

Rubber Boom in Luang Namtha

A Transnational Perspective



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Acronyms

CPI	Committee for Planning and Investment
DAFEO	District Agriculture and Forestry Extension Office
DPI	Department of Planning and Investment
GoL	Government of Lao
LFA	Land and Forest Allocation
LUPLA	Land Use Planning and Land Allocation
MAF	Ministry of Agriculture and Forestry
NAFRI	National Agriculture and Forestry Research Institute
NPA	National Protected Area
PAFO	Provincial Agriculture and Forestry Office
YDOC	Yunnan Department of Commerce

Conversions

1 hectare	15	mu
1 USD	7.6	yuan (2007 spot average, U.S. Federal Reserve)
1 USD	9,300	kip (local market rate in Luang Namtha, late 2007)

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Executive Summary

Rubber has been planted in Luang Namtha Province since 1994, beginning with the now famous Ban Had Ngao and a few border villages in the Sing district. However, plantation on a larger scale did not emerge until the mid 2000s, when a surge in smallholder planting was met with an influx of foreign investments. By the end of 2006, a total of 12,585 ha of rubber has been planted in Luang Namtha, 88% of which is attributable to local smallholders or informal investors (from China as well as within Laos). The rest reflects formal investments by 11 rubber companies, 9 of which are Chinese.

The cross-border rubber sensation, seemingly sudden, stems from a mix of policy and market factors. On the Lao side, the provincial government explicitly promotes rubber as a means to stabilize shifting cultivation and alleviate poverty. Across the border, China's rising demand for natural rubber, driven by its rapid economic growth, is trapped with a stagnant domestic supply and soaring world prices for natural latex. Owing mostly to land scarcity, Chinese investors and villagers are increasingly looking to its neighbors for potentials in rubber cultivation. The Chinese government also encourages rubber investments abroad by offering favorable policy incentives and generous subsidies to businesses through the Opium Replacement Special Fund. Lastly, Luang Namtha villagers, inspired by their Chinese peers, have increasingly come to regard rubber as a promising pathway to a prosperous future.

Rubber is planted in Luang Namtha under a myriad of circumstances and arrangements. Compared to southern provinces, Luang Namtha has relatively few concessions, thanks in part to the provincial consensus to resist concessions in favor of contract farming. The province promotes a "2+3" contract-farming model, where villagers provide land and labor and investors contribute capital, technique and market access, with a general profit-sharing scheme of 70% for villagers and 30% for companies. In implementation, however, the model all too often dissolves into concession-type arrangements where companies are responsible for the entirety of plantation management for the first several years and villagers contribute only land, in exchange for 30% of the future plantation and current wages (if they also choose to work for the company as laborers). Such arrangements, known typologically as "1+4", are not only predominant in contract farming schemes with large, formal investors, but are quite common for those with small, informal investors as well.

Several factors have contributed to the prevalence of "1+4" in reality, among which is that, villagers, particularly those in remote areas with limited alternate income sources, simply cannot afford the prolonged, uncompensated labor input during the pre-tapping stage of seven to eight years. Other issues that plague contract farming include inadequate village consultation, varying degrees of coercion, inconsistent understanding and interpretation among contracting and governing parties, low levels of technology transfer from investors to villagers, and disputes over land and wages. The top-down contract making approach often renders higher-level contracts tools for negotiation at the lower levels. The often general and unrealistically large specifications of contracting areas are prone to overlapping land designations and territorial disputes. At a time when the Lao government has sworn off

concessions at the provincial as well as national levels, these concerns assert the sobering reality that dogmatic promotion of contract farming is hardly a miracle cure for poverty, either. Contract farming, too, can be ridden with similar drawbacks associated with a concession model.

Cross-border influence permeates every type of rubber investments in Luang Namtha. Not only do a majority of the formal investors originate from China, many of the small, informal investments also trickle from communities of recent Chinese settlers, former state farm workers, affluent Chinese Akha or Leu (Dai) villagers, and other commuting businesspeople hailing from the immediate border areas of Xishuangbanna. Even Lao villagers' own investments make no exception: villagers who have stronger cross-border connections start earlier, plant more, and benefit from a casual flow of credit, technical know-how, and market information from their Chinese peers. Disparity among villagers has increased social tensions between the rubber haves and have-nots. The sudden rise of upland value also leads to heightened disputes (particularly between lowland Leu and upland Akha villages) over village boundaries.

The rubber phenomenon in Luang Namtha is supported by longstanding social, ethnic, and economic ties across the border. The transnational business networks characterize strategic alliances between the Han Chinese and Chinese ethnic groups, Chinese ethnic groups and their Lao counterparts, old settlements and newcomers, large investors and small investors, as well as continuous cross-border movements among friends, relatives, and peers. Although the newer arrivals of large, formal investors are the most conspicuous, their operations would not have been possible without tapping the existing networks for subcontracting opportunities, labor supply, and multilingual talents to bridge cultural and language gaps.

The production and market chain of rubber in Luang Namtha is also transnational in nature. From seedling production to establishing the plantation to tapping, drying and sales across the border, rarely is there a link that escapes China's policy, technological, or market influences. Lao produced rubber has been supplying and will continue to supply the Chinese market. Although China's strong demand is expected to continue, the risk of oversupply is not entirely unrealistic considering past records, the inevitability of economic cycles, and China's recent aggressive efforts to promote rubber plantation abroad. In the event of excessive supply, Lao villagers and investors risk being subject to amplified market repercussions due to China's protectionist-prone policies toward its domestic rubber industry. Lao export will also be at a market disadvantage compared to tax-exempt export by formal Chinese investors supported by opium replacement policies. A key input in rubber cultivation is labor. With plantations expanding beyond the local labor capacity of Luang Namtha, labor shortage and migration, both internally from mountainous northeastern provinces and externally from China, is already underway and will continue rising in the coming years.

Unlike Luang Namtha, where rubber is still a relatively recent phenomenon, China's Xishuangbanna has been growing rubber since the 1950s first as part of its communist nation-building efforts. Comparing the history and current state of rubber development in Luang Namtha and Xishuangbanna, one realizes the

two share a number of similarities, including the tension between large holders and local communities, disparity among smallholders, patterns in labor supply, as well as challenges in forestry and land management. However, the two also differ in their levels of governmental assistance to villagers, effectiveness of technical extension, and quality control. Xishuangbanna offers Luang Namtha lessons, both inspirational and cautionary, in developing its rubber economy: committed and effective governmental support is critical in improving livelihood for the local communities. However, such achievements, exercised without caution, can bring grave, irreversible costs to the natural environment.

In conclusion, this study takes a cross-border and comparative perspective in examining Luang Namtha's rubber boom, focusing on stakeholder relationships (between villagers, governments, and investors), investment typology, and the transnational market chain. The study makes specific recommendations in the following areas:

1) Contract farming: a temporary suspension of new large contract farming projects is urgently needed, considering the amount of outstanding concerns, existing investors, and contract areas. Strengthened credit provision, technical extension, and minimum wage standards are crucial to ensuring gains for villagers already locked in large contracts. In addition, reconsider the profit-sharing percentages associated with the "1+4" model, refine contracts and the contracting process (no fixed hectares or exclusive rights should be given in any contracts), enhance monitoring of investors, and provide mediation support to local communities by a neutral group.

2) Land and forestry management: clarifying land allocation and accelerating the land titling process are important in securing villagers' access to land and related resources. A physical surveillance system is needed to provide accurate data on Luang Namtha's rubber holding and to monitor whether plantations are established in accordance with suitability standards and land use plans.

3) Marketing: disseminate market information to villagers. Empower villagers with commercial and language skills and through group organizing. Intergovernmental negotiations should begin now on how large-scale exports will be governed in the future. Encourage income diversification among villagers to better withstand future volatility in latex prices.

In the context of Luang Namtha's rubber boom, the development aid community plays an indispensable role in mediating conflicts, improving governance, strengthening the regulatory environment, minimizing environmental damage, and, most important, advocating for and empowering the local communities. Though China's approach to aid and development differs from an orthodox western perspective, there is nevertheless common ground between the two. China lists "cooperation with international organizations" as one of its top priorities going forward for its opium replacement development abroad, providing a platform for dialogues and exchanges. The aid community also stands to benefit from increased cooperation with Chinese academic institutions and NGOs to subject the performance of Chinese companies to better public knowledge and scrutiny at home.

Chapter 1

Introduction

In recent years rubber has become the center of attention in the policy discourse of Luang Namtha Province. Whether the topic is foreign investment, poverty alleviation, natural resource management, land use, value chain, or community life, rubber never fails to be part of the discussion. Some cheer it as a promising opportunity to lift a majority of villagers out of poverty; others worry about its potentially disastrous impact on the environment, while the actual benefits to Lao villagers remain both unpredictable and susceptible to abuse.

In spite of the varied opinions, a casual survey of Luang Namtha's landscape paints a picture of conviction: Where hills are not already lined with neat rows of young rubber trees, they are being rapidly cleared and terraced for the next planting season; pockets of seedling nurseries are spotted everywhere along the roads and in villagers' backyards; motorbikes zoom by with bunches of scions strapped on the back; roadside signs newly minted by Chinese companies proudly promote rubber as a lucrative alternative to poppy; the mature rubber forests of Ban Had Ngao and across the border in Xishuangbanna beckon the rubber-bound Luang Namtha farmers with a bright, promising future. There is no question that Luang Namtha Province, regarded by many as foreshadowing the fate of the rest of northern Laos, has embarked on a resolute, full-fledged rubber boom.

1.1 Previous Studies

Drawing considerable controversy, the rubber boom in Luang Namtha (and other parts of Laos) is a multi-faceted and complex phenomenon. A number of previous studies have examined the topic of Lao rubber from various perspectives. I note two in particular:

The Alton, Bluhm, and Sananikone (2005) study, "Para Rubber Study," offers a technical analysis of rubber development in Luang Namtha based on field data collected between October and December of 2005. The study focuses on evaluating the economic viability of smallholder rubber, rubber technology and environmental implications, and offers an in-depth household-level cost benefit assessment of Ban Had Ngao, the first rubber village. Similarly, Manivong and Cramb (2006), using bioeconomic and financial modeling tools, also present an economic analysis of smallholder rubber in northern Laos. In addition to Luang Namtha, Alton et. al. (2005) provide a comparative perspective by drawing on the rubber experience of northern Thailand and southern Yunnan, China. Due to bureaucratic constraints, however, the information on China was limited.

The NAFRI (2007) study, "Key Issues in Smallholder Rubber Planting in Oudomxay and Luang Prabang Provinces, Lao PDR", offers a comprehensive assessment of opportunities and challenges faced by small rubber planters in the two provinces of northern Laos. The fieldwork was conducted between November 2006 and February 2007 and the analysis explores interlinked factors including land management, technical issues, livelihood systems, and

contract farming. The study reflects a growing need to address issues related to foreign investment, particularly in the context of contract farming and the market chain.

1.2 The Scope of This Study

Complementary to previous research, this study focuses on cross-border networks, the market chain, and investment typology in Luang Namtha's rubber boom. There has been extensive media coverage as well as numerous workshop discussions about foreign investment, particularly of Chinese origin, in the Lao rubber sector. At the time of writing, Chinese investments accounted for all foreign rubber investments in Luang Namtha, which is not surprising given its proximity to China. There lacks, however, systematic documentation and analysis of this investment trend and its socioeconomic impact. To many Lao farmers and local governmental officials, the rapid arrival of foreign investors, large and small, over the last few years appears mysterious and ad hoc. It is the aim of this report to try to piece together some of these puzzles by examining stakeholder relationships as well as market and policy factors across Luang Namtha's northern border with Yunnan, China. In addition, I provide a comparative look at the paths of rubber development in Luang Namtha and Yunnan.

Specifically, I address the following main questions:

- What does the general rubber landscape look like in Luang Namtha? How much rubber is there? How much is planted by villagers and how much by Lao and foreign companies?
- Why has there been such rapid rubber development in Luang Namtha in recent years? Why are there so many more foreign companies and investors now relative to ten years ago? What are the contributing factors?
- Who are the foreign rubber investors in Luang Namtha? What are their general characteristics and how do they operate?
- What different types of rubber development are there in Luang Namtha and what are their socioeconomic implications? How do the stakeholders (governments, investors, and farmers) relate in each scenario and under what kinds of arrangements?
- How does the cross-border market chain unfold?
- In what ways are Luang Namtha and Yunnan similar and different in their paths of rubber development? What can Luang Namtha learn from the Chinese experience?

1.3 Geographic Focus

Luang Namtha Province is located in the northwest of Laos and divided, administratively, into five districts including Namtha, Sing, Long, Viengphukha, and Nalee. This study's geographic concentration is the Sing and Long districts, with some data also collected from the Namtha district. Sing borders Xishuangbanna of Yunnan, China to the northeast and Myanmar to the west across the Mekong River. Long, adjacent to Sing in the southwest, neighbors Myanmar across the Mekong but shares no borders with China. It is nevertheless linked closely to southern Yunnan



through river transport and Route 17. Route 17, an all-season road since 2000, goes through the townships of Sing and Long and extends to the river port of Xiengkok in the west (Route 17B) and China in the east at the Pangthong-Mengman regional checkpoint (Route 17A). It also links to Namtha District to the southeast of Sing. Namtha borders Xishuangbanna to the north and is served by the Boten-Mohan international checkpoint. The district has only recently been connected by Route 3, also known as the Kunming-Bangkok international highway, via Viengphouka to Houayxai, Bokeo, a crucial gateway to northern Thailand.

The area characterizes a generally mountainous landscape interwoven with valleys of paddy rice and riverbeds. The Sing district measures 17980 ha in total area, of which 4,744 ha is paddy rice. The overall area of Long is about a third larger than Sing, but its valley area is smaller, at only a third the size of Sing's valley area (Lyttleton et. al., 2004).

Given the cross-border focus of the research, Sing, Long and Namtha districts, with their expansive borders with Xishuangbanna, provide excellent venues for observation and investigation. Their strategic geographic locations and transportation networks inevitably make them centers of cross-border commerce. The area also characterizes immense ethnic diversity, representing Akha, Tai-Leu, Tai-Dam, Tai-Neua, Hmong, Kamu, Yao, Poonoi, Lenten, Museu, and other groups. Given their traditional cross-border dwelling patterns and migratory history, such ethnic diversity is an integral part of cross-border economic activities, including those in rubber.

Xishuangbanna Dai Autonomous Prefecture occupies the southern tip of Yunnan province, China. It was similar to current northern Laos in terms of landscape, climatic conditions, and ethnic and cultural makeup, until Chinese economic development and nation-building over the last half

century significantly altered it. Xishuangbanna has had an extended history of rubber cultivation dating from the 1950s. Three areas in particular, Mengman, Mengrun, and Mengpeng, all in the vicinity of the Sing district, serve as ideal destinations for researching and comparing the cross-border rubber phenomena.

More contextual information will be called into reference throughout the report to inform the rubber discussion at hand. Interested readers may also refer to Lyttleton et. al. (2004) and Diana (2006) for detailed discussions of the historical and current socioeconomic tapestries of Sing and Long Districts.

1.4 Approach and Methods

This study is based on fieldwork conducted from mid September through early December 2007. I employ a combination of semi-structured and unstructured interviews of stakeholders as the principal data collection method. There are four (types of) stakeholders in my analysis: the Lao government; the Chinese government; Chinese and Lao investors; and lastly, Chinese and Lao farmers. I discuss each one separately below:

- 1) The Lao government: Key provincial and district line agencies in Luang Namtha were interviewed, including the Provincial Department of Planning and Investment (DPI) and their counterparts at the district level, the Rubber Unit of the Provincial Agriculture and Forestry Office (PAFO), District Agriculture, Forestry and Extension Offices (DAFEO), and the Provincial Customs Office. Line agencies also supplied most of the secondary statistics on estimated rubber areas, formal contracts with investors, and relevant policy documents.
- 2) The Chinese government: The Xishuangbanna prefecture government of Yunnan Province did not grant interviews. Most information on Chinese policies was collected in Chinese language from announcements and public notices placed on government websites, Chinese newspapers and industry magazines, and through informal conversations with governmental employees and investors.
- 3) Chinese and Lao investors: Interaction with Chinese investors was based primarily on unstructured, informal conversations. This was necessary as most investors are nervous about being the subject of a study and are much more willing to talk in relaxed settings. Contacts were developed, to varying degrees of success, with all formally registered Chinese rubber companies operating in Sing and Long districts. Field visits were made to plantation sites of select companies. Lao companies were also contacted, but in fewer numbers. This is due to the cross-border focus of the study, but also because there are far fewer Lao companies (only two in Sing and Long, one of which is a joint venture with China). However, they not only are important to assessing the overall state of rubber development in northern Laos, but also offer a yardstick of comparison in evaluating their Chinese equivalents. Representative cases were also studied for Chinese and Lao investors operating without formal registration.

4) Chinese and Lao villagers: While interviewing Lao villagers, villages are chosen to ensure they depict representatively the local farmers' positions in various scenarios of rubber development. This means I try to interview villagers in a diversity of situations (not yet planted, planting on their own, contract farming, and concession) and at varied stages of plantation development (i.e. pre-tapping vs. tapping). Factors such as ethnicity and proximity to roads and borders are also taken into consideration. Village selection is in itself an iterative process. It was often during interviews at one village that I was able to learn of a new type of arrangement in another, where I could then follow up with further visits. Line agencies and development projects offered recommendations on "typical" rubber villages in the beginning stages of the research. Companies and investors also provided clues. For each rubber company, I include at least two or three villages where the company operates (company operations sometimes differ greatly from village to village). In most villages, I spoke with the village chief, or sometimes with an informal focus group gathered at the village chief's house. Since the focus of the present study is on the typology of arrangements (as opposed to an analysis of individual households) this method allowed the largest range to be covered. Individual families were surveyed on occasions when it was felt there was a large division of opinion among the village population, or if the village chief was unavailable at the time of the visit. In a small number of cases, villagers also supplied their copies of contracts with investors. In Appendices 1 and 2, I list villages visited, their basic data, and a questionnaire on which I based semi-structured interviews. Much valuable information was also collected during informal discussions.

On the Chinese side, I sampled a total of seven villages of Akha and Leu ethnicities close to the Lao border in Mengla, Mengman, and Mengpeng areas. All three areas have substantial rubber development and a strong presence of state farms. Six of the seven villages have a long history of cultivating rubber beginning in the 1980s, while the seventh one has traditionally been a tea village that only began rubber planting in the last few years. I again interviewed villagers in a diversity of situations and used a battery of questions similar to the one used for Lao villagers. In order to provide a better comparison with today's rubber-bound Lao farmers, I include a stronger focus on the early history of the rubber development undertaken by Chinese farmers. I also put particular emphasis on their current interactions and relationships with Lao farmers across the border. Chinese farmers, in general, appear to be less willing to discuss their economic lives with outsiders. I mitigated this problem by reframing the interviews as informal conversations and also visiting the villages, whenever possible, with a guide who had relatives or friends at the village.

Most interviews were conducted in Lao or mandarin Chinese. When the prevailing language for villagers was Akha, Akha-Chinese or Akha-Lao, translators were employed to facilitate exchange. Lao-English translation was used for interviewing Lao line agencies and sometimes also during village visits.

1.5 Data Reliability and Study Limitations

Whenever possible in the text I substantiate information by referencing multiple sources. However, certain types of information, such as the actual area of plantations, are beyond my capability to verify. Some information is also difficult to ascertain given the primary methods of my research. For example, villagers are highly unlikely to confess to having converted protected forest to rubber during an interview, knowing that the study is sponsored by a development project and connected with the Lao government.

By collecting information from multiple sources, it was easy to see that stakeholders often present inconsistent information on the same issue. These inconsistencies, rather than reflecting a data problem, can aid in our understanding of the intricate web of stakeholders and their respective private interests.

The study captures a snapshot of transnational rubber activities up to early December 2007, when my fieldwork ended. However, the state of rubber plantation and the related policy debate evolve continuously in Luang Namtha as well as in Xishuangbanna. In that respect, this report can be seen as a constant work in progress, serving as a base for future studies.

Chapter 2

The Rubber Landscape in Luang Namtha

Luang Namtha began planting rubber in 1994. Although Ban Had Ngao is widely quoted as the first rubber village of northern Laos, several villages began planting rubber around the same time. Ban Had Ngao, in fact, belonged to a cohort of six ethnic minority villages encouraged by the provincial government to plant rubber in the mid 1990s.¹ Almost concurrently, several Akha and Leu villages in the Mom cluster of the Sing district also started planting rubber under the influence of neighboring Chinese villages and the forces of regional migration.² Beginning in the early 1990s, a number of repatriated Akha refugees of the American War resettled from China to Mom, after having lived in China for over ten years and honed skills in rubber cultivation. They were the first to begin planting rubber in Mom and served as examples, and a crucial source of knowledge, for other villagers. In 1999 the region suffered severe frost. It had a devastating impact on all rubber-planting villages, including Ban Had Ngao. The incident was demoralizing for many villagers, who lost a majority of their trees to the frost. Those who wanted to continue planting had a hard time securing additional loans from the government. Therefore substantial replanting did not ensue until 2003 or 2004, after villagers began tapping and benefiting financially from what remained from the first round of planting in the mid 90s. By then, other villages, inspired by the concrete examples of Ban Had Ngao and others, also began planting rubber.

In 2003, the Namtha district government began a separate promotion project targeted at 12 villages within the district (including several in the Nam Ha NPA). The project funds were borrowed from Mengla County government in Xishuangbanna and channeled to villagers through the Agricultural Promotion Bank as subsidized loans. A Chinese company was contracted to complete the actual planting of 400 ha of rubber. Villagers had little involvement in the process.

Around the same time, Luang Namtha also began receiving an influx of formal investments from China. In 2004, the first Chinese rubber companies registered formally. Company-led plantation efforts soon followed.

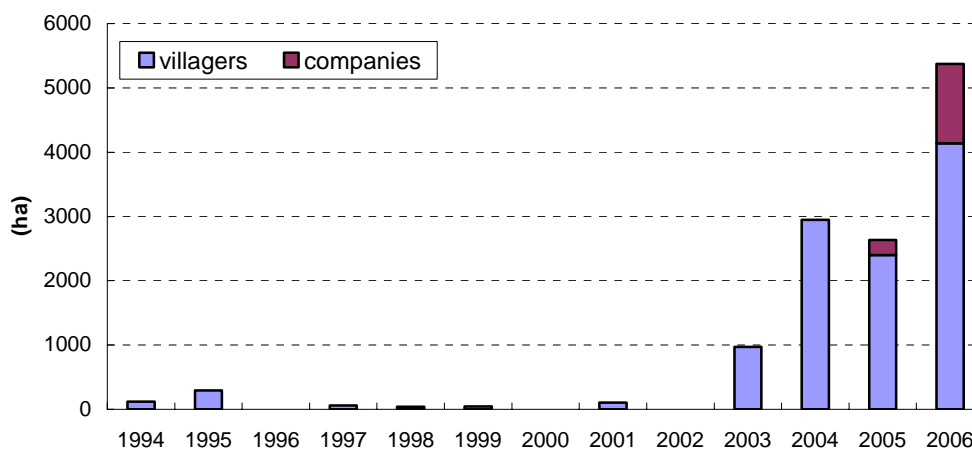
How much rubber is in Luang Namtha? Figure 2.1 shows the trajectory of rubber development since 1994. Although the specific numbers may lack precision, the general trend is consistent with the historical order of events described above. The early numbers depict sporadic developments by Ban Had Ngao and several other pioneer rubber villages in the Mom cluster of

¹ Alton et. al. (2005) described the experience of Ban Had Ngao primarily as a community effort based on villagers' own initiatives, though the then vice governor of the province, himself a member of the village, played a crucial role in securing provincial funds for subsidized loans. Conversations with line agencies indicate that Ban Had Ngao belonged to a concerted poverty alleviation effort involving a total of six villages, who received subsidized loans and technical assistance. There is likely truth to both perspectives.

² Oudomsin in Nakham cluster is also one of the early rubber villages thanks to a village member who honed rubber growing skills while living in Thailand and China.

Sing. The take-off did not occur until 2003-2004, when a number of events and trends coincided to spur a rather sudden spike in the total plantation area.

**Figure 2.1 Rubber Plantation Area in Luang Namtha
1994 - 2006**



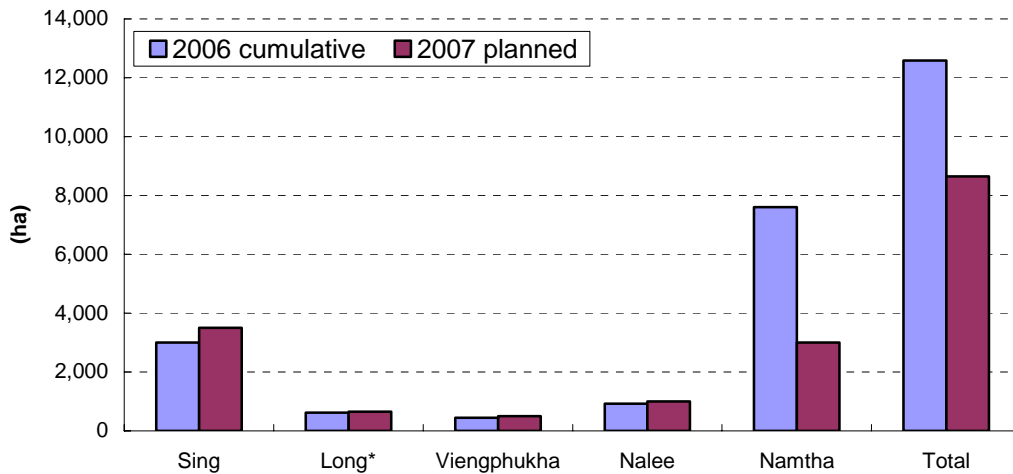
Note: Data is unavailable for 1996, 2000, and 2002.

Source: PAFO Luang Namtha.

According to PAFO, a total of 12,585 ha, had been planted by the end of 2006, of which an overwhelming majority, 11,119 ha, were planted by villagers themselves. The remaining 1,466 ha were planted by companies through contract farming or concessions. An additional 8,650 ha in total was planned for 2007 (official data for the actual area is not available at the time of writing). According to a recent interview of PAFO in the Vientiane Times, the total area covered by rubber had exceeded 16,000 ha by November 2007 (Vientiane Times, 20 November 2007). This is only 4,000 ha short of the present goal set by the provincial government to accomplish 20,000 ha of rubber by the end of 2010. If the current trend of exponential growth continues unchecked, the province will likely, if it has not already, end up with a total area much larger than what was initially aimed for.

Figure 2.2 shows the cumulative plantation area by district. The Namtha district has the largest planted area, followed by Sing. Sing, however, plans to plant more than Namtha in 2007. These two districts had an early start in planting rubber, thanks to governmental promotion, strong cross-border influences, and villagers' own initiatives. The other districts, particularly Nalee and Viengphukha, have been relatively isolated until recently. However, with dramatically improved infrastructure and a rapid influx of foreign investors and capital, they may well catch up with Namtha and Sing in a relatively short period of time.

Figure 2.2 Rubber Plantation Area by District



*DAFEO Long claims the district now has approximately 1,700 ha of rubber plantation.

Source: PAFO Luang Namtha.

PAFO arrives at the provincial figures by aggregating data from DAFEO, which in turn collects data from villagers. Company data are listed based on companies' own reporting. Businesses are required to submit progress reports to the provincial DPI every year, and more frequently during the first year of operation. In November 2007 PAFO announced that it was undertaking a land survey of commercial plantations throughout the province in order to better enforce land use plans (Vientiane Times, 20 November 2007). No data, however, have been made available from the ongoing survey.

Before celebrating or despairing over any numbers, one should consider the potential perils associated with official figures:

- Villagers may under-report their plantation areas in fear of taxation. Underreporting is confirmed in several anecdotal cases and likely to be much more widespread than the few verified instances. According to Luang Namtha's current regulation on rubber plantations (PG No.7, December 6, 2006), villagers who plant 1 hA of rubber or less will pay 1 Yuan per tree per year to the Lao government after tapping ensues. Villagers with 2-6 hAs are expected to pay 3 Yuan/tree/year after tapping. Villagers with more than 6 hAs of rubber will be subject to the same policy as investors, which means that they will pay 6 Yuan/tree/year in taxes. Villagers, particularly the better off ones, therefore have a strong incentive to conceal the actual area of their plantations. Underreporting is also easy to hide since there is currently no established system to physically verify plantation areas.
- A large portion of what's planted by villagers is, in fact, attributable to informal investors who enter into some form of contract farming with villagers. Villagers do not share such schemes with authorities in fear of being fined or jailed. Examples of such informal cooperation abound throughout the province, but are particularly concentrated in border villages and villages close to transportation networks. This implies the

area of plantations that villagers can truly claim as their own is perhaps far less than what the official statistics suggest.

- Plantations expand at a rapid, largely unregulated pace, making it difficult for measurement and estimation efforts to keep up. PAFO and DAFEO lack the staff capacity to conduct thorough, timely data collection or the technical know-how to establish surveillance of physical areas. The entrance of large foreign investors not only accelerates the pace of rubber development, but also takes plantations to increasingly remote areas with few transportation options, further adding to the challenge of timely data collection.
- Companies' own reporting may be susceptible to purposeful or benign inaccuracies. Chinese companies are motivated to over-report in order to qualify for opium replacement subsidies provided by the Chinese government, a policy I will discuss in detail in Chapter 4. In addition, much of the operations of larger companies are delegated to subcontractors in remote locations. Companies may not have a timely, precise grip on their own progress.

Table 2.1 lists major rubber companies currently operating in Luang Namtha province, their registration dates, contracted areas, and predominant modes of operation.³ Except for the joint venture between Mengla Jinggu Trading Co. and former vice governor Tongly (Tongly-Jinggu), all companies entered during or shortly after 2004, a monumental year in the course of Luang Namtha's rubber development. Comparing the contracted areas to what is already planted, we realize there is likely to be robust growth and substantial expansion in company-led rubber plantations for years to come. The areas that will eventuate, however, may not be as alarming as the contracted number suggest (If taking the contracted area at face value, Ruifeng alone already covers almost the entire territories of Sing and Long districts!). I will offer explanations for such inconsistencies and more in-depth discussions of company-based rubber developments in Chapter 5.

In spite of their compromised precision, official statistics nevertheless serve to portray the broad patterns and general trend of rubber development in the last decade. In the next few years, rapid increase is likely to continue, possibly with a growing representation of company-led rubber developments. Better data collection, monitoring, and surveillance of physical areas are sorely needed in order to assess, timely and accurately, the ever-changing rubber landscape of Luang Namtha (and the rest of northern Laos). Improved surveillance is an important step in ensuring healthy, controlled rubber development and is a recommendation I will return to in Chapter 9.

³ Although Table 2.1 lists only nine companies, there are at least eleven formal rubber companies operating in Luang Namtha, including three working with the provincial army. Nine of the formal companies are Chinese.

Table 2.1 Major Rubber Companies in Luang Namtha

Company	Official Registration	Districts of Operation	Contracted area (hA)	Arrangements*
Yunnan Rubber	2006	Namtha, Long	166,667 hA in 4 provinces	Concession (214 hA) and contract farming (v30%/c70%)
Ruifeng	2006	Long	300,000**	Concession through military
Diyuan	2006	Long	17,500	Contract farming (v30%/c70%)
Shengli	2004	Sing	2,000	Contract-farming-turned demonstration
Tongly-Jinggu (joint venture)		Sing, Long, Namtha, Viengphukha	6,350***	Contract farming with varied splitting percentages
Saiphajan (Lao)	2006	Long	1,050	Contract farming with varied splitting percentages
Zhenhua	2004	Viengphukha	3,000	Contract farming (v30%/c70%) or (v61%/c39%)
Jiachuang	2005	Nalee	2,000	Contract farming (v65%/c35%)
Taijiang	2006	Namtha	1,004	Contract farming (v65%/c35%)

*Whenever possible, arrangements are listed as implemented. For companies operating outside Sing and Long where no field visits were undertaken, arrangements are listed as specified in contracts. Percentages in parenthesis represent the profit sharing schemes between villagers (v) and companies (c). More discussions on contract farming follows in Chapter 5.

**Based on the original contracted signed with provincial army. Area may have been reduced in subsequent negotiations with other arms of the Lao government.

***Based on a promotional map obtained from company office, possibly out of date.

Source: written contracts, conversations with companies, villagers, and line agencies.

Chapter 3

Why Rubber? Why Now?

Chapter 2 discussed the scale and expanse of Luang Namtha's rubber development in recent years. Although the province began planting rubber as early as 1994, the rubber frenzy that we know now didn't emerge until the 2000s. What are the driving forces behind this sudden surge of interest? Why rubber? Why now?

3.1 Lao Government's Direct Promotion and Indirect Support

The 5th Party Congress (1991) of Luang Namtha Province identified rubber as a key poverty alleviation strategy and an instrument to stabilize shifting cultivation. The early efforts included governmental programs and subsidized loans that supported the cohort of Ban Had Ngao and later, in 2003, a group of 12 villages in Namtha District (Chapter 2). Also in 2003, the province made its first attempt at engineering and regulating investments in rubber on a broad scale: PG No. 34 (Dec 19, 2003) prescribed the general modes of rubber investments and the procedures associated with each mode. In addition to smallholders, investment scenarios by domestic and foreign companies, through either concession or contract farming, were delineated explicitly in the regulation (the first rubber companies were registered in Luang Namtha shortly after this). More recently, provincial regulation (PG No. 7, December 6, 2006) specified that all families without paddy will be allocated 1 ha of land and provided with rubber seedlings by the provincial government, but this promise has not materialized thus far. The same document also sets the goal of completing 20,000 ha of rubber by the end of 2010.⁴

The recent surge in rubber investments is also tied closely to Lao policies on foreign investment. The current law on the promotion of foreign investment (NA No. 11, October 22, 2004) defines three zones of varying degrees of remoteness and accords tax and duty breaks accordingly. The specific geographical classification of these zones is left to provincial interpretation. In Luang Namtha, the majority of foreign rubber companies invest in "Zone 1" areas with little existing infrastructure. This is partly driven by companies' preference for large, pristine land blocks which are found only in remote locations, but the preferential policy treatment for "Zone 1" investments may also play a role. "Zone 1" investments are entitled to a profit tax exemption for 7 years and a reduced tax rate of 10% thereafter. Because rubber typically has a maturing period of 7 to 8 years before tapping, companies are exempt from profit taxes for the first 14 to 15 years of their operations. In addition, companies are granted breaks on the minimum tax, import duties on equipment and vehicles, and export duty on export products.

On a national level, although rubber is not singled out as a target of promotion, commercial tree plantations are encouraged by the Lao National

⁴ PG No. 34 had a more modest aim of establishing 10 to 15 thousand ha of rubber plantations by the same deadline.

Forestry Strategy to the Year 2020. The 2020 Strategy plans to increase “forest” cover from 40% to 70%, to which tree plantations will contribute a substantial part. To achieve targets, the government “provides incentives, including allocation or lease of land for tree planting, property rights on planted trees, land tax exemption for registered plantations and free distribution of seedlings to farmers and organizations” (MAF, July 2005). The fifth (2001-2005) and sixth (2006-2010) 5-Year National Socio-Economic Development Plans also strongly promote tree planting for commercial production and reducing shifting cultivation, with ambitious targets to plant 134,000 ha (91,000 ha materialized) by 2005 and another 25,000-30,000 ha by 2010.

The national Land and Forest Allocation (LFA) process also plays an indirect part in shaping Luang Namtha’s rubber landscape. Land use planning and land allocation (LUPLA) began in 1997 in Luang Namtha, first in the Namtha district and expanded to the rest of the province.⁵ After land allocation, villagers are under pressure to find permanent alternatives for swidden fields, or risk having the land reallocated to other households if left sitting fallow for more than three years. Rubber serves as a sensible option for many villagers.

3.2 Regional Market Forces

Luang Namtha Province, with its proximity to China, is under the direct and immediate influence of Chinese market forces. China’s soaring demand for rubber, stagnant domestic supply, and high land prices to a large extent account for the trend of rubber development in Luang Namtha and the rest of northern Laos.

Rubber, one of China’s four main industrial materials (the other three are coal, iron, and petroleum), is of strategic importance in sustaining the country’s rapid economic growth. Since 2001, China has surpassed the U.S. and became the largest natural rubber consumer (and importer) in the world. The soaring demand shows no sign of cooling with a booming economy. In 2003, China consumed 1.6 million tons of natural rubber, accounting for 23% of the world supply. The tonnage rose to 1.8 million in 2004, 2.0 million in 2005, 2.3 million in 2006, and 1.3 million for the first 6 months of 2007. In the meantime, China’s domestic production of natural rubber has stagnated at around 0.55 million tons per year and even showed signs of decline after 2005, when a severe typhoon hit Hainan, one of China’s three rubber-producing provinces, and destroyed a substantial amount of rubber forests.⁶

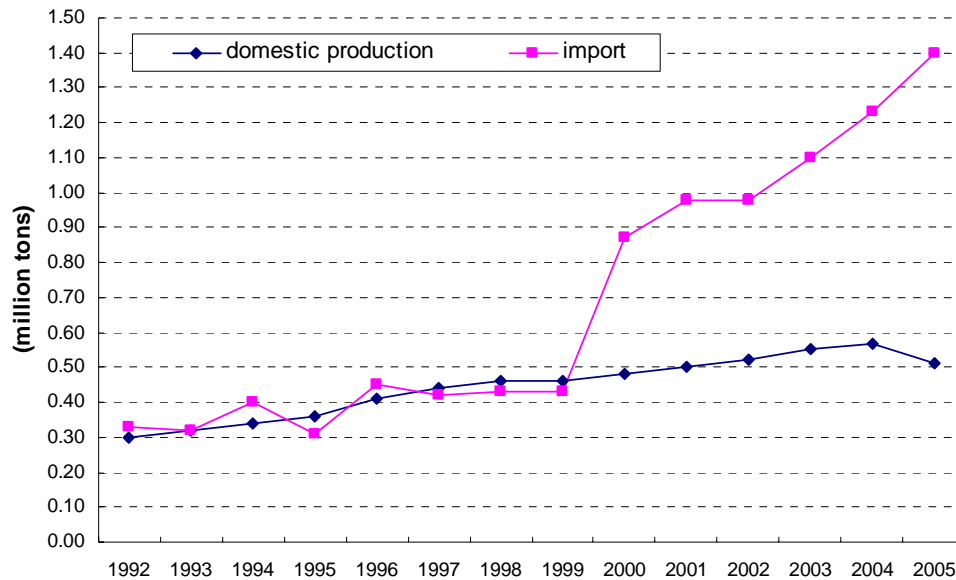
The widening gap between the Chinese demand and supply is filled with imports. Figure 3.1 shows the increasingly disparate roles that domestic production and foreign import play in meeting China’s soaring demand. Driven primarily by Chinese consumption, world and domestic prices for

⁵ Many villages in Sing, however, report mid-2000s as time of LUPLA. Conversation with GTZ Sing staff indicates that, many villagers were unaware of the first round of allocation by the Lao government in the late 90s. The project reinforced land use plans and allocation in a second round of efforts during the mid-2000s, which is the date many villagers registered.

⁶ Consumption and production data for each year are assembled from various Chinese public media sources.

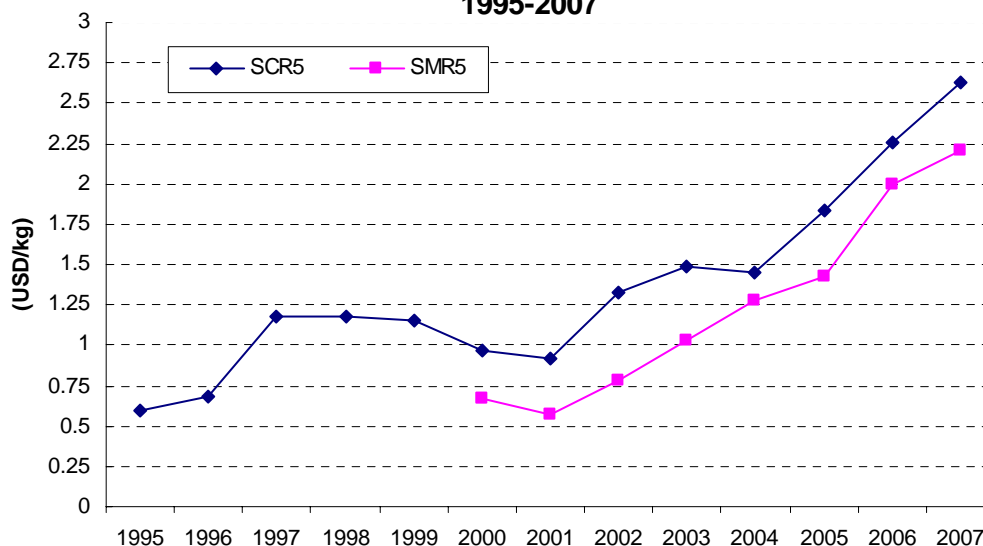
natural rubber have risen nearly four times since 2001, significantly increasing the cost of raw materials for China's industrial sector (Figure 3.2 and Zee News, 2007). With high prices of crude oil rendering synthetic rubber a costly alternative, increasing the supply of natural rubber has become a priority for maintaining the high growth economy.

**Figure 3.1 China Natural Rubber Production vs. Import
1992-2005**



Source: Replicated from China Rubber Futures Inc.

**Figure 3.2 SMR5 (MRB FOB NOON) and SCR Prices
1995-2007**



Note: SMR5 prices are downloaded directly in USDs. SCR5 prices are obtained in Yuan and converted to nominal USD using historical spot exchange data from the U.S. Federal Reserve Board.

Source: sales data supplied by a local processing facility in Xishuangbanna (broad market data is classified in China). Malaysian Rubber Board <http://www.2.lgm.gov.my/mre/YearlyAvg.aspx> (pre-2000 data is not online).

The primary reason behind China's flat domestic supply is a lack of suitable land for rubber cultivation. In China natural rubber can only be grown in southern Yunnan (namely Xishuangbanna), Hainan and small parts of Guangdong. A casual look at Xishuangbanna's landscape shows that rubber development has already been pushed to its limits.⁷ Rubber plantations, the vast majority monoculture, have covered most of Xishuangbanna's hills and are squeezed in such unlikely places as the raised edges of expressways. Younger trees are found on steep slopes that exceed 35 degrees, at altitudes above 900 meters, former orchards, and questionably close to watersheds. Meanwhile, Yunnan state farms, which account for 60% of Yunnan's rubber production, have reached per hectare productivity of 1.7 tons of dry latex in 2004, one of the highest in the world (Yunnan State Farms website). There is limited room to further increase production on the existing stock.

Spiking rubber prices in the 2000s have inspired aggressive planting efforts mostly by villagers and small investors, encroaching on forests, watersheds, and land otherwise unsuited for the crop. Such reckless planting has sounded alarm among provincial and prefecture authorities. Although there has not been a firm ban on rubber planting, several measures have gone into effect to curb the frenzy (more discussions on how Xishuangbanna regulates its rubber development will follow in Chapter 8). Most notably in 2006, the Xishuangbanna prefecture government froze all rotation, transfer, contracting, or subcontracting of collective forest or regenerating swidden fields until 2008. Although enforcement is far from perfect, this measure has reportedly made it more difficult for villagers to grow rubber, as recent rubber planting has mostly occurred through contracting and transferring of the above two types of land.

Compared to the land scarce Xishuangbanna, northern Laos becomes an ideal destination for eager Chinese rubber investors. The soil is noticeably richer. Land is easily available and costs a fraction of what it does just across the border. Lowland paddy typically costs 500-1,000 yuan per mu per season to rent in Xishuangbanna, whereas in Sing and Long better land rents at 50-100 yuan per mu per season. Upland areas exhibit a greater variability in price depending on quality and location. In Xishuangbanna the cost can run anywhere between 500 and 3000 yuan per mu for the life cycle of rubber trees (35-45 years), while in Sing and Long, some gain permanent rights to slope land at 4000-5000 yuan per hectare, or 267-333 yuan per mu.⁸

3.3 The Chinese Government's Active Push

Other than the obvious market forces and land constraints that are driving rubber investments abroad, the Chinese government also actively encourages such investments in order to ensure steady supply of one of China's most important industrial materials. Under the direct instruction of Vice Prime Minister Wu Yi, Yunnan state farms have been seeking investment

⁷ Based on field observation in Mengman, Mengrun, Mengpeng, Guanlei, and along the road from Mohan through Mengla to Jinghong.

⁸ Land prices are based on interviews with villagers and investors.

outlets in northern Laos since 2004, while Hainan and Guangdong state farms extend their reach as far as Malaysia.

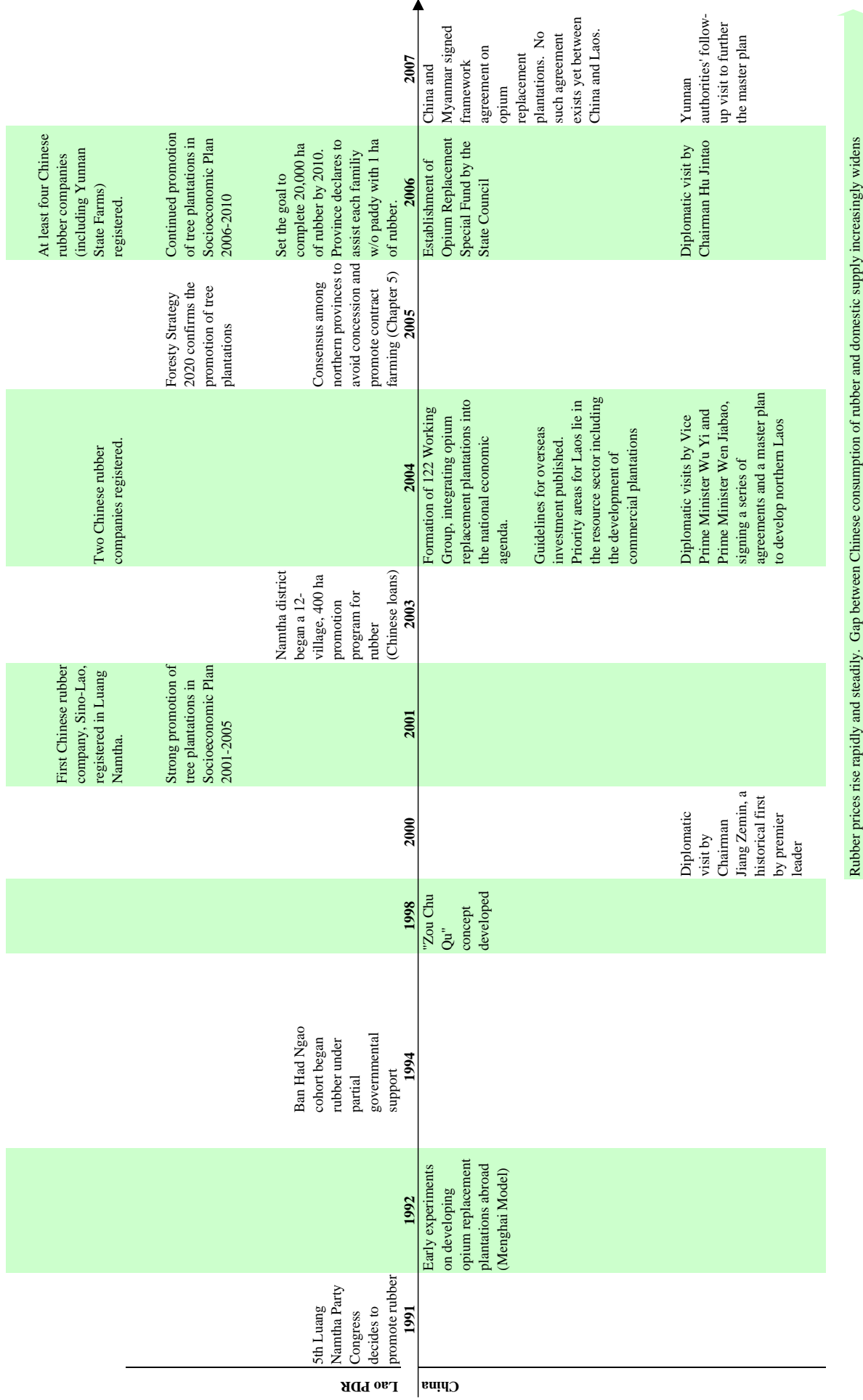
In addition to (former) state enterprises, private businesses are also encouraged to invest overseas. Most notably in the mid 2000s, China officially integrated narcotics control efforts into the national economic agenda and began aggressively subsidizing the development of opium replacement plantations in northern Laos and Myanmar. Almost all large-scale, formally organized Chinese rubber investments in northern Laos work under the directive of opium (or poppy) replacement, an approach to eradicate opium cultivation through the provision of economic alternatives such as commercial trees and cash crops. Opium replacement projects, a vast majority privately owned, are supported by the Chinese government through various forms of subsidies, loans, and tariff exemptions, among other benefits. According to Xishuangbanna Bureau of Commerce, over 40 Chinese companies, though not all in rubber, currently operate in northern Laos under the provisions of opium replacement.

Compared to Lao policies, relatively little is known or written about the Chinese policy background behind Luang Namtha's rubber boom, so I dedicate a separate chapter (Chapter 4) to discussing in detail the workings of opium replacement subsidies and other relevant policy incentives. Figure 3.3 presents a timeline of major (policy) events in Luang Namtha and China with the hope of illustrating, from a transnational perspective, the policy dynamics of Luang Namtha's rubber boom (some listed events will be explained in greater detail in Chapter 4). It should be noted, however, that without rigorous testing, concurrency should not be taken as establishing causality among events. Figure 3.3 is only meant to provide a policy context for the rubber discussion at hand.

3.4 Villagers' Desires

Most villages across the border in Xishuangbanna began planting rubber in the 1980s. Benefiting from the long rising rubber price in the 2000s, Akha and Leu villagers in rubber rich areas such as Mengman, Mengpeng, and Mengrun were able to significantly improve their standards of living. Stilt houses were converted to multi-storied, pastel-colored small villas; families acquired motorbikes, trucks and cars; Televisions, refrigerators, washing machines and hot water heaters have become basic household supplies; foods are plentiful and varied, though less and less is home grown. All these features of modernity signify hope and promise to Luang Namtha's villagers, many of whom have relatives and friends across the border. These relatives and friends, having accumulated cash but exhausted land, also increasingly look beyond the border for willing partners. Villagers on both sides have come to see rubber as a pathway to prosperity and wealth. The success of early rubber villages on the Lao side, such as Ban Had Ngao, serves as further inspiration, particularly for those who may not possess immediate border ties. Once enough villagers have started, the rest simply follow. Many Lao villagers, when interviewed about their motivation for planting rubber, state, "all other villagers have rubber, so I decided to do it, too."

Figure 3.3 Policy Context of Luang Namtha's Rubber Boom: Lao PDR and China



Chapter 4

Rubber, Opium Replacement, and “Zou Chu Qu”

Chapter 3 describes several factors that may have contributed to the current rubber boom in Luang Namtha. This chapter expands on one such factor, the Chinese policy behind the recent cross-border investment influx. One measure in particular, opium replacement plantation, is directly tied to the foreign investment patterns in Luang Namtha.

4.1 Brief History of Opium Replacement

Promoting opium replacement plantations abroad has had a long history in China, with projects first implemented in northern Myanmar and then, to a lesser extent, Laos. Menghai County of Xishuangbanna Prefecture began cooperating with the neighboring No. 4 Special Zone of Myanmar’s Shan State in the cultivation of rice, sugarcane, rubber, and tea as early as 1992. The project was praised by many, including the United Nations, and promoted as a model (known as the “Menghai Model”) among other border areas of Yunnan Province. By 2003, Yunnan Province had completed opium replacement plantations of 620,000 mu, of which 550,000 mu are located in Myanmar and 70,000 mu in Laos, covering more than 20 types of crops. (YDOC, September 2004).

It was not until 2004, however, that opium replacement gained rapid momentum and rose to strategic prominence on the national agenda. A special working group, known as the “122 Working Group” was formed to prescribe policies to encourage and coordinate Chinese businesses to invest in opium replacement developments in northern Myanmar and Laos. The group is led by the Ministry of Commerce and joined by more than ten other ministries and commissions at the national level. Its first meeting in late 2004 officially integrated opium replacement mandates into the China’s broader economic strategies, elevating it from a border phenomenon to national importance.

Since then, a series of favorable policies were formed at the national and provincial levels to simplify the investment approval process, relax capital requirements, ease labor restrictions, and provide financial incentives, culminating in the establishment of a special fund of 250 million Yuan by China’s State Council in 2006 to assist businesses through grants and interest reimbursements on loans. This fund is then channeled through the Department of Commerce of Yunnan Province, which, given its geographic location, is virtually home to all opium replacement projects and given the terminal authority in qualifying businesses for opium replacement funds and provisions. The Chinese policy discourse of this period coincided almost perfectly with the influx of rubber investments in Luang Namtha Province, where most formal investors arrived from Yunnan between 2004 and 2006.

4.2 In the Broader Context of “Zou Chu Qu”

The seemingly sudden sensation of opium replacement should be viewed in conjunction with both regional market forces and the broader Chinese policy framework governing overseas investments.

Chinese rubber investments in Laos long preceded recent policy maneuvers. As is illustrated in Chapter 3, it makes perfect economic sense at a micro decision-making level for Chinese businesses to make such investments (considering relative input prices and soaring Chinese demand), regional policies aside. The Chinese government's explicit promotion of opium replacement as an economic strategy in recent years did not start, but only reinforced this investment trend. Many of the small rubber investors in Luang Namtha arrived long before they had heard of opium replacement or the special fund. Among more recent arrivals, most also said that they had wanted to invest in Laos anyway and the Chinese government's supportive policies only made the option seem more attractive.

Apart from basic economics, the promotion of opium replacement projects also reflects the broader Chinese policy direction that aims to gradually transform China from primarily a recipient of foreign investments to also a major initiator. The Chinese government and public media characterize this strategic shift best with a succinct three-word pitch, "zou chu qu", literally translated as "go out." The concept, emerging in 1998 against the backdrop of China's expectant accession to the WTO, was formalized in 2001 in the "Tenth Five-Year Plan for National Economic and Social Development" (much like Laos, China's developmental plans are devised in five-year segments). The Plan provided guiding principles for subsequent policy and regulation changes, in areas including foreign exchange, investment procedures, credit provision, labor control etc., to encourage Chinese investments abroad. From 2004-2006, China's investments abroad increased by more than 70% per year, reaching 16.1 billion in 2006. For the duration of the "Eleventh Five-Year Plan," which spans 2006 through 2010, China plans to invest a total of 60 billion USD overseas. The total amount of Chinese investments abroad since 1978, when China's economic reform began, has been only 73.3 billion USD (YDOC, July 2007).

It is widely acknowledged within China that the primary drive for Chinese overseas investments is the lack of natural resources and industrial raw materials at home (YDOC, July 2007). Over the period of 2004 to 2007, China's Ministry of Commerce, Ministry of Foreign Affairs and National Development and Reform Commission (formerly known as the National Planning Commission) jointly published three sets of country-specific guidelines for overseas investments. The guideline for Laos was published in the first batch in July 2004 and listed priority investment areas as forestry resources, electric power generation, cash crop cultivation and processing, mining (sylvite, or potassium chloride), generators and other electrical machinery, motorcycles and parts, and paper pulp and products. The priorities for Myanmar and Cambodia are similarly heavy in the resource sector.

During the fiscal year ending in September 2007, China topped all foreign investors in Laos with a total investment of 462 million dollars. About 32% of

the investments are in hydropower, followed by investments in mining, rubber plantations, telecommunications and other industries (Bangkok Post, Oct 2, 2007). Luang Namtha Province, as a bordering province to China, not surprisingly receives a disproportionate share of Chinese investments.

China's economic ambitions for Laos have been facilitated through not only economic policy vehicles, but also strategic diplomatic visits and bilateral negotiations, during which national agreements and MOUs are signed in support of, and sometimes directly leading to, the enterprising investment activities we observe on the ground. In November 2000 and not long after "zou chu qu" became a national priority for China, chairman Jiang Zemin made the historical first visit to Laos by a Chinese premier leader. The China-Lao Joint Statement was signed to establish long-term cooperation between the two countries. Less known was that, during this visit, rubber development in northern Laos (and specifically the operation of Sino-Lao Rubber Company in Luang Namtha) was listed as one of the key cooperation projects and garnered official support from both national governments.⁹ In March 2004, China's Vice Prime Minister Wu Yi visited Laos in succession with Myanmar, Cambodia and Maldives. In addition to signing 11 documents to further cooperation in various sectors, this visit also inspired the involvement of Yunnan State Farms in the rubber development of northern Laos, eventually leading to the signing of a national agreement of 2,500,000 mu (166,667 hA) of rubber development in four northern provinces including Luang Namtha (Yunnan Daily, September 2005). Wu's visit was followed by the Wen Jiabao, Prime Minister, in November 2004, who signed broad-scoped notes to develop Lao mining and power sectors and to devise a master plan for integrated development in nine northern provinces.¹⁰

It is beyond the scope of this report to provide detailed, comprehensive research on Chinese economic and political strategies in the region. And, as always, one should be very careful about drawing any sort of causal relations simply based on the concurrency or subsequence of events. However, when viewed in the broader context of regional economics and politics, the seemingly sudden rubber boom in Luang Namtha and abrupt influx of Chinese investments begin to make better sense. It also suggests that the international development community can perhaps benefit from taking a broader, more proactive approach to monitor and cooperate with China's endeavors in Laos (in rubber or otherwise), a point I will return to in the final chapter.

⁹ Sino-Lao Rubber Company was registered in March 2001 in Luang Namtha with investments from Yunnan Local Product Import Export Company, a state enterprise, and Beijing Jinrun Rubber Co. Ltd. It no longer works in Luang Namtha and plants instead in Oudomxai. PAFO staff reveals that the company was interested in seeking concession and was unable to obtain enough land in Luang Namtha. The company also built a processing factory but it is no longer in use. The villagers who were tapping (mostly in Ban Had Ngao) complained about low collection prices and sold their latex to Chinese traders instead.

¹⁰ The task of developing the master plan was then entrusted to the government of Yunnan, much the same way Yunnan has been given authority in promoting and implementing poppy replacement abroad. The governor of Yunnan paid visit to Laos in April 2007 to further the plan's progress in agriculture and infrastructure sectors (Vientiane Times, April 4, 2007).

4.3 How It Works

According to the current regulation on opium replacement projects, published by Yunnan Department of Commerce in March 2007, a Chinese business must satisfy the following requirements to qualify for opium replacement status:

- The investment must be directed to northern Laos or Myanmar.¹¹
- The investments must be made in the following areas:
 - Agricultural plantations, livestock, fisheries, and associated product processing;
 - Mining, tourism, commerce and trade, and other activities that are able to spur local economic and social development and expand employment opportunities;
 - Supporting infrastructure such as roads, irrigation, and power supply.

Note that, according to current regulation, opium replacement is not limited to plantation projects, though most approved projects so far are in this category. The previous version of the same regulation, effective in May 2004 and since discontinued, pertained only to plantations. This change reflects a recent policy shift from encouraging narrowly defined “opium replacement plantations” to “opium replacement development”, qualifying a wider range of business activities for subsidies. It remains to be seen if this policy change will facilitate sectoral shifts in investments in Luang Namtha and other parts of northern Laos. Several rubber companies operating in Sing and Long, in fact, already span a number of industries (plantation and mining is a common combination). Although this phenomenon is more likely a reflection of the profit-seeking instincts of the businesses than direct result of governmental promotion, the latter did provide an amenable policy environment.

- The business must submit a feasibility report and provide signed contracts with foreign counterparts, letters of support from relevant foreign governmental departments and the Chinese embassy in the host countries.
- The business must also satisfy requirements governing general trade and investments abroad. The requirements on registered capital and past import or export revenues, however, are said to have been relaxed since 2004. Previously, a business was required to have a minimum of 5,000,000 Yuan in import and export revenues in the previous year in order to qualify for opium replacement status.

¹¹ However, more detailed geographic definitions are not provided in this regulation or elsewhere. Conversations with Chinese businesspersons, governmental workers and academics also yielded different understandings of what area northern Laos entails. Some consider it to include Luang Namtha, Oudomxai, Bokeo and Phongsaly. Some substitute Phongsaly with Xayabouri. Others identify nine provinces to include Bokeo, Huaphanh, Luang Namtha, Luang Prabang, Phongsaly, Oudomxai, Xayabouri, Xiengkhuang and Vientiane. It has been suggested that the geographic definition itself is subject to interpretation, change, and inter-governmental negotiations.

Qualifying for opium replacement offers several concrete benefits to businesses including:

- Direct subsidies from the Special Fund:
 - Subsidies of up to 80% of the actual costs incurred during the project exploration and feasibility study stages;
 - Subsidies of up to 90% of the costs in obtaining insurance and guaranty from domestic insurance and guaranty providers;
 - Full interest reimbursement for up to three years on loans taken from domestic banks;
 - Subsidies of 10 to 30 Yuan per mu per year for plantation projects based on actual areas planted (similar subsidies exist for livestock and fishery projects based on actual input costs).

For plantations projects, it is said that the plantation area must exceed 10,000 mu to qualify for subsidies. There are two windows of opportunities per year, June and November, during which businesses may apply for funds.

- Other benefits:
 - Expanded credit access at domestic policy and commercial banks.
 - Greater freedom in cross-border movements of labor, equipment, and vehicles.
 - Exemption from tariff and import VAT on opium replacement products and outputs (but limited by quota).

Import of opium replacement products back to China is subject to an elaborate, multi-layered quota system. By July every year, businesses must report to the cities or prefectures their planned export quantities for the following year. The cities or prefectures then report to Yunnan Province, who then in turn report to the State Council. Once the State Council approves a certain provincial quantity for each product or crop, the province is then responsible for dividing and distributing the quota to various businesses. The specific policies and procedures are subject to frequent changes and revisions. In 2007, for example, opium replacement quotas for rubber, rice, corn, sugarcane, and cassava imports from Laos were distributed to individual businesses. Quotas for less strategic products like tea, bananas, and watermelons were filled on a "first come, first serve" basis.

Yunnan Department of Commerce appears to adopt a hybrid approach in managing opium replacement projects. It involves heavy-handed central planning, but also relies on market forces and profit-maximizing private businesses as acting agents. The current goal for the 2006-2010 period, set by the 122 Working Group at the central level, is to establish a total of 1,000,000 mu of opium replacement plantations (all crops) in northern Myanmar and Laos. The target for 2006 was set at 250,000 mu, including 70,000 mu in rubber (of which, 50,000 mu was in Laos) and 40,000 mu in cassava. The total target for 2007 increased to 350,000 mu for Laos and Myanmar combined (data by crop is unavailable publicly) (YDOC, August 6, 2007). After deciding on the annual target for each crop, the yearly figure was then divided by Yunnan provincial authorities and assigned to city and prefecture governments. In

2007, for example, Xishuangbanna was instructed to complete an additional 115,000 mu of opium replacement plantations (YDOC, June 21, 2007).

4.4 Potential Concerns with Subsidies

- *Profitability of the investments may be difficult to ensure in the presence of subsidies.*

Subsidies may inadvertently encourage speculative rent-seeking behaviors that disregard long-term profitability and sustainability of the ventures. Businesses may be tempted to over-invest, over-expand, and adopt a less scrutinizing approach in evaluating potential projects. It doesn't help that land, scarce to near extinction in China and rapidly rising in value in Laos, warrants a profitable investment in its own right, regardless what is actually planted on or buried underneath the surface. This suggests some of the land acquired for rubber may be held for speculation. The Opium Replacement Special Fund, in this case, may end up subsidizing cheap access to large areas of land and affiliated resources more than the actual plantations.

If not exercised carefully, businesses may also obtain land and engage in contracts primarily for the purpose of applying for subsidies and, after the subsidies are granted in full, seek to withdraw or transfer the venture to other parties. The Chinese government tries to mitigate the problem by basing subsidies on the actual costs incurred and actual land areas cleared and planted. However, lax enforcement and corruption are potential concerns.

As some investors will grudgingly share, the subsidy distribution process is ridden with cronyism and corruption, and not so much based on the actual viability and economic potential of the projects. Although these remarks may be envious rants from investors who failed to obtain the desired funds, it hints at the possibility that subsidies may not be always directed to the most deserving businesses. The regulation of the Special Fund only serves to provide an upper bound for subsidy amounts. The actual fund allocation is subject to great variability and the criteria are largely unknown. In addition, the Special Fund is a highly coveted, limited pool of money, which may, albeit unintentionally, create an unhealthy race to land and contracts, further reducing the likelihood of thorough pre-project evaluation.

In addition, the top-down planning approach has its drawbacks. Opium replacement efforts are centrally planned and monitored by the Chinese government, though the final executors are (mostly) private businesses. It is unclear on what basis the planning authorities decide how much plantation, and spaced at what time intervals, is optimal. Chances are these plans and their tiered executions do not perfectly predict market outcomes. The local governments are under pressure to complete annual assignments, which may further increase the risk of poor evaluation and over-investments.

- *With subsidies, risk sharing is skewed between investors and farmers.*

In the case of contract farming, which is a predominant form of rubber plantation in Luang Namtha and addressed in detail in Chapter 5, subsidies

lead to unequal risk sharing between investors and farmers. This disparity is not accounted for in the profit-sharing terms of the contracts. Few farmers, who have little negotiating power to start with, and few governmental officials are even aware of the subsidies. With governmental subsidies, the net costs and risks are low for Chinese investors to start commercial plantations in Laos. In the event of a failed venture, Lao farmers are disproportionately affected without access to such subsidies and burdened further by taxes and tariffs.

- *Subsidies put Lao and Chinese investors on unequal footings.*

Without subsidies, Lao investors are at a disadvantage to compete with Chinese investors, particularly in the beginning stages of a project where subsidies are the heaviest.

- *Subsidies are only to large investors.*

With a minimum qualifying area of 10,000 mu, opium replacement subsidies are only available to Chinese companies holding big contracts. Big investors so far appear to have a poorer record of cooperating with local farmers (Chapter 5). Therefore it calls into question if these subsidies, by design, are facilitating a model of rubber development that maximizes benefits to Lao farmers and GoL.

- *Timely administration of subsidy funds is challenging.*

Some businesses interviewed reported delay in receiving funds, which interfered with their operations in Laos. This observation is confirmed by informal conversations with Chinese government staff in Xishuangbanna.

Chapter 5

Typology of Rubber Investments in Luang Namtha

Rubber is planted in Luang Namtha under a myriad of circumstances and arrangements. Villagers (Lao and Chinese, upland and lowland), investors (large and small, domestic and foreign), and various arms and levels of the government form a complex web of interaction and conjure a wide variety of scenarios of rubber development. At the risk of over-generalizing, I classify them into the following main categories: rubber planting on concessioned land, contract farming with large (formal) investors, contract farming with small (informal) investors, and, lastly, villagers own investment and cooperation with *phii-nong* (relatives and peers).

5.1 Rubber Planting on Concessioned Land

Relative to southern provinces, land concession for rubber plantation is relatively uncommon in Luang Namtha. Provincial authorities' resistance is partly to credit for the absence of large industrial plantations (thus far). In October 2005, three northern provinces, Luang Namtha, Bokeo, and Oudomxai, formed an official consensus that land concessions should not be given to rubber investors. Instead, contract farming should be promoted with a general profit-sharing scheme of villagers obtaining 70% and investors 30%.

Perhaps a more prominent factor preventing large land concessions, particularly in Sing and Namtha Districts, are the numerous existing smallholders. This includes villagers planting rubber by themselves and those who enter into formal or informal contracts with relatives, friends, and small investors often from across the border. Large concessions are desired by companies with easy capital access and strong governmental ties. However, these companies didn't start arriving in droves until the mid 2000s, after China began aggressively promoting and subsidizing opium replacement investments in northern Laos (Chapter 4). By then, in areas with higher population density and better infrastructure, many smallholders had already covered the landscape with pockets of small plantations, forestalling investors interested in large, undeveloped blocks.

Luang Namtha, however, is far from immune from the concession model. In 2006, Yunnan Rubber, a Lao subsidiary of Yunnan State Farms, obtained a concession of 214 ha (or 320 ha according to an alternate source) in Sub Tod, a remote section of Namtha District bordering Nalee. When authorities were asked why the case was approved in spite of the general provincial consensus of avoiding concessions, they cited pressure from above. Yunnan Rubber has a national contract, signed by the Prime Minister, to develop 2.5 million mu (or 166,667 hA) of rubber in four provinces of northern Laos including Luang Namtha, Bokeo, Sayabouri, and Oudomxai. Of the 2.5 million, 0.5 million are to be developed as demonstration plantations (i.e. concessions).

Luang Namtha's other concessions come from its expansive border zones. Though seldom discussed, the military is a conspicuous stakeholder in Luang

Namtha's rubber boom. Like any other caught in the frenzy, the army sees rubber as a promising income generating activity. Without the capacity to develop plantations on their own, the army looks across the border for partners. At least three different Chinese companies contract with the provincial army to plant rubber, including Ruifeng along the Mekong River in the Long district, Heli along the eastern border of the Mom cluster in Sing district, and a third company also in Mom to the west (originating from Soupla, a.k.a. Pakla). In theory, these plantations only use the defense land, which belongs to the state (Department of Defense). The domain of defense land, however, has never been defined clearly, leading to bitter disputes with border-dwelling villagers, whose understanding (and proof) of land entitlement are based on little more than customary use.¹² Case 5.1 describes one such case in Ban Chagnee, a Museu village in the Meung Sa Cluster of Long District, where villagers recently lost all paddies and most upland to a large military concession.

Concessions by the army appear to operate relatively independently from the established foreign investment approval process. When the provincial Department of Planning and Investment (DPI), designated gatekeeper of all foreign investments, was asked about the military contracts, the staff had little knowledge and complained that the companies' cooperation with the army, circumventing normal procedures, is of dubious legality. Examining one such military contract, however, showed that it bore a stamp of approval from DPI as well as the provincial court, suggesting inconsistencies or possibly deep corruption in the investment approval process. The contract also had some unorthodox features such as giving away mining rights and other types of resource claims within the concession range (typically if additional resources are discovered, the excavation rights remain with the Lao government). Moreover, the company is also exempt from all fees, including the typical 6 USD/ha/year concession charge (paid, for example, by Yunnan Rubber to the provincial government). It will only pay the 6 yuan/tree/year proceeds (according to the December 2006 regulation) to the army after tapping begins.

Among the various models of rubber development, concession is the most desired by companies as it gives them maximum control. In rubber lingo, concession is often euphemized as "demonstration," implying that companies are expected to exemplify the mature technology and efficient management associated with modern industrial plantations. In reality, however, the operations of these "demonstrative plantations" are not always exemplary. It depends much on the capacity of subcontractors and the urgency under which they work.¹³ There is also limited technology transfer to local villagers in this model, particularly if the laborers are employed from China.¹⁴ When asked whether villagers are given training on rubber planting,

¹² This appears to be a universal issue associated with land concessions. Concession, by construction, applies to state land only. However, what defines state land is a fluid concept subject to interpretation and manipulation.

¹³ As will be discussed later in this chapter, companies are often under pressure to race to land, sometimes leading to compromised technical standards.

¹⁴ Rubber contracts typically specify a maximum of 10-20% foreign laborers. This, however, is not perfectly enforced.

a senior company manager confided, "Not really. We have to reserve something. We'll teach them when we think the time is right."

On concessioned plantations, villagers lose access to land and trade in their entire livelihood systems to become wage laborers. It also crowds out the potential entrance of small investors, as was the case in Ban Chagnee (Case 5.1).¹⁵ The negative impacts associated with the concession model have been widely acknowledged by the Lao authorities at the central level. In May 2007, the Prime Minister announced an indefinite suspension of large concessions (of 100 ha or more) for industrial tree plantations, perennial plants and mining (Vientiane Times, May 2007). Though some lament that rampant concessions continue in spite of the moratorium, others postulate that recent concessions may have been in the pipeline long before the suspension. It is perhaps still too early to form any definitive judgment on the matter.

Informal "concessions," if they can be called that, by governmental officials and their powerful associates are also common in the more accessible areas of Sing and Long. These cases, though not large in land size, constitute flat out land seizures more than concession, which has a legitimate connotation. The villagers are sometimes offered modest compensation for lost land, other times not. Villagers tend to equate government workers and their associates to "the government" and feel rather powerless in their negotiating positions. Less is known about the precise extent and process of such land grab, as villagers are fearful to comment in any greater detail than "it happens a lot."

Case 5.1 Ban Chagnee, in the midst of a military concession

Ban Chagnee, located along the Mekong in Meung Sa Cluster, Long District, is a 212-person village of Museu ethnicity. Its livelihood system, before the arrival of a large Chinese rubber company, consisted of lowland and upland rice, collecting NTFPs, and raising livestock. In 2006, Ban Chagnee was bombarded with a series of persuasive visits by a Chinese investor, the army, and provincial and district officials. In the beginning, the villagers said, the army promised that they would only use the military land (*din tha-han*), but now the village has lost all its paddies (converted to a vast seedling nursery) and most of its swidden fields. Some villagers, resisting the concession, were reportedly held at gunpoint.

Self-sufficiency in rice has become a serious concern for villagers. Livestock is severely reduced to just a few chickens and pigs. Some villagers now work for the company for 30,000 to 40,000 kip per day, which, they admit, is not terrible pay. However, the predominant atmosphere at the village is one of discontent combined with resignation. The villagers have tried to plea with the local officials multiple times to little avail. The paddy fields, the villagers were told, would be returned to them after three years. There was also talk about reallocating some upland areas back to the villagers based on a per-family quota, but villagers were not confident if any of these promises would materialize.

The hill opposite Ban Chagee is the village's traditional burial ground. Unaware of its significance, the Chinese company initially took its soil for leveling a road base. This instigated fierce resistance from the villagers and further deepened their

¹⁵ The future prospect of existing smallholders on concessioned land is unclear. For now they are left alone.

mistrust of the investor. The dispute was eventually settled with 100,000 kip in total paid to the village, some soil moved back, and the hill saved from land clearing.

Prior to the military concession, six families entered into contract farming with a local Leu investor based in Xiengkok (originally from Sing) according to a 50-50 split after 5 years. In the initial years the investor supplies technical labor, in addition to seedlings and equipment, while villagers are responsible for minor maintenance such as weeding. After the split, the investor will gain permanent rights to his share of the land. A follow-up visit was paid to the investor, who said his plantations in Ban Chagnee had not been affected by the military concession so far, but he would not be able to contract with more families as planned because the Chinese company has taken all remaining land.

The Chinese company, on the other hand, finds it difficult to grasp Ban Chagnee's attachment to the traditional way of life. "Why don't they think? They can always buy rice," one manager said out of frustration. The company takes pride in what it will offer to the villagers and the army in the next few years: stable wages and vastly improved infrastructure. In addition to planting rubber, the company is building roads, water supply systems, and power lines to connect the once isolated corners along the Mekong.

5.2 Contract Farming with Large (Formal) Investors

The Luang Namtha government officially promotes a "2+3" contract farming model with generally 70% of the proceeds (profit or products) going to villagers and 30% going to the investor. There are five inputs in this model, land, labor, capital (including seedlings, fertilizers, and equipment), technique, and marketing. The villagers supply the first two, the companies the latter three. The province felt that this arrangement, compared to concession, provides villagers more secure access to their land and a stronger sense of ownership in the plantations.

In this section I discuss contract farming with large, formal investors who, in addition to contracting with villagers, maintain contracts with Lao authorities at least at the district level, but more often also at the provincial or even national levels. A vast majority of these investors are Chinese, with the exception of a joint venture, Tongly-Jingu, and Saiphajan, a Lao company operating in the Long district (Chapter 2, Table 2.1).

5.2.1 How are contracts made?

Depending on who one talks to, different sides (i.e. the province, district, investors, and villagers) have slightly varied versions as to how contracts are made with foreign investors. In general, the process characterizes a top-down approach and consists, officially, of the following steps:

The investors inform the province of their investment intent. In the meantime, they work with district authorities (DAFEO, District DPI and governor), who help them identify potential plots of land (it is unclear according to what criteria). Investors, often accompanied by the district and sometimes also the province, then consult with villagers for their willingness to cooperate. Upon reaching agreement with the villagers, the investors return to various departments at the provincial level (DPI, PAFO, and governor) to file for

investment approval and establish the provincial contract. After signing the provincial contract, the investors then go back to the district and village levels and make subsequent contractual arrangements.

In implementation, however, the process is less defined, loosely followed, and works in a much more circular, concurrent fashion. As we will see in several case studies in this chapter, the provincial contracts are often made before full agreements and commitments are reached with villagers, opening doors to village-level disputes and implementation difficulties later on. The consultative process with villagers can often be cursory and incomplete, involving only the village head or a few powerful members of the community. In addition, as villagers revealed in multiple interviews, consultative sessions typically entail little more than a promotional pitch and are often colored with varying degrees of coercion. With the deep involvement of governmental authorities (sometimes including the army and police), villagers feel they have few options other than to oblige at least nominal cooperation with the companies. These fragile, nominal agreements, signifying neither good understanding nor serious commitments between the contracting parties, are all too prone to conflicts and disputes in implementation.

5.2.2 Does “2+3” really work?

A review of most provincial contracts (and district level contracts where available) between the provincial authorities and the investors confirms the promoted “2+3” contract farming model. With few exceptions, such as Diyuan and Saiphajan in Long and Zhenhua in Viengphukha, written contracts clearly specify the “2+3” arrangement, with villagers keeping 55% to 70% of the proceeds, depending on the remoteness of the investment zones (PAFO officials say companies investing in very remote areas typically get to keep a bit more). Contracts are typically signed for 30 to 35 years, most with the option to renew and renegotiate. Depending on the specific contract, villagers may or may not be obligated to sell their share of the latex to the investor. Latex, if sold to the investor, will be valued at the market price. No bottom collection prices are set in any contract, except one with Yunnan Rubber that allows the possibility that “a minimum collection price may be negotiated if necessary.”

In Diyuan, Saiphajan, and Zhenhua’s contracts, however, the companies are given the option to choose between the “2+3” or “1+4” models, with villagers contributing only land in the latter. In the “1+4” option, the split of profits and products is reversed, with investors retaining the majority of around 70%. When PAFO was asked why “1+4”, functionally similar to concession and leaving villagers with a worse share, is permissible, staff said such cases are very few and experimental.

A survey on the ground, however, indicates a vastly different picture than the official version. With the exception of villages contracting with Tongly-Jingu (Case 5.2) and several others working with Saiphajai in Long district, all villages contracting with large investors in Sing and Long operate under a “1+4” model: villagers give only land; companies do planting and maintenance with hired labor (either from the village or elsewhere) for a certain number of

years, until a partition of tree, land, latex or profit occurs. Villagers then typically get no more than 30% of the partition, companies claiming the rest. The pre-partition period ranges anywhere from three years to until tapping. There is much ambiguity and uncertainty on exactly what is partitioned and contracting parties often demonstrate inconsistent understandings on the matter. The “2+3” model promotes profit sharing, but in reality this has often translated into a partition of trees or land, particularly if the pre-partition period is short. In “1+4,” villagers may work for the investor for wages, whereas in “2+3”, villagers’ labor input is part of their contribution to the venture and not compensated.

Case 5.3 describes one such case of “2+3” turned “1+4” in Ban Sivilai, Long District. In a more extreme case in Xiengkheng, Sing District, the “2+3” contract farming scheme fell apart completely after the first year. The company now works on pockets of land concessions, which were allotted by the district government in compensation for failed contract farming, with no profit sharing with villagers (Case 5.4).

Case 5.2 Ban Den Kang

Ban Den Kang is a Hmong village along Route 17 in Long District. The village resettled from the Namtha District to its current location to cultivate paddy rice in 1990. About 80% of the village’s 85 households plant rubber, some entirely on their own, others through contract farming with Tongly-Jingu Co. in two types of arrangements. About 20 families chose Option 1, where the company takes 10% of the revenue from future latex sales by offering villagers seedlings at a discounted price. Only a few families, who are financially worse off, opted for the second option, where companies get 30% of the future revenue stream by providing seedlings for free and technical extension (a textbook version of “2+3”). In both options, villagers are held responsible for managing the plantation from the very beginning. The villagers are not obligated to sell latex to Tongly-Jingu. They are free to sell to whoever offers the highest prices as long as the company gets its specified share of revenues.

Den Kang villagers have planted rubber since 2004. They swap technical tips with peers from Namtha and China. Some obtained rubber growing skills while working as laborers for Chinese companies and came back to teach other villagers. They see their cooperation with Tongly-Jingu as an intermediary pathway to complete self-reliance in the future. Many Den Kang villagers have relatives and friends in Ban Had Ngao, the rubber sensation Mr. Tongly is well known for, or know Tongly himself personally, so they feel the company can be trusted. When the villagers were asked if they would consider cooperating with Chinese companies in the future (Tongly-Jingu is officially a joint venture, but villagers tend to view it as a strictly Lao company), they said only for seasonal crops, with which the risks are not too great. The Chinese are very shrewd, villagers said, citing their failed attempt at planting cassava.

(When Power Biological, a Chinese company operating throughout northern Laos, promoted cassava in Den Kang, they promised to collect wet cassava at 120,000 kip/ton, or 400,000 kip/ton sliced and dried. After the harvest, however, the company refused to collect the wet variety. Villagers didn’t have the capacity to process cassava, and ended up not being able to sell the product.)

In an interview with Tongly, the former provincial vice governor stressed the great care he takes when selecting his contract farming villages. “They have to want rubber, want to put in the work. That is the most important thing.”

Case 5.3 Ban Sivilai

Ban Sivilai, a Leu village along Route 17 in the Long District, began contract farming with Yunnan Rubber Co. in 2007. Prior to Yunnan Rubber’s arrival, the village’s 57 households had already begun planting rubber at varying times since 2004, either on their own or with relatives and friends. The villagers obtained seedlings from Sing, China, or germinated their own. They relied on Chinese peers to share technical knowledge and also hired extension workers from Mengman and Mengla in the beginning. Every year, the village chief recalled, Chinese extension workers would stop by the village, offering grafting and other technical services. In 2007, upon the district’s instruction, Yunnan Rubber came to the village looking for land. The company demanded 200 ha initially, but villagers were unwilling to cooperate, noting that they wanted to reserve the land for their own plantations. In the end the two sides settled for a plot of 50 ha far from the village, where an Akha settlement used to plant upland rice (the Akha villagers had been resettled to a permanent location near the road). The company will take care of everything for the first three years, including seedlings, equipment, and labor. After that, villagers and the company will divide and claim each of their shares, with villagers obtaining 300 trees out of every 1000 (30%). The company now subcontracts the operation to Chinese and Lao supervisors from Oudomxai, who in turn hire Kamu laborers from Oudomxai and some Akha villagers in Long. Yunnan Rubber has a provincial contract promising the “2+3” model, but no contracts, “2+3” or “1+4”, have been concluded with Ban Sivilai due to remaining disagreements with some villagers, who are reluctant to give up the land and would rather plant rubber themselves.

When DAFEO officials were interviewed, they expressed frustration that they are sandwiched between villagers and companies. Yunnan Rubber holds a provincial (and national) contract entitling it to ask the district for land, while Ban Sivilai (and other villages like it), have land but refuse to give it. In the end, DAFEO officials revealed, the district had to give away what was designated as reserve forest (contrary to Sivilai village chief’s claim of swidden fields). Yunnan Rubber is equally frustrated. “The leaders of the two countries have agreed on doing this,” one manager said, referring to the highly politicized national agreement, “but we still have to fight at each and every level... Not being able to get land is our biggest bottleneck.”

Incidentally, Ban Sivilai is no stranger to such semi-coercive conquest of its land. The village is also home to a copper mining concession to Lao-China Fareast Mine Development Co., headquartered in Shanghai, China.

There are a number of interrelated contributing factors to the ill fate of the “2+3” model in practice:

- Companies push for “1+4” because, similar to concession in nature, the model gives companies greater control over the plantations and, more importantly, a much better share (of land) in the long run for contributing relatively small amounts of wages in the short run (no more than 7 or 8 years).
- Villagers desire to be paid wages for their labor input. Unlike seasonal crops, rubber has a maturing stage of 7 to 8 years before yielding any income. As large investors foray into increasingly remote areas,

villagers are asked to transition abruptly from a subsistence livelihood to commercial rubber production, with few sources of alternate income during the prolonged waiting period. Putting in seven to eight years of uncompensated labor for a risky, unfamiliar venture simply is not a viable option. Meanwhile, the typical 30,000 – 40,000 kip daily wage is considered decent money for the cash starved. Even though what they lose in future shares will likely significantly exceed their gain in current wages, villagers find it difficult to think and calculate financially over such a long time period.

- Villagers have limited trust in investors and, particularly in remote areas, tend to perceive themselves in a passive role in contract farming schemes: Companies come to invest on their land with a promised, but faraway return. There is little sense of ownership or partnership that the “2+3” model was meant to embody. Instead, villagers are wary of the potential prospects of being cheated and abused by “the outsiders.” With such a mindset, it is difficult for villagers to find faith to work for a company for years without pay, all for an uncertain future return.
- Another important factor that renders “2+3” impractical is a shortage of local labor relative to the large scale of contract farming schemes. A company in Long, for example, is contracted to develop 17,500 ha of rubber, but the total local population amounts to only 4,400 persons in all 22 contracted villages (including children and the elderly). Relying entirely on the local labor supply is simply unrealistic.

Several other factors, though not inherent to the “2+3” model, contribute to failed cases of contract farming. In many cases, villagers never fully agreed to the contract terms, regardless of whether a nominal contract was signed. Villagers would rather plant on their own, like Ban Sivlilai in Case 5.3, or want a better share of the latex, trees, or land, or have disputes over the division of labor (which is the case in some villages in the Meung Sa cluster of Long). Their engagement in contract farming is only a result of the often semi-coercive, top-down contract making process associated with formal investments (the process’ many perils will be discussed in greater detail in the next segment). Some villages are simply not ready for rubber for external reasons, which is the situation in Meuto Kao, a village with severe infrastructure constraints (Case 5.4). Companies’ management oversight and ineffective subcontracting, leading to delayed supply of materials, unpaid or embezzled wages, and lack of technical extension, also threaten the viability of contract farming schemes.

Case 5.4 Meuto Kao, waiting for the road

Meuto Kao is a remote Akha village in the heart of Xiengkheng Cluster, Sing District. Until very recently Meuto villagers still depended on opium as their main means of livelihood. After opium was outlawed, villagers were left with few other alternatives than a subsistence economy consisting of upland rice, NTFP collection, and limited livestock. A long and strenuous walk to the nearest center of commerce or riverbank prevented them from most gainful opportunities in agriculture and trade. After all, few profitable crops would prove as portable as opium once did. The village frequently depended on development aid for food security in recent years.

When a Chinese rubber company arrived in the district in 2006, their “2+3” contract farming offer, with 55% of the trees going to the villagers after the first five years, was met with lukewarm and ambivalent responses. To stimulate interest, the company promised a 30 yuan per mu per year subsidy, but villagers still hesitated. Meuto Kao, like several other villages in the hinterlands of Xieng Kheng cluster, wants to relocate to the Sing valley to be closer to the marketplace. Without a road, the villagers said, it’s pointless to try to plant anything.

Eventually the company was able to convince some villagers to plant 8,000 trees in 2006, but further disputes arose during the process. The villagers complained that seedlings didn’t arrive on time after they dug the holes (the company manager explained seedlings were in short supply in 2006 due to unexpectedly high demand in Xishuangbanna). Some protested that they were not paid, unaware that they were not supposed to be paid in the “2+3” model. Conflict escalated further when the company attendants shot several villagers’ cows, when the cows broke down the flimsy bamboo fences to nibble the young trees.

One year later the 8,000 trees could barely be seen on a hillside overgrown with weeds and bushes. The villagers refused to keep up the maintenance. The company gave up, went back to the district, and managed to get small pockets of land concessions near Meuto Kao and Ban Xai, where the company now plants on its own with laborers found locally, in China, and in various corners of northern Laos. Meuto continues to harbor a rift of opinions among its villagers. Some now work for the company on an intermittent basis for 20 yuan/day, some express desire to have their own small plantations if they had money, and still others are as resolute as ever to leave. The Chinese company tried to file for approval to build a road, but the contract had already been given to a German company that reportedly was nearly finished with the construction. Hearing the news, villagers remain skeptical: “they’ve told us so many times a road is coming. Unless we see it with our eyes, we won’t believe it any more.”

In summary, although the promotion of “2+3” model had a promising premise, its implementation left much to be desired. For a wide variety of reasons most contract farming cases with large investors dissolve into concessions in essence. The marginal difference between the “1+4” model and more typical concessions is only that, in “1+4”, villagers, retain access to a minority portion of their trees or land in addition to wages. Successes with “2+3”, however, have been observed for a Lao company and a joint venture in Sing and Long. At the risk of over-generalizing, it appears that three main factors are associated with the successful implementation of “2+3” and contract farming in general:

- There is mutual trust between the villagers and investor. This is the case in Den Kang, one of Tongly-Jingu’s villages (Case 5.2). The trust level perhaps explains partially why Lao companies tend to have a better track record with “2+3” than foreign investors. They are better acquainted with the local communities.
- The villagers are ready and motivated to integrate rubber into their existing livelihood systems, have sufficient labor supply, and possess alternate income sources during the waiting period before rubber taps.

- The investor is flexible enough with contract terms to accommodate the needs of individual families. Neither Tongly-Jingu or Saiphajai has very rigid arrangements. The more inputs villagers provide themselves, labor or otherwise, the better shares they are entitled to later. In Chakeo Neua, an Akha village contracting with Samphajai, villagers have the option of choosing whether to be compensated for their labor. If so, they will get 40% of future shares, or 75% otherwise.

The success of “2+3” in some villages suggests that the model should not be written off completely. However, its application calls for closer scrutiny. Where village situations are incongruent with the model, it should not be forced (and reality has proven it can’t be, anyway).

In addition, the seemingly disparate performance between Lao and Chinese firms should not be over-exaggerated. In Sing and Long districts, Lao companies tend to operate in less isolated areas, which is in itself correlated with less destitution and better preparedness for rubber.¹⁶ The performance of the same company is also varied in different villages, depending on the specific situation of each village. Certain villages are ridden with disputes, while others manage rather peaceful “1+4” implementations by Chinese as well as Lao investors. Lao villagers’ perception of foreign investors is also manifold. While distrust is common, there is also great admiration and longing for Chinese economic might and technical expertise. “We want to have rubber,” commented some, “but we don’t know how. We need the Chinese to come develop our village.”

5.2.3 Perils of the top-down approach

In the beginning of the section, I briefly described the contract making process for large (formal) investors. The top-down nature of this process gives rise to several issues:

When companies conclude contracts at the provincial or higher level for a large area, they become a tool of negotiation and coercion at the local level rather than a set of standards to abide by. Most provincial contracts lack detailed information on the land plots, and only specify a certain number of hectares in a village cluster. The number of hectares is often unrealistically large.¹⁷ When provincial authorities were questioned what exactly a provincial contract entitles a company to do, their interpretation is it allows companies to “explore” a certain range. No land area is guaranteed by the provincial contracts unless the villagers are willing to cooperate. This “exploratory” interpretation, however, is not immediately obvious in my review of most contract texts. In practice, companies often resort to the provincial contracts and higher authorities to exert pressure on the lower levels.¹⁸ As was

¹⁶ Of course, it can also be argued that Chinese companies chose to operate in more isolated locations where there is more abundant land.

¹⁷ For example, a military concession spanning Sing and Long is contracted for a total of 300,000 ha, roughly equivalent to the entire areas of Sing and Long to the north of Nam Ma River, where numerous other companies, small investors, and smallholders already operate.

¹⁸ To strengthen their negotiating positions, Chinese companies with provincial contracts are increasingly seeking national rectifications from the central government.

seen in several case studies in this chapter, coercion to varying degrees is not only a problem associated with typical concessions, but with contract farming as well. The top-down contract making approach indirectly contributes to many failed cases where villagers' participation in contract farming is forced and nominal.

The top-down, broad stroked approach also lends itself to unclear, sometimes overlapping land designations. To provincial authorities, assigning a village cluster to more than one company should not be a problem, since all that enables companies to do is to "explore." The districts and villagers themselves will be the final gatekeeper in deciding which investors are allowed where. In reality, however, this approach has turned out to be a double-edged sword. At the same time that villagers appear to be faced with options, they are also plagued with bitter fights among companies during which the coercive power of companies' governmental cronies is often enlisted at the villagers' peril. This has been the case in a village in the Meung Sa cluster of Long District (see Case 5.5).

The unclear division of responsibilities and authorities among governmental arms may also have exacerbated the issue. The Luang Namtha military has handed out concessions that conflict with contracts approved by DPI.

From an alternate perspective, these overlapping land designations leave companies feeling insecure in their contracts. All Chinese investors interviewed complain about the limited utility of nominal agreements. Not until the holes are dug and trees planted, companies say, can one come close to claiming land reasonably securely. This perception drives some investors, particularly those actively battling overlapping contracts, into a ferocious race to clear land as quickly as they can, sometimes at the expense of technical quality. A senior manager working in Long reveals his strategy: "Smaller holes, narrower terrace.¹⁹ What we lose in quality now we'll make up with fertilizers later. The soil is good here anyway. Quick expansion is key."

It should be noted, however, that insecure contracts are not the only reason driving the reckless land clearing. Doing so in order to obtain the Chinese government's opium replacement subsidies may also be a contributing factor (Chapter 4).²⁰ Moreover, the distribution process of subsidies may inadvertently perpetuate the top-down contract-making approach. To qualify as an opium replacement business, a Chinese company must submit signed contracts with Lao governmental authorities to the government of Yunnan (obtaining provincial contracts quickly is therefore a high priority for companies). The highly politicized nature of opium replacement efforts also means that some of the biggest contracts are formed at the national level with direct involvement of premier national leaders. The subsequent top-down implementation becomes almost inevitable.

¹⁹ According to rubber specialists, small holes and narrow terrace can impede the growth of trees after the second year.

²⁰ In fact, subsidies may have motivated companies to push for unrealistically large contracting areas in the first place. In theory, the subsidies are based on the actually cleared land areas instead of contracting areas, but enforcement is far from perfect.

Case 5.5 Meung Sa, a “cluster” of disputes

Meung Sa is a village cluster not far off the Mekong River in the Long District. One of its constituents, Senkhaham Mai, is an Akha village nestled in the uplands to the north of Route 17. When a Chinese company arrived in 2007 to promote rubber it was particularly interested in a lot of land already planted with cassava, contract-farmed by Power Biological, also a prominent Chinese investor in northern Laos. The rubber company asked the villagers to uproot the cassava and plant rubber instead, claiming the land is now theirs. The villagers refused. After a period of impasse, the company hired laborers from other villages and cleared the cassava field by force, infuriating the village mass.

With such an inauspicious start, the relationship between the rubber investor and villagers deteriorated precipitously. Equipped with a provincial contract and tight governmental ties, the company moved the police in, threatening to arrest villagers if they did not cooperate. It was also suggested that, if the villages did not accept the contract terms, they would lose all their land to a concession with no profit sharing.

Threatened, some villagers began working for the rubber company, but it turned out the company didn't have the money to pay them. When a company manager was interviewed, he explained that it was agreed with the villagers that payment would be given in a lump sum at the end of the year, so it was all a big misunderstanding. The villagers went to the Long district government several times to complain, but were told they must pay to have their case addressed.

Later, when the district planning office was interviewed, an official explained there were no police moving in on the village. A police officer happened to be moonlighting for the rubber company, his behavior bearing no ties to the Lao government. The disputes have been resolved, the official said, now it's up to the villagers to choose whether they want cassava or rubber, and the wage issue is being worked on, too.

In Chakeo Neua, an Akha village to the south of Senkhaham Mai, villagers fear they might suffer a similar fate. Chakeo Neua is also under contract with the same rubber company, but villagers are not satisfied with the terms and want to hold out for better offers. Meanwhile, a Lao company started promoting rubber at Chakeo Neua with more attractive terms, so some families began planting with them. The Chinese investor, upon discovering this, was unhappy: “they already signed a contract with us. This should be our land now.”

5.3 Contract Farming with Small (Informal) Investors

In this section I discuss contract farming scenarios with individual investors. While a small minority file formal contracts with the district government, more contract directly with villagers or rely on informal, oral agreements. With many such investments channeled, directly or indirectly, through personal connections, this investment category is not entirely separable from Section 5.4, where I discuss villagers' own investments and partnership with relatives and peers.

Intra-Lao and cross-border activities are both common for small investors. Without complete data, it is difficult to assess which weighs more heavily in Luang Namtha's rubber landscape. Small investments appear to account for the majority of the contract farming in Sing and in the more accessible areas of Long. Intra-Lao investments tend to characterize lowlanders investing in

upland villages (Case 5.6), while Chinese investments flourish in the immediate borderlands. The Mom Cluster of Sing (Case 5.7), for example, captures a large number of individual investors from Xishuangbanna's Mengman, Mengrun and Mengpeng areas.

Contractual arrangements with small investors are similar to those with large investors, characterizing "1+4" as the predominant contracting mode. The splitting percentage appears slightly more in favor of the villagers, and growing increasingly so in recent years as land becomes scarcer particularly near transportation networks. In general, the partition ranges from 30% to 50% for villagers, after the investors manage the plantation for a certain number of years.

Although contract terms are not much better in the case of small investors, the execution is relatively free of disputes. Because there is limited governmental involvement, there is no coercion. The contracting parties have better mutual understanding and share higher levels of trust. The decentralized, voluntary process also helps better match villagers' expectations with investor's offers, be it capital, technique, labor, marketing, or all of the above.

At the heightened risk of future disputes, many small investors choose not to formalize their investments to avoid taxes, fees and, perhaps more importantly, the corruption in Lao governmental bodies (Case 5.7).

Case 5.6 Houay Long Mai

Houay Long Mai is an Akha village to the northern edge of Sing valley, where rubber began in 2004. Of the village's 36 households, two plant rubber with their own investments. All the rest engage in contract farming with individual lowland investors from around the township of Sing, averaging around 7-10 ha per family. After managing the plantations for 3 to 5 years, investors are entitled to 50-70% of the trees/land. The local villagers work as laborers and are paid at a per-unit rate (for example, 2000 kip for digging a hole). In addition, the investors also bring their own laborers. Investors do not train villagers in rubber planting techniques, but villagers learn by watching. After the split, the two parties will tend to each of their own portions. Almost no families have signed written contracts, but villagers are unconcerned, "the land can't run away. We'll take it all back eventually."

The current main source of income for villagers is sugarcane, which they started planting seven years ago for the formerly state-run Mengpeng Sugar Co., but villagers hope income from latex will gradually replace sugarcane, as cultivating it involves a lot of work. The village also plants paddy rice, upland rice, and corn. There used to be livestock as well, but villagers sold it all after rubber began. When asked if there is decline in their income now that they have to divert time and labor to rubber, villagers say it has not been a serious concern. Some families have run out of money, in which case they sell trees from their share to the investors. Trees at 3 years sell for around 20 yuan (which, incidentally, is ridiculously low compared to the current going prices in Xishuangbanna, where a one-year tree in a desirable location can easily sell for over 100 yuan).

While the village used to have over 60 ha of reserve and use forests, this has dwindled to nearly nothing in recent years. Villagers are not too worried about

firewood, citing they can use branches of rubber wood or just electricity in the future. They are more concerned about timber for building houses.

Case 5.7 The Mom Cluster

The Mom Cluster, consisting of predominantly Akha villages, is wedged between the Mekong and Xishuangbanna and provides a fascinating universe to observe and analyze cross-border investments.

In addition to a strong presence of the military and plantations developed by villagers themselves, there are also a host of individual Chinese investors hailing from just across the border in Mengrun and Mengpeng. In Saen Ane, a former chief of the Meng Run village cluster invested in 317 ha of rubber, with 25% of the profits going to the villagers, 60% to the investor, and 15% to the district. In Bouakyaxai Gao, a Han state farm employee from Meng Run has a contract for 80 ha, with 30% of trees allotted to villagers after 3 years. In Houaytard, Bouakyaxai Mai, Buakkhu, and Paphouk, a Han Chinese from Meng Peng state farms partners with several Chinese Akha businessmen in border villages, who in turn contract with Lao villagers.

In Buakkhu, this group of investors has an official contract, filed with the district, allotting 40% of the yields to villagers and 60% to the investors. While conversing with the villagers, however, they reveal that an “informal” addendum has been added since the official contract. The “district government” is now entitled to 20% of the total share, leaving villagers a mere 20% (alternate sources indicate the “district government” may be no more than a powerful former governmental associate who now acts as a middle agent for Chinese investments, reaping profits from both sides).

During conversations with the investors, they are equally frustrated with the looming presence of such middle agents. In Houaytard, they claim, the district government also took an unofficial 10% share (with 5% coming from the investor and the other 5% from villagers). In addition, they have had to pay many unnamed fees and charges to governmental workers, with no explanation or seldom any receipts to document their payments.

There are many more, even smaller individual investments flowing across the border. They remain largely unknown to authorities and villagers shy away from discussing them. In Buakkhu, villagers admit to having some partnerships with villagers on the other side, but not many. However, a former village chief of Guofang, a Chinese Akha village of 138 families opposite Buakkhu, reveals that 80% of all Guofang villagers plant rubber in the Mom cluster, typically with a 30/70 to 50/50 partition after 3 to 4 years or when tapping begins (the larger share remains with the investor). None of them have formal contracts and they dread the disputes that may later arise. When asked why they don't try to formalize their investments, the Chinese villagers said they didn't want to pay the extra taxes and random fees. “The Lao government is very corrupt,” they said.

Other than typical contract farming schemes, small investors participate in the rubber boom in a myriad of other ways. Lao investors (themselves or impersonating Chinese investors) also make permanent land purchases from upland villagers to plant rubber. Some specialize in growing and selling seedlings, like “Lao Wu”, a Chinese migrant who has lived in Long for four years. Lao Wu sells a seedling at 3,000 kip if villagers can afford to pay now, or 6,500 kip if they choose to pay after tapping, effectively running a seedling bank with flexible payment plans. In Case 5.8, I discuss the case of a Chinese

Akha woman who, in addition to running a small contract-farmed plantation, serves as a supplier of seedlings and technical know-how for nearly all smallholders in the vicinity of Ban Xieng Kheng.

Case 5.8 Issen in Xieng Kheng

Issen (pseudonym) is a 33-year-old Chinese Akha woman who has lived in Ban Xieng Kheng, a Leu village overlooking the Mekong River, for the last eight years. Issen finished high school in Jinghong, Xishuangbanna and, after failing the college entrance exam, had a series of odd jobs before trying her luck in Laos. She first traded in daily supplies (soap, cooking oil, canned goods, etc.) and kept a small shop by the river, serving villagers from all over the area. Without speaking a word of Leu on arrival, Issen taught herself quickly and adopted a Leu name to blend in.

Since Xieng Kheng and its surrounding villages began planting rubber in 2004, Issen has been supplying villagers with seedlings from China and those she grows locally. In addition, she teaches villagers technical skills. She herself learned to plant simply by growing up around rubber. A vast majority of villagers interviewed in the area say they obtained planting skills from her. In the beginning, Issen also brought friends from China to graft seedlings, while many villagers watched and learned.

In 2006, Issen signed a 35-year contract with Ban Xieng Kheng for 50 ha, with 15% attributed to the village after two years and the remainder to her. Issen now hires technical workers from Yunnan, who, instead of wages, are promised 30% of the trees they manage. The laborers are found from surrounding Akha villages at around 18 yuan/day. “For rubber, the investments are big upfront,” she says, “it took me so long to get started.”

The next day happened to be Ok Phen Sa, the end of Buddhist lent. The villagers began making Khao Soy sheets and slaughtering pigs early in the morning. Issen, considered much a member of the village by now, also got her share of the pork. “I need to take the meat to my workers.” She said before hurrying off to her plantation on the river.

5.4 Villagers’ Own Investments and Cooperation with “Phii-nong”

According to official statistics (Chapter 2), villagers’ own investments account for 80% of Luang Namtha’s total rubber establishment. In reality, this percentage is likely much smaller, considering the unregistered small investments described in Section 5.3 and less formal cooperation with phii-nong (relatives and peers), both of which would have counted as a villager’s own investment during any official census.

Cooperation with phii-nong is common both within Laos and across the border. While most rely on oral agreements, some also prepare written contracts. Apart from a typical 50/50 land partition, there are few rigid stipulations on expected inputs from both parties. The cooperation characterizes a casual flow of funds, technical knowledge, labor resource, and market information among villagers. In addition to complementary needs, such cooperation is supported by mutual understanding, trust, and ethnic solidarity.

Villagers' own investments, not surprisingly, are most dominant in the more affluent areas of Sing and Long and along the borderlands. These investments again do not escape the sphere of Chinese influence. Compared to other villagers, those with transnational connections often are better off to start with and continue to thrive in the rubber boom, enjoying greater access to market information, informal credit, and technical support. Most villagers learn to plant from other villagers, near or far connections with Chinese relatives and friends, hired Chinese extension workers, or through serving as laborers for Chinese companies. The early starters typically traveled to China to obtain an initial supply of seedlings, but now seedlings are easily available in Laos from fellow villagers, traders, or Chinese companies (some, short on cash, work for Chinese companies in exchange for seedlings). Most villagers also grow seedling nurseries for sale.

Though Ban Had Ngao is well studied and widely known, the farmers association model appears to be atypical. Most of villagers' own investments are unorganized beyond individual households. Occasionally there may be spontaneous group trips of several families to purchase inputs or sell latex (in villages already tapping), but there is no formal organization for rubber in any village I interviewed except Had Ngao.

There is sizable disparity among villagers. Without household allocation, upland is available to whoever plants first. Better-off villagers start earlier, plant more, and occupy better land, leaving fewer and farther possibilities for the latecomers. Affluent lowlanders also buy or lease land from upland Akha villages to expand holdings. Disputes over village boundaries are heightened. It is not uncommon for lowland Leu villagers to claim a certain hill has "always" belonged to the village but, because they didn't care before, nearby Akha villagers "borrowed" it for upland rice. Conflicts hence arise as the lowlanders try to "claim the land back" while upland villagers refuse to cede. "Unauthorized" planting (*lak puk*) is common on land where it was never clear to whom it belonged. Tensions are growing between the rubber haves and have-nots. Several villagers in Long report incidences of vandalized trees by other sour villagers.

Most villagers maintain plantations with their own labor input, but those with larger holdings also employ laborers or bring relatives and friends from outside the province (e.g. Phongsaly, Xiengkhuang). It is increasingly difficult to find laborers, villagers report, as they cannot afford to pay the high wages typically offered by Chinese rubber companies. Almost all villagers would like to expand their plantations further. However, apart from capital constraints, labor shortage is a binding concern.

5.5 A Summary of Typology

This chapter discussed the typology of rubber investments in Luang Namtha, illustrated by specific examples. Summarizing Sections 5.1 – 5.4, I present various investment modes and relevant concerns in the table below:

Table 5.1 Investors, Modes of Operation, and Main Concerns

Type of investor	Mode of operation			Main concerns
	concession	"2+3"	"1+4"	
large investors (mainly Chinese)	some; remote areas	some; less remote areas	majority; remote areas	top-down approach, coercion, disputes over terms and wages, overlapping and unclear land designation, labor shortage, lack of alternate income source for remote villagers, corruption
small investors (Lao and Chinese)	n/a	rare; less remote areas	majority; less remote areas	underreporting, some labor shortage, corruption
villagers (and phii-nong)	casual organization and flow of capital, labor, and technical knowledge, less remote areas			underreporting, disparity among villagers, disputes over village boundaries, lack of funds and technical knowledge

The typology and reality of Luang Namtha's rubber development point to the following observations and questions:

- For large (formal) investors, the well-intending "2+3" contracting schemes all too often convert to a "1+4" model, similar to concession in implementation. In the context of today's national and provincial policies, where concessions have been sworn off and contract farming promoted, this observation suggests that dogmatic promotion of "2+3" contract farming is hardly a sure cure for local poverty. It is not enough to ban concession only to have its problems disguised under a new face called "contract farming."
- Meanwhile, the prevalence of "1+4" in reality, particularly in the case of small investors where coercion is seldom a factor, begs our reassessment of the model's merits and faults. Can a concession-like model actually be a viable, realistic option in some situations, if terms are made sufficiently good for villagers? In Chapter 8, we will see "1+4" has been equally popular in Xishuangbanna's course of rubber development. In the end, contract farming or concession, the labels are unimportant. More important is to ensure villagers are in an arrangement that suits their needs and gain concrete benefits from it.
- Labor shortage could become a serious threat to Luang Namtha's rubber boom. This, in fact, contributes in part to the impracticality of the "2+3" model. In the current pre-tapping, less labor-intensive stage, investors large and small are already scrambling to find laborers for regular maintenance. Villagers interviewed, particularly those in less isolated areas with more options to leverage their labor resources, said they not only lacked capital to develop rubber plantations but also the labor capacity. However, for large investors whose contracting area is often disproportionate to the local population, is the problem not a labor shortage, but instead the size of these contracts? When tapping

begins, will we be moving over the entire provinces of Phongsaly and Xieng Khuang or opening the gates to massive Chinese migration?

- The top-down contract-making approach has many drawbacks, but these higher-level contracts with large investors, unfortunately, are already signed. What addendums and revisions can we still make to ensure villagers are not coerced and abused under these contracts? Many have called for improved rule of law, standardization, and better enforcement of contracts, but in a world where contracts are made from the top with little input from villagers, isn't poor enforcement a blessing in disguise and a second chance for villagers to negotiate for their positions? Under some arrangements, villagers are left to tend to their portion of the plantations in a short number of years. How do we make sure they will be up to the task? For remote villagers whose lives are coming to be dominated by contract farming with few alternate means, how can we ensure they are provided a safety net in the tides of volatile rubber prices? How do we prevent villagers from further selling their shares during times of financial pinch?

I return to these questions in the final chapter.

Chapter 6

Transnational Business Networks

In spite of the policy and market factors discussed in Chapters 3 and 4, the rapid influx of Chinese investments would not have been possible without the support of strong, longstanding cross-border social and economic ties. This chapter describes the working of such transnational business networks and examines their role in facilitating Luang Namtha's rubber boom.

6.1 Typology of Chinese Communities in the Context of Rubber Boom

Luang Namtha is home to a sizable Chinese population. The Sing district, in particular, harbors a complex cascade of Chinese communities with varying tenures of residence in Laos. They can be viewed in the following main types:

- Early waves of migration driven by warfare and political turmoil

The early Chinese migrants in northern Laos characterize caravan drivers, dealers, traffickers and a few shopkeepers from the neighboring Yunnan province (Rossetti, 1997). Muang Sing, for example, hosts a village of early Han-Lolo settlement originally from Jinggu, Yunnan and recently re-migrated from Phongsaly after the opium ban.²¹ This Han community, in addition to speaking Lao, maintains a variant of the Yunnan dialect similar to mandarin Chinese, mixed with Lao words. After living in Phongsaly for well over 100 years, they have severed ties with China. In the past couple of years, however, they have become the favored labor source for Han Chinese rubber investors due to the common language.

During the late 1940s and early 50s, migration surged as China's civil war withdrew to the hinterlands of Yunnan. The disbanded Guomintang (Kuomintang) soldiers retreated to Myanmar and Laos, some continuing as far as northern Thailand. This group, however, is to be distinguished from the migration of Sipsongpanna civilians during the same time period, which predominantly consisted of indigenous ethnic minorities including the Leu and Akha. Their migration peaked during the early era of communist nation building and the Cultural Revolution (1966-1976), when many elite Leu (or Dai according to the Chinese classification) landowners (*dizhu*) fled Xishuangbanna, fearing persecution by the communist regime. Parts of this group continued to flourish in their new settlements in Laos, growing to command community respect, business prowess, or political leverage in the Lao government. Their connections and social capital have also been tapped by their *phii-nongs* across the border during the latest rubber boom.

From the mid to late 1990s, small waves of Lao Akha refugees of the American War were repatriated from the border villages of Xishuangbanna to the Mom cluster of Sing district. Though this community is limited in size, they serve as a crucial transnational link in the rubber economy. Having worked

²¹ Lolo is known as Yi according to the Chinese ethnic classification. Their largest presence in Laos is found in Phongsaly. Many are descendents from the union of early Han traders and Lolo women.

on the state farms in Xishuangbanna, this group was among the first to start planting rubber and tapping latex in Luang Namtha (Chapter 2). The young among this cohort, having split their formative years between Laos and contemporary China, are trilingual in Akha, Lao, and mandarin Chinese (and the Yunnanese dialect, which is mutually intelligible with mandarin) and culturally competent in diverse situations. They are highly sought after by the Chinese companies in northern Laos, in rubber or otherwise, to serve as translators and supervisors.

- Recent arrivals of the last ten years

Movement of the last ten years characterizes mostly Han migrants from Sichuan and Hunan in search of a better livelihood. They typically engage in miscellaneous trades in household supplies, hardware, motorcycle repair etc. and have been transitioning to rubber in recent years. Due to capital constraints, they tend to have only smallholdings, but many now also serve as subcontractors and supervisors for large Chinese investors. Though specific arrangements vary widely, subcontractors are typically promised a generous share (some as high as 50%) of the plantations they work on.

This group has achieved limited integration with the mainstream Lao society. Regardless of how long they have been or plan to be in Laos, they see their tenure as temporary and strictly for the purpose of economic advancement.

- The commuting businesspersons

These are small investors hailing from the immediate vicinity of Laos such as Mengman, Mengpeng, and Mengla. Han and ethnic investors are both common in this group. The two sometimes form partnerships where the former provide the majority of funds and the latter leverage their language abilities and ethnic solidarity with the Leu and Akha communities in Laos. The Han partners typically worked or are still working for the state farms.

The Chinese Leu and Akha investors and villagers, although sharing a certain level of ethnic allegiance with their Lao counterparts, predominantly view themselves as primarily Chinese, their ethnic identity assuming only secondary importance. Like their Han peers, they share little sympathy for the “backwardness” of the traditional village lives in Laos and tend to view their ethnic ties mainly as a means to further economic gains.

- The new and big money

Large Chinese rubber companies arrived in Luang Namtha only in the last two years. A vast majority are private with the exception of Yunnan Rubber, a subsidiary to the now semi-privatized Yunnan State Farms Group (*Nongken Jituan*). All large investors are supported by the Chinese government through opium replacement subsidies. Their senior management is exclusively Han with strong governmental ties, some formerly holding official posts. Their predominant mode of operation in Laos is extensive subcontracting and partnership with the existing Chinese communities and employing Chinese Akha and Leu personnel to bridge cultural and language gaps. They also

buy existing establishments from small investors who lack funds or capacity to continue the plantations.

Large Chinese investors tend to operate concurrently in several northern provinces and engage in multiple crops or industries. Power Biological, for example, plants only cassava in Luang Namtha, but has substantial rubber holding in Vientiane and Sayabouri. Yunnan Rubber works in four northern provinces, while Ruifeng plants in Luang Namtha and Bokeo. In addition to rubber and cash crops, some investors are also actively exploring mining opportunities in the region. Due to an acute shortage of Lao-Chinese translators, it is also not atypical for rubber companies to share staff with Chinese hydropower or mining investors. Sharing among rubber companies, however, is unheard of and understandably so given the intense territorial competition.

Though companies are typically headquartered in Mengla, Jinghong, or Kunming, the investments can come from as far as coastal China. The financing situation is uneven among investors, while some, like Yunnan Rubber, enjoy strong financial and institutional backings, others report having to wait for subsidies just to cover the wage bills. The effectiveness of the subcontractors also characterizes immense variability. Even for Yunnan Rubber for whom funding is not a concern, the company still suffers occasional wage disputes due to embezzlement by subcontractors.

Unlike individual investors who are almost always rubber technicians themselves, the majority of the large investors working in Sing and Long (except Yunnan Rubber) have very limited experience in cultivating rubber. Shengli in the Sing district operates three latex processing factories in Xishuangbanna but does not invest in rubber plantations. Ruifeng worked in the entertainment industry in China, its rubber investments beginning only with Laos. Diyuan also has no prior experience in managing plantations. These investors rely solely on hired extension workers, typically from the state farms, to provide technical input.

Lao governmental corruption plagues all groups of Chinese investors to varying degrees. For large investors, corruption is dreaded as well as celebrated. For those who can afford it, massive bribing is only a realistic way to compete against rival businesses in a poorly governed economic environment.

6.2 How Do the Transnational Networks Work?

The transnational networks characterize strategic, formal and informal alliances between the Han and Chinese ethnic groups, Chinese ethnic groups and their Lao counterparts, old settlements and new money, large investors and small investors, as well as continuous movements among friends, relatives, and peers. The Chinese Leu and Akha, as well as Chinese-speaking Lao Leu and Akha populations, not surprisingly, serve as important links in these complex networks. These intricacies are perhaps best conveyed with a specific example, the story of the Chen family (Case 6.1) and a visualization of the networks in Figure 6.1.

Case 6.1 The Chen family (pseudo name)

Eight years ago, the Chen family (of Han ethnicity) arrived in Muang Sing from the rural-suburban edge of Chongqing Municipality, Sichuan Province in central China, in search of a better livelihood. "Lao Chen", the name the father is known by, moved first, joined later by his wife and two children in their mid-teens. The family first ran a motorbike repair shop in the town center of Sing and also leased land by season to plant vegetables to sell both locally and in China. "The business was steady but not big," recalled Lao Chen. Several years ago his wife and daughter began a Chinese restaurant on the main street and provided monthly rental rooms to droves of commuting businesspeople from Xishuangbanna.

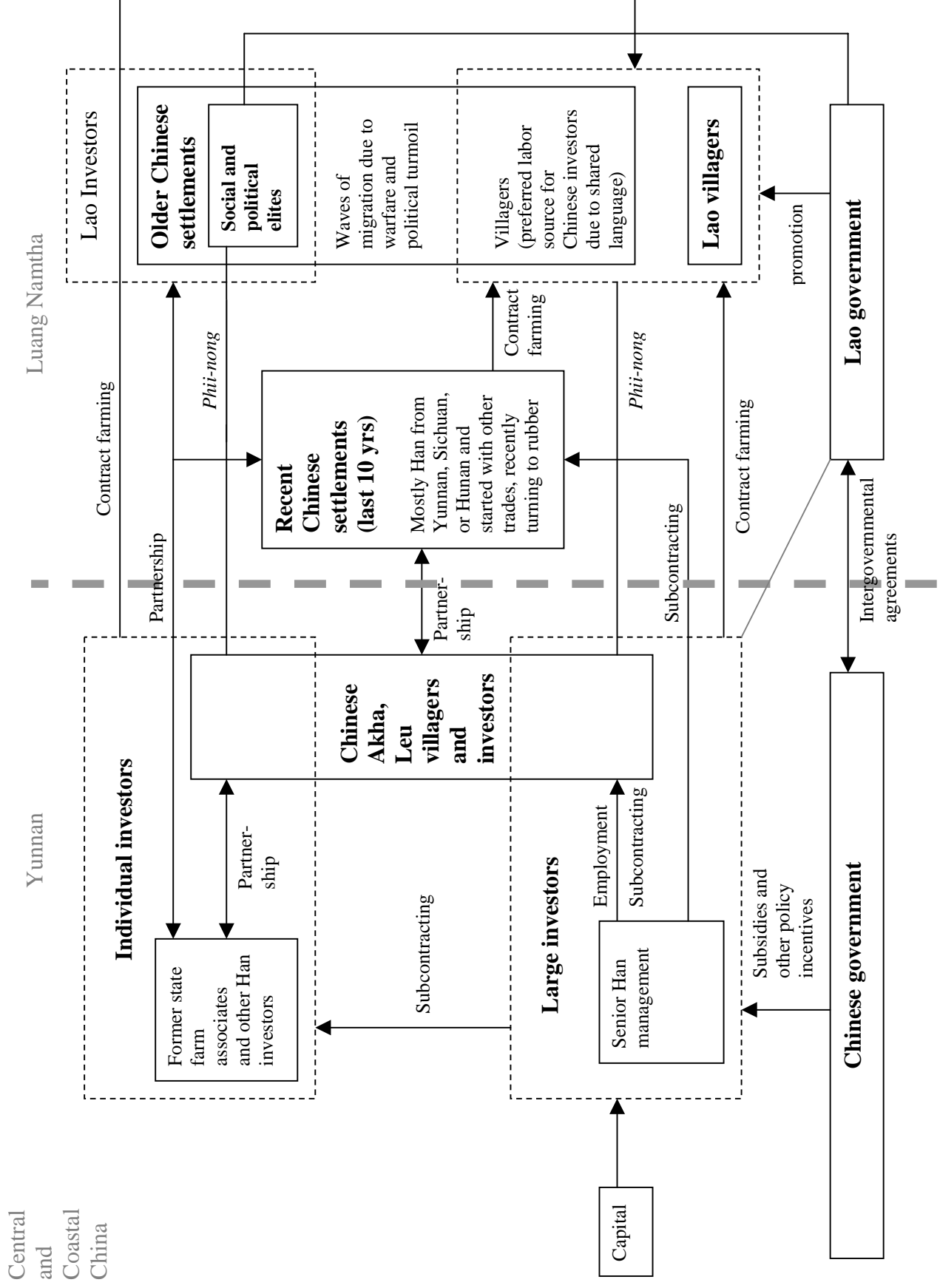
In 2004, the Chen family established a rubber seedling garden with leased land from a nearby Leu village. One year later they entered into contract farming with the village committee for 15 ha, with 30% given to the village after Chen manages the plantation for the first seven years. The proceeds from the village portion will remain with the community and be used for building basic infrastructure and establishing a village emergency fund. Lao Chen frequently laments how he was not able to plant more. "We didn't have the money. Now they are getting smarter. Around here it's all 50/50 split these days."

Since 2006, however, Lao Chen's own smallholding has hardly been the main focus of the family's attention. Through the restaurant business Lao Chen became acquainted with Ruifeng, a major Chinese rubber company working with the Luang Namtha military and became one of the company's key subcontractors. The family serves as a crucial link between the large investors, Chinese migrants, and local communities and is responsible for recruiting over 200 workers from various villages in Sing. The family also sold most of its rubber seedlings to Ruifeng. Chen's son, now in his early 20s, became a supervisor for Yunnan Rubber's seedling production base located about 7 km outside the township of Sing. The son has not only become fluent in Lao over the years, but also obtained a respectable command of the Akha language, making him an ideal selection for managing the predominantly Akha laborers.

Lao Chen's wife has a few relatives in Xishuangbanna. One took early retirement from the Mengman state farm last year and came to establish a rubber seedling garden in Sing. One still remains with the state farm and is commuting across the border. He and a few other investors cooperate with the provincial army and have a sizable holding in the Mom cluster. The Chens are also close to a Chinese Dai *laogeng*, whose family, wielding power and wealth in the pre-communist Sipsongpanna, was disbanded to the far corners of Thailand, Laos, and the U.S. during waves of communist revolutions and political turmoil. One of these relatives ended up with the Lao military and now holds a high post with the Luang Namtha army.

Calling the Chen restaurant the epicenter of Sing's rubber phenomenon would not be a terrible overstatement. The restaurant is frequently swarmed with investors around card or mahjong tables, muddied laborers waiting for pay, and always a swift flow of information about the latest business leads. There are several other Chinese restaurants in town serving similar roles in the local rubber economy. One couldn't have asked for a better place to witness the omnipresent transnational business networks in action.

Figure 6.1 Luang Namtha's Rubber Boom: Business Networks and Stakeholder Relationships



Chapter 7

The Cross-Border Market Chain

Chapters 5 and 6 examined Luang Namtha's rubber boom from the perspectives of investment typology and business networks. This chapter investigates the cross-border market chain and describes patterns in the flow of inputs and outputs.

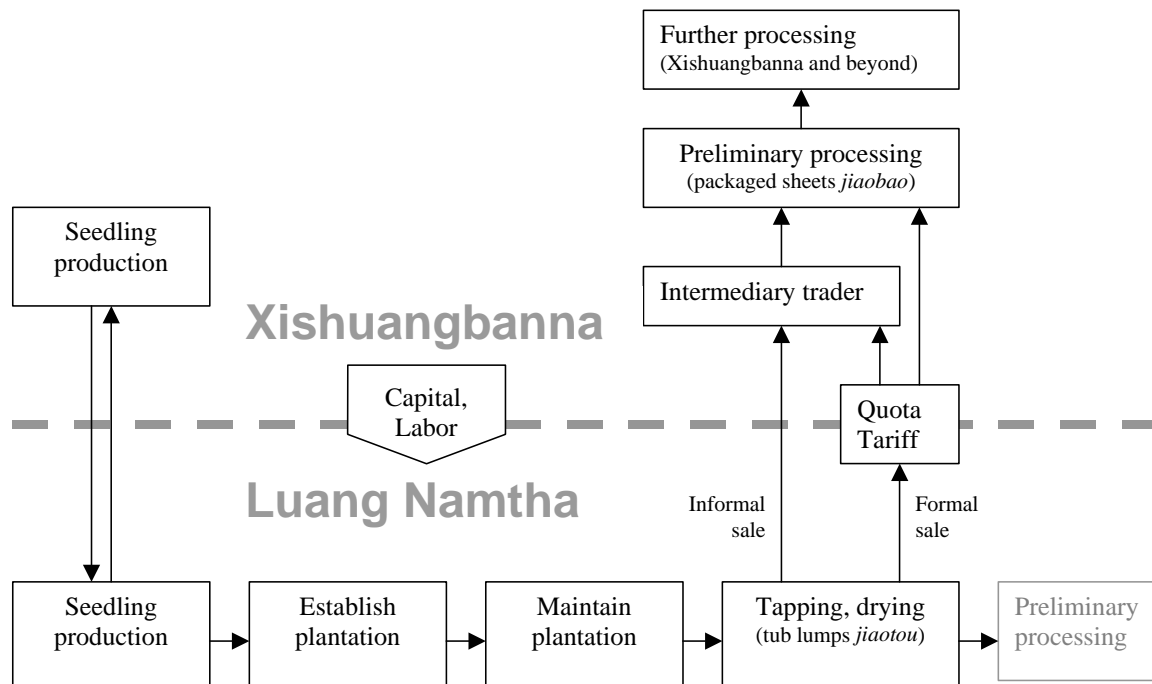
Figure 7.1 presents a stepwise visualization of the production and marketing processes. The processes are also illustrated by a series of photos in Appendix 3. From seedling production to the final product processing, rarely is there a link that escapes the transnational influence. There are several trends worth noting:

While rubber seedlings used to be sourced exclusively from Xishuangbanna to Luang Namtha, this trend has shown signs of reversal in the last couple of years, according to seedling dealers in Mengman. The price for regular seedlings is now slightly cheaper in Laos, while packaged seedlings, signifying higher quality and survival rates, remain an export of Xishuangbanna. All major Chinese rubber companies maintain their own seedling nurseries in Laos, mainly supplying their local needs. Small investors and villagers also grow saplings for sale to local villagers, Chinese companies, or across the border. According to rubber specialists, the climate of Muang Sing valley is uniquely suited for seedling cultivation. One can expect Sing to continue booming as a seedling production hub in the coming years, especially as a number of state farms on the other side of the border reach the end of their productive cycles and begin replanting efforts.

There may be a gradual shift of preliminary processing from Xishuangbanna to Luang Namtha. The Xishuangbanna government is poised to tax local latex processing facilities for environmental pollution, thereby increasing the costs of domestic production (China Youth Daily, June 2007). Lao regulations, on the other hand, are nearly blank on controlling the environmental effect of the processing industry. Since Sino-Lao Rubber Company built the first processing facility in the Namtha district in the early 2000s (which has since closed down due to limited supply of latex), Shengli has completed a factory in the Sing district. More are planned or under construction by other major Chinese companies throughout Luang Namtha. In the meantime, some Chinese investors have begun lobbying the Luang Namtha government to restrict Lao latex export to the processed variety only.

Uncertainty persists as to how latex will be exported on a large scale from Laos to China in the next few years. Currently, the export volume is relatively small originating only from Ban Had Ngao and border villages such as Oudomsin and the Mom cluster of Sing district. According to PAFO, total export from Luang Namtha to China, measuring at 22 tons in 2002, rose substantially every year and reached 400 tons in 2006. However, PAFO admits that these numbers only reflect export from Ban Had Ngao, which is the only village that sells rubber to China through official channels at the time of writing. The association at Had Ngao reports that they only pay the 35% profit

Figure 7.1 The Cross-Border Market Chain



Partially based on Andreas Springer-Heinze (2005).

tax to the province while the Chinese traders take care of fees and taxes on the Chinese side. The Chinese border personnel, however, did not share information on customs charges. The traders collecting from Had Ngao, in a follow-up interview, also refused to quantify the exact procedures and expenses involved in such cross-border transactions.

Informal sales in a variety of shapes and forms are common in the immediate borderlands but largely unaccounted for. Some villagers in the Mom cluster enjoy the convenience of combining their latex harvest with the Chinese latex from rubber plantations in Mengrun that extends to the physical border past the Chinese customs. Some sales also occur in the darkness of the night down small footpaths, circumventing the official checkpoints. In the vicinity of Ban Buakhu, where there is no checkpoint leading to Mengrun on either side of the border, villagers enjoy all the more freedom in conducting transnational trades in rubber as well as other commodities. When quantities are small, villagers also appear to be able to take latex across official checkpoints without paying taxes or fees, owing possibly to a border agreement between China and Laos allowing residents within 20 km from the border to engage in tax-free trades for up to 3,000 Yuan per trade. In the Mom cluster of Sing, however, villagers complain that some of the trades have been taxed or “fined” by the Chinese customs at the Mengrun crossing, but they are unsure on what grounds and by what standards the charges were applied.

Such uncertainties in cross-border transactions will have greater ramifications in less than five years, when a large number of trees enter the tapping stage

in Luang Namtha. There are two main concerns: 1) Lao villagers, companies, and small Chinese investors may face a disadvantage in latex export compared to large Chinese investors supported by opium replacement policies, whose products, free from tariff and import VAT, can sell for more competitive prices. Most of these companies also operate in remote areas classified as Zone 1 according to current Lao regulations on foreign investment promotion, which means they pay a reduced profit tax of 10% for seven years after tapping (Chapter 3), further enhancing their competitive edge. 2) Rubber is a protected industry in China. In the event of oversupply, in addition to decline in latex prices, Lao rubber will be at the mercy of quota and tariff restrictions or even face the possibility of border closures.²² Farmers and investors in Xishuangbanna will be partially sheltered through the Chinese government's protectionist policies, whereas their Lao counterparts are subject to amplified market fluctuations as a result of such protection.

Though some worry that Lao villagers may be exploited by Chinese middle agents in latex sales, they do not seem to be disproportionately affected relative to their Chinese counterparts. The pervasive presence of middle agents, who delicately balance the ever fluctuating gap between supply and demand, appears to be an integral part of the rubber economy in Xishuangbanna. When there is undersupply, middle agents are often compensated by processing facilities (in the form of *huikou*) to channel supplies to them. During times of oversupply, middle agents give incentives to personnel at the processing plants to favor their offers. The profit margin obtained by small middle agents is limited. Ban Had Ngao, for example, once experimented with taking latex to Mengla for direct sale, but, after accounting for transportation costs and customs payments, the village association concluded that circumventing middle traders accomplished only minimal gains. It should be noted, however, that villagers currently exporting rubber tend to be more experienced with border trades and possess extensive cross-border links, qualities that correlate with an early start in rubber cultivation. They are well informed about the latest market trends in Xishuangbanna and occupy relatively strong negotiating positions. In a few years, when trees also begin tapping in more remote, isolated locations, those villagers will perhaps be in a more vulnerable state risking exploitation by middle agents.

Table 7.1 presents a comparison of key input and output prices in Luang Namtha and Xishuangbanna. The greatest differentials in input prices pertain to land and labor.²³ Note that upland prices are not only an order of magnitude higher in Xishuangbanna, they are also more varied, capturing meticulous differentiation in terms of soil quality, slope, location, and accessibility, whereas these price variations are more blunted in Luang Namtha, suggesting villagers have yet to capitalize on their full potential in

²² Although China's strong demand for natural rubber is expected to continue, the risk of oversupply is not unreal. China's domestic supply is flat or declining, but the government is pushing for rubber not just in northern Laos and Myanmar, but reportedly also in South America and Africa.

²³ Land prices are collected on direct lease or purchase by small investors from villagers or between villagers. This is not to be confused with contract farming schemes ("1+4" or "2+3"), where villagers contribute land as an input. Land prices here also do not reflect concession fees paid by large investors to the Lao government. Yunnan Rubber, for example, pays 6 USD/ha/year to the government for their concession areas.

negotiating land transactions. While Chinese villagers tend to be highly vigilant about the duration of land lease and back up transactions with legal documents (all were very clear about leasing land only for one planting cycle), Lao villagers often do not make the distinction between land lease for one cycle or permanent use. In the absence of land titling, this increases the risk of future disputes and Lao villagers' losing access to land resources.

Table 7.1 Comparison of Key Input and Output Prices

	Luang Namtha (Sing and Long)	Xishuangbanna (Mengman and Mengpeng)
Seedling (Yuan)		
Regular	2.3 - 3.1	3
Packaged (<i>daizhuangmiao</i>)	n/a	6
Labor (Yuan/person day)	25-30	50
Land		
Upland (Yuan/ha/cycle or permanent use)	4,000-5,000	7,500-45,000
Lowland (Yuan/ha/season)	50-100	500-1,000
Dried latex (tub lumps or <i>jiaotou, jiaokuai</i>)		
2007 (Yuan/kg)	7-9	7-9
2006 (Yuan/kg)	10-12	10-12
Non latex producing wood (Yuan/tree of around 30 yrs)	n/a	200

As was already suggested in Chapter 5, a large cross-border labor influx may be expected. Precise modeling will be needed to reach a definitive answer, but consider the following back-of-the-envelope calculation: According to the 2005 national census, the Sing district has a total population of 30,500 people, including children, the elderly, and disabled. According to official estimates, around 6,500 ha of rubber have been planted or planned by the end of 2007, the actual area likely larger. At the 1.3 ha/person tapping capacity established by Alton et. al. (2005), Sing will need to dedicate 20% of its entire population just to tap its current (estimated) rubber establishment. Though some of the labor shortage may continue to be ameliorated through domestic migration from the rugged northeast of Laos, it is unclear whether such migration will be enough. In addition, even though Chinese laborers are more expensive than Lao laborers, they are vastly preferred by Chinese investors, who attribute their preference to a stronger work ethic, higher skills, and easier management.²⁴ The primary factor postponing a large labor influx currently is the high fee required to obtain temporary residential permits for legal foreign laborers in Laos. However, such fees may become less of a hurdle after tapping begins and immediate profits are at stake.

²⁴ Chinese laborers in Xishuangbanna and in Luang Namtha are compensated at similar rates, but they are more expensive for investors in Laos than in Xishuangbanna after factoring in costs of transportation and legal procedures.

Chapter 8

One Border, Two Countries, One Path?

8.1 Overview of Rubber Cultivation in Xishuangbanna

The rubber landscape of Xishuangbanna can be viewed in two main distinct and yet interrelated sectors: those developed by the state farms and those planted, much later, by villagers, village collectives (*ji ti*), local government, and private investors, referred to in Chinese all inclusively as "*min ying*". Currently, state farms account for slightly less than 50% of the total plantation area, but their production levels can exceed other holders by as much as 50%, thanks to effective management and advanced technology. Information on historical and current total areas of rubber is classified. The last available data from published sources indicate there were a total of 2.5 million mu of natural rubber in Xishuangbanna at the end of March 2005, of which 1.4 million were tapping (Xishuangbanna Paper, March 29, 2007).

As part of the early nation building efforts, the first rubber plantations in Xishuangbanna were established as early as the 1950s by Yunnan Production and Construction Corps (*jian she bing tuan*), the prototype of Yunnan State Farms. In the 1960s, educated urban youths (*zhi qing*), arriving in droves from the central and coastal provinces and joined by retired PLA soldiers, served as pioneer builders of the early enterprise. The farms were said to have taken some of the best hills, driving ethnic villagers, predominantly Akha, into more marginal and less fertile lands (Sturgeon, 1997). In the late 1970s, as the Cultural Revolution ended with a new generation of national leadership, the vast majority of urban youths returned abruptly to their cities of origin, reducing the work force by nearly 85% (Mengpeng State Farms, 2005). The sudden void led the state farms to aggressively absorb surrounding ethnic villages for labor and land (*bing zhai jin chang*). The villagers, many of whom still practiced traditional livelihood and shifting cultivation at the time, were formalized as state farm employees and moved into housing units at the farm compounds. Vigorous efforts were also directed to poor highland areas such as Zhenyuan, Mojiang, and Jinggu, to recruit landless laborers.

In the early 1980s, the Chinese government completed land allocation at the village level and implemented the Household Responsibility System. It was also then that the boundaries between the state farms and local villages were formally drawn.²⁵ The expansion of state farms had since run into physical limits. As a result, the Chinese government and state farms diverted conscious effort in the mid 1980s to promoting rubber plantations among local villagers. The move was seen both as a way to continue expanding rubber production and to alleviate poverty among the local communities. Assisted with governmental loans and funds, the farms provided free or discounted seedlings, along with extensive technical training and support. Though the earliest non-state-farm rubber reportedly began in the 1960s, the

²⁵ With soaring rubber prices, these boundaries have become an occasional subject of disputes between villagers and state farms in recent years.

wider engagements of local villages did not occur until around this time. Concurrently, the state farms continued to recruit surrounding villages to join the state farm system by offering stable wages, welfare benefits, and windfalls of land compensation fees (a village in Manla that joined the Mengpeng State Farms in 1988, for example, was reportedly paid 500,000 yuan for contributing around 8000 mu of land). By the late 80s, upland villagers were hard pressed under the increasingly stringent governmental restriction on swidden agriculture and faced severe declines in soil fertility. Seeking alternatives, some turned to state farms.

In the 1990s, as China's economic reform deepened, land became more easily transferred and contracted. Meanwhile, the government also actively promoted the conversion of the so-called four "wastelands" (*si huang di*) to agricultural use, resulting in additional areas of degraded hills being transferred to the state farm system. In addition, the state farms began contract farming with local villages, or "joint development" (*lian he kai fa*) in the official language, which typically involved a profit sharing scheme of 30/70 or 40/60. The state farms would contribute capital and technical extension, while villagers put up land and labor input. The marketing channel of rubber, however, was still very much state controlled in the early to mid 1990s, rubber prices being one of the last to deregulate among various commodities.

In the meantime, the management system at the state farms also adopted certain incentive-based, market-oriented schemes. With productivity linked to pay, less skilled or older workers (due to declining eyesight) would sometimes end up having to pay the farm for failing to reach their production quotas, causing some to leave or retire early from their posts. On the other hand, having filled the quota, employees were free and even encouraged to engage in entrepreneurial private activities to enhance their incomes. The state farm system also implemented a change of standards in tapping techniques. With added chemical stimulation, the trees were tapped less frequently and sustained a longer life cycle. This change, however, lessened the state farms' demand for labor and caused many cases of "*xia gang*," a softer version of layoff that meant drastically reduced wages. During this time period, many state farm employees, retirees, or "*xia gang*" workers ventured outside the farms to develop private plantations through various land purchasing and contracting schemes with villagers.

Outside the state farms, local villagers, having reaped benefits and accumulated capital from the early plantations, also began a new round of rubber development in the mid 1990s. In addition to planting themselves, they increasingly contracted out remaining uplands to private developers. Some leased land directly, while others formed contracts with certain profit sharing schemes. In these contracts, villagers typically put up only land for 40-50% of the future profits. The village collective forests were also contracted out, sometimes to the village's own individual members, sometimes to private investors.²⁶ Many of the private investors came from the state farms as

²⁶ The precise situation of village-level upland management is not entirely clear. According to conversations with governmental employees, land allocation during the early 1980s involved identifying three types of upland: The first type includes household freehold forest land (*zi liu shan*)

discussed in the previous paragraph; some were now semi-privatized governmental entities looking for additional revenue sources; still others came from outside Xishuangbanna, were Han, and had capital but no land. In the late 90s and early 00s, however, many villagers sold their trees to state farm employees due to depressed latex prices. In Heli, an Akha village in the vicinity of Mengpeng State Farm, villagers said they sold over 30% of their trees over the years. Many regret the sales, for good reasons. A first-rate tree in its latex prime was easily bought for under 300 yuan in the late 90s. The same tree would go for at least 500 yuan in today's market.

Into the 2000s, with soaring prices, both the state farms and villagers have been profiting significantly from their rubber holdings. Compared to the villagers who became state farm workers, those who remained outside the system appear to have fared even better. According to a state farm worker, private holders have more flexibility and don't have to sell their latex to the state farm, therefore often obtaining higher prices for their harvests. Perhaps more importantly, individual holders still had full access to their land, an increasingly prized capital asset. Contract farming and land rotation schemes continued to flourish in the 2000s, with more and more favorable terms toward the landowners (villagers) as land became scarce. Among villages, those that suffered smaller concessions by the state farms in the earlier years also seem to be better off, with bigger buildings, more electronics, and spiffier vehicles equipping the households. In fact, a reversal in wealth distribution seems to be on the horizon. Some wealthy villagers have stopped tapping themselves and instead contract the task out to landless state farm workers, who typically obtain 30% of the latex yield as compensation. It should also be noted, however, that price deregulation left smallholders to full market exposure, in good and bad times. From the late 90s to 2001, when world prices hit the lowest in 30 years, many villagers sold trees to make ends meet, while state farm workers remained relatively sheltered from the market fluctuations.

Disparity is also reflected among smallholders themselves. In the 1980s, due to unclear allocation, upland was largely available on a "first come, first serve" basis in some, though not all, villages. Well-off villagers started earlier, took up more desirable areas, and planted more. A cross-generational disparity is also emerging, as children grow up to form new households faster than the older generation declines. In most villages there is little land left to allocate to younger households. Area-wise, villagers in the rubber country are in far better positions than those from high, rugged, rubber-less terrains (e.g. Honghe and Mojiang), who now typically work for the former as day laborers for no more than 50 yuan/day. They are usually given work only in regular maintenance, as villagers would rather do the more skill-intensive tapping work themselves or contract it out to well-trained state farm workers.

and swidden fields, which were allocated to individual households. The second type was collective forest (*ji ti lin*), which was administered by the village collective for firewood and building houses. The third type was state forest, which was then divided, functionally, into watershed forest, scenery forest, etc.. In reality, however, the division of the upland was often nominal and upland boundaries were not clearly defined. Some relatively land scarce villages had more clear divisions initiated by villagers, but in general, upland has been used, contracted, and transferred in a rather uncontrolled state (Xinhua Net, May 21, 2007). Conversations with villagers also appear to confirm this characterization.

Over the decades, villagers' livelihood systems became altered significantly by rubber. In Mengman and Mengpeng, swidden agriculture has been largely extinct for over ten years according to local villagers. In the early days of rubber, villagers also grew sugarcane to supply Mengpeng Sugar Co., but that has been gradually phasing out since latex harvest provides more income.²⁷ The area used to grow three seasons of paddy rice, supported by the extensive irrigation systems built by the government in the 1950s and 60s. Now most farmers grow only one season of rice or none at all. This was mainly driven by the rise in latex income and revenues from other cash crops, which increased the opportunity cost for less profitable rice cultivation, but some also said the area is beginning to suffer from a diminished water supply, which they attribute to over-extended rubber plantations. There is very limited paddy rice in most of Xishuangbanna.²⁸ A majority of the lowland has been converted to banana plantations with investments from Guangdong and Guangxi provinces, which are rumored to supply, in addition to domestic markets, northern countries such as Japan and Russia. The rubber plantations in Xishuangbanna are largely monoculture, with limited intercropping not beyond the first couple of years. During the late 90s and early 00s, due to depressed latex prices, villagers reportedly experimented with planting tea and raising poultry in mature rubber plantations to supplement income (Wu et. al, 2001). All of that appears to have stopped now. In fact, the opposite is happening, with former orchards and tea gardens now decorated with young rubber trees.

With skyrocketing rubber prices in the 2000s, an overheated rubber boom has become a grave concern for the government. Some villagers, blinded by the immediate profits, tap every day, reducing the productive life cycle of rubber trees (trees need to rest at least every other day according to conventional tapping techniques and are tapped only every three days at the state farms). In addition, as was briefly discussed in Chapter 3, rubber has increasingly covered what the Chinese government terms as "two exceed" areas (*liang chao*, meaning areas where altitude is greater than 900 meters and slope more than 35 degrees). Severe environmental degradation has been documented by the Chinese media and researchers and also discussed in Alton et. al. (2005). If counting soil loss at 10 yuan per ton and water loss at 1 yuan per cubic meter, it is estimated that the Xishuangbann prefecture loses 150 million yuan to rubber in soil erosion and underground water depletion every year, according to the Menglun Botanical Garden (China Youth Daily, June 12, 2007). Several village clusters near Jinghong have suffered a complete depletion of local streams and well water (the Jingkan cluster is the example most frequently cited by the media). Against the recent rubber craze, the prefecture government has embarked on an ambitious campaign to "return rubber to forest", *tui jiao huan lin*, a slogan patterned after the better known "grain for green" (*tui geng huan lin*) movement. Local media

²⁷ Mengpeng Sugar Co. now contract-farms with many villages in the Sing district on the Lao side, where local villagers also expressed desire to stop sugarcane when their rubber trees mature.

²⁸ Rice consumption in the area (and perhaps beyond) is increasingly dependent on imports from Laos and Myanmar. Since 2007, rice export in the Sing and Long districts of Luang Namtha has been monopolized by a Chinese company, contracted by the provincial government. The official reason for the monopoly is to ensure supply for the Lao military and prevent too much rice from being sold to China, but the real motivation for the deal is up to diverse speculations.

outlets have prominently featured heroic acts of villagers voluntarily pulling up their rubber trees for the greater good. In July 2006, the prefecture government outlawed all rotation, transfer, contracting, or subcontracting of collective forest or regenerating swidden fields until 2008, hoping to reduce forest poaching and cool down the feverish land markets driven primarily by rubber.²⁹ In 2007, plans were also made to purchase up to 500,000 mu of remaining natural forest and regenerating fallows from villagers, at 500 yuan per mu, for preservation. However, officials are not optimistic about its implementation as private rubber investors typically offer much higher prices for land. The government also plans to begin levying an environmental compensation fee on rubber processing businesses in the near future, but it is feared that the businesses will simply pass on the charges to rubber farmers.

Regulating rubber development in Xishuangbanna is a very delicate matter. Although the government has taken concrete measures to slow down the reckless planting, rubber remains a highly protected industry not only due to its importance in ensuring China's industrial growth, but also, in Xishuangbanna, a majority of the farmers have come to depend on rubber as their only means of livelihood. The multiple roles of rubber have led to what appear to be a schizophrenic set of policies attempting to regulate the crop. At the same time rubber planting is effectively (though not officially) banned for environmental concerns, it continues to be subsidized. In 2007, China's Ministry of Agriculture approved another 20 million yuan of subsidy in distributing high quality seedlings among rubber farmers. According to Pala, a Chinese Akha village in Mengman, villagers have never had to pay taxes on their rubber holdings and were in fact given a 12 yuan/mu/year subsidy since 2005 (as part of China's broader policy change to reduce tax burden on farmers). Rubber also remains under tight import restrictions while China's industrial sector is afflicted with short supply and peaking prices.

The history and current state of rubber development in Xishuangbanna are shaped by a complex mix of economic, political, and environmental considerations. And it is in this delicate context that rubber gradually spilled from Xishuangbanna to northern Laos over the course of the past decade.

8.2 Comparing Luang Namtha to Xishuangbanna

Albeit in very different stages, Luang Namtha and Xishuangbanna share a number of similarities in their respective path of rubber development:

- Similar tensions between the large holders and local communities, industrial modernity and traditional livelihoods.

The relationship that existed between early state farms and the indigenous communities is not unlike that between today's large investors and Lao villagers. If anything, land concessions were more easily accomplished by the

²⁹ In addition to freezing land rotation, which is a local measure adopted by the Xishuangbanna prefecture, China as whole is undergoing a new round of forestry reform. The reform allocates what formerly constitutes collective forest to individual households. Though some see it as a promising opportunity to hold villagers more accountable for forest use, critics view the reform simply a way of shifting blame for the failed resource management.

Chinese state farms under the highly authoritarian regime and planned economic system of the time. Village absorption (*bing zhai jin chang*) of the early days meant overwriting entirely villagers' traditional way of life and converting them to industrial workers almost overnight. Not surprisingly, this created conflicts (though they were seldom documented or discussed), much the same way concessions or coerced contract farming have stirred disputes with today's Lao villagers. In some cases, entire villages were disbanded and allocated to different production teams so that villagers could sever ties and better "adapt" to the advanced, industrial ways. For villages that remained outside the state farm system, many had their best land taken and had to resort to more distant locations when developing their own plantations later on. Even now, several decades later, some elder villagers still remember and lament, albeit in full resignation, the land lost to the Han (*haw, labeu*) state.

Because no official interviews were granted by the state farm system, I was only able to speak with leaders of the local production teams in Mengman and Mengpeng. When asked why contract farming (*lian he kai fa*), a much more moderate approach compared to village absorption (*bing zhai jin chang*), was not adopted in the early days, a team leader said firmly, "that was not possible. *lian he kai fa* was not really possible until the 90s. Before that the villagers were too poor. There was no way it could have worked." This comment, though not offering a detailed explanation, serves to remind us that there may be such a thing as being "too poor" for contract farming. If so, could this be further evidence of the impracticality of "2+3" contract farming in Luang Namtha? In Chapter 5, I document that, in the province's most remote areas, "2+3" failed miserably, while "1+4", the concession-like model, has survived.

Though a tense undercurrent may still linger between the state farms and the local communities, there are now hardly any explicit conflicts. The younger generation of ethnic minorities, eager and proud to be part of the rising Chinese modernity, has never known a time before the state farms or massive Han migration. The older villagers also have a conflicted, multi-layered view of their Han peers: "these *han zu lao geng* (Han peers) took our land, but they also taught us to plant rubber and did good things for us. Xishuangbanna developed because of them. If they didn't help us plant rubber, we wouldn't be rich today." In the end, concrete economic gains seem to be able to mend much ethnic tension and social rifts. In ten years, when the majority of Luang Namtha's rubber enters its prime tapping stage, will we hear similar words from Lao villagers about Chinese investors? And, if we do, would it give us reason to celebrate?

- Similar patterns among smallholders and in labor supply.

In both Luang Namtha and Xishuangbanna, the better-off villagers were able to start earlier, occupy better land, and plant more rubber. This disparity is likely to be more exaggerated in Luang Namtha because of the relative low level of governmental support, limited credit provision, and weaker enforcement of land allocation. Smallholders in both areas are prone to making long-term decisions based on short-term considerations.

Xishuangbanna villagers were quick to sell trees during periods of depressed latex prices, while Lao villagers have been known to do the same to finance life events (weddings, funerals etc.) or hospitalization. Most of such cases, however, may be assuaged with expanded credit to smallholders. The labor patterns in the two areas also demonstrate similar trends. While much of Xishuangbanna's rubber development relied on external labor, be it the educated youth of the early days or the highland laborers later on, the labor pool in Luang Namtha is also increasingly dependent on recruits and migrants from Phongsaly and Xiengkhuang as well as legal and illegal Chinese laborers.

- Similar challenges in land and forestry management.

Until the arrival of rubber, upland meant no great commercial value to villagers in either Xishuangbanna or Luang Namtha. The land allocation and use patterns in both areas suffer from similar issues such as unclear boundaries and poor enforcement. However, the lack of control appears to be more serious in Luang Namtha, where most villagers interviewed have little knowledge of land use plans beyond the definition of village boundaries. Most Chinese villagers on the other hand were able to recall how much upland was allocated to whom and for what, but, due to unclear boundaries, executing these allocations was at times difficult. Compared to their Lao counterparts, Chinese villagers appear to have a stronger sense of land ownership, which is likely a direct result of the relative land scarcity in China. A similar trend may be observed in Laos (whether or not official land titling exists), as rubber continues to chase up the land value.

In recent years collective and state forests in Xishuangbanna are increasingly converted to rubber plantations by villagers and private investors, a desperate landscape that many fear Luang Namtha is quickly coming to resemble. Most of the rubber planted so far in Sing and Long are on former fallows according to villagers' own account, but in some villages around the Sing valley, villagers confess rubber has already taken place of use or reserve forests. In Luang Namtha, as it is in China, there is little due process in Laos to assess the legitimacy or suitability of land before rubber plantations are established by investors or smallholders. In addition, the Chinese and Lao regulations allow similar interpretations of the term "forest," opening potential loopholes. In Forestry Strategy 2020, tree plantations, including rubber, are explicitly promoted as a way to increase "forest" cover in Laos. Similarly in Xishuangbanna, the governmental subsidy for the "grain for green" movement is sometimes exploited for rubber planting.³⁰

There are also a number of differences to rubber development in Luang Namtha versus Xishuangbanna:

³⁰ According to the national regulation, forest conversion of agricultural land must consist of 80% of ecological forest at the minimum, but the definition of ecological forest is subject to much interpretation. The original classification of 2001 by the Ministry of Forestry did not include rubber as an ecological species. In 2002, however, in response to a request by Yunnan province, rubber became qualified in both the ecological and commercial categories. The exact classification depends on the specific fashion in which it is planted. This opened a loophole in practice, resulting in some agricultural land converted to rubber forests, all under the subsidy of the central government.

- Difference in the levels of governmental support to smallholders.

Governmental support was crucial to the development of smallholders in Xishuangbanna. Villagers not only had access to free or subsidized seedlings, ample credit, and tax breaks, but also extensive technical support provided by the state farms that persists even today. In contrast, though the Luang Namtha government had promised to assist paddy-less villagers with 1 ha of rubber per family since December 2006, the plan still has not materialized more than a year later. As soon as villagers start tapping, they are already subject to taxation. Furthermore, the tax rate is flat from year to year, which disproportionately burdens the early and late years when latex yield is low as well as periods of market trough. Villagers also have a difficult time securing credit for planting rubber, many reporting that banks rejected their loan requests. No villagers interviewed see DAFEO or other governmental arms as a source for technical extension. Smallholders rely primarily on other villagers, cross-border connections, or hired Chinese extension workers for technical support.

- Difference in quality control and technical extension.

The state farms and Yunnan Institute of Tropical Crops, located in Jinghong, provide research, experimentation, and technical extension to rubber farmers as well as the industry at large. No equivalent institution exists in Laos. The Chinese government also subsidizes high quality seedlings and certifies seedling banks for farmers in order to ensure the overall quality of Xishuangbanna's rubber holdings. In Luang Namtha, however, seedling variety and sources are largely unknown and unchecked among smallholders. The quality of plantation establishment, by both small and large holders, is subject to little monitoring or assessment. Smallholders lack systematic training in rubber growing and tapping techniques, as do those working with large investors. As I document in previous chapters, there is limited technology transfer, at least thus far, in most contract farming or concession schemes.

- Is Luang Namtha on an accelerated path?

Xishuangbanna went through several distinct and prolonged stages of rubber development, from the early state farm dominance to the growth of smallholders to the eventual proliferation of private investments. Luang Namtha, however, seems to be taking it on all at once: large investments, small investments, concessions, contract farming, smallholders, before there is an institution of support: land rights are not secure, environmental assessment is non-existent, technical extension is weak, credit is limited, regulation is incomplete, and corruption is rampant. It took Xishuangbanna nearly 50 years to cultivate 2.5 million mu of rubber—just Yunnan State Farms alone has an agreement to develop 2.5 million mu of plantations in four northern provinces of Laos in the next few years. Are we ready for so much rubber so fast?

Xishuangbanna has some important lessons to teach Luang Namtha. There is no doubt rubber, combined with other economic initiatives, is instrumental in

lifting local communities out of poverty and achieving prosperous lives, but it should be noted that the achievement would not have been possible without the Chinese government's committed support for the smallholders. In addition, these positive changes have come at severe costs to the environment. If the several Chinese investors and villagers I spoke to were right, "you just can't worry about the environment before the tummy," then is this the kind of trade-off the people of Luang Namtha are willing to, and should, accept?

It is beyond the scope of this report to conduct a thorough cross-border comparison, which warrants an extensive study all in itself. But Luang Namtha officials and farmers (and donors) stand to benefit from enhanced understanding of and exchange with their Xishuangbanna counterparts, not only for technical knowledge but also for lessons, both inspirational and cautionary, in overall developmental strategies.

Table 8.1 A Comparative Look at Rubber Development in Luang Namtha and Xishuangbanna

	Luang Namtha	Xishuangbanna
Inception	Mid-1990s Villagers own initiative, Chinese influence, and governmental support, joined quickly by waves of investors.	1950s State farms, later leading villagers' involvement. Private investments proliferated only in the 90s.
Large investors	Mainly Chinese companies working under opium replacement provisions	State farms
Small investors	Lowland investors; Chinese investors (Han and ethnic) from border areas.	State farm associates, privatized former local governmental enterprises, Han investors from land scarce areas.
Investment mode (large)	Concession or contract farming with local communities.	Heavy governmental investments in the beginning. Village absorption by state farms during the 70s and 80s. Varied forms of contract farming and land lease in the 90s and 00s with local communities.
Investment mode (small)	Contract farming of various forms, land lease and purchase	Land lease, contract farming of various forms.
Land use	First come, first serve. Former swidden, with some forest encroachment.	Collective forests and regenerating swidden are frequently contracted for rubber development beginning in the 1990s.
Capital	Limited governmental funds and credit.	Governmental funds and subsidies in the beginning. Now mostly private funds. Ample credit for both large and small investors
Technical extension	Informal, decentralized technology transfer among villagers through cross-border connections	Extensive technical support from the state farms to villagers. Government subsidizes high quality seedling banks.
Labor supply	Local villagers, laborers from highlands (e.g. Phongsaly), and legal and illegal Chinese laborers.	State farm employees, local villagers, and laborers from rugged highlands
Processing	Limited processing facility (at the moment).	Numerous collection stations and processing factories owned by the state farms, local government, or private individuals and companies.
Marketing	Supplies Xishuangbanna. Currently informal border transactions and some formal collection by Chinese traders. Future situation is uncertain.	Complete state control until the late 1990s. Supplies central and coastal China and beyond. Protected industry. Both import and exports are subject to meticulous regulatory control through quota and tariffs.
Taxation	Villagers are subject to taxation as soon as tapping begins.	Villagers have minimal tax responsibilities

Chapter 9

Issues, Recommendations, and the Role for Development Aid

The previous chapters document and analyze the rubber phenomenon in Luang Namtha with a cross-border focus. In this final chapter, I summarize the issues and challenges presented in the report and recommend specific steps to address them.

9.1 Summary of issues and recommendations

9.1.1 Contract farming

Summary of issues: There is a large gap between contract farming as envisioned by provincial authorities and as implemented. The “2+3” model often dissolves into “1+4” (or concessions) in practice, leaving villagers with a worse share. Profit sharing often translates to a split of land or trees. Villagers are sometimes coerced into contract farming schemes with large investors. Wage disputes are common. Overlapping land designations and unrealistically large contracting areas are additional sources of concern and seeds for future conflicts.

Recommendations:

- Temporary suspension of new large contract farming projects (urgent).

GoL has suspended land concessions over 100 ha at the central level since May 2007. a similar suspension should be applied to new large contract farming projects in Luang Namtha, considering the current state of implementation, the existing large number of investors, and the amount of area already contracted in the province. Time is needed to take stock of outstanding issues, establish monitoring and evaluation systems, reassess the promoted approaches and models, and make necessary adjustments.

- Improve conditions for villagers who are already locked in (urgent).

For villagers who are already locked into the predominant “1+4” contract farming schemes, seek ways to maximize their access to land and resources and provide them with needed technical support and credit. After the land/tree partition, which happens anywhere between three years to until tapping depending on the specific agreement, villagers, particularly those in remote areas, may face severe challenges in labor, technical, and financial capacities to maintain their portions. Credit and technical support will be crucially needed to prevent villagers from further selling their shares to investors (which has already happened in some cases). In the meantime, companies should be strictly required to give instructions to villagers on rubber growing and tapping techniques and a monitoring mechanism should be in place to ensure that they do so (note that in current schemes, when the partition tends to happen long before tapping, it is all too easy for companies to extract low-skill labor from villagers without transferring technical knowledge). There should also be a set of minimum standards on the rate

and timeliness of wage payments to prevent disputes and predatory practices. These specific measures, once formulated, may be included as addendums to existing contracts.

- Better share for villagers in “1+4” (urgent or too late)

“1+4” is likely to continue as the dominant contract farming mode in Luang Namtha. As a general rule, the province and district should insist on a higher minimum share (e.g. 45%) for villagers in the “1+4” schemes (this may be too late for some, who have already signed village or household level contracts).³¹ Once formal investors are required to make better offers to villagers, that puts market pressure on informal investors to do the same (who tend to offer slightly better terms anyway). Meanwhile, villagers should be supplied with tools and knowledge (e.g. input prices in China, particularly for land and a basic command of the Chinese language) to field stronger negotiating positions for themselves.

- Enhance monitoring of investors.

Although provincial and district authorities stress that investors need to be better monitored, there is no clearly defined process or agency to do so. A relatively neutral entity (perhaps an international donor organization in partnership with the Lao government) is sorely needed to assume this role and conduct periodic assessment of the investors’ field performances.³² There also needs to be a follow-up process if problems are exposed.

- Refine contracts and the contracting process.

No national, provincial, or district level contracts should approve a fixed number of hectares for plantation. It all too often becomes a source of coercion in implementation. Contracts above the village level should at most specify a **maximum** number of hectares that an investor can develop within a geographic range and a **minimum** share of profits to the villagers. It should emphasize that no higher-level contracts guarantee villagers’ participation or access to land. In addition, contracts need to be explicit about not granting exclusive rights to land, which limits competition among investors and fuels coercive practices. Not granting exclusive rights also precludes the issue of overlapping designations.³³

³¹ Currently most “1+4” contracts with large investors characterize a 30/70 split (both in reality and in several provincial contracts that authorize the “1+4” option), just the opposite of the 70/30 promoted by the province. But does the labor component really warrant such a big difference, 40% of the total land/trees, in shares? How are these shares decided on in the first place? Economic modeling based on input prices, borrowed example from other countries and regions (like Xishuangbanna), or results of direct negotiations with investors? Even from a pure economic value, there appears to be plenty of room to improve shares for villagers with the rising land value in Laos.

³² Lao line agencies’ lone participation in the process is not recommended, as corruption and cronyism with investors are common at various levels.

³³ However, one should also keep in mind that not granting exclusive access also has its drawbacks. The investors may feel pressured to race to land. This is a trade-off that can be potentially mediated by controlling the total number of large investors allowed in the province.

Village consultation should be thorough and required at a household level. Villagers should be able to make household decisions about whether they want to join a particular contract farming scheme. Simply securing a village chief's agreement is inadequate, as the chief cannot always represent diverse opinions among the villagers and is often himself susceptible to bribes. The consultation process needs to be more transparent and open to external monitoring.

Moreover, authorities among different arms and levels of the Lao government (or even different persons within the same arm) should be coordinated and clarified to avoid inconsistencies and conflicts in the contracting process. The role of the military and police force in rubber investments should be evaluated, clarified and integrated with the rest of the investment approval and monitoring procedures.

Certain regulations by the Chinese government may also impact the contracting process. (e.g., companies may push for fixed, large contracting areas to qualify for subsidies). Intergovernmental negotiations may be necessary to ensure the compatibility of rules and correct any misplaced incentives.

- Provide mediation support for villagers

A mediating entity needs to be established to address conflicts arising from contract farming (mainly over territories, partition schemes, or wages). Villagers have few channels to report disputes except to Lao governmental bodies, who often act in favor of the investors rather than the villagers. Conflicts will only escalate when the majority of the rubber reaches the tapping stage and immediate profits are at stake. Effective and fair mediation will be critical in preserving gains for villagers and maintaining the social order of the region. Donor agencies, in partnership with the Lao government, should consider providing mediation support for local communities.

9.1.2 Land and Forestry Management

Summary of issues: Other than village boundaries, villagers have little knowledge of or adherence to LUPLA. Upland is not allocated to households, creating disparity and animosity among villagers as the land becomes increasingly valuable. Village boundaries are subject to disputes as villagers seek new land for rubber. For holders large and small, no due process exists to check the suitability or legitimacy of the land for rubber. Most is being planted on former fallow, but reserve forest encroachment has been known to occur. Villagers also quite frequently report using "use forest" for rubber, but it is unclear if that really is the case or a confusion of terms.

Recommendations:

- Use rubber as an opportunity to clarify land allocation and accelerate titling (urgent).

Upland has never been as valuable as it is now and rubber provides the perfect catalyst for expanding land titling to the rural uplands. With the current trend in contract farming, where profit sharing often translates to a partition of land or trees, it is particularly important that villagers have permanent documentation of land ownership. Clarifying allocation and boundaries will also help to mitigate land disputes among villagers.

- Establish a physical surveillance system.

Without physical surveillance, requiring any amount of suitability mapping or environmental assessment is of limited use. There is no effective monitoring of compliance. No physical surveillance also means there is no reliable data on the amount and location of rubber plantations in Luang Namtha. As part of the opium replacement agenda, Yunnan province is currently developing a surveillance system to monitor plantations in northern Laos that combines both high-resolution satellite images and field data. The surveillance results are expected to aid in assessing overall progress as well as monitoring individual businesses for the purpose of allocating subsidies. The Lao government should negotiate with Yunnan province for collaboration and data sharing on the project.

9.1.3 Marketing

Summary of issues: Villagers with limited cross-border connections are at a distinct disadvantage in obtaining market information. The reality of contract farming also suggests villagers may have limited market guarantee through investors after the partition of land or trees (sometimes long before tapping). Smallholder sales, subject to quota and tariffs, will be at a disadvantage compared to exempted exports by opium replacement companies. There may also be a risk of over supply.

Recommendations:

- Disseminate market information to villagers

Compile and distribute a list of major rubber processing plants in Mengman, Mengpeng and Mengla. Report their collection prices for various products (latex, tub lumps, dried sheet rubber etc.) at least quarterly. Compile information about and from small traders and middle agents in the area. Educate villagers about the market chain. Inform villagers on the procedures and fees at the checkpoints. Detailed market data should also be compiled regularly on seedlings, land, standing trees in Xishuangbanna to inform non-latex transactions (be mindful each of those items encompasses incredible price differentiation by quality, variety, and location). The information needs to be not monopolized by a few individuals (otherwise it becomes easy to distort information by paying bribes). The information should also reach villagers in a way that is timely and easy to understand. Donor projects may consider employing Chinese-speaking villagers familiar with the border situation (e.g. residents of the Mom cluster) to assume the data collection tasks.

- Skill building and group organizing for villagers

Villagers, particularly those in remote locations, can benefit from basic economic education and training in bargaining skills (e.g. role-modeling for villagers). Facilitate peer training in the Chinese language (many villagers in the border areas know a significant amount of Chinese). In addition, facilitate group input purchase and latex sales among villagers to wield stronger bargaining power.

- Intergovernmental negotiation on rubber export policies.

Communication and negotiation need to begin now on how large-scale exports will be governed in the future. What kind of a quota system and what tariff policies will the export be subject to? What differential treatment will Lao investors and villagers receive compared to Chinese companies? In addition, in order to assess if there is a realistic risk of oversupply, there needs to be more information on how much rubber China is investing in overseas, at what pace, and how it may affect the total world supply. This information, combined with physical surveillance of plantations, is crucial for regulating, on a macro level, the rubber development of northern Laos.

9.1.4 Other issues and recommendations

- Encourage income diversification: villagers need to understand the volatile nature of rubber prices and prepare for it with diversified income sources. Income diversification is also important for livelihood security during the pre-tapping years and indirectly strengthens villagers' bargaining positions. It prevents villagers from selling their holdings to investors or accepting predatory prices during market troughs.
- Strengthen credit provision and technical extension: This is not only crucial in supporting smallholders who plant with their own investments, but also those villagers currently involved in contract farming schemes (see 9.1 section1)). Ample credit and technical assistance are among the most important contributing factors to the prosperity of rubber farmers in Xisuangbanna.
- Prepare for labor shortage: make statistical forecasts of the future gap in labor demand and supply. How much migration can we expect from other provinces vs. China? The estimates can guide us in assessing the feasibility of current and planned plantation areas in Luang Namtha and in regulating future cross-border population flow (possibly through adjusting fees and procedures for foreign labor admission).³⁴
- Environmental regulations on rubber processing plants: many investors have also established or have plans to establish processing factories in Laos, but current regulations are nearly blank on what environmental

³⁴ Meanwhile, maintain and strengthen the current barriers for temporary foreign labor with the exception of technicians (qualifying measures need to be in place to prevent abuse of the title). Before the pace of rubber development is better regulated, large labor influx at the pre-tapping may only lead to excessive and reckless land clearing.

standards they should follow. The December 2006 Luang Namtha regulation (PG No. 7) only specified that these plants cannot “pollute or cause odor.”

9.2 The Evolving Role of Development Aid

In many ways, rubber in Luang Namtha is only a microcosmic view of a much wider phenomenon throughout Laos, Asia, and far corners of the developing world: China is rising, forging ties, pouring investments, and dispensing aid, all at a ruthless pace, to the global south. The western development community, having occupied the center stage for decades, finds itself sidelined to a passive, reactive position to China’s ascending economic influence. That is not a comfortable change.

But there is no need to demonize China just because it is the unfamiliar new face in town. Although some practices by Chinese companies in Laos are predatory, it is not to do with the fact that they are Chinese but rather because they are profit-maximizing businesses operating in a poorly regulated and corruption ridden environment. In today’s increasingly globalized economy, capital is free to chase where it obtains the greatest return. We cannot blame anyone, Chinese or otherwise, for injecting investments into Laos (for that matter, the Lao government and people encourage those investments, too). We also stand little chance of holding private businesses accountable for improving the performance of the Lao government. It is also unlikely to be productive to ask businesses not to exploit the loopholes in law enforcement or bribe officials who, in many cases, effect and perpetuate a corrupt system in the first place. That is a job the Lao government itself falls short of or a goal the governance-oriented aid programs fail to accomplish. Some may accuse China of unfair practices, politicizing and dressing up its economic ambitions under alternate causes (e.g., opium replacement), but China would hardly be the first to do so: One can argue that much of the drug war in Myanmar and Laos was waged by the U.N.

The impact of China’s development in northern Laos, good and bad, will be of a magnitude never seen or achieved by the traditional aid community. At the same time that Lao villagers and their resources are exposed to predation, they are also given opportunities to participate in global markets on a scale unimagined before. A senior manager at a Chinese rubber company shared his view, “the westerners have been here for so long, building one bridge, one hospital, one school... villagers are still poor, still living the way they did ten, twenty, fifty years ago. What we bring is real development, real modernity.”

Is western aid obsolete?

The short answer is no. The aid community is sorely needed to ease the sizable socioeconomic and environmental costs that are common during times of rapid economic transition. It would be a mistake for international agencies to withdraw from areas where it seems “the Chinese have taken over.” In the case of rubber, Section 9.1 has suggested a number of specific

ways donor agencies may intervene. International donors, in partnership with the Lao government, play an important role in mediating conflicts, improving governance, strengthening the regulatory environment, minimizing environmental damage, and, most important, advocating for and empowering the local communities.

China's development strategies may be different from the orthodox western aid approach, but that doesn't mean there is no common ground between the two. China is not rising in a global vacuum. It cares greatly and strategically about its international image. In reference to its opium replacement activities in northern Laos and Myanmar, China lists "cooperation with international organizations" as one of its top priorities going forward (YDOC, August 6, 2007).

This provides a perfect platform for all parties, including the aid community, the Chinese and Lao governments, and private businesses to come together and address the many issues raised in this report. A provincial or national workshop involving all parties on the topic of opium replacement plantations will be the starting point for fostering longer-term dialogues and cooperative relationships.

Donor agencies in northern Laos should take a proactive approach and keep abreast of China's policies and plans on investments and trade in the region. They may also benefit from cooperating with Chinese NGOs and academic institutions for information exchange and, through them, bring the performance of Chinese companies under stronger public scrutiny at home. There is little known among the Chinese public about the multi-faceted reality of Chinese investments abroad. The limited media coverage currently available paints a consistently positive and heroic image.

Meanwhile, at a local level, we must recognize and take advantage of the great talent pool among Chinese migrants and border dwellers. Many make excellent technicians, data collectors, interpreters, or marketing specialists, the very reason they are highly coveted by Chinese companies operating in northern Laos.

At the frontier of Luang Namtha, villagers have been moving, marrying, and trading across the border for as long as it has existed. From that perspective, the latest transnational rubber phenomenon is not such an abhorrent deviation from the historical trajectory. Neither is it dominated entirely by large businesses or national interests. Informal cross-border ties were among the first catalysts for rubber planting in northern Laos and continue to serve as a source of support for smallholders.

China's influence here will continue to rise. What remains in the balance are the (still) remote landscapes of northern Laos, and the livelihoods of those who call them home.

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Appendix 1 List of Villages Visited

Village	Cluster	District	Ethnicity	Population (as reported by village chief)	Approximate total area of rubber	State of rubber planting	Discussed in this report
Nongkham	Xieng Jai	Sing	Leu	92 families (over 90% in rubber)	100 ha	Rubber began in 2003, planting mostly on their own on former swidden with seedlings obtained from China or locally. The village committee also organizes village members and engage in contract farming with a local Chinese investor with a 30/70 split. 30% proceeds to the village committee and 70% to the investor.	
Lormeu	Mom	Sing	Akha	87 families, all in rubber	180 ha	Initial residents of Lormeu lived previously in Buakkhu, a border village in the Mom cluster that had an early start in rubber. Lormeu started planting rubber in the mid-90s on their own on mostly former fallows. A small number of trees have begun tapping. Villagers sell latex in a largely unorganized fashion to traders across the border in Meng Run. Since mid 2000s Lormeu began facing encroachment/seizure of land from several directions. Heli, a Chinese company with concession contracts with the provincial army, plants on poorly defined military/defense land. To the south there is land concession given to district police (part of it also lands in Houay Long Kao). Many villagers, in addition to tending to their own rubber, now also work for Heli for wages.	
Houay Long Mai	Xieng Jai	Sing	Akha	36 households, most in rubber	280 ha	Rubber began in 2004 through formal or informal contract farming with individual Leu investors or governmental officials from central Sing valley: 50/50 to 30/70 splits of land/trees, with the larger share going to the investors. Further sale of villagers' own share to investors is common. Villagers provide only land and are paid wages if they also provide labor to the investors. Minimal forest cover of any sort, reserve or use, is left.	Chapter 5
Houay Long Kao	Xieng Jai	Sing	Akha	55 families, 287 people, over 50 families in rubber	more than 300 ha	Rubber began in 2004 through formal or informal contract farming with individual Leu investors or governmental officials from central Sing valley; arrangements similar to those in Houay Long Mai.	

Village	Cluster	District	Ethnicity	Population (as reported by village chief)	Approximate total area of rubber	State of rubber planting	Discussed in this report
Lakham Mai		Namtha	Akha	58 families, 228 people, all in rubber	60 ha	Located in the Nam Ha NPA. Rubber began in 2003 as part of the district government's promotional program loaning seedlings to 12 villages. A Chinese company was contracted to complete the actual planting. Villagers had little involvement in the initial stage of establishing the plantation.	Chapter 2
Had Ngao		Namtha	Hmong	91 households (Alton et. al., 2005)	834 ha	Rubber began in 1994 with villagers' own initiatives as well as governmental support. Employs an atypical farmers association model. 334 ha currently tapping. Most of the latex sales go through formal channels to traders in Mengpeng, Xishuangbanna.	
Puang Phian		Namtha	Hmong	33 families, most in rubber		Rubber began in 1994. Same cohort as Had Ngao. Currently tapping and selling latex to the same trader that collects from Had Ngao.	
Mom	Mom	Sing	Leu	103 families, 409 people, all in rubber	115 ha	Rubber began in 1998 with technical support from Chinese Leu relatives across the border. Cooperation with relatives is common but unreported. Those tapping sell liquid latex to Chinese plantations in Mengrun that extends beyond the official checkpoint. Some also sell dried latex across the border, paying unsystemic, varying amounts of charges at the checkpoint.	
Buakhu	Mom	Sing	Akha	93 households, all in rubber		Rubber began in 1996-1997 upon the return of repatriated refugees from China, who brought capital and technical know-how from working on Chinese state farms. Cooperation with relatives, peers, and small investors in Mengrun is predominant but hidden from authorities. PT, a group of small investors consisting of a Han Chinese from Mengpeng state farms partnering with several Chinese Akha businessmen in border villages, also plants here with 60% for the company, 20% for villagers, and an unofficial 20% for local governmental associates.	Chapter 5
Bouakyaxai Kao	Mom	Sing	Akha	38 households, all in rubber	44 ha (by villagers), 80 ha (contract farming)	Rubber began in 2004 with seedlings bought from Mengrun. Learn to plant from relatives and peers from Mengrun. Contract farming since 2006 with an individual investor from the state farms (v 30%/c 70%), partitioning after 3 years. Some villagers work for the investors as laborers at 25 yuan/day.	Chapter 5

Village	Cluster	District	Ethnicity	Population (as reported by village chief)	Approximate total area of rubber	State of rubber planting	Discussed in this report
Bouakyaxai Mai	Mom	Sing	Akha	62 households, all except 3 in rubber	over 200 ha, about half planted through contract farming	Rubber began in 1997 with villagers' own investments (7 families now tapping). Contract farming since 2006 with a Chinese Han investor from Mengpeng state farms through a Chinese Akha middle agent based in Ban Heli, Mengrun. Laborers come from Honghe, Yunnan. Latex sales through the Mengrun checkpoint are subject to unsystemic border changes.	
Meuto Kao	Xiengkheing	Sing	Akha	48 households	18 ha (unattended)	Unsuccessful contract farming since 2006 with Shengji Rubber Co. due to infrastructure constraints. Many villagers are uncommitted to rubber because of desire to relocate to Muang Sing.	Chapter 5
Chapouthone	Xienghheing	Sing	Akha	48 families, all in rubber		Villagers began planting themselves in 2005 (partly thanks to promotion and organizing by the village chief), obtaining seedlings from China and hiring Chinese extension workers for grafting. Theoretically under contract farming with Shengji Rubber Co., but for now only cultivates rubber seedlings under contract and sells to Shengji.	
Lokou	Xienghheing	Sing	Akha	50 families, 20 in rubber	15 ha	Villagers began planting themselves in 2006 only after Ban Xiengkheing planted rubber. Obtained seedlings from a nursery ran by a Chinese migrant along the river and some from Muang Sing. Shengji Rubber Co. has come to promote several times. Poorer families are likely to cooperate with the company, but there are disputes over wages, confusions about the contract terms, and still some villagers are uncommitted to rubber due to the area's poor infrastructure.	
Xiengkheing	Xienghheing	Sing	Leu	45 families, 44 in rubber	more than 22 ha (by villagers)	Villagers began planting in 2003-2004 with seedlings and technical support offered by a Chinese migrant in the village. The migrant now also engages in contract farming of 50 ha with the village with 15% attributed to the village after two years.	Chapter 5
Xai	Xienghheing	Sing	Leu	33 families, all in rubber	more than 30 ha	Except for 3 families contracting with Shengji Rubber Co., the rest have been planting on their own since 2003 with seedlings from Muang Sing or Guanlei (a Chinese port up the Mekong). Shengji Rubber Co. has established a base near Ban Xai, having planted over 20,000 trees through concession so far.	

Village	Cluster	District	Ethnicity	Population (as reported by village chief)	Approximate total area of rubber	State of rubber planting	Discussed in this report
Chagnee	Meung Sa	Long	Museu	212 people		Rubber began with several families contracting with a local Lao investor with a 50/50 land partition. In 2006 most land left was concessioned to Ruifeng, a Chinese rubber company that has a contract with the provincial army, including all paddy now converted to rubber seedling nursery.	Chapter 5
Den Kang	Meung Kang	Long	Hmong	85 households, 80% in rubber	over 80 ha	Villagers began planting rubber in 2004 either on their own or through contract farming schemes with Tongly-Jingu, a joint venture.	Chapter 5
Sivilai	Meung Kang	Long	Leu	57 households, all in rubber		Villagers began planting rubber at varying times since 2004, either on their own or with relatives and friends. Concession-like contract farming scheme with Yunnan Rubber began in 2007 on a plot of 50 ha far from the village.	Chapter 5
Xiengkok Kao	Xiengkok	Long	Leu	81 households, all in rubber	70 ha	Rubber began in 2004-2005 with a mix of villagers' own investments and contract farming with Saiphajan, a Lao company, through two types of arrangements: v50/c50 if villagers put up land and labor, or v30/c70 if villagers are compensated for current labor input. There are also many cases of v30/c70 contract farming schemes with individual investors from Sing.	
Fa Te	Meung Kang	Long	Akha	67 households		Except for 4 families planting on their own, the majority contract-farms with Yunnan Rubber through a v30/c70 scheme for 200 ha. Acute disputes over wage payments reportedly due to embezzlement by Yunnan's subcontractor. Also suffers land grab by local governmental associates.	
Houay Khoua 1	Meung Long	Long	Thai Deng	52 families, 50 in rubber		Upland allocation to individual families based on villagers' own initiatives (2,500 square meters per family). Villagers' own investments or informal cooperation with relatives and friends.	
Done Savang	Meung Long	Long	Thai Dam	71 households, about 60 in rubber	40 ha	Villagers have been planting on their own or with relatives since 2005, with seedlings purchased from "Lao Wu," a Chinese migrant in the area running a seedling bank offering flexible payment schemes.	
Chakeo Neua	Meung Sa	Long	Akha	30 families, 23 in rubber		Except for 4 families planting on their own, the rest are in contract farming with Diyuuan with a v30/c70 scheme. Villagers are unsatisfied with the terms are considering planting with Saiphajan, a Lao company based in Xiengkhek, instead.	Chapter 5

Village	Cluster	District	Ethnicity	Population (as reported by village chief)	Approximate total area of rubber	State of rubber planting	Discussed in this report
Senkhanham Mai	Meung Sa	Long	Akha	47 households		Forced contract farming with Diyuuan through a v30/c70 scheme. Disputes over wages and land designation.	Chapter 5
Senkhanham Kao	Meung Sa	Long	Akha	34 families, 18 in rubber	about 5 ha	Villagers plant on their own, obtaining seedlings and learning to plant by working for investors in Long. Diyuuan as come to promote rubber several times, but villagers were uninterested in cooperating, preferring to develop plantations at their own pace.	
Nongkham	Meung Long	Long	Leu	70 families, most in rubber		16 families plant with Tongly-jinggu with a v60/c40 scheme. Those planting by themselves obtain seedlings from Lao Wu's seedling bank. Diyuuan tried promoting here but villagers resisted.	
Sompan Mai	Xiengkok	Long	Akha	36 households, 26 in rubber		16 families plant on their own, 10 plant with Saiphajan through a v30/c70 profit sharing scheme. Saiphajan hires Chinese extension workers.	
Pala	Mengman	Xishuangbanna Prefecture	Akha	148 families, all in rubber		Villagers began rubber in 1985 supported by interest-free loans from the government and technical extension by the state farms. Collective upland has been contracted to the state farms, lowland paddy to banana investors from Guangdong.	
Guofang	Mengrun	Xishuangbanna Prefecture	Akha	138 households, all in rubber		Rubber began in 1985 with discounted seedlings and interest-free loans provided by the government and technical assistance from the state farms. Facing land constraint, over 80 families now invest in the Mom cluster of Luang Namtha. No forest left in Guofang.	Chapter 5
Heli	Mengrun	Xishuangbanna Prefecture	Akha			Rubber began in 1985 with governmental support. In the 1990s, over 30% of trees were sold to the state farms due to insufficient capacity of the villagers.	Chapter 8
Man Sai Nun	Mengman	Xishuangbanna Prefecture	Leu (Dai)	246 households, all in rubber		Rubber began in 1985 with discounted seedlings and interest-free loans provided by the government and technical assistance from the state farms. Upland was available on a "first come, first serve" basis in the beginning until clearer allocation in the 90s. Sales of trees to state farm workers was common in the 90s. No forest left.	

Village	Cluster	District	Ethnicity	Population (as reported by village chief)	Approximate total area of rubber	State of rubber planting	Discussed in this report
Meng Kang	Mengman	Xishuangbanna Prefecture	Leu (Dai)	61 households, all in rubber		Rubber began in 1984 with discounted seedlings and interest-free loans provided by the government and technical assistance from the state farms. Every person was allocated 6 mu of upland. If planting more than 6 mu, half of the excess belongs to the village collective. Since the mid 1990s, collective upland has been contracted to individual investors as well as villagers, with a general profit-sharing scheme of 50/50. A few less well-off families also engage in contract farming with investors. A small number now invests in Muang Sing, Luang Namtha, through a v30/c70 scheme where Lao villagers put up only land.	
Man Zhang	Mengpeng	Xishuangbanna Prefecture	Leu (Dai)	31 households, all in rubber		Land dispute with the state farms, resulting in 400 mu reallocated to the villagers in 2005. Contract farming with an individual investor from Zhenyuan through a v45/c55 scheme. Villagers put up only land.	
Shang Yong	Mengla	Xishuangbanna Prefecture	Leu (Dai)	180 households		A traditional tea village. Rubber only began around 2004 with villagers' own funds, intercropped with tea. A substantial migrant labor community from Honghe and Mojiang is present. Informal cross-border investments in Luang Namtha and Oudomxai are common, with a general profit sharing scheme of 50/50.	

*may be underreported.

Appendix 2: Questionnaire for Village Level Data Collection*

1	Name of the village, ethnicity, number of families,	
2	How many hAs of rubber has this village planted so far?	
3	How many hAs are planted by villagers themselves? Since when? How many families? Where do they get seedlings?	
4	If planting by themselves, how did the majority of villagers learn to plant rubber?	
5	Does this village plant with company/investors? If so, was a contract signed or was it only oral agreement? Was the contract or agreement made with the whole village or individual families? If made with individual families, how many families?	(if the village doesn't plant with companies/investors, skip to question 14)
6	In this village in total, how many hAs are planted with companies/investors? Since when?	
7	What's the name of the company/investor? Where does the company/investor come from (if it's a Chinese investor, please ask where in China and the ethnicity (Han, Akha, or Leu)? Is it a relative or friend? If there is more than one company/investor in this village, ask the above questions for each company/investor.	Investor 1: Investor 2: Investor 3: In some cases, particularly when investors are lowland Leu, one village may have more investors than the village chief can remember the details for. Then the village chief is asked to speak generally of the investors instead of listing details for each one.
8	For each company/investor or in general, how long is the contract or oral agreement made for? Is it from date of planting or date of tapping?	
9	For each company/investor or in general, what's the splitting percentage (what percentage for villagers and what percentage for company/investor)? What exactly is split (land, trees, or latex)?	

10	For each company/investor or in general, what do the villagers have to provide (land? labor?)? What does the company/investor provide (technical skills? Seedlings? Equipment?) Who pays for land tax?	
11	For each company/investor or in general, does the company/investor pay villagers for their labor? How much?	
12	For each company/investor or in general, when will the splitting happen (3 years after planting? 5 years after planting? Or after tapping?)	
13	For each company/investor or in general, do the villagers have to sell their portion of the latex to the contracting company/investor or whoever gives the highest price at the time?	
14	Do villagers plant with relatives or friends? If so what's the typical arrangement (Written contracts? Oral agreement? Borrow funds? Share technical knowledge)? If there is contract or oral agreement how is the contract or agreement written?	
15	Do villagers prefer to plant themselves, with a relative/friend, or with an investor? Why?	

* The questionnaire was used only as a guide for semi-structured interviews with villagers. Much valuable information was also collected during informal conversations.

Appendix 3 Photo Archive

The Cross-Border Market
Chain: From Luang
Namtha to
Xishuangbanna



1. Grafted seedlings

(photographed near Ban Nakkham, Sing District).



2. Young trees

(photographed in Ban Buang Phian, Namtha District)



3. Tapping trees.

(photographed in Ban Buang Phian, Namtha District)



4. Forming dried latex

(photographed in Ban Buang Phian, Namtha District).



5. Dried latex

(photographed in Ban Lormeu, Sing District).



6. Getting ready for sale across the border.

On the other side of
the border...



7. A latex collection station outside Ban Sai Nun, Mengman, minutes drive past the Pangthong-Mengman regional checkpoint.



7. A station collecting dried latex near Mengpeng State Farm



7. A roadside sign for latex collection (these signs are everywhere along main roads)



8. Bridgestone (Japanese investment) is the biggest factory in Mengpeng



8. Washed, dried, and pressed to sheets, SCR 20 *Jiabao* is born.



9. Non latex producing wood is processed for flooring, furniture etc (photographed in Mengpeng).





Typical Landscape in the Sing Valley: upland young rubber, lowland paddy, and sugarcane, (photographed near Ban Tamy, Sing District).



A typical roadside sign for opium replacement rubber plantation (photographed near Ban Kang Mai, Sing District).



Typical landscape in Xishuangbanna: Upland rubber, lowland banana plantations, and other seasonal cash crops. (photographed near Ban Pala, Mengman)



New villas, old stilts, and rubber: Ban Heli in Mengrun, 20 min motorbike ride from Ban Buakhu, Laos