifth-lowest Human Development Index in Asia (Emerton 2005). It is also one of the least densely populated countries in the region, but the predominantly rural population is growing rapidly and having an increasing impact on its natural resource base. It has been estimated that although some 46 percent of the original forests of Lao PDR remained in the year 2000 (ICEM 2003), only about 2 percent of the original forest cover was relatively undisturbed and large enough to contain its original biodiversity (Lamb and Gilmour 2002).

Forest loss and degradation continues mainly through land conversions caused by infrastructure development and agricultural encroachment, unsustainable forms of shifting cultivation, overexploitation of forest products, overgrazing, and misuse of fire (World Bank et al. 2001). This presents a problem for both rural development and forest conservation.

[2] Information on the PRSP was inserted by editor.

About 5 million people, or 80 percent of the population in Lao PDR, live rural livelihoods, within which NTFPs[3] play a significant role in food security, income generation, and provision of numerous other nonfood and noncash inputs to households. After rice, wild forest foods dominate the daily diet. More than 450 edible species have been identified, and collectively they provide the bulk of animal protein, leafy green vegetables, and micronutrient intake of rural households (Clendon 2001; Foppes and Kethpanh 2000a, 2000b, 2004; WFP 2004). In remote upland areas, households commonly experience rice shortages for up to three months. NTFPs provide food security either through direct consumption or their barter or sale to obtain rice. The "safety net" function of NTFPs is even more important in bad times when crops fail or are destroyed.

The World Food Programme (WFP) of the United Nations first undertook a nationwide survey of forest-based food security in 2004 (WFP 2004). It found that all villages in the country had some dependency on forests for food, and about 41 percent were dependent on food obtained from forests within and around Lao PDR's national system of protected areas. More significantly, 24 percent of all villages were found to be dependent on forest foods, but only have access to mostly degraded forests, and as a result suffer from food insecurity (WFP 2004). The WFP says these villages require a priority intervention in food aid as a result of declining forest resources.

The government of Lao PDR has set aside 12 percent of the country's land area (30,000 square kilometers) as National Biodiversity Conservation Areas (NBCAs) within a national system of protected areas. These protected areas are shown on the map presented in figure 1, and represent the cornerstone of forest conservation strategies in Lao PDR. There is a clear overlap of food security concerns and forest conservation interests in nearly half of all the villages.

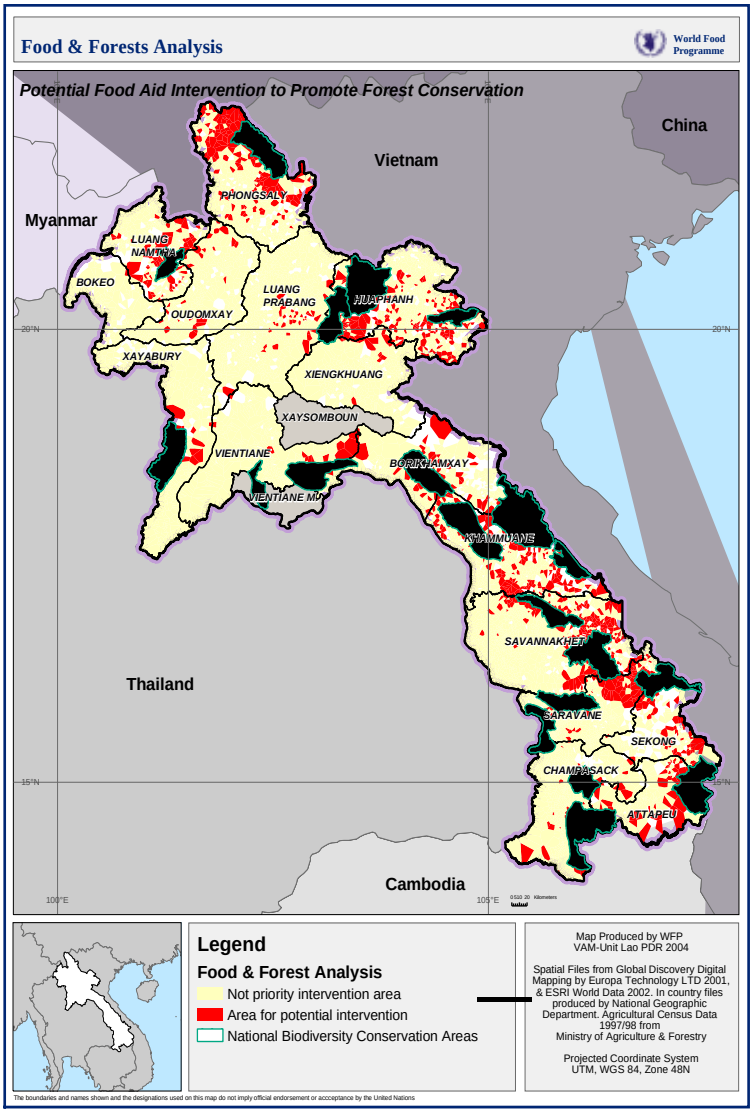
In such villages, NTFP sales commonly generate about 50 percent of cash income to households (Foppes and Kethpanh 2000a, 2000b, 2004; Ingles et al. 1999; Morris et al. 2004). These sales are very important because they allow the purchase of goods and services in situations where there are few alternative income sources. In addition to food and cash, NTFPs also directly provide fuel wood, medicine, building materials, tools, handicrafts, fibers, resins, and dyes used in the subsistence-oriented livelihoods commonly found in Lao PDR. The total economic value of NTFPs consumed or sold by households is considerable.

In one study undertaken in the poorest district of the poorest province of Lao PDR, total NTFP use was estimated to be worth an average of US$313 per household per year in a province where the average per-capita GDP is a mere US$204 per annum. NTFPs were found to contribute one-third of the household economy; almost all energy, medicinal, and building needs; 80 percent of (non-rice) food consumption by weight; and 30 to 50 percent of all protein types (Emerton 2005).

Nationwide, it has been found that the dependency on forests for domestic consumption and income-generation purposes is highest for the poorest households, and of greatest importance to women because they dominate (non-hunting) collection and management of NTFPs (Foppes and Kethpanh 2000a, 2000b; Ingles et al. 1999; Broekhoven, 2002; Morris et al. 2004). At the national level, forest products, including timber and NTFPs, have played an important role in export and foreign exchange earnings. Broekhoven (2002) reported that between 1994 and 1998, NTFPs contributed between 13 percent and 49 percent—or an average of 28 percent or $90.2 million—of total exports. Variation is mainly due to the volume of NTFPs exported in different years, which rose as high as 50 percent of total forest exports in 1995 and 1996.

[3] The term NTFPs is used in its broadest sense to include all non-timber products collected from forested landscapes, including closed and open forests, individual trees, tree plantations, shrub lands, regrowth from shifting cultivation, wetlands, and other freshwater habitats.

Figure 1: Forest Food Security and Forested Protected Areas in Lao PDR



Source: WFP 2004.

In addition to the official records, there is a significant informal or illegal (and hence unregistered) export of NTFPs within the region that has yet to be quantified comprehensively. However, the value of the wildlife trade alone is substantial. An estimate of the value of wildlife traded along one road going into Vietnam in 2000 came to a total annual value of US$11.8 million at Chinese wholesale prices (Broekhoven 2002). It is believed that shipments of wildlife products may have increased in value in recent years, and that a large part of the internal trade in wildlife meat is not for subsistence, as is often assumed (Nooren and Claridge 2001).

Lao PDR's PRSP: National Growth and Poverty Eradication Strategy[4]

Lao PDR's National Growth and Poverty Eradication Strategy (NGPES) is the first full poverty reduction strategy prepared by the government. The strategy builds on a number of government documents, including the Interim PRSP (I-PRSP), approved by the government in March 2001, and followed by the National Poverty Eradication Program (NPEP), which was developed through a participatory process

[4] Information summarized by the editor from (Lao PDR 2004) and (The World Bank 2004)

with full ownership of the government. The NPEP was reviewed and upgraded to become the NGPES, and was approved by the National Assembly in February 2004. It was transmitted to the World Bank and IMF in September 2004.

The process of preparing the NGPES was led by the government. The NGPES committee formed to oversee the process drew membership from key ministries and agencies and representatives from several mass organizations. The government implemented a Participation Action Plan supported by the UNDP and other donors during the NGPES process. In addition, there have been intensive consultations with donor partners, civil society and the private sector. In addition to consultation with official mass organizations, such as the Lao Women's Union, discussions were held with the private sector, academics, and provincial representatives. As the next Five-Year Plan is being prepared, it is recognized that further efforts are needed to increase participation of all stakeholders in the NGPES process.

The three pillars of the strategy aim at: (i) fostering economic growth with equity; (ii) developing and modernizing Lao PDR's social and economic infrastructure; and (iii) enhancing human resource development. Prudent monetary and fiscal policies, combined with broad-based structural reforms to promote private sector-led development, are viewed as key to achieving the government's economic goals. The government also emphasizes the importance of rural infrastructure to achieving the goals of the NGPES. A large part of the country is rural, and the rural poor constitute the majority of the country's poor. The NGPES puts high priority on the need to tackle issues of equity, for example, between upland and lowland rural communities. The NGPES also outlines the issues associated with reaching the long-term goal of establishing a nationwide land administration system and providing secure tenure to all eligible land holdings. The government's strategy for enhancing human development is comprehensive, and the NGPES contains a strong agenda for improving education.

The five areas of priority for the government are to: (i) sustain growth and ensure macro-fiscal sustainability; (ii) strengthen public financial management and governance; (iii) improve social outcomes and reduce vulnerability; (iv) strengthen natural resource and environmental management; and (v) build capacity for implementing and monitoring the NGPES.

The Role of Forests in the PRSP

The government is committed to reversing deforestation and to achieving 60 percent forest coverage by 2020. To achieve that, the management of forests needs to be strengthened to deal with such issues as a lack of an integrated land and forest management system, insufficient law enforcement, weak institutional capacity, and the lack of funds and resources. The government strives to implement the following measures to alleviate poverty and to ensure more sustainable management of Lao forests:

- enhancing village-based natural resource management for poverty alleviation
- revising the system for harvest determination, from a focus on capacity of the wood industry to a focus on sustainable supply
- restructuring the wood industry in Lao PDR to bring processing capacity into closer accord with a sustainable raw material supply
- controlling unsustainable harvest and export of NTFPs by unregulated traders, and promoting sustainable participatory management and processing of NTFPs
- promoting tree planning; formulating mechanisms for certifying sustainable managed tree plantations
- preventing encroachment, illegal activities, and biodiversity degradation by effective law enforcement, capacity building, and the participation of villagers in conservation activities
- formulating a national land-use policy and introducing land-use planning at both the macro and field levels

The Pilot Site of Ban Nampheng and the NTFP Project

Ban Nampheng is a small village of some 50 households located in Oudomxai province in the mountainous north of the country. In 1996, it was selected as one of 12 pilot sites for the NAFRI/ IUCN NTFP project because it represented a typical situation where poor, upland farmers have forest-based livelihoods, which are dominated by the cultivation of upland rice in shifting swidden fields, and by the exploitation of NTFPs from standing forests and regenerating swidden fields.

The aim of the project's work at Ban Nampheng was to demonstrate sustainable systems of NTFP use that would contribute simultaneously to forest conservation and human well-being (Ingles and Karki 2001). This aim was split into five objectives to provide greater clarity to the design of interventions at the pilot site, as follows:

1. Sustainable harvesting: To develop sustainable systems of NTFP harvesting that contribute directly to the conservation of forest biodiversity.
2. Community forestry: To promote community-based organizations that can manage and monitor the use of their forest resources through sustainable use of NTFPs.
3. Domestication: To reduce pressure on forests and improve the well-being of village communities through domestication of NTFPs outside forests.
4. Well-being: To reduce pressure on forests and to improve the ability and motivation of village communities to manage forests by improving the well-being of people and communities.
5. Marketing: To motivate forest users to manage forest resources sustainably by increasing income derived from forest products through improved marketing and processing of NTFPs.

As will be seen in the following sections, activities undertaken under objectives 1, 2, 4, and 5 were the most influential in creating positive changes in people's livelihoods.

The project promoted a participatory approach to the planning and implementation of interventions at Ban Nampheng, using Rapid Rural Appraisal and Participatory Rural Appraisal tools. In early 1996, the following situation in regard to NTFP use was thus diagnosed:

- NTFPs were being overexploited, and poor prices were being received from traders because local collectors:
    - had taken loans from traders[5] during rice-deficit periods, which were repaid later with agreed quantities of NTFPs
    - lacked secure access rights to the forests and had to compete with outsiders during peak collection periods
    - lacked adequate market information
    - were adding little value to products through grading and processing
    - were in open competition with other sellers; and,
    - sold valuable NTFPs by the bundle, rather than by weight.
- Opportunities to invest in NTFP-based activities or other livelihood pursuits were limited by the absence of village infrastructure, credit services, and alternative income sources.
- Development opportunities for women were further restricted due to their heavy workloads.

In response, a number of project interventions were undertaken in Ban Nampheng to address these problems and contribute to the five objectives for pilot sites as described above. The main interventions are presented and explained in table 1.

[5] Although the loans provided by traders was seen as a negative "service," locking assets and cash-poor people into low-price agreements at vulnerable times of year, some villagers still commented on this service in a predominantly positive light.

Table 1: Main NTFP Project Interventions in Ban Nampheng

INTERVENTION & PURPOSE	KEY RESULT
Village rice bank: A store of rice and an organization was established to allow the village to cope with their rice-deficit period better and reduce the pressure to collect NTFPs to pay off loans to traders	Replaced the need to overexploit NTFP resources and sell too cheaply to traders because of loans taken to buy rice
Forest land allocation and collaborative management: Land-use planning and an agreement was made with the government for village management of specific forest areas and for spatial confinement of shifting cultivation	Provided secure forest access and use rights to a defined user group, allowing for (better) harvesting rules, off-take regulation, and investments in forest management
Marketing groups: An organization was established that developed agreed rules for harvesting and selling bitter bamboo shoots (*Indosas sinensis*) and cardamom pods (*Amomum spp*.). The organization also created and managed a NTFP development fund generated through a locally applied tax of 10% on NTFP sales	Organized collusion in price setting, enhanced knowledge of market prices, grading and processing (see below), and selling by weight using scales resulted in significant increases in income to households and better returns for labor inputs[6]. A successful village development fund was created. The organization continued to facilitate further development of marketing strategies and facilities.
Grading and processing: Capacity was built for adding value to cardamom pods (*Amomum spp.*) used in the production of Chinese medicine	Significant increase in income from cardamom sales occurred because of improvements in the quantity and quality of the product through drying and grading
Drinking water supplies: A local drinking water supply scheme was established	Reduced time was spent by women and children in fetching water, allowing more time for participation in NTFP collection and in marketing and savings groups
Women's savings group: An additional organization was created to encourage the effective use of additional cash circulating in the village	Provided credit for local initiatives and strengthened collaboration within the village
Domestication of important NTFP species: Planting trials were undertaken for three NTFP species, paper mulberry (*Broussonetia papyrifera*), cardamom (*Amomum spp.*), and eaglewood (*Aquilaria spp.*)	A marginal increase in the resource base and some raised awareness about the concept of domestication generally occurred

In regard to forest conservation, both local users and government officials have consistently reported that the condition and productivity of forests allocated to Ban Nampheng have improved since 1996. Illegal cutting of timber is reported to have decreased because of increased food security and the enhanced returns from NTFP collection. While the value of NTFPs from the forests has risen, increasing the general pressure for harvesting, villagers believe that they have greater control over such pressure through the allocation of exclusive use rights to them, and the establishment of harvesting rules among the user group (Morris et al. 2004). In addition, grazing pressure on surrounding forests has been reduced

[6] As an example, the local price for cardamom was raised from 500 kip per kilogram to 35,000 kip per kilogram in 1998, and although prices later dropped, prices of around 12,000 kip per kilogram were sustained over time (Morris et al. 2004) (US$ 1 = about 10,000 kip)

because of new investments in animal husbandry that have changed livestock numbers. There are fewer cows and goats, and instead are more chickens, pigs, and buffalo.

However, information about the impact of NTFP-related interventions on forests remains largely anecdotal. Changes in forest composition and structure need to be quantified through formal surveys.

The Positive Impacts on Livelihoods at Ban Nampheng

An assessment of the impacts of the NTFP project's interventions on livelihoods and poverty at Ban Nampheng was undertaken in 2002 and published by Morris et al. (2004). The main findings from this study are summarized here, alongside updated wealth and development indicators collected in early 2006.

Participatory poverty assessments were undertaken in 1996, 2002, and 2006. Such assessments use locally recognized indicators of wealth and poverty[7] and require village informants to rank each household accordingly. Fourteen households graduated one wealth class between 1996 and 2002. Over the next four years, another seven households graduated one wealth class, while previous gains were held by all but one household that slipped back a class. Overall, the proportion of households in the poorest wealth class fell from 33 percent in 1996 to 13 percent in 2006.

Table 2 presents changes in key development indicators for Ban Nampheng over the same period of time. Notable changes include the attainment of food security, the eradication of child mortality, the doubling of school enrolment rates (gender balanced), and the increases in livestock. The village has also benefited from new infrastructure, equipment, and services, which have been supported by the NTFP project, the NTFP development fund established by the marketing group, and indirectly through private loans made from that fund.

In 2006, it was found that the sale of NTFPs still dominates household income sources, providing approximately 60 percent of cash income to households, mainly from the sale of bitter bamboo shoots. The next most important source of cash income is animal husbandry (20 percent), followed by cash cropping of sesame seeds and corn (15 percent). On average, each household is earning about US$200 per year by selling bitter bamboo shoots. Recently, the village head has reported that Ban Nampheng has become locally famous for its development success, and he now holds applications from 30 households located elsewhere, requesting permission to move and settle in Ban Nampheng. This is significant given that there are only about 50 households residing in this village. Both the process for considering these applications and the extent to which new arrivals will be permitted is unknown at this stage.

[7] Locally recognized indicators for each wealth class are as follows: **Well-off**: permanent house, equipment and accessories (e.g. truck, TV/VCD), enough money or rice for one year, some livestock, and enough labor. **Middle**: semipermanent house (i.e. thatched grass roof, stripped bamboo walls), insufficient money or rice for half year, few livestock, and enough labor. **Poor**: temporary house (i.e. bamboo or small trees for beams and pillars), insufficient rice for full year, no livestock, and insufficient labor (Morris et al. 2004).

Table 2: Changes in Village Development Indicators, 1996 – 2006

Development indicators	1996	2002	2006
Food security	25-30 households lacked rice for 3-4 months, during which time they had to leave the village to hire out labor or cut timber illegally	Now rice is "not much worry" and no longer need to hire out labor or cut timber	Secure
Child mortality (under 5)	10	0	0
Illnesses	Malaria, diarrhea and lung infection (for elderly)	Same illnesses, but now able to access medical services and purchase medicines	Same illnesses, but now able to access medical services and purchase medicines
Formal education	30 children	67 children	67 children
Agriculture & forestry	0 hectares of paddy rice 45 hectares of upland cultivation Forests not allocated	5 hectares of paddy rice 30 hectares of upland cultivation 515 hectares of allocated forest	10 hectares of paddy rice 30 hectares of upland cultivation 520 hectares of allocated forest 5 hectares of fruit orchards 4 fish ponds
Animal husbandry	60 cattle 10 buffalo 13 goats 30 pigs 100 poultry	28 cattle 12 buffalo 55 goats 40 pigs 200 poultry	17 cattle 19 buffalo 12 goats 120 pigs +1,000 poultry

In summary, it can be argued that the main reasons why poverty rates were reduced in Ban Nampheng were that food security was achieved, mainly through the NTFP project's rice bank, forest land allocation, and marketing group interventions, which increased the income from NTFP sales with which to buy rice. Available labor increased through improvements in health care and nutrition, and the returns on labor from NTFP collection and sale were increased significantly. In addition to its major role in helping to reduce poverty levels in the village, the NTFP project's interventions also provided a basis for further economic development through the establishment of an NTFP marketing group and NTFP development fund. These paid for improvements in formal and informal education, and provided credit in support of private equipment purchases and investments in agriculture, trading, transport, and animal husbandry. Also, the substantial and robust increases in NTFP-based incomes have allowed for private investments and livelihood diversification.

It is clear that the NTFP project's interventions have had a significant, positive, and long-lasting impact on Ban Nampheng village. The combination of the NTFP-based interventions, and the subsequent and related activities undertaken by the villagers themselves, have provided resources, capacity, and options for further development. In this way, NTFP development has provide households with an "escape ladder" out of poverty.

Information Flows from Projects within the Ministry of Agriculture and Forestry (MAF)

Policy making in the forest sector is usually a long process, involving officials at many levels. Senior staff, mainly at the director of division and department levels, are responsible for facilitating the process

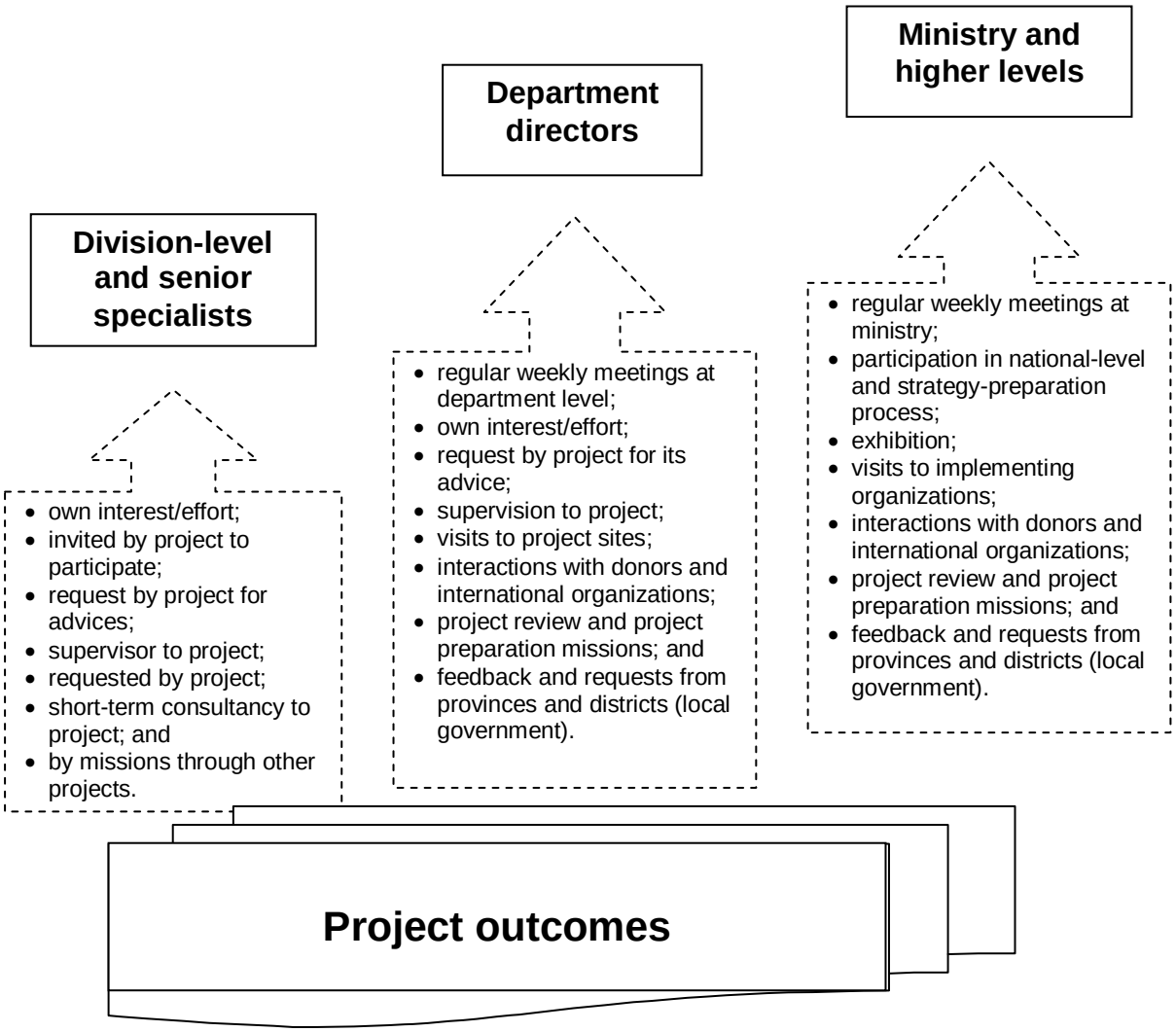
and drafting a policy document. For the NTFP subsector, the Forestry Research Centre (FRC) and project directors of all NTFP projects have played an important role in drafting NTFP-related policies at the national level. Often, they have been assisted by external advisers or consultants. FRC staff has had the advantage of receiving reports from projects regarding their progress and achievements, and other information received through regular meetings at the department level.

It is not clear how project outcomes reach to higher levels beyond line departments because it was not possible to engage with decision makers at those levels. However, through discussion with senior officials who were directly involved in the development of the Forestry Sector Strategy (Vision 2020) and the National Biodiversity Action Plan (NBSAP), the following information flows were identified:

- regular reporting in weekly meetings at the MAF
- visits of high-level staff to implementing agencies like the Forestry Department, NAFRI, FRC, and other field stations
- participation of staff in national-level meetings, e.g. donor coordination meetings and meetings specifically organized for strategy preparation processes
- project reviews and project preparation missions
- interactions with representatives of donors and international organizations
- exhibitions at the ministry in celebration of important days
- feedback and requests from the field during field visits in project areas. Recognition of the importance of project outcomes at provincial and district levels was important.

Figure 2 presents a generalized overview of how information generated by projects such as the NAFRI/ IUCN NTFP project flows to key decision makers within the MAF. This ministry is responsible for establishing overall policy objectives and strategies within the forest sector, and approving specific programs and projects supported by overseas development assistance. Key informants from within the ministry were interviewed to determine the extent to which the NTFP project contributed convincing information to decision makers and influenced other programs and projects in the country.

Figure 2 Learning from projects: Information sources and flows



Study Questions and Methods

The study focused on finding out how the positive achievements of the NTFP project at Ban Nampheng have been expanded locally, and how the project's outputs have been used and scaled-up at the national level. A number of key questions were formulated to guide data collection, as follows:

1. What is the nature and extent of the replication of NTFP interventions undertaken by the project at the local level?
2. What were the factors that influenced local replication?
3. What did the NTFP project do to try to scale-up successful NTFP development policy and practice?
4. To what extent are the project's products and services perceived to have contributed to NTFP policy and practice?
5. What could be done to enhance both the replication of local-level interventions and the scaling-up of successful NTFP development policy and practice?

Information regarding local replication was collected by a field team using common Rural Rapid Appraisal (RRA) tools. Following visits to Ban Nampheng, the local district town, and the provincial

center of Oudomxai, the team selected 23 villages in which to investigate local replication of the NTFP interventions undertaken in Ban Nampheng. Twelve of the selected villages are located in Oudomxai province, and the remainder are located in the two neighboring provinces of Luang Namtha (three villages) and Luang Prabang (eight villages). The selection of these villages was subjective, based on the awareness of government officials about any NTFP-based developments having occurred in these villages in recent years.

The field team worked with government officials, project staff, NTFP traders, and people from each of the three wealth classes (well-off, medium, and poorest) in the 23 villages to determine how the spread of ideas and local replication were being facilitated by promoters or adopted by users. Information was generated using participatory research methods such as timelines and Venn diagrams. After the initial data on the sideways spread was collected and analyzed, a workshop was organized in Oudamxai on March 2, 2006, to share and check the data with a number of key informants, and to elicit recommendations relevant to question number 5 above.

A second team of researchers reviewed the literature, interviewed key informants, and circulated a questionnaire to gather information about scaling upways and the nationwide spread of the project's work. After the initial data on upways spread was collected and analyzed, a workshop was organized in Vientiane on February 23, 2006, to share and check the scaling upways data with a number of key informants, and to elicit recommendations concerning question number 5 above.

Finally, a third workshop was conducted at the national level in Vientiane on March 9, 2006, to further add to the overall data set. Its analysis and recommendations are presented in the sections below.

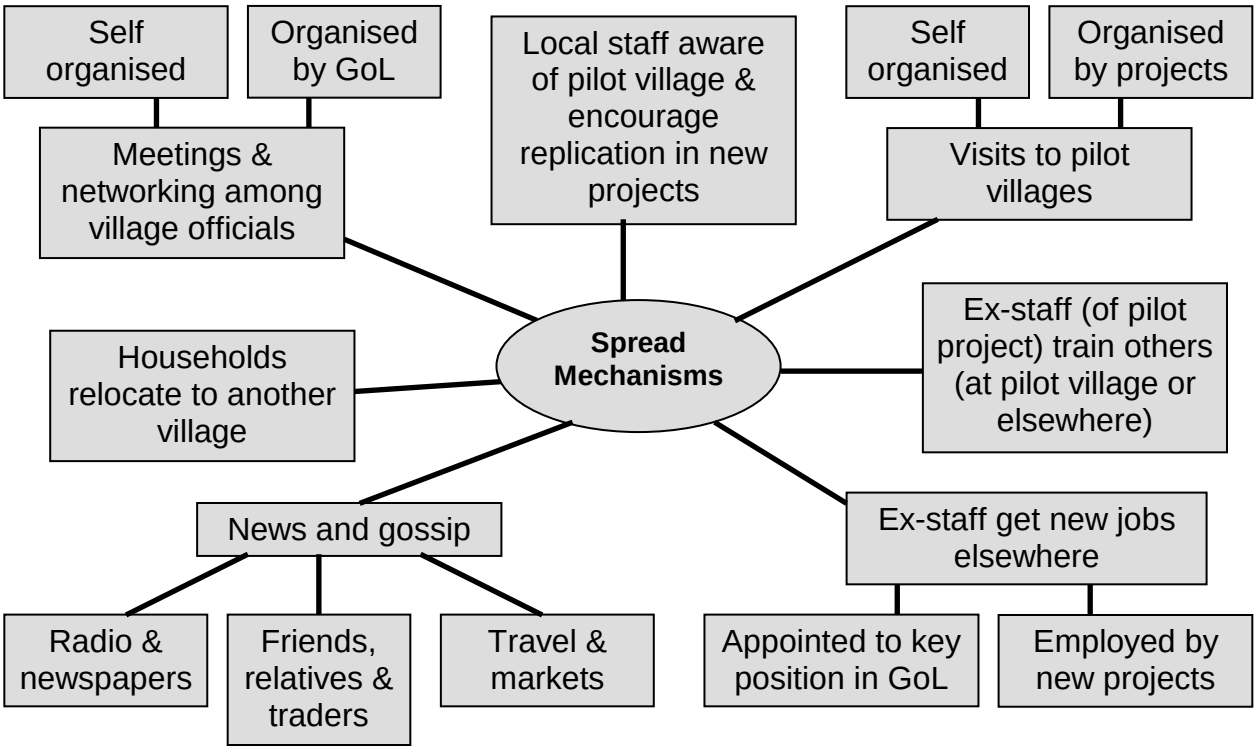
Findings about Scaling Sideways (the Horizontal Influence of the Project)

Replication of Pilot Village Interventions Elsewhere in Lao PDR: Extent and Mechanisms

This study investigated how, to what extent, and why the interventions—as described previously,—undertaken by the NAFRI/IUCN NTFP project at Ban Nampheng were replicated elsewhere. While the detailed field study mainly focused on Oudomxai, and to a lesser extent Luang Prabang and Luangnamtha provinces, it was established at the national workshop undertaken for this study that most of these interventions are found to some extent across the whole country. This is a significant finding about the overall geographical spread of the NTFP-related developments across the country. In all cases, replication has been supported by development projects undertaken in partnership with the government of Lao. However, as is explained later, this finding has a lot to do with the geographical consequence of upways spread, rather than from extensive local replication directly from pilot sites alone.

Results from the survey of 23 villages in the north of Lao PDR, which are relatively close to the pilot villages of the NTFP project in Oudomxai province, show that a large number of spread mechanisms were reported and observed. These are clustered and presented graphically in figure 3.

Figure 3: Mechanisms contributing to the sideways spread of the NAFRI/ IUCN NTFP Project interventions



What Spreading Mechanisms Worked Best, and Why?

From the local villager perspective, it was felt that project-sponsored visits/study tours of villagers to the pilot village were the most effective means of spreading the ideas among users. This was also the view of villagers of Ban Nampheng. In particular, it emerged that the most significant motivation for local replication appears to come from seeing first hand the opportunities created by the social arrangements and the socioeconomic progress provided by the interventions (organizational development, personal enrichment and empowerment, improved health indicators, etc.), rather than from the NTFP developments alone or directly. For example, in Ban Nampheng, village development funds derived from the NTFP marketing group paid for an electricity system, a village meeting hall, and the salaries of teachers. These, when seen or heard about by others, generate the key motivation to replicate NTFP-based interventions.

The good and growing reputation of Ban Nampheng as a community, at the district and provincial levels, is a major factor, and is one that locals are aware and proud of. Prior to the NTFP project work in the village, it had a "bad" reputation, perceived by some government of Lao officials as being a difficult\ and problematic place to work with the community. The fact that Ban Nampheng received a government of Lao award for improvements in social well-being for five continuous years sparked a lot of local interest and gossip. The relay of this news (via media, travels, markets, friends, and relatives) from the pilot village in turn created even more interest and awareness, leading to private fact-finding visits and discussions between village leaders within the district, and to pressure being put on officials and projects to copy Ban Nampheng.

From an analysis of all the observations made and comments received during the "sideways" research, the field teams are of the view that the most important single element that attracted interest was probably the successful establishment and sustained existence of the marketing group. Interest also was supported

by other factors, such as the forest land allocation focus on NTFP identification and planning, and the effect of stronger regulations on NTFP harvesting. Another important factor generating interest is the capacity of Ban Nampheng to use its village development fund in an effective and efficient way.

Factors that Influence Local Replication

This section reports on what the study found out about attitudes, opinions, and observations at the local level, the "receiving end" of the spread. It sheds light on the adopters' or "users' " perspectives about NTFP development in general, and about some specific interventions facilitated by the NAFRI/IUCN project in pilot sites.

Data from the 23 villages indicates that all wealth groups were more or less equally interested in NTFPs due to income-generation opportunities and the limited labor required to exploit them. The poorest groups appear relatively more interested in the ease of trading in NTFPs and the establishment of rules associated with their collection. It is interesting to note that respondents in the well-off group expressed the perception that NTFP development contributed to forest conservation far more often than did the other two groups. A high level of concern by all wealth groups regarding unsustainable NTFP harvests, and the importance of maintaining the health of local forests, were also shown. Hopefully, this may indicate that as well as recognizing the harvesting-related benefits, people from all wealth groups are aware of the importance of the husbandry aspects and associated management regulations. Given the fact that both of these perceptions were commonly put forward, there is hope that NTFP use from natural forests can be sustainable. The poorest groups show relatively more concern for the availability of wild NTFP resources, labor (a key local indicator of poverty), and external technical support. This finding reinforces that idea that NTFP projects can successfully engage the poorest groups in activities that are of high interest and relevance to their needs and capacities. The data also suggests that there are equity issues requiring further investigation, as indicated in the concerns of the poorest group regarding the allocation of cardamom plots to households, and theft from NTFP plantations.

Forest Land Allocations for Sustainable NTFP Use and Management

The idea to dedicate forests for NTFP collection through a forest land allocation (FLA)process came mostly from district government of Lao staff, and project staff. In other forest-dependent villages, especially in the Namo district, where the Lao-Swedish Forestry Programme (LSFP) is working actively, it was reported by the District Agriculture and Forestry and Environment Offices (DAFEO) that the practice would be replicated in most of the LSFP pilot villages.

While the forest land allocation processes were generally seen as positive factors in bringing about sustainable NTFP use, concerns about the degree to which the allocated forests could be protected from external use were commonly expressed, especially in regard to the lack of physical demarcation of forest boundaries, and the (sometimes) significant distance from settlements to allocated forest areas.

Domestication of NTFP Species with High Market Demand

The Provincial Agriculture and Forestry Office(r) (PAFO) Oudomxai reported that many districts have initiated NTFP domestication activities seen in Ban Nampheng. NTFP domestication was found in 16 of the 23 villages included in this study. Domestication was found to have been promoted mostly by projects rather than by villages, and the choice of NTFP species was dependent on local ecological conditions and market demands.

NTFP Marketing Improvements

In the 23 villages involved in the study, four villages reported the establishment of an NTFP marketing group. The effectiveness and sustainability of these groups are uncertain. Unfortunately, it was apparent that marketing groups have not been encouraged or supported by all projects. While this intervention was

one of the most successful in terms of helping to reduce poverty in the pilot village of the NAFRI/IUCN NTFP project, it is the intervention that has been replicated the least by other projects.

Rice Banks

Of the 23 villages studied, only seven villages have, or have had, a rice bank. In all villages that have had a rice bank, they were spread and supported by projects with local government of Lao support. In Oudamxai province, German Agro in Action Accord (GAA) (one of the projects that hired former NAFRI/IUCN NTFP project staff), has played an important role with regard to replicating rice banks. The role of a rice bank is to indirectly reduce the need to overexploit NTFPs to deal with rice deficits. It was one intervention in a package that addressed the interconnected issues of forest use and access rights, food security, and organized NTFP marketing. The fact that there was no apparent relationship between the establishment of rice banks and the other NTFP interventions is evidence that an understanding of the links between the different interventions in the package has not spread. Rather, individual interventions spread independently and lose their linkages as part of an overall NTFP intervention strategy.

Findings about Scaling Upways (the Vertical Influence of the Project)

Dissemination of Project Lessons within the Forest Sector

As a pioneering project in the field of NTFP development in Lao PDR, the NAFRI/IUCN NTFP project went to great effort to learn, document, and present its lessons to a wider audience. A total of 23 different types of documents were published by the project for wider dissemination, such as technical reports, training manuals, workshops, posters, videos, and leaflets on NTFP species. Additionally, a number of services, such as hosting visitors, organizing networking events, and supervising student projects, were provided during its period of operation to enhance the dissemination of project knowledge and experience at the national level.

Perceptions about the Influence of the Project

Positive Influences

All questionnaire respondents expressed a view that the NTFP project has significantly influenced NTFP development in Lao PDR. A number of positive contributions were mentioned by the respondents to the questionnaire and by participants at the consultation workshops organized for this study, and include:

1. Awareness about the importance of NTFPs was raised tremendously
2. A scientifically credible knowledge base about NTFPs was created
3. National capacity for NTFP management and development was built up
4. Models for sustainable management of forest resources were developed
5. NTFP developments were undertaken to improve livelihoods, and this influenced rural development programs
6. Convincing arguments were made that helped to reorient government policies toward the sustainable use of NTFP resources, and donor interest and interactions with the government for expanding NTFP development to other areas was enhanced

Negative Influence of the Project?

Only one respondent provided an observation on the negative impact of the project, relating to the perception that the project has increased the profile of NTFPs, and thus the harvesting pressures on NTFP resources generally. Such pressure would threaten NTFP resources because the pace of adopting

proper management systems is too slow to catch up with the increased interest and market demand for certain products to sell to large and resource-scarce neighboring countries.

Convincing Project Outcomes

Respondents were also asked to identify what project outcomes were the most influential in regard to stimulating future action. Results show that community-based approaches to NTFP management were the most influential. The next most influential work of the project was the knowledge base it created, followed by the bamboo shoot marketing group. This is an interesting result when compared to the major finding from the sideways scaling study, which found that the technical aspects of the project's work were more likely to have been replicated locally. This may represent a disconnect between what central-level officials see as the main achievements of the projects, and what provincial- and district-level officials are able to achieve in the field, unless they have been able to hire an ex-project staff member.

Discussion, Recommendations, and Suggestions

Some key recommendations for follow-up action by various actors in Lao PDR are provided below in the interest of enhancing the impact of past NTFP development experience. A number of suggestions are also provided that, while relevant to Lao PDR, are also of relevance to the scaling upways and sideways of similar forest-based livelihood interventions outside of Lao PDR. These recommendations and suggestions are consistent with those made in the PRSP concerning the role of forestry in poverty alleviation.

It should be noted that a number of these suggestions were provided by survey respondents and participants in the three workshops organized in support of this study.

Regarding Scaling Sideways

In general, the sideways spread of local NTFP-related development in Lao PDR, inspired by the NAFRI/IUCN NTFP project, has been impressive. Not only are the project's interventions being copied to some extent by other projects, but it is quite clear that every local professional (project, government, and NGO staff) is aware of where the ideas have come from and been demonstrated, and are happy to acknowledge the source.

However, it is a cause for concern that relevant government of Lao officials are not facilitating the replication of the NAFRI/IUCN project interventions in their day-to-day work (i.e., without external project support). This is unfortunate because it significantly limits local replication facilitated by the development promoters. Presumably, this situation is of interest and concern to current projects regarding what will happen after they finish. While there is a high level of awareness and support for replication among Lao government officials, proactive and even reactive and requested support is still limited on the ground, arising perhaps from inadequate direction and internal budgetary provisions, rather than from a lack of technical capacity.

Relevant recommendations and suggestions include:

Recommendation R1: The Department of Forestry (DOF) should initiate an internal review of the constraints for sideways scaling of NTFP interventions by the PAFO and the District Agriculture and Forestry Office (DAFO) in the absence of project budgets and other support. See also the related recommendations in the section dealing with upways scaling.

Suggestion S1.1: Thought should be given to providing a dedicated and secure "internal" funding source to pay for sideways spread of activities for a period of time after a project is completed to enhance the chances of direct official support to these efforts when there is no other externally funded project assistance available.

It is also a cause for concern that the more technical aspects of NTFP production are being replicated to a greater extent (currently at least two times more often) than the social organization aspects of NTFP management, as discovered in the 23 villages included in this study. In fact, the replication of the key social elements (e.g., marketing groups) was found to have been better performed by ad hoc, user-driven mechanisms, rather than by projects. The notable exception is the GAA project, which appears to be the only project which is making the effort to give due attention and support to NTFP marketing groups and the creation and management of village development funds. It is unfortunate that all the current projects are not adequately aware of the importance of social organization to underpin NTFP development. With regard to poverty reduction, the establishment and sustainable functioning of a rice bank, an NTFP marketing group, and strong regulatory mechanisms for forest management, are more important than the technical aspects of NTFP production. The value of the sideways spread is being undermined by the à la carte approach, where social development activities are dropped or reduced by some projects that are supposedly "copying Ban Nampheng."

Recommendation R2: A communication effort is required by NAFRI to explain why NTFP development interventions at pilot villages should be seen as a package, and that variations to the package should be based on a deeper understanding of the relationships between, and the role of, each intervention within the package, and on rigorous local diagnosis and planning.

Suggestion S2.1: There should be large and clear "health warnings" on all project publications about unbundling the technical and social interventions required for successful and sustainable NTFP-based local development— i.e. the message to those planning to "copy" pilot village interventions should be that it is not an à la carte-type exercise, as the poverty reduction outcomes will be severely constrained.

A major positive factor in sideways spread is that project lessons are being replicated by former NAFRI/ IUCN NTFP project staff who are now employed by other projects. They have been able to effectively diffuse the original project's achievements, reorient rural development approaches, and enrich the community-based natural resource management approaches within the organizations they have joined.

Suggestion S2.2: Given the positive performances of previous project staff in facilitating sideways spread through their employment in different projects, perhaps some proactive redeployment process should be built into the human resource management plans of project partners in the future.

Recommendation R3: Research is required to determine if the poorest households are seeing fair results from NTFP development opportunities resulting from forest land allocations . This is required to ensure that the allocation process is benefiting local people from all wealth groups, The field research for this study produced data that suggests that perhaps it is not.

Suggestion S3.1: There are some potential longer-term advantages in electing to work in places deemed or perceived by outsiders such as government of Lao officials to be difficult or problematic places to work with the local community. Success in these places can go a long way toward removing perceptions that may constrain future spread activities.

Suggestion S3.2: Although it is often tempting in the short term to use project funds to directly assist or pay for infrastructure improvements in poor villages, if sustainable use of natural resources is the ultimate project goal, then the source of financial resources for these things should be directly linked to the wise use of these natural resources as an "engine for local wealth creation" (e.g., via a village development fund created through improved marketing and a local NTFP sales tax). The exception to this suggestion would be funding those improvements that reduce the workload of women, or help achieve food security, thus creating an enabling environment for improved and more equitable NTFP management.

In terms of enhancing the sideways replication of NTFP-related development, the factors for enhancing replication suggested by local people in the three different wealth classes are instructive. It would appear that providing more opportunities for NTFP domestication would encourage spread and act as an entry point for additional and necessary interventions such as marketing groups and village funds. It is

interesting to note that local NTFP users appear to be more aware about the importance of NTFP marketing groups and associated village development funds than are most of the current projects.

This study showed that a significant amount of local replication is done by local people themselves. A number of suggestions follow from this finding:

Suggestion S3.3: When selecting pilot villages, there are advantages in having at least one village near a main road because it facilitates awareness among the traveling public and thus sideways spread. However, due diligence must be applied with regard to introducing a main road bias, so that there is an appropriate balance in the numbers of accessible and more remote pilot villages.

Suggestion S3.4: If a project is demonstrably successful in a pilot village, and the villagers concerned are happy with the idea, the project can rename itself after that place, rather than continuing with institutional names or acronyms that are obscure and less memorable to local people.

Suggestion S3.5: As soon as there are demonstrable successful results (not necessarily directly to do with wise use of NTFPs), village exchange visits should be promoted and supported by a project. Training should be provided to villagers who have been involved in the project's activities to be guides. Training should also be provided to Lao government officials to organize and facilitate such village exchange visits.

Recommendation R4: The DOF should provide more opportunities for villagers in other districts to visit pilot villagers, as well as produce simple guidelines for NTFP development in Lao language, using a comic book format as a resource to accompany such visits.

NTFP traders can be a low-cost and efficient means of spreading the project sideways. If it can be shown to traders that their interests will be served by promoting some or even all aspects of a project, then this will be done enthusiastically and economically.

Recommendation R5: A pilot program to engage and motivate NTFP traders to learn more about NTFP-related development interventions and disseminate information that supports extension efforts should be developed.

Suggestion S5.1: Given the finding that households that relocated from the pilot village were very effective ad hoc agents of sideways spread, perhaps there would be some value in producing "starter packs" with detailed technical advice and guidelines in a local language to strategically encourage more spread of this nature.

Suggestion S5.2: Given the potential for the effective sharing and spreading of experience through formal and informal meetings of local leaders, some support (particularly training) could be given to ensure that these meetings are organized and run well.

A number of useful suggestions were made at the final workshop conducted at the national level in Vientiane on March 9, 2006. These related to building capacity of local village leaders; better planning and implementation for project entry and exit strategies; and enhancing the skills of "promoters" who are not working closely with a project but are stationed in areas adjacent to pilot villages. The suggestions are summarized below.

Suggestion S5.3: The capacity of local village leaders in the vicinity of a forest-based livelihoods project should be enhanced to promote sideways scaling by:

- Assessing the capacity of local village leaders to inform planning for a training program
- Providing a village leadership development program through exchange visits, mentoring, and awareness raising regarding relevant social organization, rights, and welfare topics
- Engaging local village leaders early in project implementation to increase awareness and interest in the pilot village and the potential for local replication
- Including local village leaders in groups undertaking NTFP market analyses
- Creating a village network for sharing NTFP market knowledge and lessons regarding social organizations and regulatory frameworks to support NTFP development

Suggestion S5.4: The relevant administrative units surrounding pilot villages should also be part of project activities that aim to create an enabling environment for sideways scaling. Such activities could include:

- Analyzing the capacity of administrative units in regard to promoting local replication of successful interventions
- Involving staff of these units in relevant training, exchange, networking, and awareness-raising programs
- Developing a project exit strategy that ensures these units can continue with local replication after the project is completed.

Suggestion S5.5: Agriculture and forestry extension staff require a basic set of facilitation, communication, and participatory process management skills in order to participate in sideways scaling of forest-based livelihoods interventions. They also need to be encouraged and given responsibility and, if possible, provided with incentives. Additional ideas are:

- Using a counterpart strategy to "clone" effective facilitators
- Creating a suitable training package for basic facilitation and (oral and visual) communication skills for NTFP development at the village level
- Developing tailor–made check lists and tools about how to analyze local organizations
- Establishing an efficient staff performance monitoring system and feedback mechanism

Regarding Scaling Upways

A major finding of this study is that it was the NTFP project's success at the local level, and to some extent the sideways spread from pilot villages, which led to serious recognition and influence at the national level.

Recommendation R1: A new document in Lao language, summarizing the poverty reduction and biodiversity conservation benefits of NTFP developments, should be produced for National Assembly members.

Suggestion S1.1: Pilot villages and associated mechanisms for sideways spread are essential components of projects that seek to promote widespread adoption of forest-based livelihoods interventions at a national level.

Another major finding was that the personal interests of senior officials were a main determining factor for awareness about the project's products and their use in scaling upways. While personal interests will obviously vary among officials, it is worth bearing in mind when deciding on the style and content of materials aimed at engaging with and influencing higher-level officials.

Recommendation R2: The NAFRI Information Centre should consider reissuing a select number of NTFP project documents in Lao language to support wider dissemination of existing experience, especially those relating to the lessons and benefits of NTFP-based livelihood interventions.

Several people suggested that the project should have produced more audiovisual materials that describe the pilot village work and its impact. However, it is interesting that the questionnaire survey showed that in the long term, traditional and scientific papers had much more influence (and use) at the higher levels than expensive video and audio productions. Perhaps the audiovisual materials were less convincing or were of less personal interest to senior officials.

Suggestion S2.1: An understanding of the personal and career interests of senior officials should be gained prior to finalizing communications strategies for projects that aim to influence sectoral policies and programs.

About 40 percent of survey respondents commented that the dissemination efforts made by the NTFP project were limited in effectiveness because many useful documents remain available in English only. As a result, many good lessons, information, and knowledge were not as widely disseminated as they

should have been. Furthermore, there is an inadequate awareness about project outcomes at the highest levels of government.

Suggestion S2.2: Papers that are seen to have scientific rigor and value are an important component of project communication strategies for upways scaling.

The question of how to scale up successes (both sideways and upways) is a legitimate and important question for applied research, and should be addressed by national research institutions.

Suggestion S2.3: Formal research in the forest and agricultural sectors should be supportive of the need to scale up successful forest-based livelihood interventions. Such research topics should be included in national research agendas, afforded high priority by national institutions, and provided with adequate support. Such topics would include how to strengthen linkages between national research, education, and extension agendas.

Suggestion S2.4: Government decision makers in the forest and agricultural sectors are members of a number of informal and formal networks that share opinions, news, and information. A greater understanding of the nature of such networks would be useful to inform project communication strategies and to broaden membership of these networks to include other stakeholders (such as the private sector and traditional medical institutions).

Suggestion S2.5: In the longer term, enriching the formal training of professional and technical staff with lessons from successful projects will help with scaling upways and sideways. Curriculum development for the agriculture and forest sectors is an ongoing requirement and should include incorporation of the sustainable livelihoods framework, NTFP research and planning tools, and other topics to enhance understanding of social and cultural issues surrounding NTFP development. Pilot villages can also provide real-life "learning grounds" for students and faculty. Awards and other incentive mechanisms can stimulate competition and excellence among professionals.

Recommendation R3: Finally, there are a number of NTFP development challenges remaining in Lao PDR that limit scaling upways because they affect the enabling environment needed to fully capitalize on opportunities to enhance forest-based livelihoods. The challenges that need to be tackled in Lao PDR are as follows:

- Reforming the regulatory framework for sustainable trade of NTFPs so that sustainability issues are considered when setting quotas, and the permit system does not exclude the participation of local marketing groups. Significant improvement is needed with regard to developing a regulatory framework that is supportive of poverty reduction aims.
- More work is required to address many important areas, such as: processing, transboundary marketing studies, resource assessment, and silvicultural treatments for a much larger number of species. Only a limited number of NTFP species have so far been dealt with in pilot villages.
- Additional specific scientific research and comprehensive studies are required to support commercial development of the most important NTFP species and the conservation of those most under threat of local extinction.
- The further protection of intellectual property rights is also required against bio-piracy, especially for NTFPs having medicinal value

References

Broekhoven, G. 2002. "Sustainable Management Of NTFPs In Lao PDR: A Discussion Paper for the Forestry Strategy to the Year 2020 for Lao PDR." Consultant report to the Swedish International Development Agency and FAO, Vientiane, Lao PDR

Clendon K. 2001.The Role of Forest Food Resources in Village Livelihood Systems: A Study of Three Villages in Salavan Province, Lao PDR, IUCN, Vientiane, Lao PDR. Dauvergne, P. 2001. *Loggers and Degradation in the Asia-Pacific: Corporations and Environmental Management*. Cambridge University Press.

Emerton, L. 2005. "Making The Economic Links Between Biodiversity And Poverty Reduction: The Case Of Lao PDR." IUCN - The World Conservation Union, Ecosystems and Livelihoods Group, Colombo, Sri Lanka.

Foppes, J., and Kethpanh, S. 2000a. "Forest Extraction or Cultivation? Local Solutions from Lao PDR." Paper presented at workshop on the evolution and sustainability of "intermediate systems" of forest management, FOREASIA, 28 June – 1 July, 2000, Lofoten, Norway.

Foppes J., and Ketphanh S. 2000b., "No More Timber, More Non-Timber." Discussion paper. DoF-IUCN

Foppes J., and Ketphanh S. 2004. "NTFP Use and Household Food Security in Lao PDR." Paper presented to the Symposium on Biodiversity for Food Security, FAO and National Agriculture and Forestry Research Institute (NAFRI), Vientiane Lao PDR , October 14.

International Center for Environmental Management (ICEM). 2003. *Regional Report On Protected Areas And Development: Review Of Protected Areas And Development In The Lower Mekong River Region.* Indooroopilly, Queensland, Australia: ICEM.

Ingles, A., and Karki, S. 2001 "Project Completion Report." NAFRI/IUCN NTFP project, Vientiane, Lao PDR

Ingles, A., Saypaseuth, T., Foppes J., Baker, J., Khetphanh, S., Bounsou S., and Sengkeo K. 1999. A Rapid Survey of the Use and Government Regulation of Non-Timber Forest Products (NTFPs) from the Nakai-Nam Theun National Biodiversity Conservation Area (NNT NBCA), Central Lao PDR. IUCN, Vientiane, Lao PDR.

Lamb, D., and Gilmour, D. 2002. "Forest Conservation in The Lower Mekong Basin." Paper prepared for the 2nd regional workshop for the Review Of Protected Areas And Development In The Lower Mekong River Region, ICEM, Indooroopilly, Queensland, Australia.

Lao People's Democratic Republic. 2004. *National Growth and Poverty Eradication Strategy (NGPES)*

Morris, J., Hicks, E., Ingles, A., and Ketphanh S. 2004. *Linking Poverty Reduction with Forest Conservation: Case Studies from Lao PDR*. Bangkok, Thailand: IUCN

Nooren, H., and Claridge, G. 2001, Wildlife Trade in Laos: The End of the Game. The Netherlands Committee for IUCN.

World Bank. 2004. "Joint Staff Advisory Note of PRSP of Lao People's Democratic Republic." World Bank: Washington DC.

World Bank, SIDA, Government of Finland. 2001. "Lao PDR Production Forestry Policy–Status and Issues for Dialogue–Vol 1: Main report, Vol 2: Annexes." World Bank, Government of Lao PDR, SIDA, FINNIDA, Vientiane, Lao PDR.

World Food Programme. 2004. *Lao PDR: Analysis of Forest Dwelling Populations and Vulnerability to Food Insecurity at the Village Level.* UN World Food Programme: Vulnerability Analysis and Mapping Unit, Vientiane, Lao PDR.

Appendix

Abbreviations

DAFEO	District Agriculture and Forestry and Environment Offices
DAFO	District Agriculture and Forestry Office(r)
DOF	Department of Forestry
FAO	Food and Agriculture Organization
FRC	Forestry Research Centre
GAA	German Agro in Action Accord
I-PRSP	Interim Poverty Reduction Strategy Paper
IUCN	The World Conservation Union
Lao PDR	Lao People's Democratic Republic
LSFP	Lao-Swedish Forestry Programme
MAF	Ministry of Agriculture and Forestry
NAFRI	National Agriculture and Forestry Research Institute
NBCAs	National Biodiversity Conservation Areas
NBSAP	National Biodiversity Action Plan
NGPES	National Growth and Poverty Eradication Strategy
NPEP	National Poverty Eradication Program
NTFPs	Non-timber forest products
PAFO	Provincial Agriculture and Forestry Office(r)
PRSP	Poverty Reduction Strategy Paper