Rubber Development in the Lao PDR: Ensuring Sustainability

A collection of posters on developing a sustainable rubber industry in Lao

Rubber Development in the Lao PDR: Ensuring sustainability

A collection of Posters from the ASEAN Rubber Conference
July 17-18, 2009

Contributors:

List of Acronyms

MAF	Ministry of Agriculture and Forestry
CATCH-UP	Comprehensive Analysis of Trajectories of Change in the Uplands Project (CIFOR/IRD/NAFRI)
CIFOR	Center for International Forestry Research
GTZ/BMA	German Technical Cooperation
IRD	Institute for Development Research
IUCN	International Union for Conservation
LIWG	Land Issues Working Group
NAFRI	National Agriculture and Forestry Research Institute
NLMA	National Land Management Agency
NUOL/FOF	National University of Lao PDR/Faculty of Forestry
SDC	Swiss Agency for Development Cooperation
Sida	Swedish International Development Agency
URDP	Uplands Research and Capacity Development Programme/ NAFRI

Overview of Ministry of Agriculture and Forestry Display for the ASEAN Rubber Conference

Lao PDR is experiencing a rapid expansion of rubber cultivation. Industry experts predict that the current estimates of 140,000 ha of rubber planted will grow to some 300,000 ha by 2020. The current boom in rubber is being fueled by a demand from rubber markets (particularly China) and investor interest.

In addition, the Government of Lao PDR has been promoting rubber and other cash crops as alternatives to shifting cultivation. Past attempts to stabilize shifting cultivation have been complicated and, in some instances, have led to serious consequences for village livelihoods and food security. Concurrent with this, the next five-year National Economic and Social Development Plan emphasizes the shift from subsistence agriculture toward more market-based commodity production.

The 21 posters presented at the Ministry of Agriculture and Forestry Display and in this booklet represent a growing body of knowledge regarding rubber development in Lao PDR.

Some of the key messages raised in the display include:

The rapid and uncontrolled expansion of rubber plantations has had a number of unintended consequences. From an environmental perspective, conversion of primary forest, forest fallow and other agriculture land has affected and impacted on ecosystem goods and services, particularly biodiversity and water resources. In addition, the rapid expansion of rubber plantations has affected food security of poor farmers as previously open access land for grazing or collection of non-timber forest products has been affected.

Despite the lack of control over this expansion, **farmers, local government officials and businesses and investors have developed a number of arrangements for planting rubber.** While three major models have been identified (individual household planting, contract farming and concessions), there are a number of variations and adaptations that have also emerged.

As can be seen in the case studies, **planting arrangements have emerged based on local negotiating strength of different actors**. In some instances farmers are able to negotiate directly with investors. In other instances, farmers have little voice. Based on this, it is clear that the Government at different levels has an important role to play in facilitating negotiations between investors and smallholders as well as monitoring the social and environmental impacts of rubber development (planting, processing, etc).

A key question for Laos is: **can the establishment of a rubber industry contribute to national economic development as well as support poverty reduction efforts**? The research presented in these posters suggests that a number of issues need to be addressed in order for the rubber industry to contribute to social and economic development of the country.
In terms of poverty alleviation, it is clear that the Government (and investors) should **promote arrangements that support smallholder cultivation rather than**

plantations. This is particularly the case in areas where there is emerging population pressures and conflicts over land use. In addition, agroforestry and intercropping systems should be promoted in order to reduce the risk for smallholders, improve biodiversity and reduce food insecurity.

As more smallholders become attracted to the income they can gain from rubber, many might consider shifting from their traditional crops or even lease their farm lands to investors for the said tree crop. The worst scenario that can happen would be the marginalization of small farmers' overtime as they lose complete control over their lands. The wages they may gain from participating in the rubber production now may not be enough to meet the households' growing needs and the rate of inflation in the future. In addition, there is a growing concern regarding labour required to work on large-scale concessions and competition with migrant labourers from other countries.

On the other hand, it has been found that **farmers are adapting quickly to market signals and are learning from their initial engagements with concessions or contract farming arrangements**. Some farmers have already started to grow their second and third plots by themselves while having the first contracted with a company.

In regards to contributing to national development efforts, **there is a need to ensure that large-scale investments in the rubber industry are contributing to local development**. Foreign know-how and capital should be used to develop a viable local rubber industry rather than having rubber extracted to neighbouring countries for processing and value addition. Development of a local rubber processing industry in Laos is essential to moving Lao farmers up the value chain to capture more benefits locally.

One way to ensure that investors and businesses are socially and environmentally responsible is to **assess the feasibility of developing a Code of Practice on Industrial Tree Plantations**. A Code of Practice are rules or guidelines aimed at maintaining acceptable standards of behaviour and decision making. Combined with other legal measures, a Code of Practice helps prevent exploitative practices, enhance environmental sustainability and ensure an equitable distribution of benefits and costs among those involved - local communities, government, companies and consumers.

Posters presented in this booklet

	Name of poster	Organization
Section 1: Status of Rubber		
1.	Rubber Development in Lao PDR	NAFRI
2.	Rubber planting arrangements in Lao PDR: How can rubber be planted to ensure sustainability?	NAFRI
3.	Emergence of a diversity of rubber institutions from local negotiations in Laos	CATCHUP
4.	Dynamic of rubber expansion in Lao PDR: policy making under uncertainty	CATCHUP
Section 2: Case studies		
5.	Implications of Rubber for Land cover and Livelihoods: The cases from Northwestern Laos	NUOL/Faculty of Forestry
6.	Can the poor in Nale District Benefit from Rubber planting?	CATCH-UP
7.	When rubber companies are competing for land... Local arrangements in Thakhek District	CATCH-UP
8.	How smallholders resisted the companies: a rubber case study in Sangthong District	CATCH-UP
9.	Smallholder inter-cropping options for Upland farmers	NAFRI
10.	Impacts of rubber concession projects in the South	NLMA
11.	Land Concessions in Vientiane Province	NLMA
Section 3: Recommendations		
12.	Rubber investments – approaches for sustainability: Important questions	IUCN
13.	Rubber investments – approaches for sustainability:	IUCN
14.	Planting for the future: would a Code of Practice improve plantation social environmental standards in Lao PDR	LIWG
15.	Recommendations to ensure rubber production contributes to poverty reduction and environmental sustainability	NAFRI
Section 4: Rubber in Luang Namtha Province		
16.	Luang Namtha Provinces	GTZ
17.	Rubber boom in Luang Namtha2002-2008	GTZ
18.	Rubber Boom at different speeds in Luang Namtha	GTZ
19.	Luang Namtha's economic growth fueld by Foreign Direct Investment	GTZ
20.	Case study of Ban Had Ngao in Luang Namtha	GTZ
21.	Investment in Luang Nmatha	GTZ

Rubber Development in Lao PDR
Booming rubber investment but

Why is rubber booming in Laos?

Rubber planting was introduced in the early 1900s by the French, but never achieved a great success. The current boom in rubber is being fueled by a demand from rubber markets (particularly China), investor interest and conducive policies of the Goverment. The Government has targetted 250,000 ha of rubber plantations by 2010. Current estimates for rubber planting by province are shown in the table as well as highlighted on the map. It is clear that current estimates are not consistent. By far the largest amount of plantations are in the North where investor and farmer interest is high. Much of the current rubber produced will come on-line to tap by 2011. Rubber is competing with other cash crops notably agarwood, teak, cassava, yatropha, coffee, livestock. This creates concerns for conflicts of land use as well as food self-sufficiency of local people.

Where is rubber being planted?

	Rubber planted 2007 (Ha)	Rubber planted 2008 (ha)	Planned for 2010 (Ha)
Northern	16555	75,900	166,500
Phongsaly	15	12,600	26,400
LuangNamtha	8,770	21,700	20,000
Bokeo	700	9,800	25,000
Xayabouly	70	5,200	50,000
Oudomxay	4,500	17,100	21000
Luangpabang	2,500	9,500	22,000
Houaphan	0	0	2,100
Central	2950	25,650	34,360
Vientiane Capital	100	600	0
Xiengkhoung	0	50	60
Vientiane	100	9,200	10000
Borlikhamxay	1,000	5,100	4,000
Khammoune	1,500	6,100	6,300
Savannaket	250	4,600	14,000
Southern	8,700	39,000	48,500
Salavan	1400	4,700	6,500
Champassak	6700	20,100	33,500
Xekong	100	6,200	5,000
Attapeu	500	8,000	3,500
Total Areas	28,205	140,550	249,360

2007 numbers from FRC/NAFRI Survey; 2008 data and 2010 targets collated from provincial statistics

Challenges for developing sustaianable rubber industry Lao PDR

Conversion of forestland to rubber plantations affects food security of poor farmers and impacts on ecosystem goods and services, particularly biodiversity and water resources

Lack of support services to farmers (technical, credit, inputs, processing) could have adverse impacts on plantation management and future yields

Development of a local rubber processing industry in Laos is essential to moving Lao farmers up the value chain to capture more benefits locally.

Unclear contract arrangements between farmers and investors put farmers in a weak bargaining position.

There are increasing conflicts between large scale plantations and other land uses

Lack of certified germplasm is a concern for future yields and latex quality

Rubber planting arrangements in Lao PDR: How can rubber be planted to ensure sustainability?

Three emerging arrangements for rubber planting: household, contract farming and concessions

Villagers (upland and lowland), investors (large and small, domestic and foreign), and various levels of the government form a complex web of interaction and conjure a wide variety of scenarios of rubber development. In general three arrangements have emerged all which have a number of variations:

1. Individual farming: Farmers particularly in the North and central regions are planting on their own based on the success of a couple of areas.
2. Contract Farming (or 2x3) is promoted particularly in the North and central regions by both the government and a number of companies.
3. Concessions: Large-scale concessions are being planted primarily in the south.

Arrangement	Strengths	Weaknesses
Large-scale concessions	▪ Capital resources ▪ Government support ▪ Job creation ▪ Economic development	▪ Food security of local communities ▪ Need large landholdings ▪ Social reaction due to loss of communal land. ▪ Need a lot of labor ▪ Expensive fire prevention and fertilization ▪ Lack of standard agreements ▪ Environmental: less diversity, questionable watershed functions
Smallholders	▪ Cost-effective: intercropping ensures tree survival, growth and weeding costs ▪ Multiple production (crops, timber, etc.) ▪ Economic development & Poverty alleviation ▪ Environmental services: landscape, watershed functions	▪ Lack of knowledge on proper management ▪ Lack of quality germplasm ▪ Produce small amounts/volume ▪ Lack of market prices and linkages
Contract farming	▪ Poverty alleviation ▪ Economic development ▪ Inputs (seedlings, training) ensured ▪ Marketing ▪ Environmental services	▪ Unclear contracts ▪ Difficult contract enforcement ▪ Uncertainty of household labour ▪ Uncertain profit share ▪ Enforcement of contracts

Industrial Rubber Plantations vs. Smallhoder planting: Questions regarding arrangements

Can smallholder farmers compete against large plantations?
Yes. In Southeast Asia, most agricultural commodities have been traditionally produced by smallholder farmers. In Thailand and Malaysia, smallholders account for 95% and 72% of the total natural rubber production respectively (Bagnall-Oakeley et al., 1997). In all these countries, there is strong support from the government and companies to use small-holder approach.

Can small-scale farmers produce rubber more efficiently than industrial tree plantations?
Yes, because the opportunity costs of labour and capital applied to plantations are not necessarily high for farmers as they typically plant trees in unused or fallow land or by using family labour at low opportunity cost during the low labour season (Hayami, 2001). The practice of intercropping also reduces weeding costs, protection costs, and can be more efficiently performed and monitored by farmers.

Are there economies of scale in having large concessions?
Not really. The plantation system evolved for exploitation in sparsely populated areas (Hayami , 2001). In the populated uplands of Southeast Asia the plantation system cannot be justified in economic terms, since for most tree crops significant returns emerge at the farm level but only at the levels of processing and marketing. (Hayami, 2001). In Laos it is assumed that there are large tracts of unused land which could be used for plantations. However, this has proved problematic as these areas are often used by communities for grazing and collection of non-timber forest products.

Conclusions

In Laos, with a large population of farmers, it may be more economically, socially and environmentally acceptable to support the development of small-scale rubber plantations in smallholder farms. In order to promote smallholder rubber, in the short-term the government should:

- Provide incentives for smallholders (tax breaks, land title, etc)
- Provide technical and material support (credit, inputs, training)
- Promote companies to use contract farming approach

Emergence of diverse rubber institutions from local negotiations in Laos

Case studies in Sangthong, Nalae and Thakhek Districts revealed different patterns of negotiation between farmers, rubber company representatives and government officers that led to different local arrangements for rubber planting.

Jean-Christophe Castella
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A typology of rubber regimes

Farmer Company

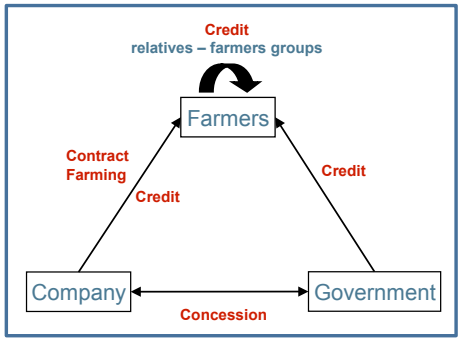
Rubber regimes	Land	Labor	Capital	Marketing	Tech.
Smallholders 5+0 (with own capital)					
Smallholders 5+0 (government officials)					
Contract Farming 4+1 smallholders (credit)					
Contract Farming (3+2)					
Contract Farming (2+3)					
Contract Farming (1+4)					
Concession 0+5					

A large range of **institutional arrangements** for rubber production have emerged in the recent years. For practical reasons, they have been categorized as smallholders, contract farming and concessions with a number of variations in each type according to who provides the main factors of production: i.e. **land, labor, capital, market outlet and technical knowledge**.

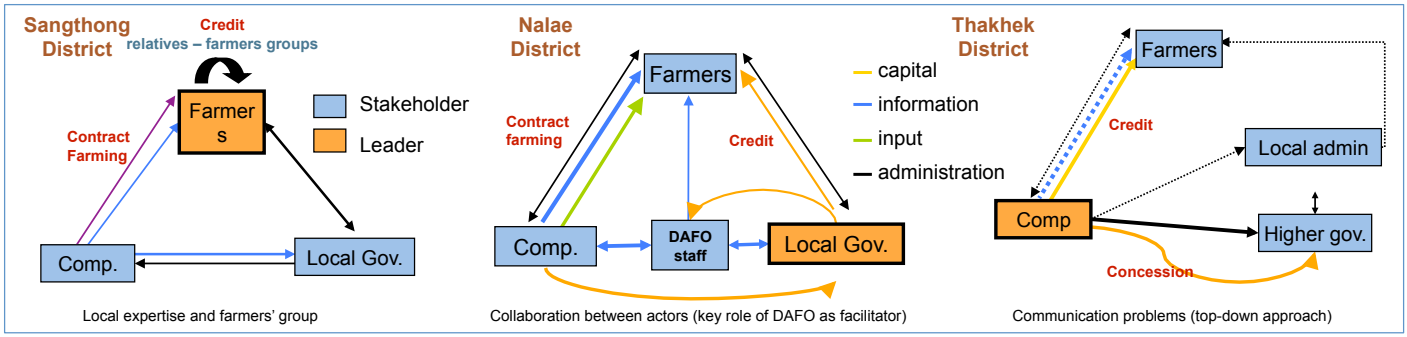
Most of the stakeholders who were engaged in the rubber business in 2008 were not involved in this industry only three years before. Everything is new to them. The rubber institutions are unfolding from negotiations that involve multiple stakeholders at different levels. **There is no blueprint**.

Emergence of a range of rubber regimes from multi-stakeholders negotiations

The **negotiation patterns** between farmers, companies and government agencies greatly influence the **rubber trajectories**. In Sangthong, farmers resisted the company thanks to their technical knowledge gained in Thailand, local leadership and solidarity within a rubber producer group. In Nalae, the local government supported initial rubber investments.



Villagers in Ban Phouvieng benefited from credit secured by DAFO to engage in smallholder plantations. Other villages with less support from the government relied on a company for credit and techniques. With less bargaining power, their 2+3 contract may turn into arrangements where farmers become laborers on their own land.



Policies or regulatory frameworks should build upon an understanding different negotiation conditions and provide guidance to **improve negotiation processes**. Government agencies have a key role to play as a third party in facilitating negotiations and reinforcing contracts between farmers and companies.

To ensure negotiation outcomes are satisfactory for, and endorsed by, all stakeholders, they should: (i) explore multiple scenarios of change, (ii) assess the implications of alternative pathways, (iii) document and monitor experiences to capitalize knowledge relevant to the negotiation process, and (iv) empower weak stakeholders to make sure they can take part in the negotiations.

Dynamic of Rubber Expansion in Lao PDR:
Policy making under uncertainty

Bounthanom Bouahom
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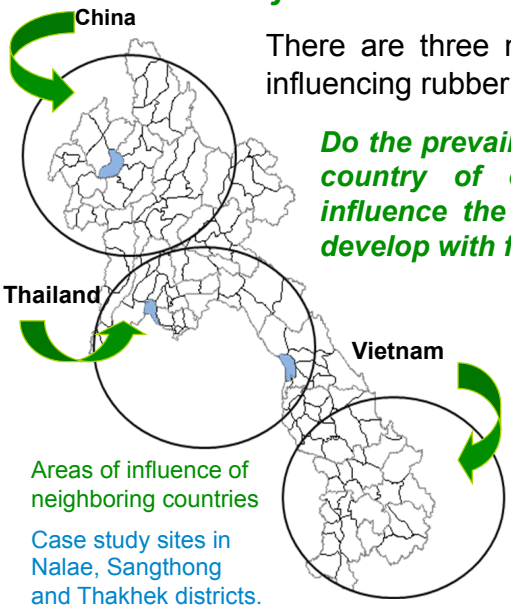
Jean-Christophe Castella

Since the early 2000s, the Government of Laos promotes foreign investments in rubber plantation as a win-win solution to alleviate poverty in rural areas and to generate income from exported commodities. Within a few years, the rubber industry has become an important economic and an important subject of debate even before most of the plantations have entered into production.

Cross border influences on the Lao rubber industry

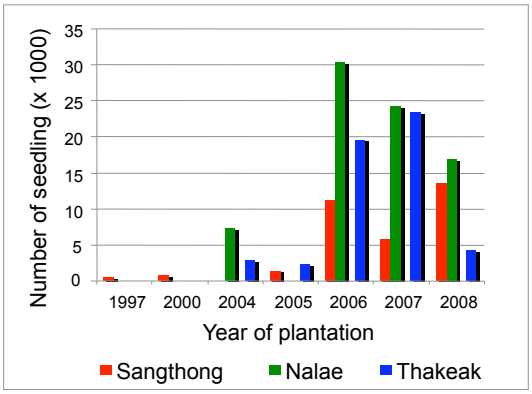


There are three major geographical zones influencing rubber expansion in Lao PDR.

Do the prevailing rubber regimes in the country of origin of the company influence the local arrangements they develop with farmers?

No - all companies start with concession arrangement as a way to protect their investment.

The local arrangements depend on the level of the negotiation and the social networks that are mobilized to support the negotiation.



Influential stakeholders in the Lao rubber industry

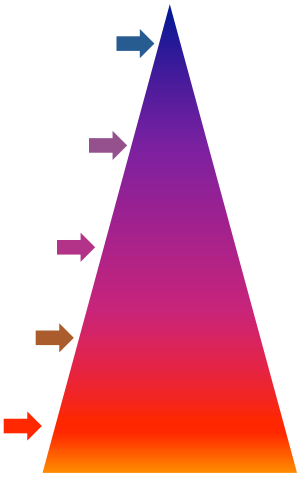
National
Bilateral agreements involving high ranking officials (National Assembly)
=> large concessions in southern Lao PDR (Vietnam),
⇒contracts with companies (China).

Province
Application of decisions from higher hierarchical level -> allocate state land to concessions,
Business authorizations for companies who have to explore suitable land.

District
Involvement of district staff in land exploration - LUP/LA for the companies. Direct investment of district and province, officials.

Village
Prospection: company + government staff visit villages
Some villages request companies to come to their villages (Nalae)
Negotiation benefit sharing / infrastructure development – roads, etc.

Household
Register all members of family, register land with district (company pay)
Sign contract – receive subsidized credit from companies or from relatives



New rubber institutions have emerged from the interactions between stakeholders at different levels. Different kinds of contracts and agreements have resulted from these interactions that often are not compatible with each other. This situation tends to create tensions between stakeholders.

There is a need to rationalize the commitments of different stakeholders in order to: (i) reach an agreement about the kind of rubber regimes they are engaging in, (ii) make sure that they do not over-commit with respect to the land and resources actually available, and (iii) balance costs, benefits and risks among the different groups of stakeholders.

Implications of Rubber for Land cover and Livelihoods: The cases from Northwestern Laos

By K. Phanvilay[1], H. Chanthavong[1], J. Fox[2], S. Thongmanivong[1], T. Vongvisouk[1], Y. Fujita[3]
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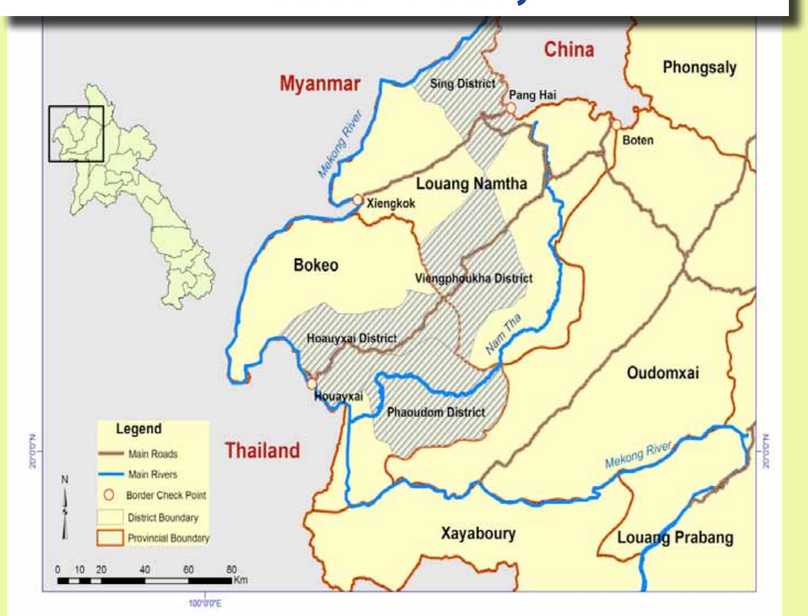
Background

Land use change is complex relationship between direct and indirect factors of social-economy, politics and development. In order to better understand the cause and process of changes, it is necessary to observe the physical pattern of change, local context, and factors that influence different stakeholders' relationship with resources.

This study focused on local transformation of land use and livelihoods in selected districts of Luang Namtha and Bokeo provinces bordering Southwestern China and North of Thailand where a network of new roads are being developed and improved as part of the Greater Mekong Sub-region's Economic Corridor. Upland swidden and fallow forests are rapidly being converted into commercial agricultural lands as rural farmers become engaged in cash crop production. The study assessed changing land use patterns, and also examined different factors that influence stakeholders' decisions on resource use and management.

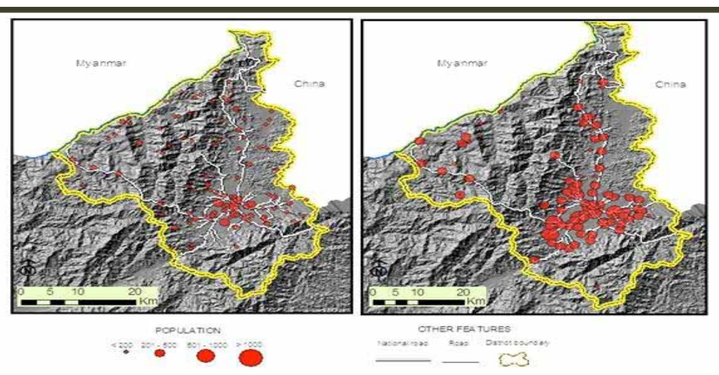
Location of study



Forest and land cover change

1973 1988 2004

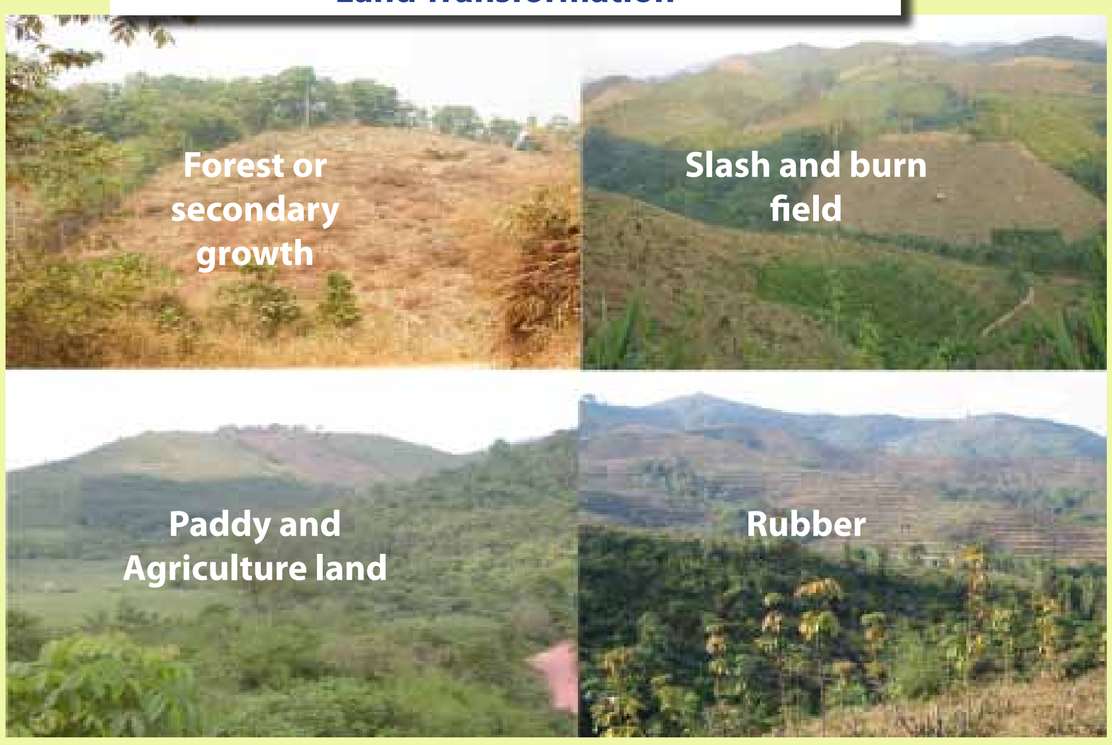
Demographic change



Commodification of land

- Conversion of swidden and fallow into rubber -> communal resources to private land (Competition)
- Planting of rubber -> alienate other individuals and groups' access to land (Conflict)
- Owning rubber trees -> de facto rights to land even when the land legally allocated as private property (Loss of access to land)

Land Transformation



Livelihoods and (upland)Farming System

- Cash crops (rubber, sugarcane, maize) adoption have improved income of households but declining upland swidden for rice production
- Conversion of limited fallow land to permanent annual and perennial cash crops pose a risk on food security and access to food sources

Changes in power relations between stakeholders

Farmers and small-medium scale investors: gaining power to make decisions on land use

Large scale investors: powers challenged by different levels of local administration and local farmers

Provincial Agricultural Authorities: challenged by other local agencies (POIP, National Land Management Authority)

Provincial Office of Investment and Planning: greater power to decide investment proposals

Provincial governors: greater power to decide investment and development plans

Conclusion

- Successful farmers use their knowledge and power gained through social relations, and mobilize their assets to transform their livelihood basis, and are able to negotiate their claims to resources.
- Not all farmers are successful adjusting to market economy.
- Existing resource management institution is weak against the changing power relationship between agencies that determine development and access to resources.
- Rubber and other cash crops could secure individual land tenure but the poor could also lose land as individuals could transfer, or be forced to transfer, user's right (illegally) to those who have capital.
- There is a need to analyze social relationship between stakeholders, and their ability to determine use and access to land.

Can the poor in Nalae District benefit from rubber planting?

Nalae is the poorest district of Luang Namtha province. Its location near the Chinese border influenced the rapid rubber expansion so did the changes in the development priorities of the district office for agriculture and forestry.

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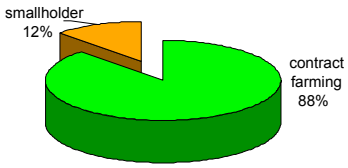
The key role of local government agencies in implementing pro-poor rubber policies

Rubber area in Nalae district
1,515 ha in 2008



The government influence on the rubber trajectory took different forms depending on the intervention level.

Province

2005. Consensus among Northern provinces to avoid concession and promote contract farming.
2006. Provincial regulation further confirms pro-poor policy by supporting every family without paddy with 1 ha of rubber.

District

2004. Rubber shifts from 5th to 1st priority in DAFO strategic plan (originally: 1. livestock, 2. paddy, 3. cash crops, 4. poultry, 5. rubber, 6. ecotourism),
2006. Jai Xuang Company was authorized to develop rubber plantation under contract farming (2+3) in Nalae district.

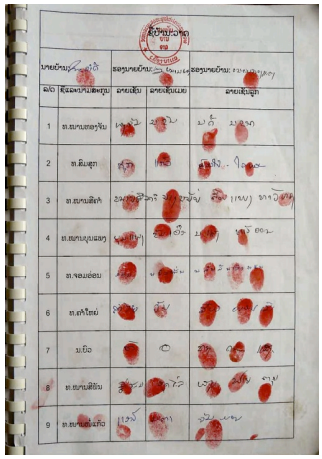
Village

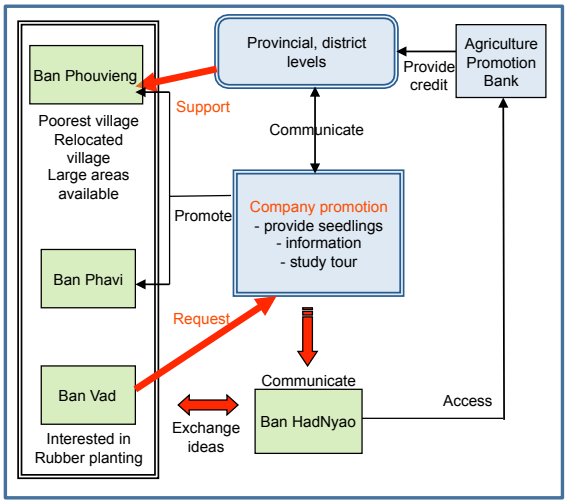
2006. DAFO provide mediation support to villagers. DAFO staff recruited by the company to work full time on rubber extension.
2007. Company promotes rubber with entire villages: video, study tour in Ban Hadnyao and in La district, Yunnan Province of China.

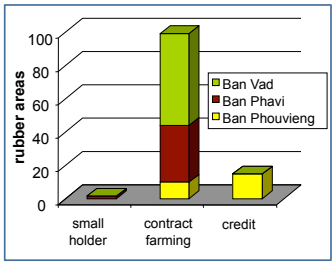
Each case study site reveals a specific government facilitation role

Ban Phouvieng, one the poorest village in Nale was the first to grow rubber in 2004, under a credit scheme of the Agriculture Promotion Bank (APB) supported by the DAFO/PAFO. All households received 1 ha of rubber in an attempt to develop a new smallholder-based rubber model. Technical support was also provided by the government, under the form of Chinese technical experts. Nowadays, rubber plantation area is 25 ha (10 ha under contract farming and 15 ha through APB credit).

Ban Phavi is where the first rubber company, Xia Ma, began its operations in early 2005. First, the company rented farmers' land to set up a rubber tree nursery. They did not promote rubber plantation in the village. Following administrative problems, the company stopped its operations in late 2005. After the company departure the land owners took care of the seedlings and started their own plantations before a second company came in. The rubber area was 34 ha in 2008.







The contract engage several generations of villagers: all household member put their finger prints on the company registration book.

Ban Vad village was not included in the first 25 villages allocated to the company by the district. However, local farmers learned about the arrival of the company in the neighbourhood and the village headman asked the DAFO for the official permission to invite the company to work in their village. As the company had not yet reached it goal with the 25 first villages, an extension was allowed thanks to good personal connexions of the village headman with district officials, and the company was able to work in Ban Vad, even though this village didn't have road access yet.

Committed and effective governmental support to smallholders is critical for improving livelihood of the poor.

When rubber companies compete for land...

Local arrangements in Thakhek District

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In Thakhek district, Khammouane province, rubber was introduced by a logging company operating under the Ministry of Defence. Since then, numerous foreign investors from China, Thailand and Vietnam have come, in the search for concession land. The villagers, companies and government agencies are learning their way in the midst of complex land negotiations.

Many private companies in search of land

In 1992, the leaders of Phatthana Ketphoudoi Group, a public company of the Ministry of Defence sent staff to Southern Thailand for a rubber training course. Then, the company promoted rubber plantation with local farmers, but with little success. Thakeak district, really engaged in the rubber only recently, 2004-2007, with the arrival of three foreign companies.

Lao-Thai Hua Rubber Company is a joint venture between Thai (Thai Hua Rubber Public Company 45%), Japanese (Honda 35%) and Chinese (Jieng Xieng: 20%) interests. It is working in Thakeak since 2006 under two schemes: concession and 2+3 contract farming.

Jong Ji Hong Ching Company first lent farmer's land to set up a rubber nursery on 2 ha, then sold seedlings to farmers who are interested in rubber plantation. In 2008, the company started a rubber concession on 82 ha.

Thai-Vietnamese Plantation Company is working in Ban Koktong since 2004 (which is sharing its border with Ban Khamboun). This company also promotes fruit tree and industrial tree plantation such as jatropha and rubber.

The land on which concessions were initially established were state propriety. In 1996, a decree of the Prime Minister allocated protected forest in Thakeak district to the Army Provincial Authorities for income generating purpose. In 2006, Lao-Thai Hua Company requested this land to set up a rubber concession under a long-term lease agreement. But the villagers complained as land allocation did not clearly delineate their village land and they feared the company would take more than the military land. The company requested the Land Authority to delineate the village and the concession boundaries.

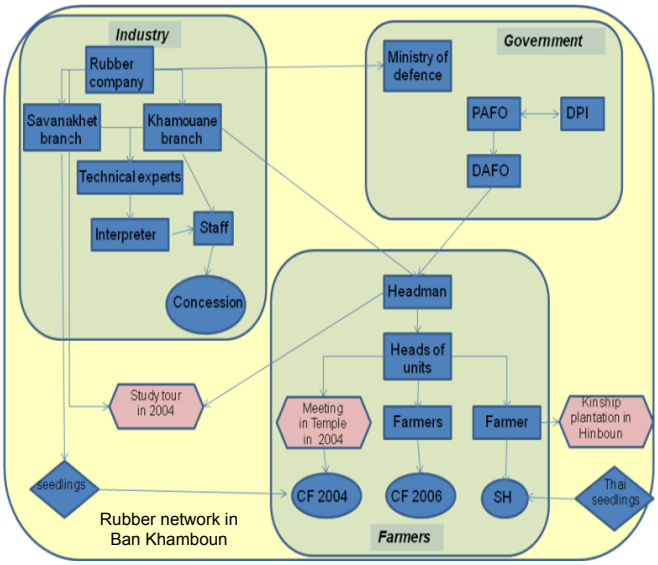
Multiple pathways to land acquisition in Khamboun village

Ban Nakhoum is hosting a rubber concession, but no villagers know what is going on in the concession. Interactions between the concession and villagers are limited to the occasional hiring of labor.

Ban Khamboun presents a mix of rubber arrangements with several companies operating under presented rubber plantation and other plantation under contract farming scheme, with the presence of smallholder and some daily work in concession.

"The negotiations take place with either the province or the central government" said the manager of a rubber company. The type of agreements depends of the attitudes of the local authorities: "The governor of Province A is not the same than Province B". But, "the real thing happens in the villages". The head of the village is then a privileged counterpart. The problem is that the village "doesn't have any data on land-use. We have to accompany local farmers through all stages of land allocation procedure" before getting into a contract with them.

In 2004, a company brought the village headman on a study tour to rubber plantations in Savannakhet. The result of this first contact with rubber was a meeting where the village heads presented to farmers the benefits of this crop. Several farmers further invested in rubber through contract farming .

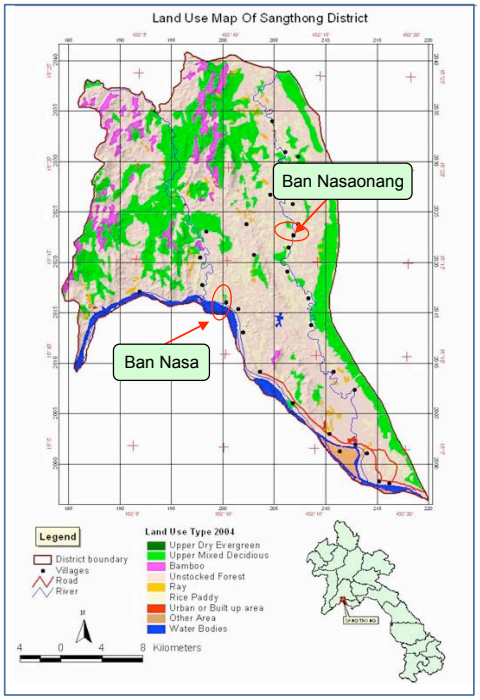


How smallholders resisted the companies...

A rubber case study in Sangthong District

In Sangthong District, the well organized rubber producer group of Ban Nasa resisted the intrusion of a foreign company. This is a good example of a balanced negotiation context where local farmers were able to successfully engage in negotiations with private investors and local government.

Bounthanom Bouahom
Jean-Christophe Castella
Elodie Alberny
Linkham Douangsavanh



A short history of rubber plantation in Sangthong district

Rubber expansion in Sangthong District has been largely influenced by cross border kinship relations with Thailand. The geographic location along the Mekong favored regular exchanges and even temporary migrations to work in smallholder rubber plantations in neighboring Thailand.

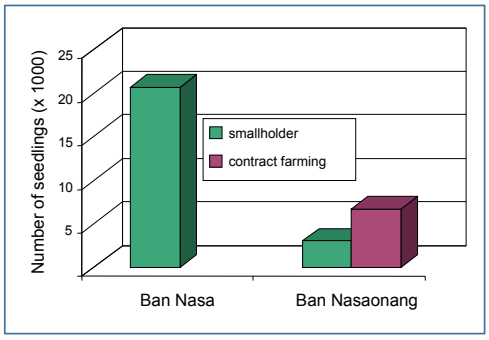
Rubber industry in Sangthong district is not booming like in other areas of uncontrolled expansion. In 2008, 130 ha of rubber were planted (59 ha by smallholders and 72 ha under contract farming with private companies).

Ban Nasa village started planting rubber in 1997. The landscape of this traditional rice growing village was changed by a single person, Mr. Xieng. He went to work on a rubber plantation for three years so he could learn how to grow rubber. Upon his return in 1997, he decided to change his farming system from rice and livestock into a rubber tree plantation to lift his family out of poverty.

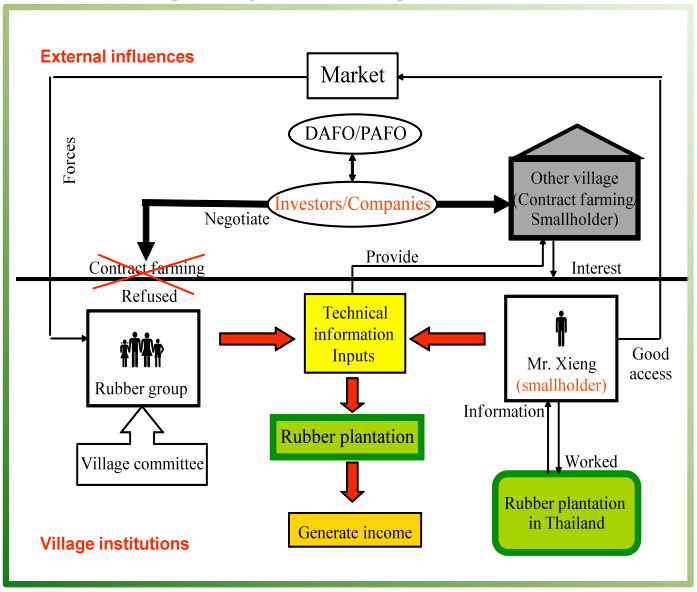
He planted 1.3 ha of rubber and then 1.7 ha in 2000. He started tapping in 2003 and then bought more land where he planted 9 ha in 2005. His story raised the interest of fellow villagers who started planting under his guidance.

Mr. Xieng brought rubber in Sangthong and became a local leader.

Ban Nasaonang started growing rubber in 2008. Local farmers, especially the village headman, were more interested in the traditional teak plantation. Therefore, they did not promote rubber production and villagers lacked information about this crop. When a company came in 2008, 13 households joined the proposed contract farming scheme. Two households decided they would go on their own when they saw the poor quality of the rubber provided by the company.



The strength of local organizations



In 2006, the village committee of ***Ban Nasa*** established a rubber production group. Mr. Xieng played a leadership role in managing the small rubber cooperative, providing technical knowledge, savings – credit service and marketing information to all members.

Many villagers who planted rubber joined the group (22 members = 70% of village households). When a company offered to establish rubber contract farming, villagers were not interested. The contract conditions were judged not fair as they would have had to provide 50% of their benefits to the company for receiving no other service than already provided by the cooperative.

A different story happened in ***Ban Nasaonang*** as farmers lacked the knowledge and capital necessary to engage into rubber planting. However, thanks to the experience of neighboring Ban Nasa they could negotiate good conditions with the company: e.g. seedlings provided for free and other inputs on credit provided that the farmers would sell their latex to that company exclusively.

The main lesson of Ban Nasa is that local leadership is a key component of the negotiation. Government agencies should support local initiatives in producer groups formation.

Smallholder Rubber inter-cropping options for Upland Farmers

By Simone Vongkhamho
Uplands Research and Capacity Development Programme
National Agriculture and Forestry Research Institute of Lao PDR

Rubber inter-cropping and agroforestry models are beneficial for both farmers and industries as they ensure benefits to farmers during the period before tapping as well as improve soil fertility and tree growth. NAFRI with support from the Upland Research and Capacity Development Programme have tested out a range of models with farmers in the Northern Uplands which have shown promising results

Rubber-Food Crops

Different crops of food, fodder and vegetables are cultivated in rubber plantations. The most common crops are rice, maize, sorghum and peanuts. All these crops are harvested once a year, some even twice. Although their economic benefits show quickly, they are of low value as they have to be planted and sown each year which increases the costs.

Rubber intercropped with maize

Rubber-Economic Plants

Economic plants such Galanga inter-planted with rubber trees simultaneously and usually harvested for the first time beginning the third year. The harvests last for more than five years with great economic benefits. This type of inter-cropping is now prevalent in Northern part of Laos

Rubber intercropped with Galanga

Rubber-Fruit Trees

According to the experiments carried out, it was not practical to interplant perennial fruit trees under rubber because of the influence of shade. But planting shrubs or herbs was a promising practice, especially banana and pineapple. Other fruit plants are interplanted in rubber on experimental basis.

Rubber intercropped with bananas

Rubber-Forage Crops

Forage crops such as Stylosanthes with rubber trees usually harvested for animal feeding (pig, goat etc.) first time beginning after planted 45 days the harvests more than 2 year. This practiced can save farmer labors to rubber plantation maintenance and growing up rubber tree more than 23-25% compare with monocropping system this type of intercropping is now prevalent in some districts of Luang-Namtha province

Rubber intercropped with forege species

Rubber-Non-timber forest products

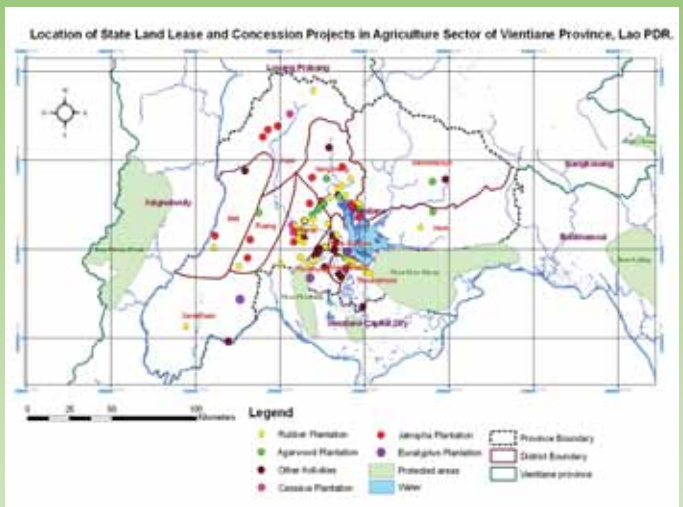
Many farmers in the northern uplands are testing out inter-cropping systems with NTFPs such as rattan, bee keeping in rubber plantations, and other domesticated products which are found widely in the surrounding forests and fallow lands

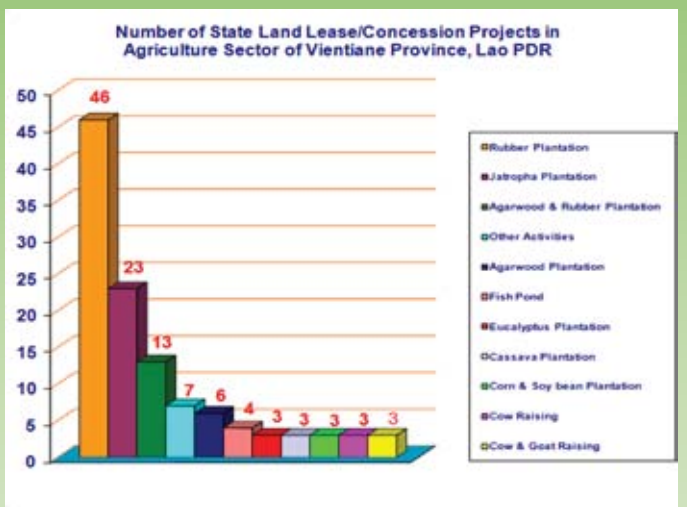
Rubber intercropped with honey

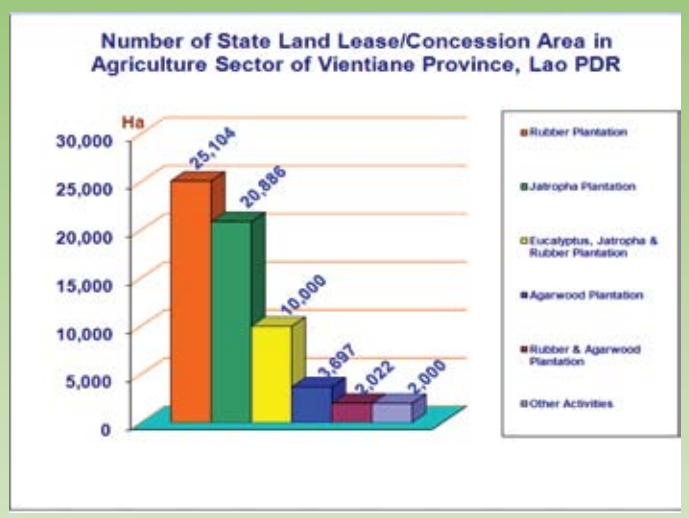
For more information contact

Forest Research Centre
National Agriculture and Forestry Research Institute
PO Box 7174
Vientiane, Lao PDR
Email: frc@nafri.org.la
Website: www.nafri.org.la

Status of land concessions in Vientiane Province







The KoLao Farm Company Planting 640 ha of Jatropha in Nampheng Village,Mat District

Capgreen company planting 500 ha of rubber in Bochan Village, Hin Huep District

Din Fa Wattana Company planting 100 ha of rubber in Nasam Village,Hin Huep District

The KoLao Farm Company planting 500 ha of Jatropha in Housi and Nampao Village,Vang Vieng District

The KoLao Farm Company planting 200 ha of Jatropha in North Phongthong and Wang Khi Village, Hin Huep District

The Tat Jai Company planting 3 ha of Agard wood in Nakhoun Village, Vang Vieng District

Research Results from study on the socio-economic and environmental impacts from rubber planting project in Bachieng and Laognam districts southern part of Laos

Positive impacts of the project

- Company improves locl infrastructure such as hospitals, roads, schools
- There is more job opportunities and chance for employment in the first two years
- Farmers and communities can inter-crop rubber plantations in the first two years (rice,maize,etc)
- The companies usually devolve management to local people allowing them to generate income

Negative impacts of the project

- Loss of community land for upland rice and for gardens
- Area for agricuolture production is decresed
- There are diminishing Non-Timber Forest Products available
- Health problems associated with pesticide use
- Increasing conflict and competition over land

Lesson learned

- Projects/companies should communicate, discuss and build understanding between local land manaement authorities, other sectors and villagers in the project areas.
- Projects should be clearly allocate production areas for villagers, especially non-timber forest products, agiculture and livestock
- Projects should clearly present detailed plans to local land management authorities, other sectors and villagers in order to prevent land conflicts
- Large scale plantations have negatively impacted on forests and biodiversity. There is a need to balance industrial concessions with biodiversity values in order to ensure a range of environmental services

RUBBER INVESTMENTS – APPROACHES FOR SUSTAINABILITY

Lao PDR is experiencing a rapid expansion of rubber cultivation. Industry experts predict that the current estimated 28,000 hectares of rubber will grow to some 300,000 ha by 2020. This expansion is being driven by demand for natural rubber in neighboring countries. Collaborative research by partners in Lao PDR, China, Vietnam and Thailand shows that there are important questions about rubber development for the Lao government, farmers and companies to consider.

Top: Rubber tree being tapped in Yunnan Province, China (Photo: IUCN Lao)

Below: Processed rubber at a factory in Yunnan Province, China (Photo: IUCN Lao)

IMPORTANT QUESTIONS

Our research has highlighted several important questions concerning the development of rubber in Lao PDR:

- **How much rubber does Lao PDR want, where is suitable to grow it, and how will the required labour be provided?** Equally important, what process is needed to determine the scale and location of plantations in an environmentally sustainable and equitable fashion?
- **What models/approaches for rubber production support the country's sustainable development goals?** As well as trade-offs between rubber and other land-uses, different rubber cultivation models present trade-offs in levels of profitability, risk to farmers and environmental protection.
- **How can rubber investments be effectively regulated and monitored to ensure that sustainable development goals are being met?** In particular, how can this be achieved in both investment source and recipient countries?

Based on research carried out by IUCN (International Union for Conservation of Nature), Lao National Economic Research Institute (NERI), Weiyi Shi, Yunnan University Greater Mekong Subregion Study Center and Consultancy on Development (CODE), and supported by the Sustainable Mekong Research Network (SUMERNET).

For more information, please visit www.sumernet.org

IUCN

National Economic Research Institute NERI Lao PDR

GMS Study Center

CODE

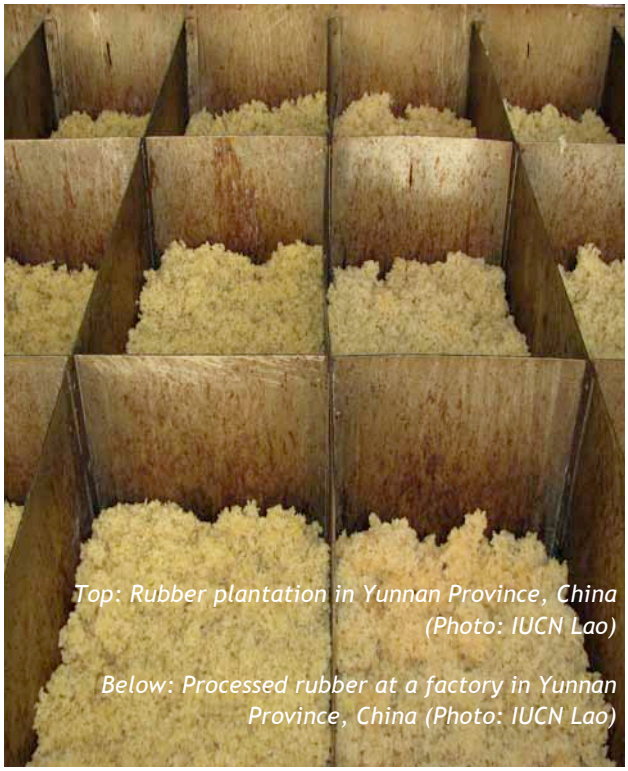
RUBBER INVESTMENTS – APPROACHES FOR SUSTAINABILITY

Collaborative research undertaken by partners in Lao PDR and neighboring countries shows that the Lao rubber sector is intricately linked to those of China, Vietnam and Thailand, with financing, technology and marketing, as well as demand for the final product, being supplied by these countries. These investors have an important influence over the trajectory of rubber development in Lao PDR. How can we ensure that investments in rubber contribute to sustainable development?

APPROACHES FOR SUSTAINABILITY

Regionally and globally there are government, civil society and company-led approaches that maximize the positive and reduce the negative impacts of rubber cultivation and production.

- **Promote corporate social and environmental responsibility in companies investing in rubber plantations and processing**. CSER should be promoted among companies investing in rubber plantations. As well as complementing regulation, CSER contributes to more sustainable and profitable investments.
- **Consider rubber agroforestry**. Agroforestry and intercropping offers benefits such as reduced risk for smallholders, improved biodiversity & environmental services and reduced food insecurity.
- **Promote certification**. Plantation management and chain of custody certification is available for latex and rubber wood, offering a premium for sustainably grown, harvested and produced rubber and timber.
- **Use guidelines and guidance**. Technical guidelines, extension and support services, and subsidies can be used to promote more sustainable approaches to rubber cultivation.



Top: Rubber plantation in Yunnan Province, China (Photo: IUCN Lao)

Below: Processed rubber at a factory in Yunnan Province, China (Photo: IUCN Lao)

Based on research carried out by IUCN (International Union for Conservation of Nature), Lao National Economic Research Institute (NERI), Weiyi Shi, Yunnan University Greater Mekong Subregion Study Center and Consultancy on Development (CODE), and supported by the Sustainable Mekong Research Network (SUMERNET).

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Planting for the future

Would a Code of Practice improve plantation social and environmental standards for Laos ?

LIWG
Land Issues Working Group

What is a Code of Practice?

A Code of Practice has rules for maintaining acceptable standards of behaviour and decision making. International and local codes are established for different types of business (e.g. fair trade, organic) and for specific commodities (e.g. palm oil, coffee). Codes consist of standards, procedures, criteria and indicators for monitoring them. They can be linked to certification.

Why have a Code for plantation sector?

- To ensure the development of industrial tree plantations is fair and sustainable.
- To prevent exploitative practices and ensure an equitable distribution of benefits and costs among those involved - communities, government, companies and consumers.

However, it is vital to enforce existing laws on land, forest and environmental management, ensure transparent processes for investment approvals, and enforce contracts between individuals, communities and companies. Combined with these legal measures, a Code of Practice can work

What are the preconditions for effectiveness?

1. Strong and committed leadership by one of the interested parties. Government agencies, industry, civil society or development organization can lead a Codes of Practices.
2. A functioning legal and governance system needs to be in place. Codes of Practice aim to supplement - not substitute for – fair implementation of national laws.
3. Incentives and/or sanctions need to be identified and used, without which a Code is unlikely to be effective. Examples are:
   - Incentives - Certification allows producers to gain a premium market price.
   - Sanctions - Companies failing to follow a Code may not get approval for bank loans for new plantations.

What are the next steps?

If Laos is truly 'Planting for the Future', a Code of Practice is urgently needed. The first step is to assess whether pre-conditions are in place. If the pre-conditions are in place or soon will be, the second step is to identify different stakeholders and methods:

- Foreign multinational plantation companies, individually or as a group, could proceed independently in adapting or developing a voluntary Code.
- Companies could collaborate with the government to adapt or develop a Code, potentially with support from FAO.
- The government could develop a mandatory Code, and require all large plantation companies to conform to this standard.

Further steps for a Code will be identified in part two of this report, available later in 2009.

Example of Codes

Meta-Certification Systems

- FSC—Forest Stewardship Council
- PEFC—Programme for Endorsement of Forest Certification
- RSPO—Roundtable on Sustainable Palm Oil
- RSB—Roundtable on Sustainable Biofuels

Certification and Guidance System

- CIFOR—Code of Practice for Industrial Tree Plantation Development in the Tropics;
- FAO—Responsible Management of Planted Forest - Voluntary Guidelines;
- IFC—International Finance Corporation (and World Bank), EHS standards and guidelines;
- ITTO—Guidelines for Establishment and Sustainable Management of Planted Tropical Forest;
- ILO—International Labour Organization, OHS guidelines;
- Chinese Guidelines for Overseas Silviculture;
- 4C—Common Code for the Coffee Community; and
- UTZ CERTIFIED Code of Conduct (coffee, now including cocoa, palm oil and tea).

Typical Scope of Codes

Promoting...

- Good governance and implementation of national laws;
- Corporate responsibility and transparency;
- Health and safety of plantation workers and local communities;
- Fair wages and contracts for all workers;
- Respect for the rights and culture of indigenous people;
- Worker organisation and representation;
- Conservation and protection of biodiversity;
- Soil and water conservation; and
- Reduction in CO_2 emissions.

Eliminating...

- Clearing primary forest and damage to protected areas;
- Planting of large-scale, same-age monocultures;
- Child labour and bonded labour;
- Forced eviction without consultation or compensation;
- Use of banned pesticides and persistent organic pollutants;
- Immoral and unethical business practices, e.g. corruption; and
- Excessive use of fertilizers and pesticides.

The Land Issues Working Group (LIWG) is a working group of the INGO Forum in Laos. Members include NGO staff in Lao PDR who are concerned about the social, environmental and economic impacts of expanding land concessions and plantations. LIWG aims to promote awareness and understanding of these issues by commissioning studies, sharing information and facilitating broad-based dialogue.

This poster is based on a report commissioned by LIWG: "Laos – Planting for the Future: *Environmental and Social Codes of Practice for Industrial Tree Plantation*" (Sean Foley, June 2009). This can be downloaded from the LIWG website: www.LaoLandIssues.org.

Recommendations to ensure rubber production contributes to poverty reduction & environmental sustainability

Regional Workshop on small holder rubber production

In 2006, the National Agriculture and Forestry Research Institute, the National Agriculture and Forestry Extension Service and the National University of Laos, organized a regional workshop on experiences in smallholder rubber production with the overall goal of helping Lao policy makers and agricultural officials at the national and provincial levels learn lessons about rubber from experiences of other countries in Southeast Asia and South Asia. The three-day workshop brought together more than 200 participants from within Laos and the region (with 37 participants attending from 13 different countries).

The recommendations that were agreed upon at the workshop provide an important reference point for what has been developed till now (2009).

1. Policy and Institutional Recommendations

Recommendation 1. Establish a multi-disciplinary/agency committee to develop a strategy for the rubber sector
Pending action

Recommendation 2. Carry out an assessment to develop standardized contract and guidelines for negotiating with investors.
GTZ developed draft contract guidelines & NAFES carried out case studies on contract farming

Recommendation 3. Improve services for smallholder rubber producers (credit and technical support, capacity development, and support to production groups)
NAFRI and NAFES have developed small holder extension materials

2. Research-Extension Recommendations

Recommendation 4. Promote diverse agroforestry systems for planting rubber by small-holders
NAFRI is carrying out trials in the Northern Uplands on inter-cropping and agroforestry systems.

Recommendation 5. Encourage mixed farming systems for poor farmers and develop policy incentives and rewards for both smallholder and private investors.
Pending action

Recommendation 6. Develop adaptive research – extension programme for smallholder rubber development.
Pending action

Recommendation 7. Ensure quality control over planting material and germplasm
Pending action

3. Land use planning Recommendations

Recommendation 8. Establish clear and simple guidelines for rubber suitability zoning
NAFRI has tested out guidelines for rubber and crop suitability zoning and is currently carrying this out in the 47 poor districts

Recommendation 9. A Rubber Information System needs to be developed
Pending action

Recommendation 10. Issue land certificates and tenure rights to smallholders as an incentive for rubber planting.
GTZ and NLMA testing out such processes in Xayabouli and Luang Namtha

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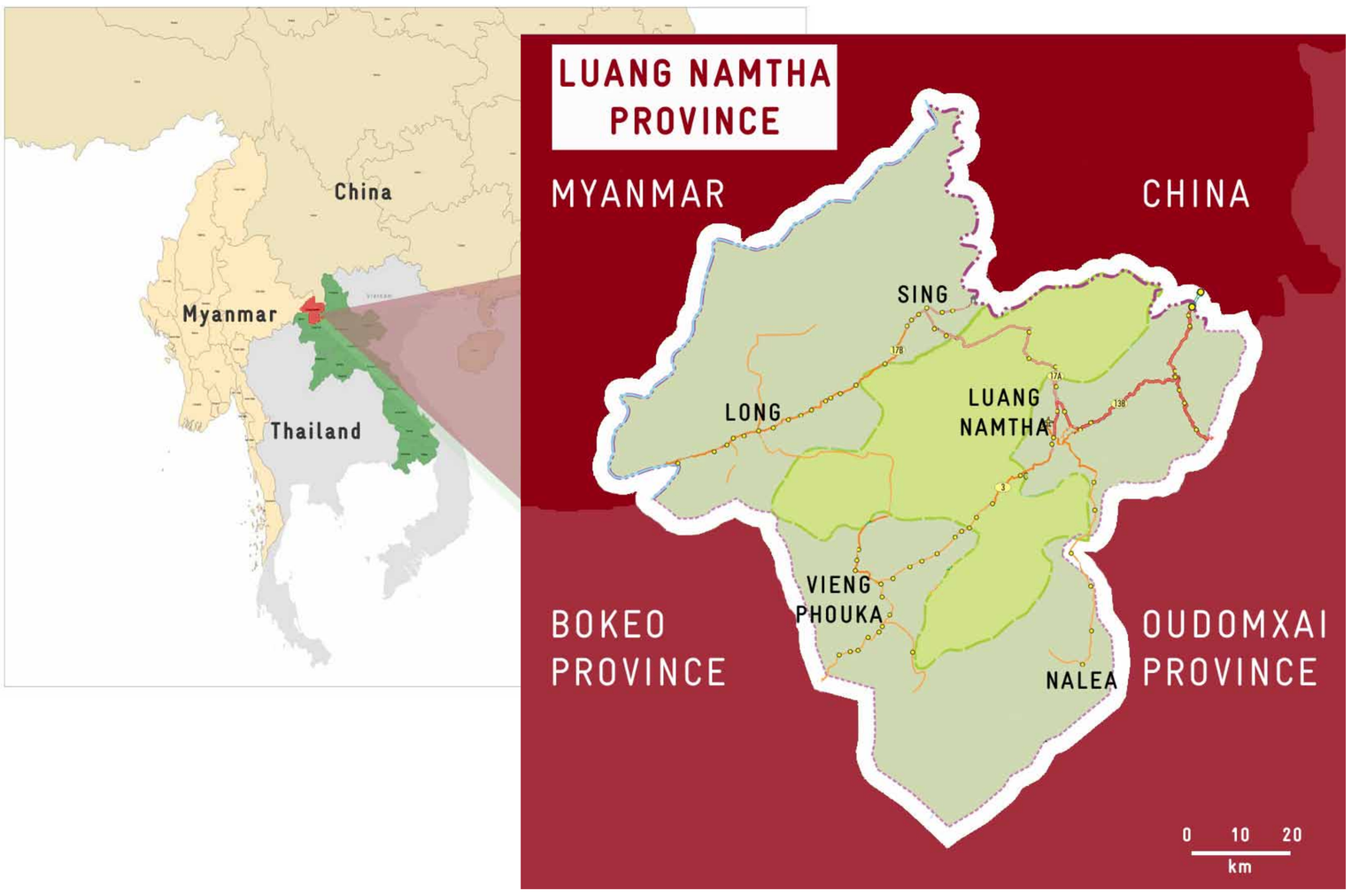
NAFES

ສະຖາບັນ ຄົ້ນຄວ້າ ກະສິກຳ ແລະ ປ່າໄມ້
NAFRI
National Agriculture and Forestry Research Institute

Luang Namtha Province



> 5 districts

> Population: 145.310

> Area: 9300 km²

> Density: 15 pers/km²

dpi Luang Namtha

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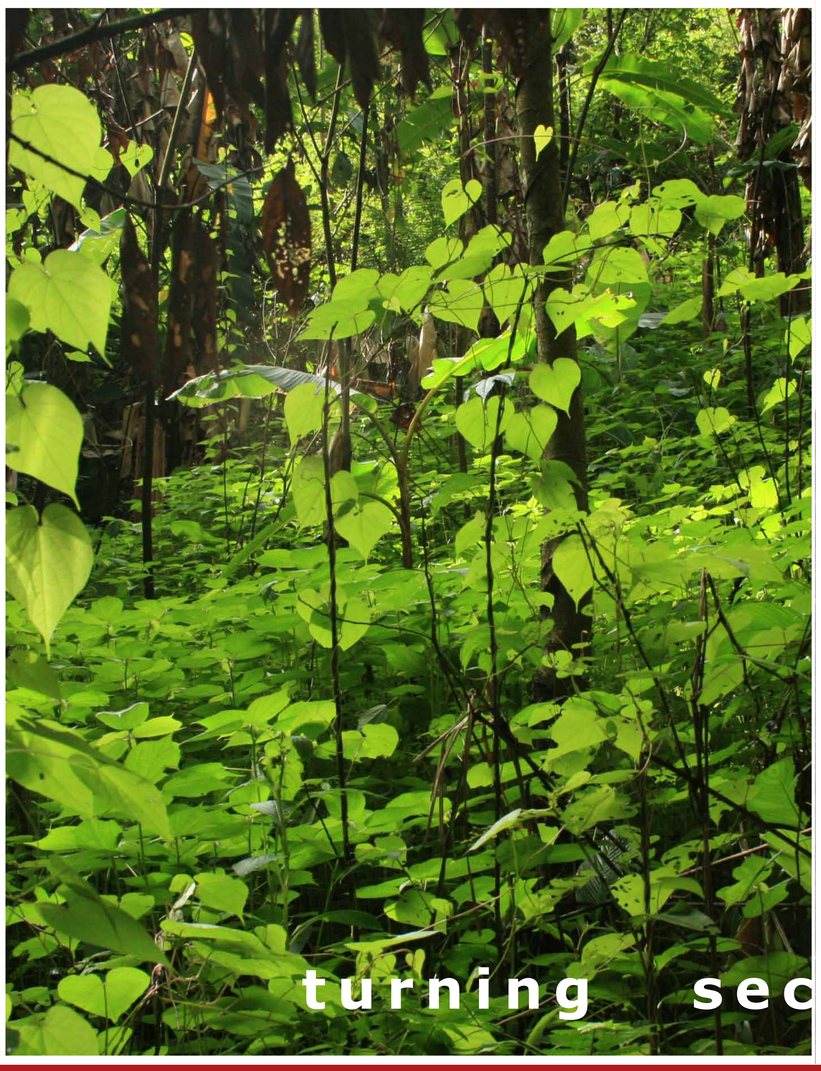
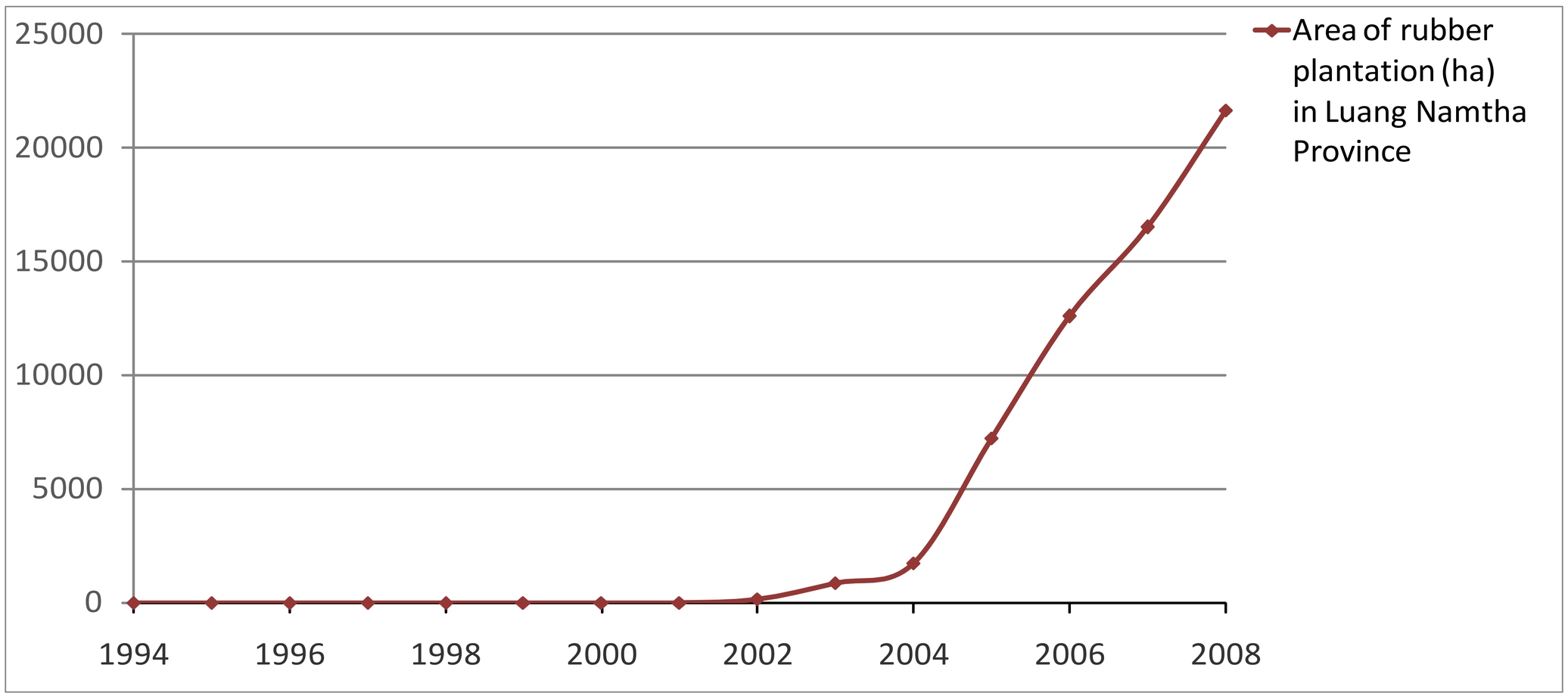
FEDERAL REPUBLIC OF GERMANY



turning secondary forest into rubber fields

Rubber Boom in Luang Namtha

2002 - 2008



Between 1994 -1st planting- and 2002 the rubber area in Luang Namtha remains insignificant

Between 2002-2008 the rubber area in Luang Namtha increased 165 times up to 216 km²

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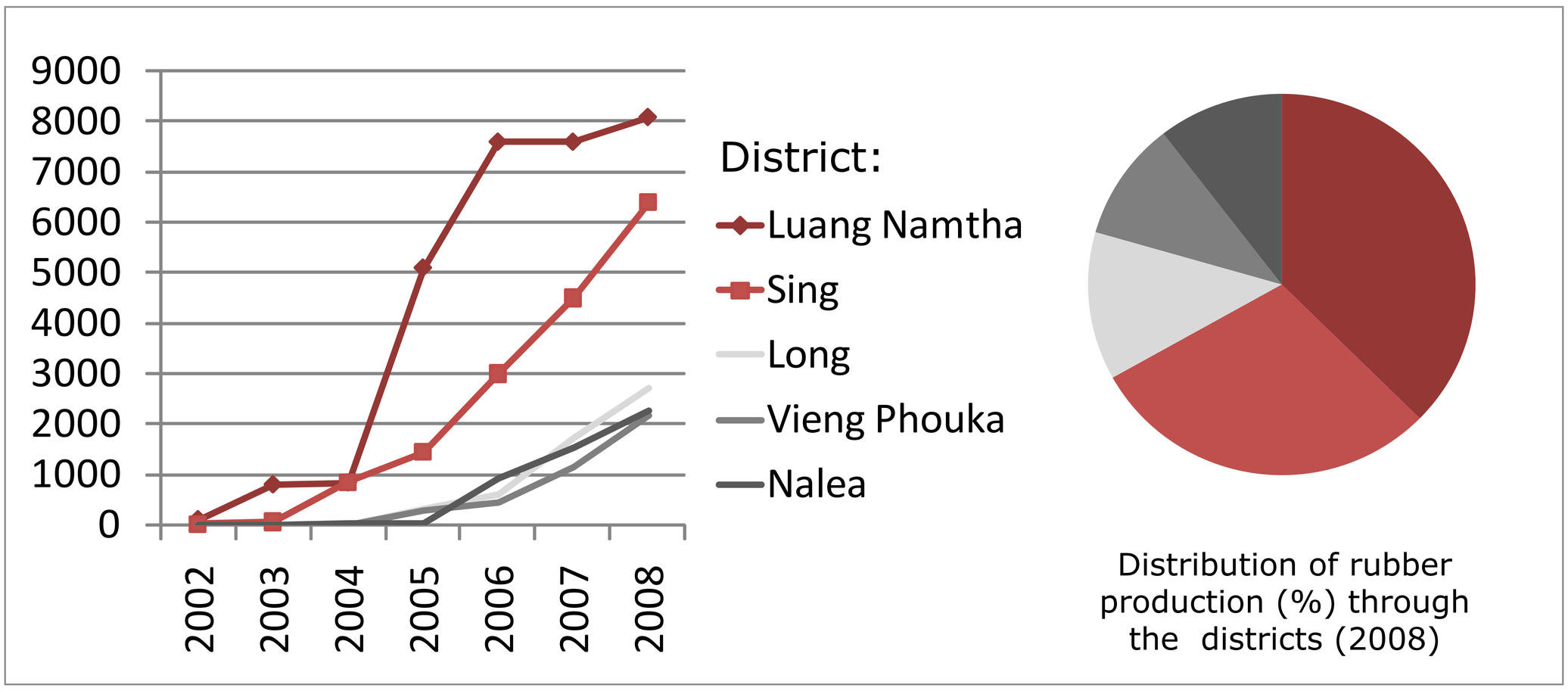
Rubber Boom at different speed



The rubber boom occurs at **different speed** within Luang Namtha Province

In 2008, **2 districts out of 5** represent more than **66%** of the rubber area

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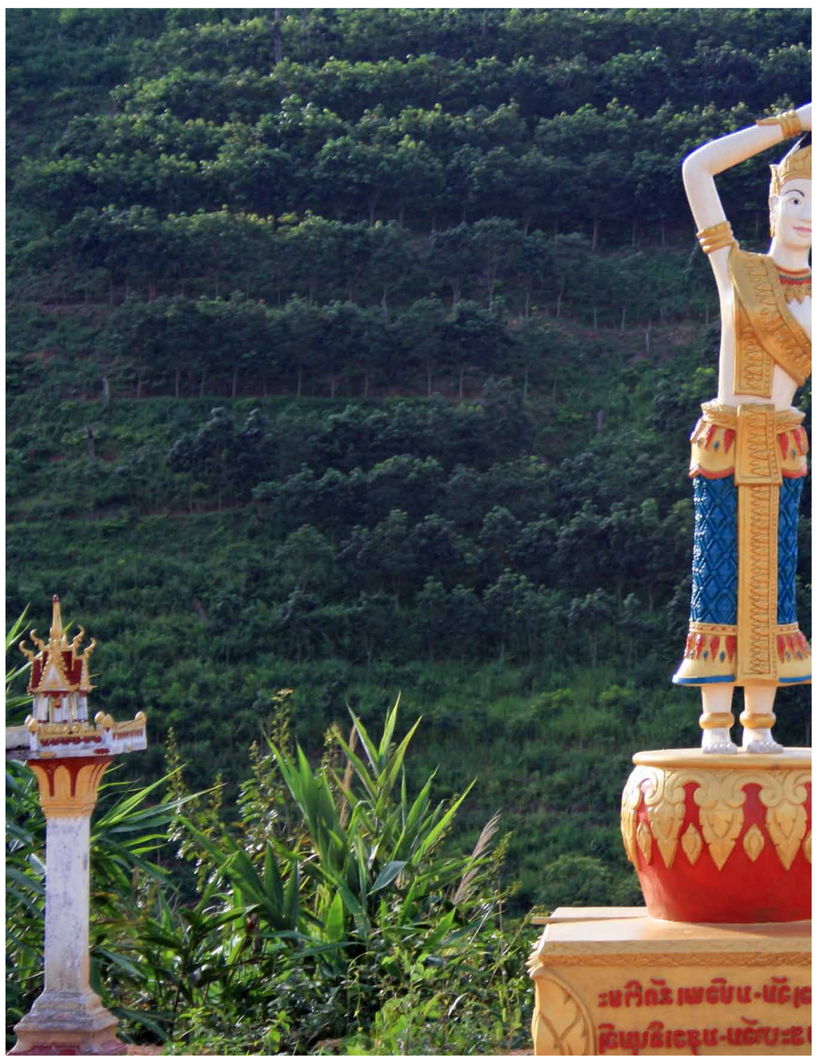
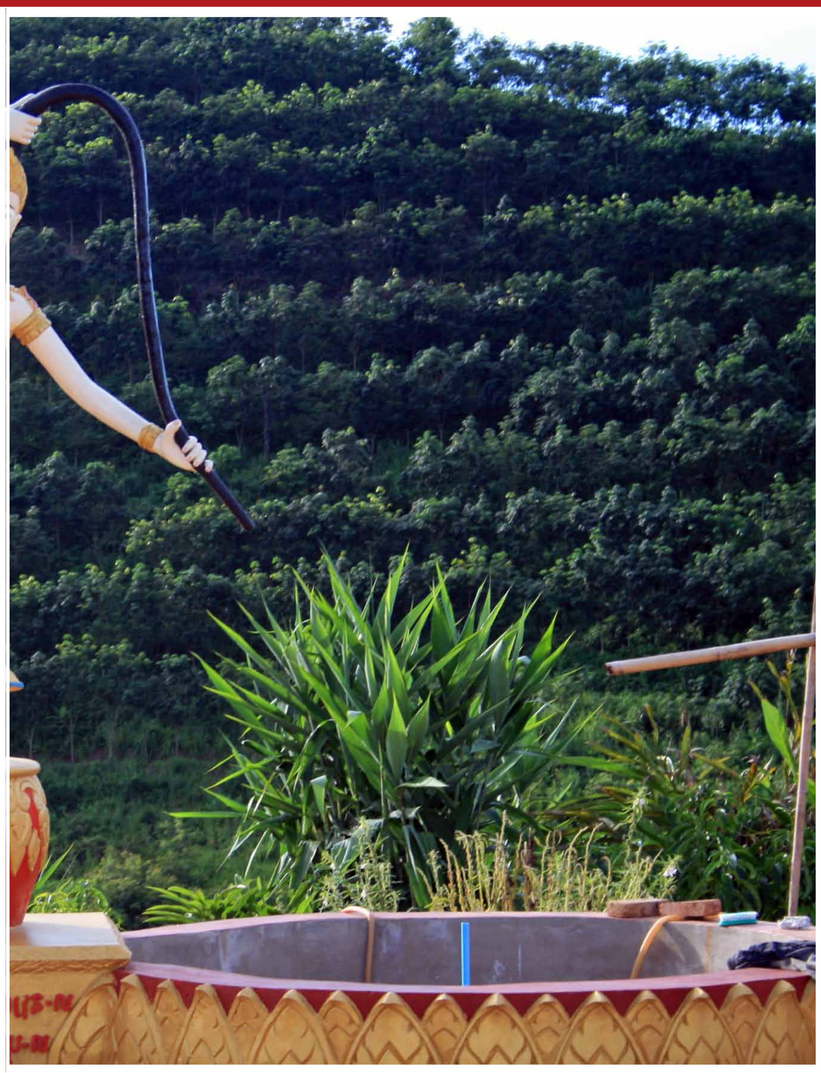
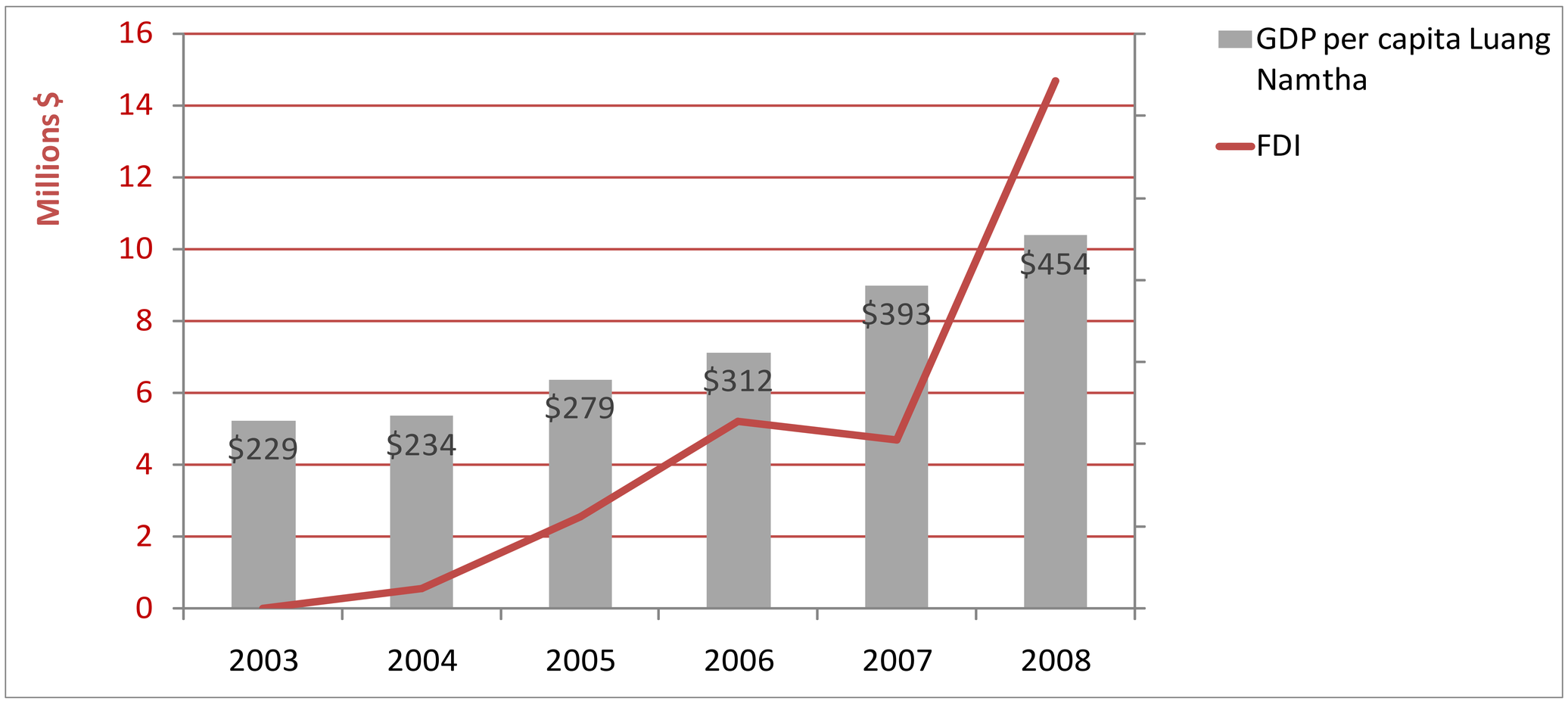




Luang Namtha's economic growth fueled by

Foreign Direct Investment



FDI has increased more than GDP per capita

dpi Luang Namtha

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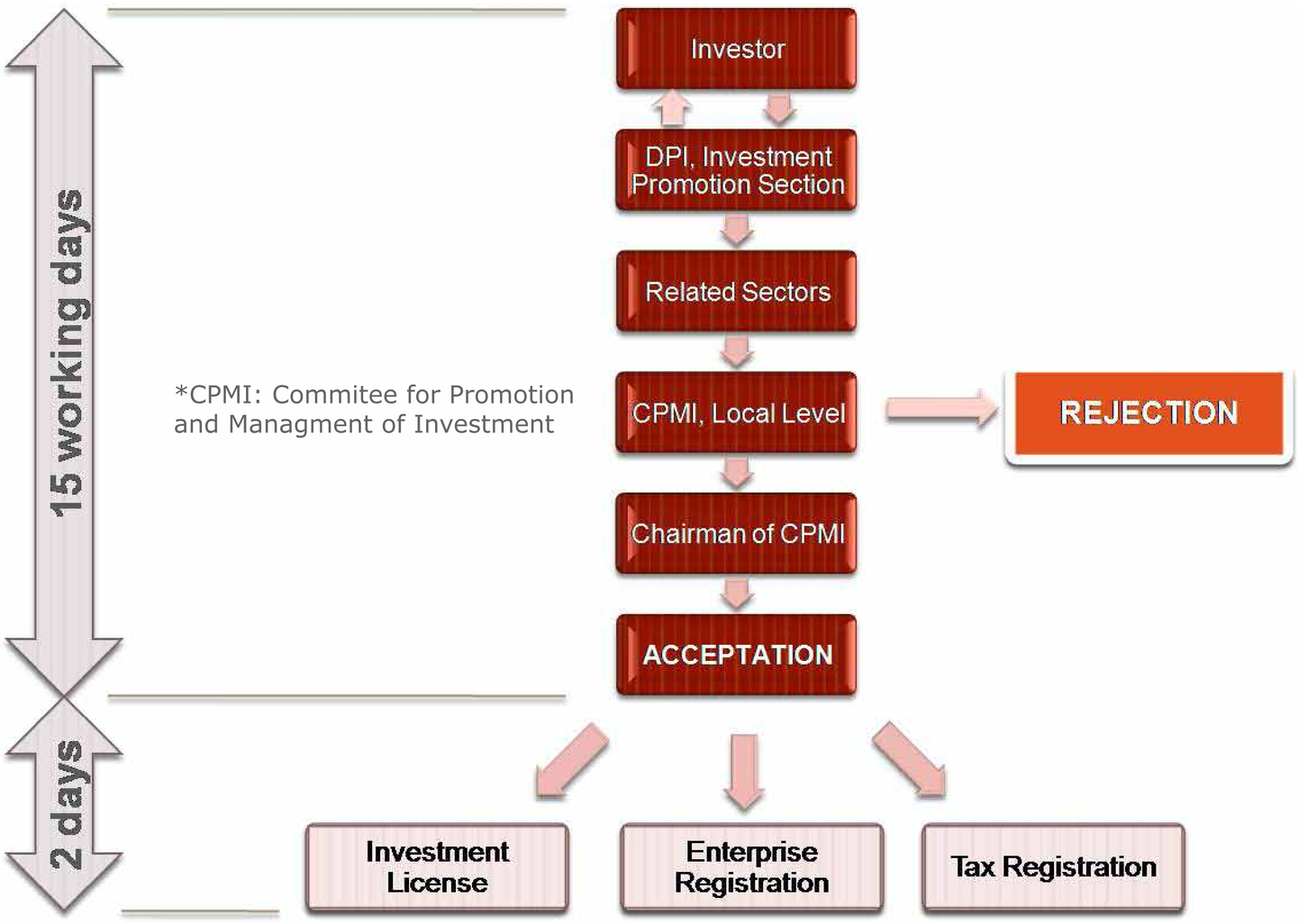
Investment in Luang Namtha

PROCEDURE



INCENTIVE

Zone	Profit Tax Excemption	Reduced Tax Rate	Full Tax Rate
1	First 7 years	-	10%
2	First 5 years	Year 6-8: 7.5%	15%
3	First 2 years	Year 3-4: 10%	20%

dpi Luang Namtha

Zone 1: No economic infrastructure (Nalea, Long, Vieng Poukha)
Zone 2: Moderate level of economic infrastructure (Sing, Namtha)
Zone 3: Good economic infrastructure

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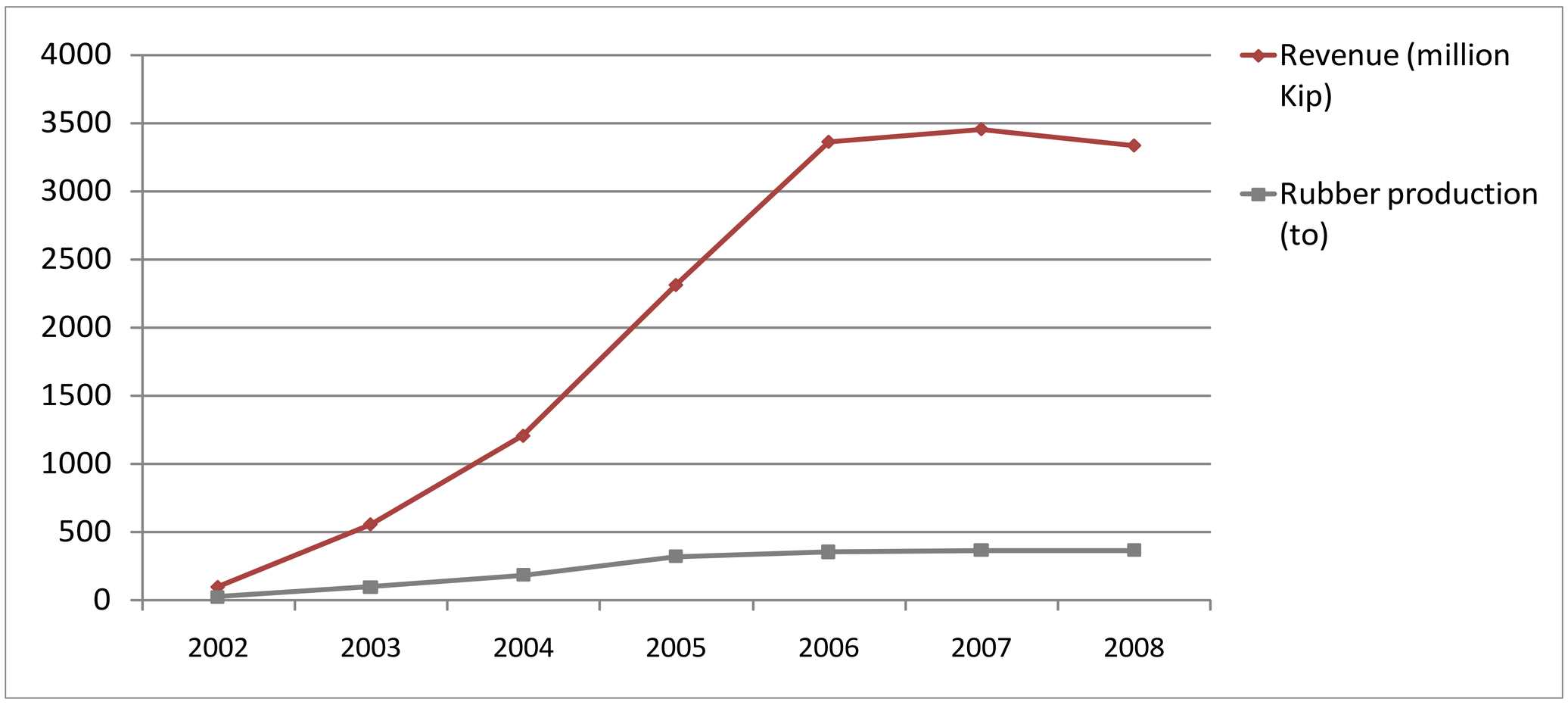
Case Study:

Ban Had Ngao

Hmong village - 9km from Luang Namtha
Inhabitants: 964 - Households: 122
1st plantation: 1994 - 1st tapping: 2002



Between 2002-2008

1706 tones produced

14,3 billions kip generated

dpi Luang Namtha

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