



Master's thesis

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Land, livelihoods and access to resources in Laos PDR

- Large-scale land acquisitions in a dynamic context of agrarian transformation



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PREFACE

This thesis represents the concluding work of the author's Master's Degree in *Geography and Geoinformatics, with specialisation in Environment, Society and Development* at the Department of Geosciences and Natural Resource Management, University of Copenhagen.

The thesis work is part of a comparative research project entitled "*Large-scale land acquisitions in Southeast Asia: Rural transformations between global agendas and peoples' right to food*" hosted by the Centre for Development and Environment (CDE) at the University of Bern and the Graduate Institute of International and Development Studies in Geneva. The thesis is placed within the scope of the second research objective of the project on "*Impact and adaptation*". The thesis-work has been supported by the CDE, Laos-country Office, Vientiane. The study furthermore contributes to the Global Land Project and has been supported by the GLP-IPO, Copenhagen University.

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Abstract

This Master's Thesis presents a qualitative case-study of the consequences of transnational land acquisitions for local people's access to natural resources and the associated changes in land systems and livelihood strategies in the Northern Uplands in the Lao PDR. The study focuses on a local community in Nambak District, Luang Prabang Province, where a Chinese rubber company was granted a land concession for 7000ha of land in 2006. By drawing on theoretical conceptualisations of access and exclusion, the study shows how the concession company worked in close collaboration with the District authorities to access land in the selected villages, and how the subsequent implementation led to a large-scale enclosure of upland resources that these villages depended on. Building on the land system concept and on theoretical livelihood perspectives, the study then analyses the village-level consequences of the concession. Aside from the direct conversion of extensively used swidden areas to intensive rubber cultivation, the study reveals a significant negative coupling between the upland land-use conversion and the paddy component of the land system. By imposing a strict penalty scheme for damage to rubber by roaming animals, the concession company effectively prohibited villagers from continue livestock rearing. This had negative impacts on soil fertility in the paddy fields and declining paddy rice yields. In general diversification, commercialisation and increasing mobility in livelihood strategies were observed, partly in response to the changes brought by the concession, partly in response to the overall processes of agrarian transformation facilitated by state development policies and regional economic drivers. By supplementing the finding from the main case villages with evidence from the neighbouring villages, the study indicates that a high level of diversity in the experiences with the concession exist in the area, influenced by the availability of land, alternative income opportunities and road infrastructure prior to the concession. The study concludes that the analysis of resource enclosure, land use and livelihood change requires analytical attention to the full complexity of the existing land systems, and stresses the importance of place-based and context-sensitive studies.

Resumé

På baggrund af et kvalitativt casestudie undersøger dette speciale konsekvenserne af transnationale investeringer i landbrugsland for lokale befolkningers adgang til naturressourcer, samt de afledte konsekvenser for deres levebrødsstrategier og landsystemer i det nordlige højland i Laos PDR. Specialet fokuserer på konsekvenserne i et lokalsamfund i Nambak distriktet i Luang Prabang Provinsen, hvor en kinesisk gummivirksomhed i 2006 blev tildelt en landkoncession på 7000ha. Med udgangspunkt i de teoretiske conceptualiseringer af begreberne *access* og *exclusion*, klarlægger specialet hvordan den kinesiske virksomhed i tæt samarbejde med distriktsmyndighederne fik adgang til land i udvalgte landsbyer og hvordan lokalbefolkningen som resultat blev afskåret fra store dele af de højlandsarealer som de var afhængige af for fødevarer sikkerhed og indkomstgenerering. Ud fra den teoretiske ramme for forståelsen af komplekse landsystemer, samt de perspektiver der knytter sig til forståelsen af levebrødsstrategier, analyserer specialet herefter de afledte konsekvenser af gummiplantagen. Udover den direkte ændring i arealanvendelsen fra ekstensivt svedjebrug til intensiv gummidyrkning i højlandet, viser analysen en signifikant negativ kobling mellem implementeringen af gummiplantagen og produktiviteten i rismarkerne i lavlandet. Gummivirksomheden indførte ved anlæggelsen af gummiplantagen et restriktivt bødesystem for skade forårsaget af husdyr på gummiskuddene, hvilket effektivt har afholdt landsbyboerne fra at holde husdyr. Frugtbarheden i rismarkerne er efterfølgende faldet som resultat af manglende gødning fra husdyrene. Generelt blev der observeret en øget diversificering af levebrødsstrategier, kommercialisering af landbruget og øget mobilitet blandt folk i området, delvist som følge af koncessionen og delvist som følge af overordnede rurale transformationsprocesser, der understøttes af den laotiske regerings udviklingspolitik og af regionale økonomiske drivkræfter. I sammenligningen mellem landsbyer i området, viser specialet endvidere at der eksisterer en stor diversitet i landsbyernes oplevelse af konsekvenser af plantagen afhængigt af deres adgang til land, til alternative indkomstmuligheder og til infrastruktur forud for koncessionen. Specialet konkluderer således, at studier af adgang til og eksklusion fra ressourcer, samt ændringer i arealanvendelse og levebrødsstrategier kræver et specifikt analytisk fokus på hele kompleksiteten i de eksisterende landsystemer. Dette understreger samtidigt betydningen af lokalt baserede og kontekstafhængige studier.

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LIST OF ABBREVIATIONS

CDE	Centre for Development and Environment
DAFO	District Agriculture and Forestry Office
DfID	Department for International Development
DPI	District Planning and Investment office
DNRE	District Office of Natural Resources and Environment
HH	Household
GLP	Global Land Project
GoL	Government of Lao PDR
IDAs	International Development Agencies
Int.	Interview
Lao PDR	Lao People's Democratic Republic
LAK	Laotian Kip
LFAP	Land and Forest Allocation Programme
LSC	Land System Concept
NEM	New Economic Mechanism
NTFP	Non-timber Forest Product
PAFO	Provincial Agriculture and Forestry Office
PLUC	Permanent Land Use Certificate
PNRE	Provincial Office of Natural Resources and Environment
SC	Steering Committee
SIDA	Styrelsen för Internationellt Utvecklingssamarbete
SLF	Sustainable Livelihood Framework
SNIS	Swiss Network for International Studies
TABI	Tropical Agroforestry and Biodiversity Initiative
Vil. Com.	Village committee

I. INTRODUCTION AND RESEARCH OBJECTIVE

1. Introduction

During the past decade there has been a rush of transnational land acquisitions between countries around the world, where private and public entities from capital-rich countries are securing access to land and water resources in predominantly poorer developing countries in the Global South. In a world with a growing population and an associated growing demand for energy, food and other commodities the demand for farmland has intensified and the value of fertile land, forests and water resources increased (Anseeuw et al. 2012; White et al. 2012; Cotula 2012; Deininger et al. 2010, Cotula et al. 2009; GRAIN 2008). Though transnational land acquisitions are not a new phenomenon, the scale and pace with which investors are acquiring rights to land have increased rapidly since the beginning of the millennium, especially in the aftermath of the global food and financial crisis in 2007-2008 (Anseeuw et al. 2012; Deininger et al. 2010;). A recent estimate indicates that a total area amounting to 83.2 mio. hectares of agricultural land has been transferred to international investors between 2001-2010 on a global scale (Anseeuw et al. 2012). As such, the current rush for farmland gives a new dimension to the increasing competition for the Earth's limited fertile land resources and constitutes a new major driver of land-use conversion and transformation of land access and property relations countries affected, as well as on a global scale (Borras & Franco 2012; Cotula 2012; De Schutter 2011).

White et al. (2012) have argued that “*the underlying assumption [for promotion of land acquisition] is that the solution to [the] food, energy and climate ‘crises’ lies in capturing the potentials of so-called ‘marginal, empty, and available’ lands across the globe*” (p. 7). This assumption builds on the idea of the existence of an unexploited frontier with vast resource-abundance waiting to be included and integrated into national and global economies (Barney 2009; Fold & Hirsch 2009). However, it has been shown that the majority of the acquisitions take place in easily accessible areas with relatively good market access, considerable population densities and adequate water availability and soil quality (Anseeuw et al. 2012; Cotula 2012; Schönweger et al. 2012). Investors are thus often in direct competition over access to land with existing land users, in many cases poor local farming communities that hold resources under informal or common property systems. In such cases, transnational land acquisition results in large-scale land enclosures that contribute to privatising resources and exclude local farmers from accessing agricultural land, pasture and forest resources with detrimental effects for livelihood security and household vulnerabilities (Borras & Franco 2012; Cotula 2012; White et al. 2012; Hall et al. 2011).

The Lao Peoples Democratic Republic (Lao PDR or Laos), and in particular its sparsely populated Northern Uplands, has been identified as one of these resource frontier where regional and international investors are seeking access to resources which have not yet been exploited for commodity production on a large scale (Barney 2009; Fold & Hirsch 2009). Surrounded by the strong and dynamic economies of China, Vietnam and Thailand, the Lao PDR has been subject to increasing interest for its rich natural endowments to meet the growing demands for raw materials and agricultural inputs in these neighbouring economies. Currently, over 1,500 concessions and 1,100

leases have been granted to foreign and domestic investors for an area of 1.1 mio. hectares of land, of which 72 pct. is held by foreign investors (Schönweger et al. 2012). This is roughly 5 pct. of the country's total land area and more than the total area devoted to rice production (Heinimann & Messerli 2013). Transnational land acquisitions in Laos are aided by the Government's current policy for "Turning land into capital", which aims at transforming extensive land systems in rural areas into intensive and 'efficient' cash-crop and cash-tree plantations. A key component of this policy has been to concede large tracts of land on very favourable concessional terms to foreign investors willing to establish industrial plantation and invest in infrastructure in the 'unproductive' uplands (Heinimann & Messerli 2013; Lestrelin et al. 2012; Schönweger et al. 2012; Dwyer 2007). Concessions have also been viewed as a way to promote permanent employment and income opportunities to 'poor shifting cultivation farmers'.

The Northern Uplands in Laos have long been subject to government interventions aimed at changing traditional livelihood structures, controlling access to resources and integrating the ethnically diverse rural population into the wider national political economy (Lestrelin et al. 2012). Simultaneously, developments of road infrastructure, increasing market linkages both domestically and across borders and increasing mobility have rapidly transformed people's livelihood strategies, which have become increasingly diversified and pluriactive (Thongmanivong & Fujita 2006; Rigg 2005). Nevertheless, despite these general developments, the majority of rural people in northern Laos still engage in small-scale and subsistence-oriented agriculture, and they therefore depend heavily on access to agricultural lands, forest and pastures for food provision and income generation (Heinimann & Messerli 2013; Rigg 2005, 2006a). When transnational land acquisitions are implemented as concessions in Laos, the resource enclosures they entail thus have a potential to seriously affect rural people's livelihoods. The present thesis therefore aims at exploring how large-scale land concessions affect local people's access to resources and what consequences such changes have for land and livelihood systems.

The main thesis question is therefore as follows:

What are the consequences of transnational land acquisitions for local land-use and livelihood systems in the Northern Uplands of Laos, and how do the concession-induced changes relate to other on-going processes of agrarian transformation and change in rural Laos?

This comprehensive thesis question is answered through a qualitative case-study of the impacts of a Chinese rubber concession in Nambak District, Luang Prabang Province. Based on primary empirical evidence, the case study investigates the implementation and land allocation process of the rubber concession in Nambak, as well as the local level impact on the land-use and livelihood system in the villages in the area. Special attention is given to the way that the concession has changed access to land and forest resources for the local people. The case-study focuses on the consequences experienced in one main case village and results have been substantiated with evidence from the neighbouring villages.

The objectives of the thesis are threefold and a number of research questions have guided the empirical data collection and subsequent analysis:

Research objectives and research questions:	
Objective 1:	To examine the process of implementation and land allocation in relation to the Chinese rubber concession in Nambak District
	<p>How was the concession granted and the land allocated to the company?</p> <p>What were the different roles of the actors involved?</p> <p>How were villagers consulted and included in the process of land allocation?</p>
Objective 2:	To assess the village level consequences for land-use and livelihoods of the Chinese rubber concession in Nambak District
	<p>What characterises the land-use and livelihood system in the villages in the area of implementation?</p> <p>How has the concession changed land-use and livelihood systems in the villages in the area of implementation?</p> <p>How has the concession changed land relations and access to land and forest resources?</p> <p>What role has the concession had in relation to employment and income opportunities?</p> <p>What role has the concession played in relation to food security?</p> <p>How have the households in the village adapted their land-use and livelihood strategies to the changes brought by the concession?</p>
Objective 3:	To discuss how the changes in land and livelihood system brought by the Chinese rubber concession relate to other prominent change factors in the Northern Uplands of Laos
	<p>What role have Lao Government policies for rural development played in the area of implementation?</p> <p>What role has commercialisation of agriculture played in the area of implementation?</p>

1.1. Clarification of thesis questions and objectives

The following section clarifies the usage of a number of important terms and concepts.

The notion of *agrarian transformation* is understood as the processes by which economies, land-use systems and livelihoods in rural agrarian societies have been changing as a result of increasing economic and political globalisation. The term refers to a wide range of simultaneous and overlapping processes, and it is used in relation to three different themes in this thesis.

First, agrarian transformations are associated with the change in agricultural practices and land-use from traditional extensive management systems to intensive mono-crop production or industrial plantations. Such types of land-use transformations have been substantially discussed in the literature on land system science (Turner et al. 2007; Foley et al. 2005; Defries et al. 2004). Second, agrarian transformations are intimately linked to changing livelihood systems and mainly constitute shifts from subsistence oriented livelihood strategies to market oriented strategies. Such livelihood transformations are closely related to increasing diversification and commercialisation of livelihood activities, and increasing mobility among rural people (Scoones 2009; Rigg 2005, 2006b; De Haan & Zoomers 2005; Ellis 2000). Third, agrarian transformations is related to changes in land access and property relations, which is in turn associated with processes of resource enclosure, privatisation of resources and power issues of access and exclusion (Hall et al. 2011; Peluso & Lund 2011; Ribot & Peluso 2003).

The term *transnational land acquisitions* is used in discussions of the large-scale trends, drivers and outcomes of the transaction of land rights that takes place between foreign investors and host governments/communities around the world. By using the term *land acquisitions* the “receiving” end of the transactions is emphasised and the investor as an “acquirer” of access to land is highlighted. This is done in order to avoid the negative loaded term *land grabbing*, which implies an illegitimate transfer of land to an outsider, or the more positively loaded *land investments* which suggest improvement of the land in terms of economic return, environmental quality or agricultural outputs. Moreover, *transnational* is used to clarify the focus on land acquisitions involving foreign investors, as opposed to domestic acquisitions. Since the majority of the large-scale land acquisitions are granted on concessional terms in Laos the term *land concession* is used for analysis and discussion in the local context.

Concession-induced changes refer to the changes that have taken place in the villages studied and which can be empirically linked with the implementation of the concession. In turn, the *on-going processes* refer to processes of change that have a longer temporal scope or are not directly linked to the concession.

1.2. Thesis outline

Following this introduction, **Part II** presents the theoretical and geographical context that frames the overall theme of the thesis. In **Chapter 2** the different theoretical perspectives that have guided the data collection and analysis are presented, while **Chapter 3** introduces the Laotian development context, including state agendas to land and drivers of regional economic integration. The chapter also briefly introduces the study-site. **Part III** contains **Chapter 4** which outlines the methodological considerations and presents the case-study as the main method. Case selection, fieldwork approach and a short critical assessment of the reliability and validity of the study are also addressed.

Part IV then presents the results and analysis of the empirical evidence gathered during the field work. In **Chapter 5** the implementation of the rubber concession is addressed, as are the land identification and allocation processes. **Chapter 6** examines the direct and indirect consequences of the concession for the land and agricultural systems in the case villages, as well as the associated issues related to changing land availability and access. Subsequently, **Chapter 7** analyses the consequences of the concession for livelihood strategies in the case villages, mainly in relation to income generation, employment and food security.

Part V contains the discussion. In **Chapter 8** the main results are discussed in relation to the three research objectives of the thesis, while **Chapter 9** briefly addresses some key limitations to the analysis presented. Finally in **Part VI**, **Chapter 10** summarises the conclusions of the research presented in the thesis.

II. THEORETICAL AND GEOGRAPHICAL CONTEXT

2. Theoretical context

This chapter addresses the theoretical considerations of this thesis, drawing in part on classical concepts from development geography and on conceptualisations in the human-environmental strand of geography. Each approach contributes with particular insights, while supplementing the shortcomings of the others. The theoretical composite presented here does not aim to be an exhaustive account of the scholarly debates within each theory, but instead presents key elements important for the subsequent analysis and discussion.

2.1. Upland agrarian transformations

The literature on agrarian transition offers a number of relevant theoretical insights that are useful for understanding change processes in a rural context¹. In a general sense, agrarian transformations must be placed within an understanding of the dynamic processes of globalisation and global interactions, however, the specific historical conditions in a country are likewise important, as argued by Cramb (2007): “*The particular context of agrarian change matters. Responses between and within countries differ. Livelihood outcomes are not predetermined by global economic forces*” (p. 5). Hart et al. (1989) have highlighted the importance of explicitly placing “*state imperatives and the exercise of power at different levels of society*” (p. 3) at the centre of analysis of agrarian transformation. As states have different historical contexts and geographical conditions that shape their approach to programmes and policies for agrarian change and economic development in marginal rural areas, explicit attention to how they exercise power and carry out interventions becomes important (Rigg 2012; Hart et al. 1989). State interventions and policies constitute both intentional and unintentional sources of change in rural areas.

In the context of *upland* agrarian transformation emphasis has been placed on how the developing state have constructed upland areas as spheres for specific development intervention, thus shaping specific development outcomes for rural livelihoods (Cramb 2007; Li 1999; Hart et al. 1989)². The upland in this context can loosely be defined as the hilly or mountainous landscapes where dryland farming is dominant and which “*are often linked to terms such as “upriver” and “interior” to indicate not only the nature of the terrain but remoteness from coastal markets and centres of government*” (Cramb 2007: 7). The remoteness that is a basic condition inherent in this classification has resulted in the use of the term *marginal* to describe not only the ‘objective’ conditions of the areas, but also the

¹ Much of the contemporary literature on agrarian transformations builds on the classical political economic scholarship on “*the agrarian question*”. Within this scholarship, *agrarian transition* is understood as the process by which the development of surplus agrarian capital and the subsequent commodification of peasant labour facilitate the development of capitalist economies and a capitalist mode of production. Agrarian transition can consequently be defined as the necessary transformations of agriculture and the countryside for the overall development of capitalism in national social formations (Akram-Lodhi & Kay 2008, discussing the work of Engels, Kautsky and Lenin). The agrarian transition literature also relates to the notions of resource access through theoretical concepts such as resource enclosure, primitive accumulation and accumulation by dispossession (Hall et al. 2011, citing Marx and Harvey). However, a comprehensive analysis building on this framework is outside the scope of this thesis.

² All of these scholars build on empirical work in a Southeast Asian context, however, their theoretical considerations have broader scopes for research on agrarian transformations in general.

“social processes that help to reinforce, accentuate and exploit those conditions” (Cramb 2007: 8). Along the same lines, Li (1999) argues that marginality is a relational concept, which cannot simply be understood as a characteristic of environment or geography. The uplands have only been created as marginal spaces by a continued and prolonged engagement with the lowlands, and these engagements have been characterised by questions of power and state to the extent that the uplands and ‘uplanders’ have been designated as poor, backward and underdeveloped in opposition to the modern sphere of the developed lowlands (Cramb 2007; Li 1999).

As a result, the developing state and its bi- and multilateral donors have pushed for very specific sets of state interventions, e.g. large-scale land expropriation for agricultural development, land zoning and mapping or enforced resettlement schemes, aimed at bringing upland populations closer to state agendas and increase state control over upland natural resources (Hall et al. 2011; Cramb 2007; Li 1999). Such interventions are central to processes of *territorialisation* by which governments actively seek to establish control over its territory, population and resources as a way of building a coherent nation state (Peluso & Lund 2011; Rigg 2005; Vandergeest 2003; Vandergeest & Peluso 1995). Vandergeest & Peluso defines territorialisation as the process by which states “*divide their territories into complex and overlapping political and economic zones, rearrange people and resources within these units, and create regulations delineating how and by whom these areas can be used*” (Vandergeest & Peluso 1995: 387, see also Li 1999: 12). Territorialisation consequently implies drawing boundaries around people and resources, and can be applied through a range of land control mechanisms such as zoning, planning and allocations (Peluso & Lund 2011; Rigg 2005). Since the uplands historically have been the home to many ethnic minority groups, they have also had political and military unrest under both colonial and post-colonial regimes. The territorialisation projects are therefore also directly linked to a discourse of upland areas as unruly, undeveloped and marginal spaces “*in need of development*” (Li 1999: 11-12). Thus “*representations of the uplands in terms of marginality serve particular agendas, and have real effects in the shaping of uplands development*” (Li 1999: 1).

Although the above highlights the importance of government policies in shaping upland change processes, it is also important to note that agrarian transformations cannot be viewed as merely external processes imposed on rural communities and households. “*Governments [...] do not have the ability to control and shape the economy and society in anywhere close to a deterministic manner*” (Rigg 2012: 4). Rather than seeing rural people as passive victims of irresistible external forces (Cramb 2007: 6), people should be acknowledged as agents with powers to shape their own transformations in active engagement with both states and markets.

2.2. Land system concept

Understanding land systems and land system changes is central in understanding the interaction between people and their environment and the processes of agrarian transformation. The Land System Concept (LSC) is one of the central approaches to the study of land-related change in an era of

globalisation, which has been developed and applied in cross-disciplinary research in the sphere of the Global Land Project (GLP) (Reenberg et al. 2012; Lambin & Meyfroidt 2011; Turner et al. 2007; GLP 2005). Within this framework, a land system is understood as a *coupled human-environmental terrestrial system*, a subsystem of the overall Earth System, as shown by the graphic illustration in Figure 1 (GLP 2005: 3). A land system is constituted by a number of different land covers, land uses and ecosystem components, spanning the local to the global, from fields over landscapes to regional systems. The term land-cover is used to characterise the observed cover on the Earth’s surface, while land-use is determined by the functions of land units characterised by human use, activities and inputs to the natural environment (GLP 2005).

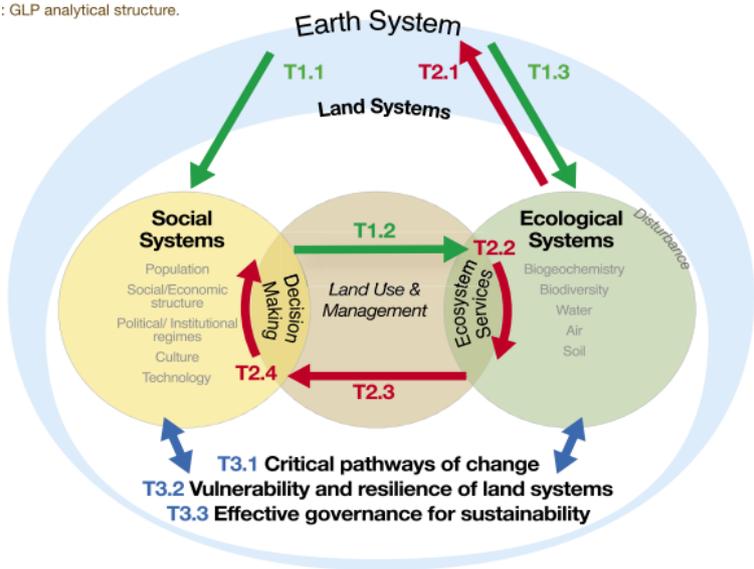


Figure 1: Global Land Project analytical diagram. Arrows illustrate the key research questions of the Global Land Project (GLP 2005: 8).

The LSC frames the understanding of land systems as complex entities that are “*driven by highly variable forcing functions and exhibit locally specific responses to the synergies between the human and environmental subsystems. All these factors emphasise the need for place-based analysis (e.g. by household, production, consumption and distribution unit, or ecosystem) to address vulnerability, resilience and sustainability*” (GLP 2005: 38). Integrated analysis of land systems therefore takes its point of departure in the human-environmental interactions around land-use and land management in specific locales. A central component of analysis is the feedbacks between human-decision making for land-use, and the functioning and response of the ecosystem. By making the inter-linkages between the different components of the system a direct object of study, the framework allows for analysis of the direct and indirect effects of human activities, land-use and management decisions on both ecosystems and social systems. In regards to this, indirect effects include the unintended or unexpected changes in one component of a land system associated with the direct land-use and management decisions in a different component.

Another key issue within the LSC is the understanding that human decision-making and actions in relations to land-use and management is embedded in a context of nested social and biophysical enabling and constraining conditions which operate across multiple scales and at multiple levels (GLP 2005; Reenberg et al. 2012). Therefore, GLP argues that the “*profound scalar dynamics in land systems, and their diverse benefits to society require multiple spatio-temporal resolutions [in analysis]*” (2005: 38). One approach to understand change in land systems, adopted in the land-use and land-cover change (LUCC) literature, is the distinction between proximate or direct causes, e.g. logging or agricultural expansion, and underlying driving forces, e.g. population growth or changing political priorities for land management (Lambin & Meyfroidt 2011; Lambin & Geist 2006; Lambin et al. 2001). However, the complexity of processes involved in shaping land change complicates these distinctions when proximate and underlying drivers interact across time and space. The overarching process of globalisation has reinforced many of these factors and further contributed to the complexity of tracking specific pathways of change in a land system (Lambin & Meyfroidt 2011). Moreover, the LSC builds on the awareness that land-use is a global issue affecting the entire Earth System in a dilemma between exploiting land based resources for human consumption and mitigating the increasing degradation of the environment and ecosystem services that humans depend on (Turner et al. 2007; Foley et al. 2005; Steffen et al. 2004; DeFries et al. 2004).

The LSC moves beyond the former understanding of land-use transitions as a linear process with successive stages of development, from pre-settlement extensive use to highly intensive industrial use of land (Foley et al. 2005; Defries et al. 2004). Instead LSC emphasises that dynamic land systems exhibit non-linear behaviour characterised by feedbacks, loops and thresholds (Reenberg et al. 2012). Understanding the critical pathways of change in land systems, the vulnerabilities and resilience inherent in land change outcomes as well as the overall sustainability of land systems in a context of effective governance is thus dependent on a dynamic and multi-scalar approach (GLP 2005).

Recently, scholars have used the emerging conceptualisations of *teleconnections* or *telecoupling* to address these cross-place and cross-scalar dynamics in land system change (Eakin et al., In press., Liu et al., In press; Seto et al. 2012)³. The notion of teleconnection describes the increasing disconnection between drivers and outcomes of land-use change. Change in urban consumption patterns in one region or country in the world might for example lead to direct changes in land use in another, seemingly unconnected, part of the world. Telecoupling, in turn, incorporates “*not only the “action at a distance” but also the feedback between social processes and land outcomes in multiple interacting systems*” (Eakin et al., In press). The outcomes of change in telecoupled land systems are often indirect, emergent or of a second or third order, because governance in the social component of the

³ In the land change science *teleconnections* have been used in studies of tropical deforestation (Cardille & Bennet 2010), of trade-relations in biomass consumption (Haberl et al. 2009), of global land use transitions in the case of soybean production (Reenberg & Fengler 2011) and of the connections between urban dynamics and land-use change (Seto et al. 2012). Haberl et al. (in press) describes teleconnections in land systems as long-distance movements of land based products, while Lambin & Meyfroidt (2011) speak of *displacement* or *leakages* of land-uses between locations in the era of globalisation.

different land-use systems is principally independent of each other (Eakin et al., In press). In the analysis of rural change facilitated by transnational land acquisitions these notions are useful for understanding the drivers, processes and outcomes of land system change working in and between distal locations.

While the LSC contributes valuable perspectives for place-based analysis of rural change in relation to land use, the livelihood concept presented in the next section adds further important insights on adaptation and vulnerability of rural people in response to external change.

2.3. Livelihood perspectives

The concept of *livelihood* and different livelihood perspectives provide important perspectives to the study of rural changes due to their cross-sectorial and cross-disciplinary focus in analysis of complex rural contexts (Scoones 2009; De Haan & Zoomers 2005; Carney 2002). The *sustainable livelihood* concept emerged and gained influence following the now widely used definition proposed by Chambers & Conway (1992) stating that: “A *livelihood* comprises of the capabilities, assets (stores, resources, claims and access) and activities required for making a living; a *livelihood* is sustainable which can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation” (Chambers & Conway 1992: 6). This definition introduces a focus on the capabilities and perspectives of poor people in relation to the links between sustainability and poverty alleviation.

Based on the sustainable livelihood concept, the UK Department for International Development (DfID), among others (See Carney 1999), promoted a *Sustainable Livelihood Framework* (SLF) for structuring practical research for development as illustrated by the schematic diagram of a livelihood presented in Figure 2 (Carney 2002; DfID 1999).

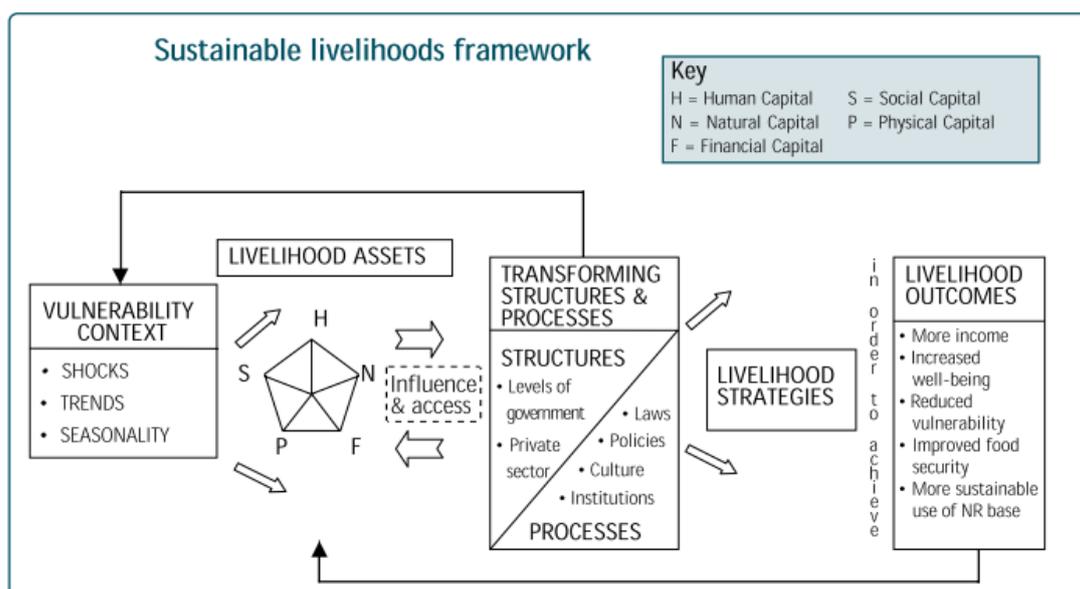


Figure 2: The schematic representation of the Sustainable Livelihood Framework (DfID 1999).

As the diagram shows, the SLF conceptualises a livelihood as composed of five forms of capital available to individuals, households or communities. The possibility to follow a certain livelihood strategy is influenced by a context where vulnerability to shocks, trends and seasonality enables opportunities and induces constraints on people choices. The vulnerability context and the livelihood assets are in turn mediated by transforming structures and processes that influence and govern aspects of access to assets, resources and activities. From these three aspects – assets, vulnerability context and transforming structures and processes – livelihood strategies are formed in order to achieve different livelihood outcomes, e.g. income generation, improvement of well-being, accumulation of assets or minimisation of risks (Scoones 2009; Barrett et al. 2001; DfID 1999; Carney 2002). Within the livelihood approach it is important to acknowledge that people’s ability to pursue certain strategies is influenced, not only by their access to resources, but also by structural conditions such as the specific socio-political, economic or environmental reality of a given context (Scoones 2009; De Haan & Zoomers 2005).

In a holistic understanding of livelihoods it is acknowledged that a livelihood goes beyond the material or economic objectives of life and incorporates aspects of non-material well-being as well (De Haan & Zoomers 2003, 2005; Bebbington 1999). Bebbington (1999) describes assets or capitals as the basis of people’s “*power to act and to reproduce, challenge or change the rules that govern the control, use and transformation of resources*” (p. 2022). Within this approach to the livelihood concept, people are agents that, though conditioned by structures and processes, nonetheless have an active role in shaping their own lives (Scoones 2009; Bebbington 1999). Additionally, livelihood perspectives “*start[s] with how different people in different places live*” (Scoones 2009: 172), and thus firmly grounds analysis in a local place-based context.

Recent work on livelihoods increasingly emphasises the importance of historical developments and contingencies for shaping people’s livelihood choices, which calls for a temporal awareness in analysis of livelihood change and adaptation (Nielsen & Reenberg 2010; Reenberg et al. 2008; De Haan & Zoomers 2005). On a large scale, processes of globalisation have changed the political and social structures that determine livelihood opportunities for millions of people around the world (Rigg 2006b; De Haan & Zoomers 2003; Ellis 2000). Changing macro-economic and political realities, long-term shifts in environmental conditions including climate change, social and demographic changes as well as an ever increasing level of connectivity and interaction spurred by developments in transportation and telecommunication, have caused rural households to diversify their livelihood strategies to an unprecedented extent, pursuing multiple activities in multiple sectors and locations (Rigg 2006b; De Haan & Zoomers 2003, 2005; Barrett et al. 2001; Ellis 2000). Livelihood diversification has been linked to the increasing number of rural people engaging in activities outside the agricultural sector, which in turn have been attributed to both push- and pull-factors depending on the conditions within which rural households have to pursue non-agricultural activities (Barrett et al. 2001). In addition, livelihood diversification have altered, and been altered by, changing social organisation, i.e. decomposition of “traditional” communities and household structures with smaller

household units and households “spread out” between different places as a result. To a large extent, the diversification trend runs parallel to an increasing level of individualisation in rural households, where especially younger household members are pursuing individual activities and goals (De Haan & Zoomers 2003, 2005; Rigg 2005, 2006b; Ellis 2000).

Livelihood perspectives therefore offer “*a unique starting point for an integrated analysis of complex, highly dynamic rural context*” (Scoones 2009: 183), bringing attention to the factors that shape differences in local people’s ability to pursue opportunities and activities, while simultaneously paying attention to the context of vulnerability and external influences that shape opportunities or constraints. In this sense, livelihood analysis contributes with valuable perspectives on how, why and under which circumstance local people can respond and adapt their strategies, and which factors increase or reduce their vulnerability to internal or external shocks, trends or seasonality.

2.4. Theorising the concept of access

When discussing land use and livelihoods the issue of *access* to resources becomes a key analytical component for understanding decision-making for land use and choices of livelihood strategies. In the SLF *access* is seen as a mediating factor between the transforming processes and structures and people’s possession of the different assets (Figure 2Figure 1), but it is not developed further theoretically. However, other work on livelihood perspectives puts the notion of access in the centre of analysis for understanding individuals’ or households’ differences in opportunities and constraints for benefitting from certain resources or activities (Ribot & Peluso 2003; Ellis 1998, 2000; Bebbington 1999). For understanding the concept of access, Ribot & Peluso (2003) have offered a widely used definition, where access is seen as “*the ability to benefit from things – including objects, persons, institutions and symbols*” (p. 153). While formal rights, e.g. property rights, generally imply some sort of socially acknowledged and supported claim to a resource, access includes all the means, processes and relations through which people can gain the benefits from resources, regardless of them being legally, politically or socially sanctioned (Ribot & Peluso 2003).

Leach et al. (1999) propose a framework for understanding how social actors’ access to resources is mediated by their associated access and interaction with institutions across different scales⁴. Here, institutions are understood in broad terms encompassing formal and informal, social, cultural and legal rules, organisations and relations, as well as the “*regularised patterns of behaviour that emerge from underlying structures or sets of ‘rules in use’*” (Leach et al. 1999: 237). Based primarily on Amartya Sen’s work in relation to food security and hunger problems in food abundant societies, social differences in access to and control over resources are explained by differences in people’s endowments and entitlements (Sen 1981 in Leach et al. 1999)⁵. These concepts draws attention to the

⁴ The framework proposed by Leach et al. (1999) is developed in relation to community based natural resource management and environmental conservation and is often referred to as the Environmental Entitlement Framework.

⁵ Leach et al. (1999) define endowments as the “*rights and resources that social actors have*” (p. 233, emphasis added), e.g. land or labour, while environmental entitlements are seen as “*alternative sets of utilities derived from*

fact that scarcity and unequal access do not necessarily imply an absolute lack of a certain resource, but rather is a result of inequality in people's opportunities to gain access to and control over resources (Leach et al. 1999, building on Sen 1981). The inequality in access is in turn to a large extent upheld and mediated by the power relations inherent in the social institutions (De Haan & Zoomers 2005; Ribot & Peluso 2003; Ellis 1998).

Recognising the inherent power relations created and upheld by institutional arrangements becomes important for understanding social patterns of exclusion and inclusion in relation to control over and use of resources specifically, and livelihood opportunities more generally (De Haan & Zoomers 2005; Leach et al. 1999). Power relations between social actors or within institutions, however, should not be seen as a static given but as a continuing negotiation process of *wielding and yielding*, because in the interactions between individuals power never completely lies with one party from the outset (De Haan & Zoomers 2005: 37, building on Villareal 1994). Outcomes of such wielding and yielding processes depend on social actors' ability to improve their relative position vis-à-vis the other. This in turn links back to the argument presented above concerning the importance of acknowledging rural people as active agents of change with inherent power to shape their own transformations.

In a specific attempt to conceptualise the powers at play in relation to land access, Hall et al. (2011) recently presented an analytical framework that directly links access to exclusion. Framed within a discussion of the shifting relations between people and land in Southeast Asia, the central idea is that "*all land use and access requires exclusion of some kind*" (Hall et al. 2011: 4). In conventional framings, exclusion is often seen either as a process in which people are evicted from their land under more or less violent circumstances, or as a condition in which large numbers of people lack access to land that is held as state or private property. Exclusion as such is an inherently negative thing, "*something imposed by the strong on the weak, something that should be opposed*" (Hall et al. 2011: 4). However, Hall et al. (2011) recognise the "double edge of exclusion" meaning that all aspirations to acquire access to land necessarily imply a wish for some degree of power to exclude other users or uses. Exclusion should not be seen as an essentially negative thing as opposed to the positive notion of inclusion, but rather as a condition countered by the idea of access. Based on Ribot & Peluso's (2003) notion of access, exclusion becomes a question of the way "*in which people are prevented from benefitting from things*" (Hall et al. 2011: 7, emphasis in original). So in this conceptualisation exclusion is broader than the notion of *enclosure*, which is generally understood as the privatisation of resources previously held in common or in informal tenure systems. Access becomes a question of how well an actor is able to apply a degree of power to exclude others from benefitting from this specific resource. Hall et al. (2011) identifies four different types of powers in relation to exclusion and access to land, namely regulation, force, market and legitimation. These powers can be employed

environmental good and services over which social actors have legitimate effective command and which are instrumental in achieving well-being" (p. 233, emphasis added). Entitlements are thus created from the possibilities that people have to use their endowments in pursuit of well-being, and in turn enhance their capabilities defined as "*what people can do or be with their entitlements*" (p. 233).

by a variety of state and private actors to establish claims for access to and control over land resources, and they operate at and across a variety of scales. These notions of access and exclusion are used as an analytical tool for understanding the process of implementation of the concession and the role of the various actors.

2.5. Theoretical framework

Each of the theoretical conceptualisations presented above contribute with specific, as well as supplementary aspects for creating a coherent understanding of themes addressed in this thesis. Rather than applying each framework in a rigid and schematic way, they have been used as the conceptual mindset for the data collection and analysis.

The concepts from the *upland agrarian transformation* perspective frame the understanding of the role of the developing state in shaping the specific historical and political context of rural transformation, land system and livelihood changes, and are used in relation to: 1) Laotian state policies and interventions for upland development; 2) the discursive approach to the uplands as spaces of marginality; and 3) the associated process of state territorialisation.

The land system concept brings attention to land systems as coupled human-environmental systems, where analysis of the complex feedback mechanisms and linkages between the social and the environmental subsystem is fundamental for understanding processes of change. This contribute to the understanding of: 1) households' land use decisions and changes in these over time; 2) the social, political and economic enabling and constraining conditions shaping these decisions, including the pattern of resource availability and access, and regional economic drivers; and 3) the feedbacks between changing land use decisions and ecosystem service provision.

The livelihood approach is a central component in the analysis of the lives of rural people in a context of vulnerability and dynamic change. In the analysis focus has been given to the following aspects: 1) the livelihood assets of villagers, mainly land and forest resources; 2) livelihood strategies, and associated processes of diversification, commercialisation and increasing mobility; 3) livelihood outcomes, mainly income generation and food security; 4) the transforming structures and processes of change. The last component mirrors the enabling and constraining conditions in the social subsystem in the land system concept. Although a holistic understanding of livelihoods calls attention to assets as more than a set of capitals, the scope of the present thesis have necessitated these analytical choices.

Finally, the concept of *access to land* is used in two regards in the analysis, using three different components of the theoretical considerations presented above. Firstly, access is used in relation to the analysis of land allocation and implementation process of the concession by focusing on: 1) access in relation to the powers of exclusion inherent in processes of changing land relations. Secondly, access is used in relation to the analysis of the changing land use decisions in the villages and the way that the concession has changed access to resources by focusing on; 2) the means by which people access land, including customary and formal institutions; and 3) the exclusion of villagers from accessing resources following the concession.

3. Geographical context

In the Laotian context, the Northern Uplands and their population of ethnic minorities have been viewed as marginal and backward places of poverty and underdevelopment by state institutions since colonial times (Barney 2009). Concurrently, the rich natural endowments and low population density (on average 27 people per km² (UNDP 2013)) of these areas have facilitated the image of an unexploited frontier where both domestic and regional economic actors have increasingly sought to capture the wealth of resources (Barney 2009; Fold & Hirsch 2009). After a brief introduction to the geography and demography of the Northern Uplands, this chapter examines the context of state policies for upland development and the developments in regional economic integration that have led to increasing trade across borders. Specific attention is given to rubber development in the North. Lastly, the study site is presented in brief. While the first parts of the chapter are based on literary sources, the study site description is mainly based on information obtained in the field.

3.1. The geography of the Northern Uplands in Laos

The Northern Uplands in Laos is comprised of the seven provinces in the North that cover approximately 60 pct. of the country's total land area (236,800km²) and include half of the rural population⁶ (UNDP 2013; World Bank 2008) (See Figure 3). The area is located in the tropical belt of the northern hemisphere with a monsoonal climate and a landscape that is characterised by rugged mountainous terrain with steep slopes and narrow river valleys (Hurni et al. 2012; Heinemann et al. 2013). The traditional land use system has been dominated by forest-based swidden agricultural systems⁷, where subsistence cultivation of upland rice has been supplemented with limited cultivation of permanent crops, gathering of forest products and livestock rearing (Heinemann et al. 2013; Fox et al. 2009; Thongmanivong & Fujita 2006; Roder 1997). On a smaller scale, people have also cultivated rain-fed or gravity-irrigated paddy rice in the flatter areas in valley bottoms or on lower terraced slopes (Hurni et al. 2012; Linnquist et al. 2007; Pandey et al. 2005). Traditionally, livelihood strategies in these areas have therefore been mainly subsistence-oriented, though Rigg (2005) points out that regional trade and flows of forest and agricultural products have taken place both within Laos and across borders for centuries.

⁶ Total population 6.4mio people (2012) with 67pct. living in rural areas in total (UNDP 2013).

⁷ Following the definition of *swidden cultivation* presented by Mertz et al. (2009: 261)

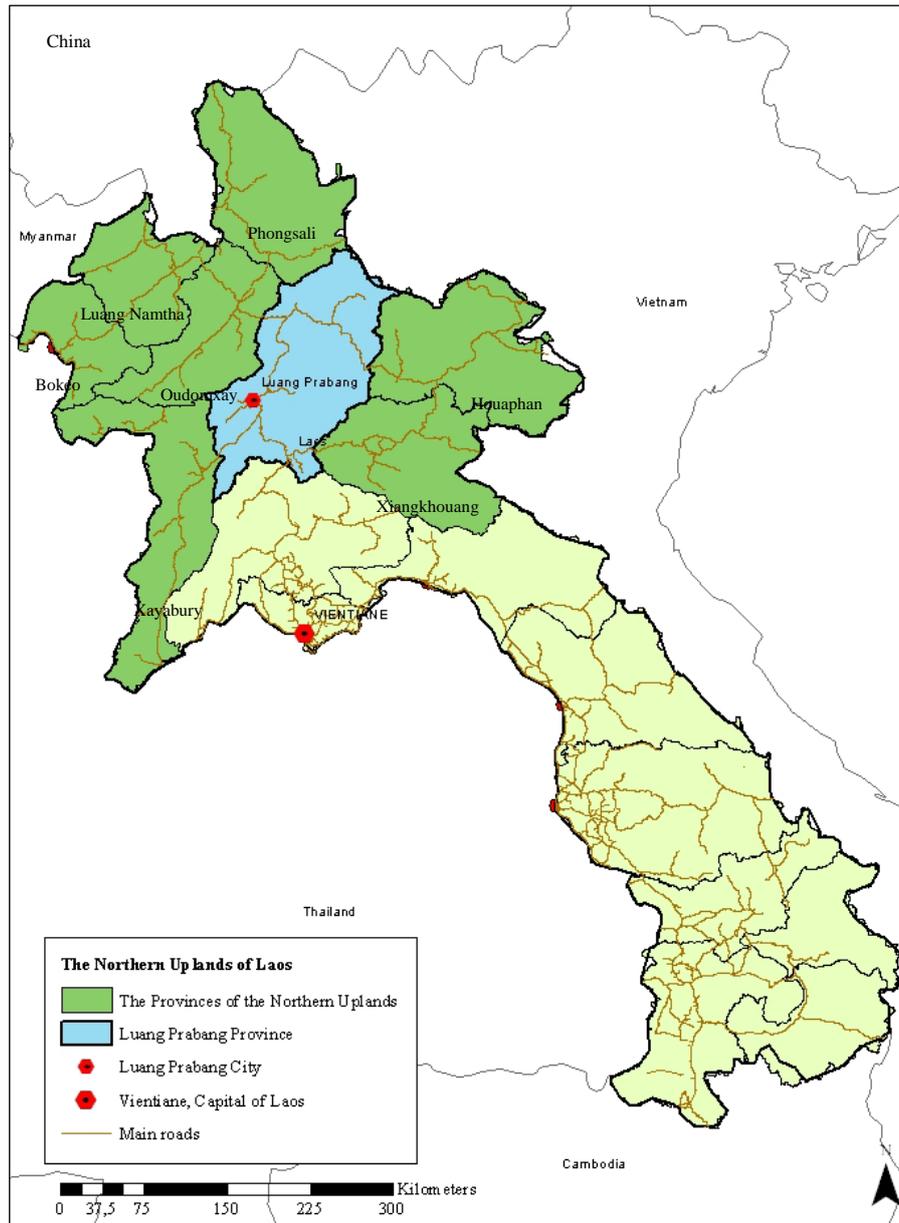


Figure 3: Map of the provinces in the Northern Uplands in Laos.

Laos is an ethnically very diverse country with 49 officially recognised ethnic groups that can be roughly divided between four main ethno-linguistic families of the Tai-Kadai (or Lao-Tai), Mon-Khmer, Hmong-Mien and Tibeto-Burman languages (Kingsada 2011; Rigg 2005). The majority of the population are Lao-Tai and have since the thirteenth century inhabited the lowlands of the fertile river plains around the Mekong River and its tributaries, where they have cultivated wetland rice in both rain-fed and irrigated systems. Later on, the different minority groups have in turn migrated to and settled in the uplands and highlands and have traditionally been swidden agriculturalists (Evrard & Goudineau 2004)⁸. Since economic and political dominance has traditionally been centred in the

⁸ A threefold classification system of the population based on settlement patterns emerged, which distinguishes between the Lao Loum, the lowland Lao mainly of Lao-Tai origin; the Lao Theung, the upland Lao mostly Mon-

lowlands and among the Lao-Tai population, they have also generally held the power within state and government structures, and this leads to a distinct geography of power (Fox et al. 2009: 308-9).

These traditional socio-ecological systems have been undergoing rapid transformations over the past decades in response to the government policies for rural upland development and increasing regional and global economic integration explored below (Heinimann et al. 2013; Thongmanivong & Fujita 2006; Rigg 2005).

3.2. State agendas in land management and rural development in the Uplands

Following the Indo-China wars⁹ and the establishment of the Lao People's Democratic Republic in 1975, the new Government of Laos (GoL) began a process of territorialising the vast geographical area of the country as well as its dispersed and ethnically diverse population with the objective of national integration and the creation of a coherent nation state (Lestrelin et al. 2012; Lund 2011; Barney 2009; Vandergeest 2003). Since the upland areas constitute strategically important economic and political spaces in the mountainous borderlands with neighbouring China, Vietnam, Thailand and Myanmar, land-use planning and land reform, as well as internal resettlement of upland communities, have been the key policy tools to gain control over upland resources and populations (Lund 2011; Barney 2009; Evrard & Goudinard 2004). Simultaneously, these policies aimed at facilitating rural development and poverty alleviation.

Table 1 provide an overview of the rural development policies by the GoL based on the comprehensive evaluation of the history of land-use planning and territorialisation in Laos by Lestrelin et al. (2012). In the 1990s, the dominant policy narrative concentrated on rapid depletion of natural resources. The shifting cultivation practices of the upland minorities were seen as a main cause of this environmental degradation and unproductive use of natural resources as well as the root cause of rural poverty. Eradicating or 'stabilising' shifting cultivation was therefore a main objective of different policies, mainly the Land and Forest Allocation Programme (LFAP). This policy included delineating village boundaries, zoning agricultural land from forest land, restricting use of different types of forest and limiting the number of upland fields available to farmers in the uplands to three or four, or even less if households had access to paddy land (Lestrelin et al. 2012; Fujita & Phanvilay 2008; World Bank 2008; Linquist et al. 2007; Ducourtieux et al. 2005). For rural poverty alleviation, Rigg (2005) argues that in the official Lao development policies the characterisation of poverty is associated with a narrative of "*lack of*", e.g. market access, infrastructure, employment opportunities or social development, to the extent where the solutions "*invariably [are] market integration and state engagement*" (Rigg 2005: 26). A prominent strategy for rural development has therefore been to resettle and consolidate small rural communities in more accessible areas or in specific "*Focal Sites*" along roads and rivers, where provision of state service is easier.

Khmer groups; and the Lao Tsong, the highland Lao mainly Hmong-Mien and Tibeto-Burman people, who were the last to migrate in to Laos in the nineteenth century (Rigg 2005: 30-32).

⁹ First Indo-China war 1946-54; Second Indo-China war 1959-75 (Lestrelin et al. 2012).

Table 1: Shifting and successive approaches to territorialisation and land-use planning by the GoL since 1975. Compilation based on Lestrelin et al. (2012: 584-590).

Period	Objective	Stakeholders	Key instrument	Context and dominant narratives	Key policies
1975 – early 1990s	Creating national identity and unity	Government of Laos (Revolutionary government)	National integration	Heavy dependence on Soviet and Vietnamese economic aid → impact when this declined	Internal resettlement of ethnic minorities New economic mechanism (1984)
	Moving people down from the hills	Socialist country aid-partners	Decentralisation of power to provincial and district governments (late 1980s)	Opening up of economy → transformation from planned to market economy	Village Relocation and Consolidation strategy (1989→) Assessment of natural resources and agro-ecological potential
	Exploiting abundant resources	Late period: “development partners”, World Bank, United Nations and other IDA’s		Agro-ecological potential as the base for socio-economic development	Tropical Forestry Action Plan (1989)
1990s	Stopping the chain of degradation	Government of Laos	Scientific expertise	Rapid depletion of natural resources	Village-scale land-zoning system with five categories of forest (1993)
	Rationalising land-use	Growing involvement of IDAs	Delineation and zoning of land use and cover	Development threatened by “chain of degradation”: Upland shifting cultivation, population growth, deforestation and increasing soil erosion	Land and Forest Allocation Programme (LFAP) (early 1990s)
	Sustainable development	International community and NGOs	Area-based approach to development	Eradication of shifting cultivation	→ Land-use and Land Allocation programme (late 1990s)
		Re-centralisation (1991)	Increasing importance of the sustainable development paradigm	National Biodiversity Conservation Areas (late 1990s) → National Protected Areas (early 2000s)	
Late 1990s to 2000s	Turning land into capital	Government of Laos	Market forces	Sustainable development paradigm continued	National titling programme (1997)
	Identifying “empty” spaces for economic development	National Land Management Authority (created in 2003)	Participatory approaches including in the late period	Neo-liberal development models	Economic land concessions policy
		International Financial Institution; World Bank; Asian Development Bank	Regulation from national level	Lao PDR viewed as a ‘resource-frontier’ with abundant natural resources, idly used and sparsely populated → identifying ‘empty’ space	Decree on “Turning land into capital” (2009) → guidelines for economic land concessions
		IDAs	Decentralisation (2004)	Need to capitalise natural resources at market conditions	Provincial land-use master plans (2010)
Private sector and capital, mainly foreign		Eradication of shifting cultivation, aggregation of small villages near roads and service provision, bringing development to upland communities and ‘civilising’ ethnic minorities	Regional land-use master plans	Participatory Land Use Planning – incl. a possibility for communal land titling (late 2000s)	
			Focus on participation in planning		

In the late 1990s the policy approach to rural development and land-use planning at state level changed focus, as the interest in and demand for the country’s vast natural resources increased from the private sector and foreign investors. Facilitated by the International Development Agencies (IDAs) and their neo-liberal focus on capitalising and privatising resources, a land titling programme was initiated for urban and peri-urban areas to create incentives for land holders to invest in market-oriented uses. Although all land is constitutionally under the authority of the state, the land tenure system formalised in the Land Law in 2003 distinguishes between state and private lands, and a series of land reforms have made it possible for villagers to obtain permanent use rights to land in rural areas, see Table 2 (Schönweger & Üllenberg 2009; Ducourtieux et al. 2005).

Table 2: Land documents available to people in Laos to establish tenure and use rights for land. Compilation based on Schönweger & Üllenberg (2009: 10-11).

Document type	Rights and content
Land Title	To use, inherit, lease, sell, mortgage, and exclude others Basis for compensation if the land is expropriated Only urban and peri-urban areas
Permanent Land Use Certificate (Land Survey Certificate)	To use, inheritance, sell and mortgage the land Basis for compensation if the land is expropriated The highest land possession document available in rural areas – referred to as the “Rural title”
Temporary Land Use Certificate	To use the land The land is being used in a permanent way Valid for three years Officially state land Not sold, mortgaged or leased No compensation
Land Tax Declaration	To use and inherit Recognised as a basis for compensation
Land Tax Receipts	Given for tax payments on a yearly basis Establishes use of a given field No rights attached to paper Not recognised for compensation

Land management policies furthermore shifted from rationalising land-uses to identifying and ‘freeing-up’ space through land zoning or classification of forest and fallows as “*production forest*” intended for capital investment. “*Turning Land into Capital*” has become the key policy instrument, and granting large-scale land concessions and leases¹⁰ that aim at converting large tracts of land to productive industrial plantations is central in these efforts. The justification narratives for granting concessions follow the same objectives as previous land-use policies, and resettlement of upland

¹⁰ Concessions and leases differ mainly in their contractual arrangements and legal status. Concessions are granted where activities are assumed to utilise natural resources more intensively and concessionaires are required to pay concession fees, royalties, tax and customs. Contrastingly, leases are assumed to be less resource-intensive and lease-holders are therefore only required to pay rental fees (Schönweger et al. 2012: 20).

communities continue to play a key role, since consolidating upland villages frees up large tracts of land for plantation projects (Lestrelin et al. 2012; La-ornngplew 2010; Hansson 2007; Dwyer 2007).

The successive stages of decentralisation, re-centralisation and decentralisation again by the GoL (see Table 1) have created a regulatory context where the particular approaches to concession development vary across and between the central, provincial and district levels (Lestrelin et al. 2012). Drawing on examples from other studies, Lestrelin et al. (2012) argue that the low level of concessions granted to Chinese companies in the far Northern provinces are related to the provincial government's preference for contract farming and smallholder investment (Dwyer 2007). Contrastingly, Vietnamese companies have been shown to negotiate concession contracts directly at the central level for concessions in the South (Baird 2010). The negotiation process and implementation of agricultural investment and plantation development depend on the particular subnational governance context, and "*hence, they greatly influence local land-use patterns*" (Lestrelin et al. 2012: 591).

In an attempt to control these processes, however, the GoL have imposed regulations on the different levels of government regarding their rights to approve concessional arrangements. Consequently, District authorities only have the right to approve concessions of up to 3ha, the Provincial authorities up to 100ha and the central government up to 10,000ha, while larger allocations have to be approved by the National Assembly (Schönweger & Üllenberg, 2009; Hanssen 2007; Schuman et al. 2006)¹¹. Since the different levels of government have not complied with these regulations, and in the wake of increasingly negative reports on the socio-economic and environmental consequences of concessions throughout the country, the Prime Minister issued a moratorium on all concessions over 100ha in 2007, which was, however, never strictly implemented (Lestrelin et al. 2012; McAllister 2012; Dwyer 2007; Hanssen 2007). The moratorium was invoked again in 2009, and most recently in June 2012 for all new foreign land concessions on mining, eucalyptus and rubber (McAllister 2012).

3.3. Regional economic integration – rubber in the North

In 1986 the Government of Laos began a process of economic reforms, the so-called New Economic Mechanisms (NEM) (See Table 1), in order to transform the country to a socialist market-oriented economy as a result of falling inflows of Soviet aid (Lestrelin et al. 2012). By the early 1990s the political tensions with the neighbouring countries had relaxed and regional borders were re-opened. Coupled with improvements of the road infrastructure and increasing market connections, trade and economic integration then slowly took off (Fox et al. 2009; Thongmanivong et al. 2009a). The overall and large-scale economic growth of Laos' neighbouring economies and their consequent increasing demand for industrial inputs has had a significant effect on investment inflows to the country. Laos' natural resources are a cornerstone in this development and cross-border trade of both crops and forest

¹¹The Lao legal system, however, contains some conflicting and inconsistent laws for attracting investment and granting concessions. For example, while the Land Law specifies the restrictions imposed on the different government levels for improving concessions, the policy for "Promotion of Foreign Investment law" in turn specifies the responsibility of the different levels to attract foreign investments of a monetary size that does not correspond to the restrictions on granting land. (Schönweger et al. 2012; Thongmanivong et al. 2009b; Fujita 2007).

products is an important part of the increasing regional economic integration (Barney 2009; Fox et al. 2009). In relation to land resources, Schönweger et al. (2012) recently showed that the number of acquisitions had increased fiftyfold between 2000 and 2009 with China, Vietnam and Thailand as the primary investing countries holding 53 pct. of the land under concessions most of which fall into the primary sectors of agriculture, forestry and mining¹². On a smaller scale individual businessmen and traders have been promoting a range of cash-crops for production in loose contractual arrangements or by simply establishing a market for particular products, which have also influenced the widespread commercialisation of small-scale agricultural production.

In the Northern Uplands these foreign investments have particularly been focused on production of natural rubber, and there has been a considerable expansion of rubber cultivation since the mid-1990s. This expansion has primarily been driven by Chinese investors. China is currently the world's largest consumer of natural rubber¹³ and due to increasing land constraints it is estimated that domestic Chinese production will only be able to supply a third of the needed natural rubber by 2020 (Fox & Castella 2013; Hicks et al. 2009; Mann 2009; Manivong & Cramb 2008; Shi 2008). An additional driver for this expansion has been the Chinese government's efforts to eradicate cross-border opium trade by providing loans to Chinese businesses investing in agricultural or forestry projects in Laos and Myanmar to replace opium production among smallholders (Fox et al. 2009; Hicks et al. 2009; Mann 2009; Thongmanivong et al. 2009a).

The first rubber production in the North, in Luang Namtha Province, was introduced by villagers with cross-border family ties and small-scale investors. However as the rubber boom took off, larger companies increasingly sought concessional contracts to plant rubber. In Luang Prabang, the location for the present study, rubber planting started around 2003, when two Chinese and two Laotian companies were granted concessionary rights to plant rubber on a total of 17,000ha (Fujita 2007). This considerable expansion of rubber cultivation has played a significant role in the regional economic integration between the Northern Uplands and the southern Chinese provinces, and in turn heavily influenced the transformation of upland swidden agro-forestry systems on a larger scale.

3.4. Study site: Nambak District

The present study was carried out in Nambak District, Luang Prabang Province, which is located approximately two hours' drive by car from Luang Prabang city in the North-eastern part of the Province on a recently paved road. The landscape in Nambak is characterised by hilly uplands and river valleys with some limestone formations and elevations ranging from 300 to around 1,000m

¹² Schönweger et al. (2012) show, that while 65pct. of the total number of state land leases and concessions in Laos are granted to domestic investors, foreign investors hold 72pct. of the total land area under investment (1.1mio hectares). Vietnamese investors together hold the largest area covering 307,169ha (28 pct.), Chinese the second largest 199,015ha (18 pct.) and Thai investors follow with 73,637ha (7 pct.).

¹³ On a global scale the demand for natural rubber has been growing steadily with an average rate of 5.8 pct. per year over the past century and is expected to continue to rise in coming decades. The consumption of rubber is made up of around 57 pct. synthetic rubber and 43 pct. natural rubber. Natural rubber is cheaper and superior in quality for high-stress purposes, e.g. truck or jet tires, and expansion of the area of natural rubber cultivation is therefore crucial to meet future demands (Fox & Castella 2013: 158-159; Mann 2009).

above sea level. The Provincial policy for development in Nambak was identified as tree crop plantations and small-scale industry; the latter mainly targeted the semi-urban areas along the main road (Head of DPI, Int., 16.10.2012).

The fieldwork took place in the two northernmost village clusters of the District, Na Nhang and Nhamdouan, each comprising of nine administrative villages identified by district officials as the main target area for rubber concession development (See Figure 4). Distance and accessibility to the villages varied significantly with fairly good road conditions in the lower valley areas, while the more remote villages are only reachable by car or motorbike in the dry season on small manually dug roads or narrow paths.

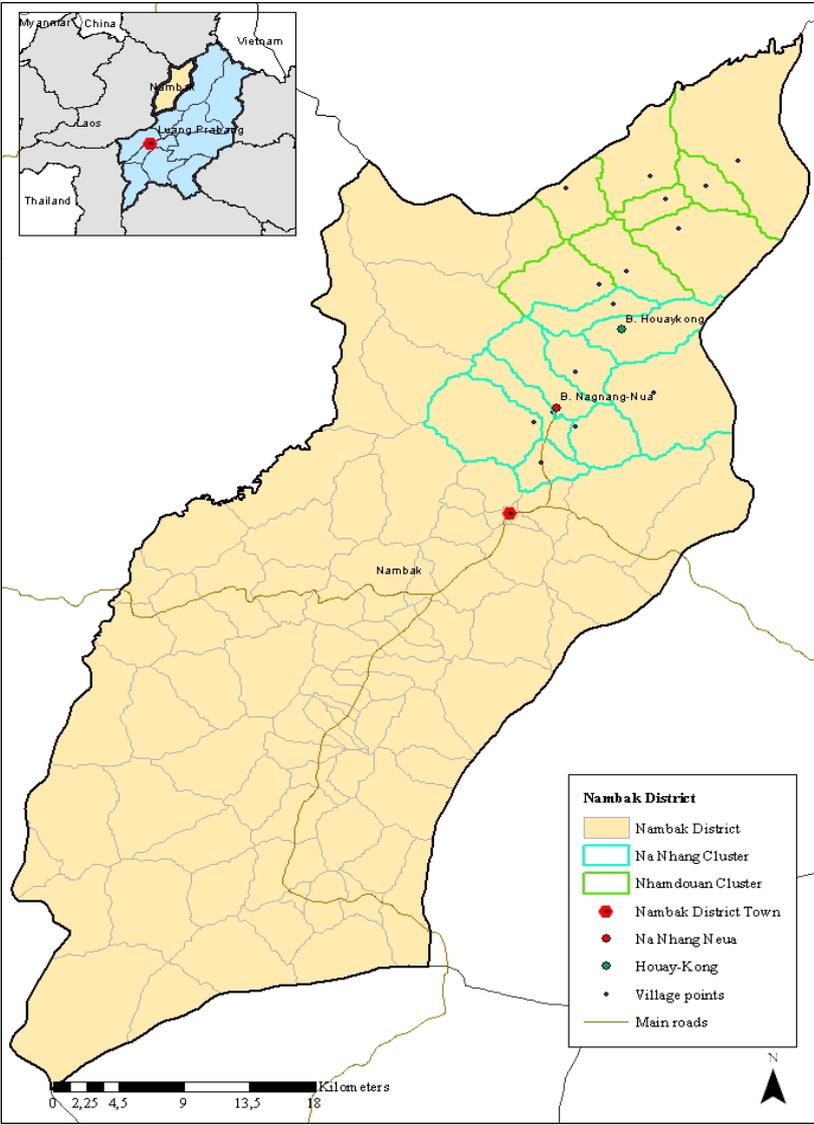


Figure 4: Map of Nambak District and the two clusters, where the Sino Company is working.

The villages in the area can roughly be divided into two main categories. The villages in the lower lying valley areas, where the majority of the population is ethnic Lue have traditionally based their

livelihood strategies on a mixed farming system of integrated upland-lowland cultivation combined with livestock rearing, in what Devendra & Thomas (2002) term a multi-purpose livestock farming system. The more remote upland villages mainly occupied by Khmu or Hmong people base their livelihood strategies on upland swidden rice cultivation, combined with a range of annual and perennial cash-crops as well as livestock rearing. However, some of the villages are occupied by more than one ethnic group and the boundaries between the main livelihood and land-use systems are not completely strict¹⁴.

The primary case village, *Ban Na Nhang Neua*, is a small community with a population of 663 people, including 354 women, in 170 households (HH)¹⁵. The village was established around 80 years ago by 13 families with origin in China and continuously moving further south into Laos during a period of 400 years. Over the years several groups of households have moved out from Na Nhang Neua to establish new villages in the surrounding area closer to existing fields or into new locations when land became too scarce. The majority of the population are ethnic Lue-people with a small minority of 18 Khmu households that have moved to or been resettled to the village by the government since 2006 (Naiban Int., 16.10.2012). The village is located in a valley bottom with paddy land stretching out in a narrow band along the main river running through the area, while the surrounding hills rise on both sides of the flat patch of paddy land, see Figure 5. It is located around 11km from Nambak District Town and has been connected to the main road since the beginning of the 1990s, when the government built a road through a SIDA funded project.



Figure 5. View of the paddy land and upland hills taken from the built-up area in Na Nhang Neua. The hills in the background contain a lot of smallholder and contract farming plots of rubber. The women are planting tobacco in the paddy land after harvesting rice (Source: Author's own picture).

¹⁴ The Lue people belong to a sub-group of the Lao-Tai; the Khmu are a subgroup of the Mon-Khmer; and the Hmong a subgroup of the Hmong-Mien ethno-linguistic families (Kingsada 2011; Rigg 2005).

¹⁵ The Lao word for village is *Ban*.

Furthermore, the village has recently been selected as a site for “*focus-development*” by the district. Its position as focus-development village involves plans to build a new market square as well as promotion of local business development including ecotourism and guest-house development.

The second case-village, *Ban Houay-Kong*, is located 20km from Nambak District town, where the gravel road was connected around 1992. The landscape surrounding Houay-Kong is characterised by upland hills and steep sandstone formations, and only a few small patches of land flat enough for paddy fields to be established (See Figure 6). The village is slightly bigger than Na Nhang Neua with a total population of around 955¹⁶, including 478 women, in 180HH, all of Khmu ethnicity. The village was established in its current location by households moving out from the neighbouring Na Mai when land became too scarce, and over the years the village has grown in size when people have moved in from the uplands either voluntarily to get closer to infrastructures and services, or forced by government resettlement (Naiban Int., 17.10.2012). The population was to a greater extent than in Na Nhang Neua made up by people settling in the village at different points in time.



Figure 6: View of the upland gardens behind the village built-up area in Houay-Kong. The arrow indicates a rubber garden. The mountains in the background designated the boundary to the neighbouring villagers (Source: Author’s own picture).

¹⁶ The Naiban did not give any precise information about the total number of people in the village. This number quoted here is taken from the National Statistics Department of the Government of Laos from 2009 (Source: <http://www.nsc.gov.la/>, made available by the CDE Laos country office, not available in English).

III. METHODOLOGY

4. Methodological considerations

In the following chapter the methodological considerations regarding the empirical data collection and the subsequent data analysis are described.

4.1. Intensive research and case-study approach

The research carried out in this thesis can mainly be characterised as *intensive research* in accordance with a critical realist approach to social science (Sayer 2010; Yeung 1997; Pratt 1995). Intensive research is focused on explaining *how* and *why* certain events or change processes happen, and which kind of causal structures and mechanisms that produce them, as opposed to extensive research that aims at describing and explaining common properties and generalities of wider populations (Sayer 2010: 242).

By combining concrete and abstract research elements, intensive research addresses the study of complex systems in a comprehensive way (Sayer 2010: 85-88, 116). In the present study, the particular events and circumstances surrounding the implementation of the rubber concession and its impact on livelihood and land use systems form the centre of the concrete research carried out. Abstractions have been carried out throughout the entire research process; before the fieldwork, where theoretical concepts and previous studies were used to prepare the empirical data collection; during the fieldwork, through an iterative and explorative approach to the data collection involving continued revision of questions based on the information obtained; and after the fieldwork, where the collected data were analysed and discussed based on theoretical conceptual frameworks to arrive at the most plausible conclusions on the causal powers and structures at work. The intensive research methodology has been chosen because it combines research elements in “*an iterative process of abstracting theories based on an immanent critique and the grounding of abstraction in concrete data*” (Yeung 1997: 63).

Since the focus is on examining concrete changes in a village, as well as the causal processes and structures underpinning them, an empirical case-study approach was chosen as the main research method. Case studies are particularly appropriate in situations where the subject of the study needs to be investigated in its real-life context, and especially when the boundaries between the subject and its context are not easily established (Yin 2003; 1981). The present case study can therefore be characterised as a causal case (Yin 2003), in the sense that it aims at explaining the causal links between the concession and the village-level change to livelihoods and land-use strategies (Yin 2003). At the same time, the chosen case is instrumental, because it can provide insights into the broader issues of consequences of large-scale land acquisitions and agrarian change in rural Laos (Stake 1994: 237).

The **unit of analysis** of the case-study is the *village* (Lao: *Ban*), and the village has been the main setting for the empirical data collection. However, the household has been an **embedded** unit of analysis, based on Yin’s categorisation of case-study designs (2003: 39-46). By household is

understood the people that share and benefit from the same food production and income while living in the same house. In the fieldwork this definition was applied, so that all unmarried children, all married children and their spouses and children living at home, as well as unmarried children living away from home, but coming to stay regularly were included in the household. It is recognised that the literature on livelihood diversification and individualisation have pointed out that the household is seldom a cohesive economic entity working for and with the same goals and aspirations in a reciprocal unit of productive and reproductive activities (e.g. Behrman et al. 2012; Rigg 2006b; Ellis 2000). However, it was outside the scope of the present study to include data collection and analysis of disaggregated household data, though it is acknowledged that such analysis could invariably contribute to increase the understanding obtained.

By choosing the household as an embedded unit of analysis for the case-study, it is believed that the analysis and conclusions on livelihood and land-use system change at village level can be substantiated and deepened.

Research affiliation

The thesis is part of a comparative research project (the SNIS-project)¹⁷ hosted by the Centre for Development and Environment (CDE) at the University of Bern and the Graduate Institute of International and Development studies in Geneva which aims at investigating large-scale land acquisitions in Laos and Cambodia. The SNIS-project is investigating the following three distinct objectives: 1) the processes and implementation of concessions; 2) the local level impact and adaptation; and 3) the human rights and legal mechanisms. This thesis is part of the second SNIS-research objective, which has been the main focus of the data collection. However due to the close practical connection with the overall SNIS-project, the thesis is also influenced by the first and third SNIS-objectives, which resulted in the inclusion of the first objective concerning the implementation of the Chinese rubber concession in the present study as well.

In practical terms, I was working out of the CDE's project office in Vientiane during the fieldwork in Laos. Before, during and after the actual fieldwork, periods of preparations, discussions and modification of research approach and methodology were done in collaboration and coordination with CDE colleagues. I obtained my formal research permit through one of CDE's other projects in Luang Prabang, the Tropical Agroforestry and Biodiversity Initiative (TABI), when the formal SNIS-research permit was delayed. This project and their staff provided me with a base to work from in Luang Prabang and helped me with the necessary documents to approach the district authorities, as well as organising interviews at the provincial level. The TABI-project is hosted by the Provincial Agriculture and Forestry Office (PAFO)¹⁸, so following formal Laotian procedures, my work became based within this Department and its District Office. Moreover, because the TABI-project carries out agricultural

¹⁷ The project is formally entitled: *Large-scale land acquisitions in Southeast Asia: Rural transformations between global agendas and peoples' right to food*, and is supported by the Swiss Network for International Studies (SNIS), thus referred to as "the SNIS-project" among participants.

¹⁸ The provincial subdivision of the Ministry of Agriculture and Forestry (MAF).

extension projects in districts throughout Luang Prabang, local officials held it in high esteem and my affiliation with this project helped smooth relations with district authorities.

Case selection

In general, the SNIS-project criteria informed the selection of company and province for the present study (see Appendix 1). After choosing Luang Prabang Province as field location, a week was spent visiting and interviewing district authorities and selecting villages in two districts, where two different Chinese companies operated. These exploratory visits aimed at getting some first-hand knowledge and impressions of the concession companies, the implementation process and status, and the experiences of different villages. The information obtained on the Sino-Lao Chilan Rubber Development Company (henceforth, the Sino Company) in Nambak District revealed interesting aspects in the diversity of experiences in the surveyed villages, and this company was hence selected as the case for this thesis. Practical considerations such as accessibility and the general hospitability and willingness to endorse my work by the District Agricultural and Forestry Office (DAFO) staff in Nambak also played a role in the case selection.

During the visit to Nambak, semi-structured interviews with the village headmen (Lao: *Naiban*) of six villages, where the Sino Company was working, were conducted¹⁹. These interviews of 1-1½ hours formed the basis for selecting the main and secondary case-villages. The case-villages were selected so that they were representative of the two different types of villages identified in the case area in relation to land-use and livelihood systems, as described in Section 3.4, and the two case-villages chosen therefore differ in relation to ethnic composition, accessibility and main land system. In order to substantiate the evidence gathered in these villages and the first six villages visited, an additional six villages were visited and their respective Naibans interviewed (See Table 3 for the themes covered). Though visits to the most remote villages in the area were attempted several times during the fieldwork, the road and weather conditions prohibited these visits each time.

4.2. Collecting information in the field

The empirical data collection was carried out in Laos from September to December 2012, with six weeks of fieldwork in Luang Prabang between October and December 2012. A total of three weeks was spent in the primary case village and one week was spent in the secondary with periods for interviews at provincial and district level in between (see Appendix 2 for a detailed schedule of the activities carried out).

Table 3 presents an overview of the methods applied to collect information in the field including the thematic and temporal coverage of the data gathered. Though the case-study is primarily intensive and qualitative in its methodological approach, it also includes elements normally attributed to extensive research, such as a structured household interview-survey with closed questions and quantifiable

¹⁹ These six villages were chosen for exploration visits based on pre-received information about the concession. This information was provided by the CDE Laos, and was based on their work on a concession inventory (see Schönweger et al. 2012).

variables (See Appendix 3 for the questionnaire template). The interview survey, however, also included open-ended questions on the respondents' perceptions and positions, and though carried out in a structured manner included a semi-structured interview approach when following up information on open-ended questions. All other interviews were carried out using a semi-structured format making it possible for the conversation to flow naturally from the predetermined themes, while allowing for unexpected turns and subjects to be followed (See Table 3 for the themes covered) (Kvale 2004). A number of group interviews were also carried out with both village authorities and 'normal' farmers in both villages.

4.3. Selecting respondents in the field

For the selection of respondents in the field, the **gatekeeper approach** became essential at all levels during the fieldwork (Kitchen & Tate 2000: 39). For the household interview-survey a stratified wealth-based sampling strategy was also applied, as described below.

Informant interviews with authorities

Since the research depended on the formal research permit and letter of approval from the PAFO in Luang Prabang, the TABI-staff and the staff at DAFO Nambak played essential roles in setting up interviews at the provincial and district level. Through discussions with my CDE colleagues, the four departments and their district-subdivisions listed in Table 3 were selected as the relevant authorities for key informant interviews. In accordance with the research objectives and the aims of each interview, principal policy officers were sought out rather than lower level technical staff. However, due to the level of top-down bureaucratic control in Lao ministries and departments, and due to the lack of intimate knowledge of each of the organisations and their officers, the actual respondents for interviews were chosen by the department themselves. An element of contingency was therefore introduced in the selection of informants. However, since the focus of the interviews was on the policies, practices and responsibilities of the departments and offices rather than the individual official's role and positions in relation to land concessions, the interviews still provided relevant insights and information to inform the research objective.

Selecting informants in the village

For 'entering' the village, the DAFO office became a key player. Upon arrival in Nambak, the Head of DAFO provided me with a letter of introduction to present to village authorities, a DAFO-officer was assigned to me²⁰, and my stay was endorsed by both the District Governor and the police office. Without these formal documents, research in the village would not have been permitted. The Naibans and their deputies in the two case-villages subsequently came to function as gatekeepers in the villages, and arrangements of all 'formal' activities, including household interviews relied on them. However, as both villagers and district officers got to know me and the purpose of my research, the top-down control of my activities became less strict.

²⁰ Four different district officials helped us throughout the whole period.

Table 3: Overview of methods applied during field work, including thematic and temporal coverage

Methods	Informants	Thematic coverage	Temporal coverage
Provincial level			
Informant interviews	Prov. Office of Planning and Investment	Process and implementation of land concession	Contemporary issues
	Prov. Agriculture and Forest Office (PAFO)	Role of the provincial authorities in relation to land concessions	
	Prov. Office of Natural Resources and Environment (PNRE)	Main positive and negative consequences of land concessions	Past 10 years
	Dept. Rural Development and Poverty Alleviation	Rural development policy	
4 interviews conducted with senior officials or technical staff			
Informant interviews	Sino-Lao Chilan Rubber Development Company Chairman of the Company	Process and implementation of land concession Company experience with Laotian government	Contemporary issues Past 10 years
District level			
Informant interviews	Distr. Governor's Office	Process and implementation of land concession	Contemporary issues
	Distr. Planning and Investment Office (DPI)	Role of the district authorities in relation to land concessions	
	Distr. Agriculture and Forest Office (DAFO)	Main positive and negative consequences of land concessions	Past 10 years
	Distr. Office of Natural Resources and Environment (DNRE)	Rural development and poverty reduction	
	Distr. Office of Rural Development and Poverty Alleviation		
	Economics Office		
Education Office			
9 interviews conducted with senior office staff			
Village level			
Village survey	Village headman or village deputy headman	Village characteristics	Contemporary issues
	9 villages visited in cluster 1 (out of 9)	Main livelihood strategies	
	4 villages visited in cluster 2 (out of 8)	Concession and rubber development	Past 10 years
Semi-structured interviews		Implementation process and allocation Main positive and negative consequences of the concession	

Village level (Cont.)			
Household survey	<p>Heads of households and/or their wives Selected based on wealth stratification <i>Na Nhang Neua</i>: 36 households (out of 168) <i>Houay-Kong</i>: 11 households (out of 180)</p>	<p>Part 1: Respondent and household characteristics Part 2: Livelihood strategies Activities, income sources and expenditures, changes over time Land assets and agricultural practice, changes over time Food security, rice yields and variations Part 3: Concession Implementation and rubber cultivation Participation in decision-making process Consequences of the concession; rubber cultivation, rice, income, environmental factors</p>	<p>Contemporary issues Past 10 years</p>
Group interviews	<p>Members of village committee <i>Na Nhang Neua</i>: 3 sessions <i>Houay-Kong</i>: 1 session</p>	<p>Village history and development Past and present land-use and agricultural practices Impact of the land concession on land-use and agricultural practice</p>	<p>Contemporary issues Past 50 years</p>
Resource mapping session	<p>Members of village committee <i>Na Nhang Neua</i>: 2 sessions <i>Houay-Kong</i>: 1 session</p>	<p>Village resources, access, distribution and uses Location and impact of land concession</p>	<p>Contemporary issues</p>
Group interviews	<p><i>Na Nhang Neua</i>: 3 sessions (Lowland farmers; smallholders; contract farmers) <i>Houay-Kong</i>: 2 sessions (Upland farmers; lowland farmers)</p>	<p>Agricultural practices for main crops Men's and women's tasks Changes induced by concession Reasons for engagement in smallholder vs. contract farming</p>	<p>Contemporary issues Past 10 years</p>
Participant observation, village walks and informal conversations	<p><i>Na Nhang Neua</i>: 3 weeks fieldwork Wife of Naiban Head of Provincial Natural Resources and Environment Department <i>Houay-Kong</i>: 1 week fieldwork Tax collection staff</p>	<p>Agricultural practices Land access and use Livelihood diversification</p>	<p>Contemporary issues</p>

In the case-villages, village authorities were selected for group interviews concerning village history, experience with the concession and mappings of the land-use and concession area. However, in order to triangulate the information obtained from the village leadership, land-use changes, allocation and the implementation of the concession was also discussed in group interviews with ‘ordinary’ farmers and informally with other villagers throughout the fieldwork.

Selecting respondents for the household survey

For the household survey in Na Nhang Neua respondents were selected based on a threefold wealth-stratification sampling (Parfitt 2005: 91-92). Since no reliable and complete list of households existed in the villages that could be used as a sampling frame, the selection of respondents was based on the Naiban’s intimate knowledge of all the households and their current wealth position. In practice the Naiban was asked to describe the typical characteristics of households in a ‘wealthy’, ‘average’ and ‘poor’ household, and to assess the number of households in the village in each category, see Table 4.

As can be seen in Table 4, the Naiban in Na Nhang Neua classifies wealth based on households’ paddy land assets, type of house and income activities. However, he was somewhat reluctant to describe the differences between the ‘wealthy’ and ‘average’ households, stating that most households were “*just normal farmers*” and that the few ‘wealthy’ household “*just have a little more*” (Int., Naiban in Na Nhang Neua 24.10.2012). The main distinguishing factor seemed to be the amount of paddy land owned, and the ability to pursue business opportunities outside agriculture. From other villagers it was indicated, that the Naiban’s household was one of the wealthy ones, which might explain his reluctance to go into further details. An attempt was made to further subdivide the pool of ‘average’ households, but this turned out to be too difficult, since the idea of ‘upper’ and ‘lower’ ‘average’ households seemed strange to the locals. ‘Poor’ households were characterised as ones with no or very limited land assets, paddy as well as swidden, and without permanent houses. Though this approach to wealth-classification has certain limitations, especially in regards to the bias introduced by having the local village leader classify households, it functioned as a fairly adequate sampling frame for the household survey, and an approximately proportional sample of households were interviewed from each wealth-stratum.

Table 4: Wealth categories as described by the Naiban in Na Nhang Neua, including indicators specifying characteristics of households in each category and estimates of the numbers of households in each category.

Wealth category	Indicators	No. households
'Wealthy'	A lot of paddy land Big permanent brick house Own business or shop	Very few
'Average'	Paddy land Permanent house, brick or traditional wood house Farmers; rice, tobacco, cash crops and some livestock	The majority of households 'Normal families'
'Poor'	No paddy land, only small upland field (borrowed/rented) Small house (bamboo) Have to work for other villagers All are ethnic Khmu households recently settled in village	15 households

For each household interview the head of household, most frequently male but in two instances female, was targeted as respondent. However, if unavailable due to other engagements, interviews were carried out with the wife of the household. Table 5 shows the number of households interviewed in each wealth-class as well as their ethnicity. A total of 36 household interviews were carried out including one 'wealthy', thirty 'average' and five 'poor'. The majority of the 'average' households were of Lue ethnicity with only two 'average' Khmu households, while four of the five 'poor' households were ethnic Khmu with only a single ethnic Lue. Common for all the Khmu households, 'average' or 'poor', was the fact that they had recently settled in the village either on their own initiative or as part of the government resettling programmes. All of the Lue households had been settled in the village their entire life. The single 'wealthy' household was notably different from the others and owned a brick factory in the village employing 15 workers on a daily basis. Due to the very small sample size of 'wealthy' households, coupled with the difficulties in the definition of the 'wealthy' category, this interview has been excluded from the analysis in Part IV. The total sample size for the analysis conducted is thus 35 households (See Appendix 4 for a list of all households interviewed).

Table 5: Characteristics of households in the interview-survey in Na Nhang Neua and Houay-Kong.

Ethnicity	Wealth category			Total
	'Wealthy'	'Average'	'Poor'	
Lao Leu	1	28	1	30
Khmu	0	2	4	6
Total	1	30	5	36

In the second case-village, Houay-Kong, the same approach to household classification and selection of respondents were attempted. Here, though, the wealth classification was even more difficult, since the Naiban initially rejected the existence of any real difference in wealth in the village. When asked to explain, he argued that what distinguished households were their labour availability and their willingness to work hard in the fields. The Deputy Naiban however, indicated that households could be classified as 'average' or 'poor' based on criteria similar to those put up by the Naiban in Na Nhang Neua, however giving no estimates on the number of households in each category. Furthermore, the first households interviewed in this village were all current or former members of the village committee, and in practice I therefore had to explicitly ask to talk with someone not part of the village authority. In addition the short duration of the fieldwork in Houay-Kong imposed a time restriction on the number of household interviews possibly obtained, and it was therefore only possible to interview 11 households. All interviewed households were ethnic Khmu with eight 'average' and three 'poor' households based on the Deputy Naiban's assessment.

4.4. Data analysis

In the province and district, interviews were audio-recorded in the field and subsequently transcribed. However, on three occasions, including the interview with the Chairman of the Sino Company, the respondents refused to be recorded and notes were taken during the interview and subsequently typed.

The household interviews have been analysed using both quantitative and qualitative techniques. The quantifiable variables have been analysed by descriptive statistics in Microsoft Excel, while open-ended questions have been typed and subsequently analysed based on the themes presented in the research questions. No recordings were made of the interviews in the villages, mainly due to language barriers. Instead answers were carefully recorded in writing. The quotes presented in the analysis are therefore my notes of the translation of respondents' answers. The twelve village-survey interviews have been coded based on the themes covered in the interviews (see Table 3 for themes covered and Appendix 5 for the result).

The analysis of the changes in income generation, employment and food production in relation to the concession is mainly based on the 30 interviews with 'average' households, since four of the five 'poor' households were not living in the village before the concession arrived.

4.5. Scale considerations

The problems addressed in this thesis cover multiple spatial, institutional and temporal scales, making it a complex affair to investigate and analyse. As Cash et al. (2006) highlight, research on human-environmental relations, including the ones addressed here, is often challenged by confusion surrounding scale issues. The main challenges include researchers ignoring, mismatching or using a plurality of scales when analysing human-environmental issues. Furthermore, Lebel et al. (2005) point out, that choices of scale in analysis, research and development work are surrounded by issues of politics and thus become a process of inclusion and exclusion of certain places, spaces and actors. It is therefore important to be explicit in choice of scale and level.

At the spatial scale, the village and household levels have been the main empirical focus of analysis. The District level has been included insofar as it is important for understanding the concession implementation process. Although the national and regional development context is outside the empirical scope of the present study, the context chapter presented the main issues framing the discussion of concession-induced change at the local level in Laos. The introduction briefly addressed the general debates concerning the global rush for agricultural land, forest and water resources. However, a deeper analysis of the structures, causes and drivers of transnational land acquisitions in Laos at the supra-national to global level is outside the scope of the thesis.

When investigating change and transformation, the temporal scale for the empirical and analytical work becomes important. The implementation time for the concession has been the reference point for the data collection. Yet, as Li (1999) argues in the introduction to her book on upland transformations in Indonesia: *“Transformations (past or present) cannot be viewed in terms of the familiar impact myth, which proposes that all was quiet before change arrived”* (Li 1999: xviii). Therefore, in order to minimise the risk of over-emphasising the concession as the main driver of change and transformation in the case villages, attempts were made to investigate a longer period of time in relation to other processes of change that might influence the livelihood and land-use outcomes. Since the concession was implemented in 2006 (6 years before the fieldwork), a timeframe of 10 years was chosen for the household questionnaire survey to minimise the bias inherent in using the concession as the main temporal reference point. Furthermore, village histories and engagement with other development policies were investigated in group interviews with village authorities. In this way, I have attempted to *“put aside the view that the analysis of change requires the identification of some starting point, and instead look[ed] at the way change is encountered at the local level”* (Rigg 2005: 15).

4.6. Reflections on reliability

According to Yin (2003: 37), reliability in case-studies depends on whether another researcher, by following the same methods and procedures, could repeat the case-study and arrive at the same results. However, as argued by Sayer (2010), research in complex and dynamic social systems cannot be subject to this form of “reliability testing”. This is due to the fact that social systems are open and subject to continuous temporal and spatial change (Sayer 2010: 122-124). Instead, reliability in intensive research on social systems comes from applying methods, arguments and analysis rigorously and consistently so that errors and biases are minimised. Hence, the research methodology must be presented transparently for others to scrutinize and evaluate.

Sources of uncertainty

No matter how carefully and consciously one carries out research, however, a number of limitations and uncertainties are unavoidably faced especially in the fieldwork process. In the present study these are particularly linked to issues of language and culture, my role as a foreign researcher and time constraints.

For all interviews and discussions I relied on translations and help from a research assistant²¹. Speaking with people through an interpreter inevitably hinders the natural flow of conversation and the language barrier therefore contributed to the choice of a structured interview-format for the household survey. This allowed for familiarisation with the questionnaire and secured a comparable approach in all interviewed households. The language barrier had a further dimension in Houay-Kong, where the people belonged to a different ethnic group from my interpreter, who did not speak the local language. Due to this added dimension of the language barrier, the Naiban or Deputy Naiban accompanied us to the interviews and sometimes assisted in translation. This added level of interpretation introduces another potential source of bias, as the presence of the Naiban might also have influenced some respondents' answers on some of the more sensitive issues.

My interpreter was a valuable asset in terms of field assistance and translation, due to her previous experience in fieldwork with Western researchers on similar topics combined with her good knowledge of local practices and very good personal social skills. However, in certain instances our combined lack of intimate understanding of the local cultural and ethnic practices introduced certain uncertainties in the research. On one occasion, for instance, confusion arose around the calendar year as it turned out that not only do the Lao use a different calendar than the Western, the people in the village used a specific Lue calendar. This shows some of the potential bias in the analysis and interpretations presented here.

Furthermore, the Laotian political system heavily controls the access granted to foreign researchers, especially the ones investigating a rather sensitive subject such as land concessions. This was revealed in the prolonged process of gaining a research permit, and the importance of showing this permit at all levels of government. It also clearly influenced the level of detail in the information obtained in interviews with especially lower-ranking government official, where it was difficult to move discussion beyond the official political narratives²². In the villages, some villagers expressed concern about my relationship with the District and the Company, and feared that I would report their answers back to the authorities. This was evident in the reluctance by some to answer the more sensitive questions. To minimise this potential reliability problem, attempts were made to clarify and explain the purpose of my research, as well as to guarantee people complete confidentiality and anonymity in their answers.

²¹ During my fieldwork, I was assisted by two different field assistants and interpreters. In the exploratory field visits a Laotian research colleague from CDE accompanied me, and helped establish contact with the government officials in both Luang Prabang and Nambak District. My main field assistant and interpreter throughout the rest of the fieldwork was a young woman from Vientiane with a bachelor degree in Forestry and some years of experience working with Western researchers. Though her English skills were relatively simple, she had a good understanding of the aim of my study, as well as the purpose of each interview and method employed. Furthermore, she had good social skills and was very good at explaining my abstract questions in an understandable way to the villagers.

²² Scott et al. (2005) note similar experiences in dealing with Vietnamese state officials.

The relatively short duration of the fieldwork, and especially the short time spent in Houay-Kong, inevitably reduces the level of understanding reached. In Na Nhang Neua, though, the organisation of the fieldwork in three distinct periods allowed for topics and issues to be readdressed from different angles at different times. Furthermore, it seemed to be of some importance to the villagers that I came back to the village on more than one occasion.

4.7. Reflections on validity

Concerns about the validity of the claims made in case-studies and intensive research should be addressed explicitly. Validity relates partly to the appropriateness of the theoretical concepts that the analysis is based on, partly to the thoroughness of the empirical investigation and partly to the integrity of the conclusions drawn from data (Kitchen & Tate 2000). Consideration has been given to how triangulation of multiple sources of evidence, methods and theoretical concepts can substantiate the *construct validity* of the analysis and conclusions reached (Yin 2003; Kitchen & Tate 2000). The structured household questionnaire has been combined with semi-structured interviews, participant observation and group discussions to ensure that the combination of intensive and extensive research methods best supplemented each other in methodological triangulation (Yeung 1997: 64). Furthermore, for the information obtained both in the village and from the government authorities the same questions have been asked to several informant so as to corroborate the evidence found. The evidence found in the case villages has furthermore been triangulated with the information obtained from the additional ten village visits.

Systematic errors

Despite the considerations on the issue of validity of the data and methods, a few more systematic errors and biases need to be taken into account briefly. Firstly, the time of the fieldwork coincided with the paddy rice harvest season which made many people unavailable for interviews throughout the day. This was especially the case for the younger households, who in many instances were not only in charge of harvesting their own paddy fields, but also the fields of their elderly parents or parent-in-law. The household survey therefore carries a bias towards older households. As this became apparent during the field period, attempts were made to reach younger heads of households without compromising the stratified sampling approach.

Secondly, by relying on gatekeepers for introductions to institutions and respondents, a bias and uncertainty was introduced in relation to whom, what and which information I got access to. In the villages this implied a risk of only being referred to relatives of the Naibans, good neighbours or particular “good” or “interesting” households. Especially in Houay-Kong, I was only referred to members of the village committee in the beginning. I therefore had to specify an interest in ‘normal’ households as well.

Thirdly, a number of questions in the group interviews and in the household questionnaire related to changes between now and 10 years ago. This inevitably introduces an error related to constructing the past from people's relative understanding of time and change. In the preparation phase before the fieldwork, I intended to set a timeframe in relation to some point in the past with significance for the villagers. However, such a logical reference point did not present itself and a timeframe of 10 years was chosen. Rather than being able to specifically pinpoint changes to a specific "before-after" point, the purpose of the 10-year timeframe has been for the respondents to remember well back in time before the concession was granted.

IV. RESULTS AND ANALYSIS

5. Implementation of the rubber concession in Nambak

The following chapter presents the results of the fieldwork in relation to the implementation of the Sino Company rubber concession in Nambak District.

5.1. Land allocation and village selection for implementation

In late 2004 the Sino-Lao ChiLan Rubber Development Company Ltd.²³ signed a concession contract with the provincial government in Luang Prabang granting the company concession rights to 7,000ha of land in Nambak and 7,000ha of land in neighbouring Pak Ou District. Apparently, Nambak District was deemed suitable for industrial and agricultural investment in the Provincial development policies, and had therefore been chosen by the Sino Company for development of a rubber plantation (Head of DPI, Int., 16.10.2012).

Prior to getting the concession, the Sino Company had formed a partnership with a Lao businessman and former vice-governor of Luang Namtha Province, Mr. Tongly²⁴, who had gathered information about rubber suitability and contract farming potential in the District. The Sino Company Chairman was somewhat reluctant to go into detail about this business relationship, and only briefly commented that the Company had worked with Tongly in the beginning because of his experiences with rubber investment in Laos. Later Tongly had pulled out of the Nambak investment because “*he’s staying far from here, so it is not convenient for him*” (Sino Company Chairman, Int., 15.11.2012). One District officer also noted that Tongly had played a role in introducing the Sino Company to the relevant authorities at both provincial and district level. After the initial suitability survey in the district, the Sino Company approached the provincial government in Luang Prabang to start negotiations for a concession contract (Head DPI, Int., 16.10.2012); however, when the Company had increased the investment budget, the Central Government had to be approached for final approval (Sino Company Chairman, Int., 15.11.2012). The concession contract was signed in late 2004, and the Sino Company could start implementing the rubber plantations in 2005.

Figure 7 shows a map of the rubber suitable areas in Nambak based on bio-physical criteria such as soil conditions, topography and altitudes. According to the Chairman, the village selection and land identification for the plantation followed this map and the suitability criteria set by the District authorities. The actual land allocation was carried out by the District Natural Resources and

²³ The Sino Company is described by others as a joint-venture between the Yunnan Local Product Import Export Company and the Beijing Jinrun Rubber Co. Ltd. with a history of rubber investment in Luang Namtha, Oudomxai and Bokeo Province dating back to the beginning of the 2000s (Shi 2008; Dwyer 2011). Some confusion about the name of the company arose during the fieldwork, when some respondents denominated it Sino-Lao Jinrun Company and others used Sino-Lao Chilan Company. Since Chilan was the name used by the Company Chairman during his interview, this name is used in the thesis. Both the District officers and the local people in the villages referred to the company as the “Sino Company” (Lao: *bolisat Sino*); this abbreviation is used throughout the remainder of the thesis.

²⁴ Tongly and his company have a long history of fairly successful contract farming of rubber in the North of Laos, and other researchers have described the connection between the two companies as a direct joint-venture (McAllister 2012; Shi 2008; Fujita 2007).

Environment (DNRE) office. The two village clusters currently hosting the Company’s investment are located in the northern part of the District as indicated by the red circle in Figure 7.



Figure 7: Rubber suitability map of Nambak District. The map hangs in the office spaces of the Sino Company’s headquarter in Nambak District. The survey was carried out by the Natural Resource and Environment Office in Nambak in collaboration with the Sino Company. The colouring indicates different soil types by the legend in the right bottom corner. At the moment all of the Company’s concession plots are located within the red circle (Sino Company Chairman, Int., 15.11.2012). The blue circle marks the main case village and the black circle the secondary case village. (Source: Author’s picture).

In addition to the bio-physical criteria, a range of other objectives for selecting the villages and land plots were highlighted in the informant interviews, which are well in line with the GoL’s overall policy for “Turning land into capital” and bringing development to the uplands. Eradication of shifting cultivation, for environmental protection and poverty alleviation, increasing employment and steady income opportunities, as well as the benefits from rubber cultivation and latex production were points made by all interviewed District officials as legitimising arguments for allocating land to the

Company. The Sino Company Chairman also stressed the Chinese Government's policy for eradication of poppy cultivation for opium production as a motivation for investing in rubber. He did however stress that the Company did not receive any direct support from the Chinese government. Infrastructure development and increasing accessibility to remote areas of the district was also reasons mentioned by the Chairman. However, the Head of the District Planning and Investment office (DPI) revealed that the final selection of villages in remote and less remote areas had been a compromise between the district's wish for the Company to build road infrastructure to the remote areas and the Company's desire to gain access to easily accessible land (Head of DPI, Int., 16.10.2012).

Concession investment and status of implementation

The Sino Company carries out the rubber investment through three different investment models; namely concessions, contract farming and support to smallholders. On concession plots, the Company has full control over the land for a period of 40 years and manages the plantation by hiring labour to take care of the rubber. All the profits from the rubber production will be kept by the Company, who are exempt from paying tax and concession fees until the tapping begins 7-8 years after planting the rubber (District Governor, Int., 24.10.2012). The contract farming scheme is set up in a "2+3" model where the farmers provide land and labour and the company provides the seeds, the technical know-how and the market. By signing a contract with the Company and receiving the seeds farmers have committed to selling their latex to the Company and profits will be split with 65 pct. for farmers, 30 pct. for the Company and 5 pct. for tax to the District and the Village fund. Finally, the Company encourages smallholders with the adequate means to buy rubber seedlings to plant rubber on their own land. These farmers keep control over the land and the profit from tapping, and can in principle sell the latex under free market conditions. By using such market incentives for smallholders, the Sino Company is hoping to increase the area planted with rubber in Nambak in order to increase the investment potential of a planned rubber processing plant (Sino Company Chairman, Int., 15.11.2012).

The map in Figure 7 reveals that a total of 26,000ha of land had been identified as rubber-suitable in the District from a bio-physical perspective, which should be able to account for the 7,000ha granted in the concession contract. However, at the time of fieldwork the actual amount of land planted with rubber in Nambak was significantly less, and surrounded by a high degree of uncertainty. Based on GPS measurements the DNRE Office estimated the total concession area to be approximately 1,300ha, which was confirmed by the Sino Company Chairman. However, based on number of seedlings planted the DAFO office offered a much higher estimation of 3,000ha concession rubber or 9,600ha including smallholders and contract farming plots. In relation to this it was pointed out that the concession contract had been signed before the actual land identification and zoning had taken place, and that in reality the district was unable to accommodate the Company with 7,000ha as concession areas. The interviewed Head of the DNRE office stated that it was a direct mistake by the district authorities that they had not raised concerns about the size of the concession during the negotiation process, and added that he was not sure how to accommodate the Company if they insisted on gaining all 7,000ha of land.

Table 6 shows the twelve villages visited during the fieldwork and the presence of the Sino Company in them. Currently, the Company has concession areas in nine of these villages (See Figure 8), as well as in three additional villages not visited²⁵. The Company furthermore has contract farmers in four villages, while farmers in two other villages have entered into contract farming arrangements with local Lao businessmen with personal connections in these villages. The Naibans in both these villages stressed that the intimate connections with the Lao businessmen and their knowledge of the local area were the main reasons that the villagers had preferred to invest with them as opposed to the Chinese Sino Company. Table 6 also shows that farmers have begun planting rubber on their own in eight of the villages after the Sino Company arrived in the District.

Table 6: Surveyed villages with concession area, contract farming and smallholders in the clusters where the company is operating. The two case villages Na Nhang Neua and Houay-Kong are emphasised in italics (Source: Village survey and interviews with Naibans, interviews with DAFO staff).

	Visited	Concession	Concession area	Contract farming Sino Company	Small-holders	Contract farming Other investors	Year implemented
Na-Nhang cluster							
<i>Na-Nhang-Neua</i>	<i>Yes</i>	<i>Yes</i>	<i>100ha</i>	<i>Yes</i>	<i>Yes</i>	<i>No</i>	<i>2006</i>
Na-Nhang-Tai	Yes	Yes	“A lot”*	Yes	Yes	No	2005-2006
Na-Mai	Yes	Yes	130ha	Yes	Yes	No	2006
<i>Houay-Kong</i>	<i>Yes</i>	<i>Yes</i>	<i>80ha</i>	<i>Yes</i>	<i>Yes</i>	<i>No</i>	<i>2005</i>
Houay-Ha	Yes	No		No	No	Yes	
Houay-Hit	Yes	Yes	100ha	No	n/a	Yes	2006
Houay-Yen	Yes	No		No	Yes	No	2005
Poungchong	Yes	Yes	100ha	No	No	No	2005
Vienghin-Suong	Yes	No		No	Yes	No	2012
Namdoun cluster							
Khanloun	Yes	Yes	200ha	No	Yes	No	2006-2007
Khantoung	Yes	Yes	450ha	No	Yes	No	2006
Lan-Kang	Yes	Yes	117ha	No	No	No	2007

* The Naiban in this village could not remember the precise area-size. The Head of DAFO commented that the concession area in Na Nhang Neua and Na Nhang Tai was 200ha, which would put the area in Na Nhang Tai at 100ha.

n/a = Not available

(Source: Village visits and Naiban interviews Oct.-Nov. 2012).

²⁵ This information was obtained through informal talks with DAFO staff during the fieldwork. However, since these villages were not visited the information could not be corroborated; neither could the information on whether contract farmers or smallholders had planted rubber in these villages.



Figure 8: Map of the surveyed villages and the presence of the Sino Company in terms of concession areas.

After the concession had been granted, the District appointed a Steering Committee (SC) with staff from different district offices to identify the land, negotiate with villages and oversee the implementation of the concession²⁶. In some of the twelve villages, the SC and the Sino Company had held public meetings for all villagers to attend, while discussions were kept among village authorities in other villages. Though the Head of the DPI stated that the District could not proceed with the

²⁶ According to the Head of the DPI the DSC comprised of policy level staff from: The DPI; DAFO; DNRE; Commerce and Industry office; Finance and Economy office; the District Administration Cabinet office; the Social Welfare office; and representatives from the cluster development committees (Head of DPI, Int., 16.10.2012).

project if the villagers opposed implementation, other district officers indicated that some villages had expressed discontent with the projects initially and that the role of the SC had then been to convince the villagers of the benefits associated with the concession. Some of the interviewed Naibans explicitly stated that they had not agreed with the plans to grant land to the Company, but had felt compelled to accept since the land identified was “state land” and they feared the consequences of open protest against the Government. None of the villages had received compensation for the land given to the company due to the same explanation. The specific plots allocated were in some instances reported to be identified in collaboration between district and village authority, while others described how the land allocation followed “*the district’s plan*” (Na Mai, Naiban interview, 17.10.2012). One of the interviewed District officials expressed some concerns about the implementation processes, pointing out that the district had made the mistake of allocating land close to the road and suitable for cultivation of other crops to the company, which had been a cause of discontent in some villages.

As shown in Table 6, three of the visited villages did not have concession areas and their Naibans gave different reasons for this. In Houay-Yen, the Naiban explained that the village had a very limited land area, since it was established in 1981 as a consolidation village of relocated villages from different districts and provinces. He also noted that many villagers were retired government officers, and thus had good personal relations with the District. These relationships had been used to convince the District not to target land within their village territory. The Naibans in Vienghin-Suong and Houay-Ha, on the other hand, explained that the Sino staff had argued that the lands of the villages were too high and not suitable for rubber. However, the Naiban in Vienghin-Suong commented that the poor road conditions was a more likely reason for the Company’s lack of interest in their land, since they had not surveyed the village for suitability until 2011, despite the villagers’ interest in planting rubber. Similar points were made by the Naiban in Houay-Ha, who contested the Sino Company’s claim that their lands were unsuitable, since they had started planting rubber in 2006 with a Lao investor. In addition, he noted that the District had used the rubber suitability criteria to justify not selecting some villages, in order not to upset the villagers in the selected villages.

5.2. Implementation in Na Nhang Neua and Houay-Kong

In Na Nhang Neua, the SC held a number of meetings to discuss the location and size of the concession plot around 2006. Though the SC and the Company initially wanted to access 250ha of land, the villagers had managed to reduce the size of the plot to 100ha and to push for a location further away from the village paddy and garden land than the initial plan. According to the former village secretary, his previous employment in the district had left him on good personal terms with district officers, and these personal connections had eased the negotiations. When asking household interviewees about their participation in the decision-making process concerning the allocation of land to the Company, the majority replied that they were not part of the process or that they had ‘just’ participated in the meetings without raising any opinions.

As the quote below indicates, many of these respondents indicated that fear of crossing the Government's plans kept them from voicing their disagreement:

"I just joined in the meeting, but didn't say anything. I was scared to say anything, because the staff was from the government - only few people spoke in the meeting, but not many people said they didn't agree. I didn't say anything, because no one will listen" (HH Int. 21, Q6.7.1, 14.11.2012).

Moreover, the villagers also pointed out that raising any concern or disagreement with the concession plan would not have resulted in anything, since the Company had already signed the contract with the government. Some respondents also noted that the discussions in the SC meetings in the village had been more about who should plant rubber on contracts or on their own, rather than about the overall plan to develop rubber in the first place.

In Houay-Kong, the Company was granted 80ha as a concession plot. According to the Naiban this had not been a problem for the villagers, since the total village land area exceeded the need for land among villagers and since the concession was located far from the village's main agricultural land. The plot allocated by the District, however, did not suit the Company's plan since it did not have an even shape, and the Company had subsequently approached some households cultivating the adjacent plots and offered them money proportional to the number of years the villagers had paid land tax. In general, the sentiment towards the concession was not as negative among the interviewed households in Houay-Kong as in Na Nhang Neua, and several respondents said they had welcomed the rubber as an additional income source. Nonetheless, they corroborated the story from Na Nhang Neua, in which the general discussion in the village had not been for or against the rubber altogether, but rather about who should grow rubber under contract with the company. However, many of the households interviewed in Houay-Kong belonged to the village authorities, who had participated in the discussions with the steering committee, which could explain their relatively positive attitude and their generally high level of knowledge about the process of land allocation.

6. Land system consequences of the concession

In this chapter the results of the village level fieldwork on land system changes related to the concession are addressed. The first part presents the results from Na Nhang Neua, while the second examines complementary evidence from Houay-Kong and the other villages in the area.

6.1. Consequences and changes in Na Nhang Neua

Traditional and contemporary land system

The traditional land system in Na Nhang Neua was a mixed upland-lowland system, typical for the villages in the lower lying parts of the area. The villagers explained that the combination of paddy and upland rice was advantageous, since the paddy rice has relatively low labour intensity and high yields compared with upland rice. It is therefore important for subsistence requirements. Upland rice on the other hand has a better quality and taste, and thus a higher market price. The market for upland rice varieties in other parts of Laos and in China was stressed by farmers as a reason for continuing upland rice cultivation in the past despite high yields in the paddy fields. Linquist et al. (2007) have highlighted similar points from a study of integrated lowland-upland farming systems in other parts of Luang Prabang and in Oudomxay Province²⁷. The fallow and forested areas were used as a source of non-timber forest products and timber for sale and household consumption, and as grazing areas for livestock, i.e. buffalos and cattle in the wet season. In the dry season buffalos and cattle were kept in the paddy to control wild grasses and weeds, as well as for soil fertilisation (Group Int., 17.11.2012). The livestock, notably buffalos, were not only used as draught animals for soil preparations in the paddy lands, but were also kept for household consumption and as ‘saving-accounts’. The available land base for pursuing these different agricultural activities was estimated by the village authorities to be approximately 300ha of total village land.

Traditionally, upland areas were governed by a customary system, where households could establish claims to land by clearing fields or cultivating perennial crops and trees. Among the Lue households 19 had acquired access to their swidden land in this way. By clearing a patch of forest, upland plots could also be ‘booked’ for future use and passed on to children, as indicated by 6HH that had inherited their upland fields. Once a household had cleared a plot they could take their claim to the Naiban, who would then acknowledge it and be the mediator in relation to potential conflict (Group Int., 27.10.2012). Contrastingly, paddy land was traditionally acquired through inheritance in the families with a long history in the village. Among the surveyed Lue households, 27HH had inherited the land from either or both the wife’s and husband’s parents. The customary inheritance system grants both male and female children rights to inherit land from their parents, independent of their residence status in the village. Villagers explained that it is the “*culture of the people*” to allocate a piece of the paddy land to children getting married whether they are male or female. Eight ‘average’ households in the survey reported that they had bought additional plots of land over the past 10 years from other

²⁷ Phonsay and Pak Ou Districts in Luang Prabang (neighbouring Nambak), and Namou District in Oudomxay Province (Linquist et al. 2007).

villagers to supplement their existing land assets, and one ‘poor’ Lue household had sold two plots of paddy land for 2mio.LAK/plot (no indication of the size), in order to supplement the household’s income, indicating that a market for paddy land exists in the village. The village authorities explained that the forest resources in the fallow areas, community forests and around the paddy fields were available to all people living in the village including the resettled households.

However, as the quote below illustrates, the village had been subject to government policies and restrictions on their land and forest resources:

“Before Sino came to the village, some Staff from the district came to say “this area for rice, this for livestock, this for garden” (Vil. Com. Member, Group Int., 27.10.2012).

The District had carried out land use and forest zoning in the years before the concession and though it was not possible to pinpoint the timing of the implementation, the quote indicates that it was most likely the Land and Forest Allocation Programme (LFAP), since this policy aimed at designating areas for specific use and was generally implemented in the late 1990s²⁸. Besides allocating different areas for different uses, forest management staff had instructed villagers about the restrictions on the use of forest products in the different types of forest. During the last days of fieldwork, the Provincial Department of Natural Resources and Environment put up a new land use map in the village (see Figure 9).

This map was based on a land survey carried out by the PNRE in collaboration with the village authorities during 2012 and was part of the latest land zoning efforts by the Government (Head of PNRE, Informal conversation, 29.11.2012)²⁹. Although the map is titled “*Village land use map*”, the legend and categorisation of land indicates that it represents the provincial land zoning efforts rather than the actual land use in the village. The rubber plantation is for example not indicated on the map, despite the fact that the map was supposedly made more than six years after the rubber concession was implemented. Instead it is included in the category “*Village reserved land for agricultural expansion*”. Furthermore, it should be noted that this map indicates a markedly larger total village area than estimated by the village authorities, see Appendix 6 for further discussions.

²⁸ The result of the LFAP has generally been a land-use map designating the land use or land cover on different parts of the village territory. However, no such map was available in the village until a new land-use map was put up during the last days of fieldwork, see Figure 9.

²⁹ The Head of PNRE was encountered by coincidence in the village on the day that the land use map was put up. A formal interview was not possible, but an informal conversation about the purpose of their trip and the map was attempted.

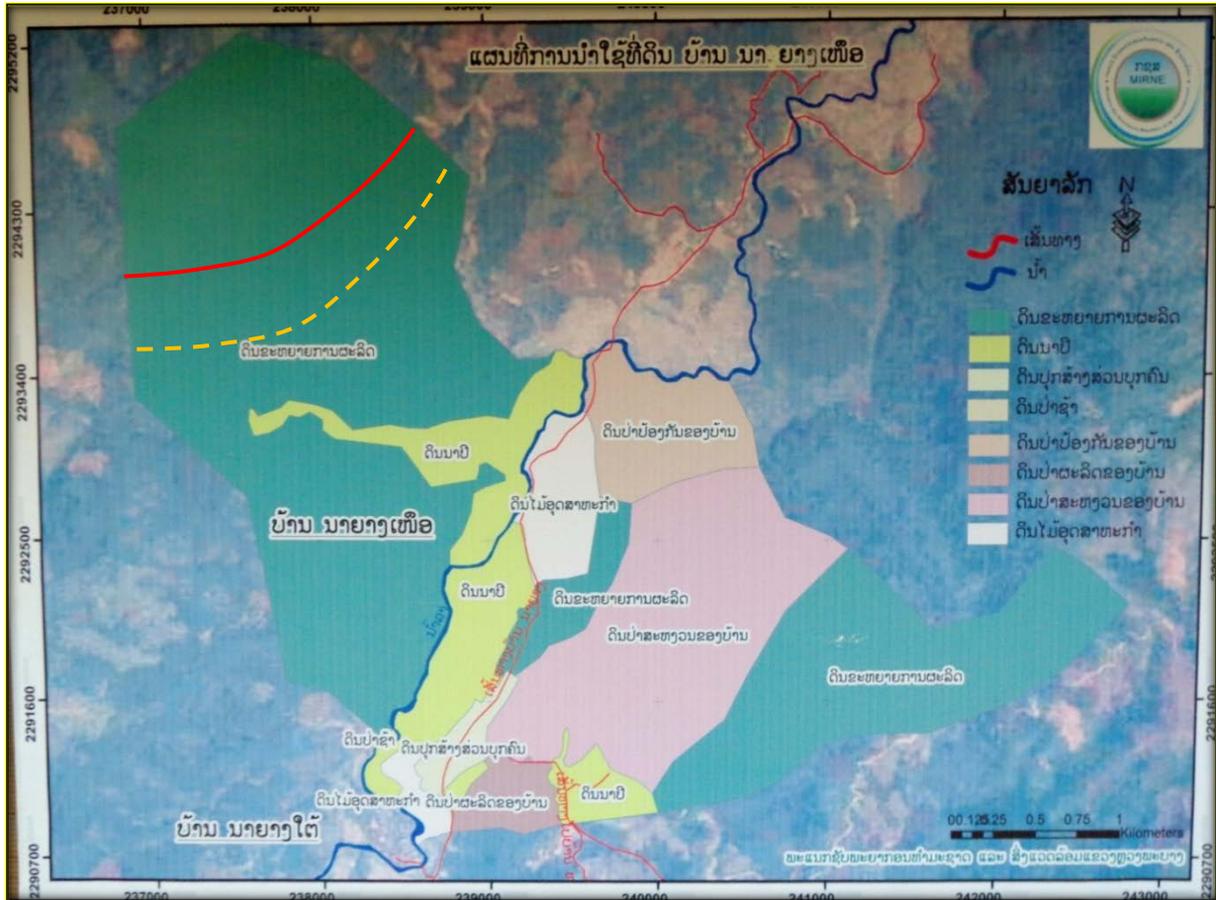


Figure 9: Land-use map put up in village during field work. The title reads: *Land use map of Ban Na Nhang Neua*. The legend reads from the top and down: 1) Road; 2) River; 3) Village reserved land for agricultural expansion; 4) Wet paddy land; 5) Individual residential area; 6) Cemetery; 7) Village protection forest; 8) Village production forest; 9) Village conservation forest; 10) Industrial tree plantation area. The red line indicates an estimate of the concession area, while the yellow dotted line indicates the main area for smallholder and contract farming rubber based on the information obtained from the village committee during group interviews and resource mappings. (Source: Author's own picture with the author's own drawings).

Though the structure of the traditional land-use system is still present in Na Nhang Neua today, some general changes have taken place over the past decade as a response to the implementation of these government policies, as well as other change factors.

Table 7 shows household land assets in terms of number of plots and size of land area in average per households for the three main types of land in the land-use system, paddy, swidden and garden land now and 10 years ago.

Table 7: Household land resources as of October 2012 and 10 years ago (Source: Household survey).

Land type	Number of HH with land type		Average number of plots per HH		Average size of land area per HH (ha)	
	Oct. 2012	10 years ago	Oct. 2012 (range)	10 years ago (range)	Oct. 2012	10 years ago
‘Average’ households (N=30)						
Paddy land (wet season)	29	27	2.2 (0-4)	2.5 (0-8)	1.0 (0.0-1.9)	1.1 (0.0-3.0)
Paddy land (dry season)	26	27	1.4 (0-3)	1.7 (0-6)	0.6 (0.0-1.64)	0.8 (0.0-3.0)
Swidden land	18	28	0.7 (0-3)	2.5 (0-8)	n/a	n/a
Garden land	6	5	0.3 (0-3)	0.2 (0-3)	n/a	n/a
‘Poor’ households (N = 5)						
Paddy land (wet season)	1	1	0.2 (0-1)	0,6 (0-3)	0	0,3 (0-1.5)
Paddy land (dry season)	1	1	0.2 (0-1)	0,6 (0-3)	0	0.5 (0-2.5)
Swidden land	3	5	0.6 (0-1)	2.5 (0-4)	n/a	n/a
Garden land	1	1	0.2 (0-1)	0.25 (0-1)	n/a	n/a

There has been a noticeable decline in the number of households with swidden land, as well as a drop in the average number of plots over the past 10 years³⁰. In the traditional land-use system villagers cultivated upland rice intercropped with a range of vegetables and other annual and perennial crops on their swidden plots, e.g. maize, corn and chilies. However, as shown in Figure 10, rice cultivation in the swidden has declined markedly among ‘average’ households, as has cultivation of other crops. Swidden rice has consequently lost its significance and instead, half of the ‘average’ households now cultivate rubber on their swidden plots.

Respondents in the four ‘poor’ Khmu households explained that they used to farm large plots of swidden with a variety of crops in their old villages, for both sale and subsistence, but after the move to Na Nhang Neua they had only been able to gain access to small plots of borrowed or rented land.

³⁰ It was not possible to estimate the average size of swidden and garden land, as many respondents lacked sufficient knowledge about the size of their plots or used estimates based on the number of harvested sacks of rice or teak/rubber trees planted now.

Currently, three of these cultivate swidden rice for household consumption, while the fourth relies entirely on wage labour.

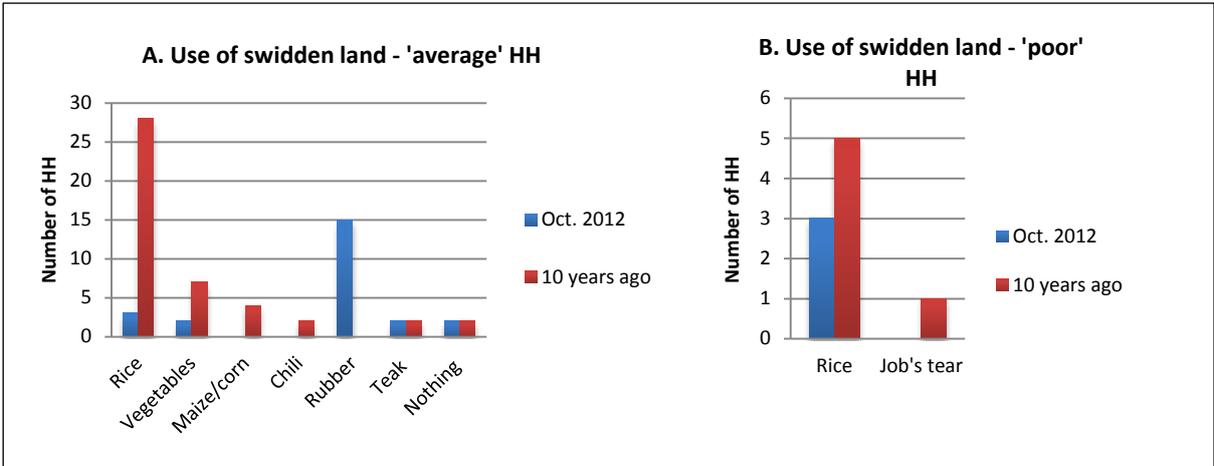


Figure 10: Use of swidden land now and 10 years ago among ‘average’ households (Source: Household survey, A.: N=30; B: N=5).

Aside from the conversion of swidden to rubber, the government policies to eradicate shifting cultivation were highlighted by respondents as a reason for stopping swidden rice cultivation. Several respondents noted that the District had begun implementing these restrictions before the Sino Company arrived in the village in 2006, and one respondent explained:

“The staff [from the district] surveyed about the rice harvest, and if you had enough rice from the paddy land, they said to stop shifting cultivation in the uplands – in the past we had both upland and paddy rice, but now only paddy” (HH Int. 23, Q4.2, 14.11.2012).

This comment further substantiates the evidence that the land policies implemented by the District were associated with the LFAP, since this programme actively sought to limit the extent of shifting cultivation by restricting the number of upland plots per household. Some households, however, also explained that they had reduced or abandoned swidden cultivation due to the labour intensity of clearing the upland fields or that health and age had made upland cultivation too hard. While some households had stopped swidden rice cultivation long before both the policy implementation and the concession, some continued until the Sino Company arrived.

In addition to this, Table 7 shows that a total of 30 households have paddy land, 29 of these being ‘average’ households. The five households without paddy land, one ‘average’ and four ‘poor’, all belong to the group of recently resettled Khmu households. Only one of the Khmu households in the survey had been able to buy paddy land from other villagers. Access to paddy rice cultivation was highlighted by some of these households as a contributing factor making it possible to stop swidden rice cultivation. Following the rice harvest (Oct.-Nov.), a range of other crops such as tobacco, garlic, onion and green vegetables were cultivated on a portion of the paddy land for both sale and consumption. In this regard, it was stressed that dry season cultivation of paddy rice was difficult in

the village due to water constraints. The village has an irrigation system of channels and dykes to control water flow in the paddy land in the wet season; however, water levels are generally too low to support two crops of paddy rice. Around 2009, the Chinese Adeng Tobacco Company had apparently started operating in the village, creating a demand for both dry and green tobacco. This had prompted some households to cultivate more tobacco on the specifications provided by the company. However, aside from this slight change in the use of the paddy land, most households had not changed significantly over the period investigated.

Aside from paddy and swidden land, a number of ‘average’ households have garden land in small patches around the paddy field or in the lower upland areas for cultivating fruit trees, cotton or chili. Furthermore, 17 of the surveyed ‘average’ households had teak gardens of varying sizes from 20 trees to 1500 trees. It should be noted, that the distinction between garden and swidden land becomes blurred where farmers have replaced upland cultivation of rice with tree crops like rubber and teak. This should be taken into account when looking at the numbers presented above.

Land use conversion, increasing land scarcity and land tenure security

The concession plot eventually agreed upon between the district and the village authorities was located in an area previously used for upland rice cultivation and for vegetable gardens. Besides the 100ha of land converted to rubber concession, another 56ha had been planted with rubber in contract farming or smallholder plots in the perimeter of the concession area, as illustrated in Figure 9, and small rubber gardens were also scattered around the remaining village land (Group Int., 27.10.2012).

As a result of the conversion of upland areas to rubber, the villagers reported an increasing land scarcity, as explained by one of the village committee members during a group interview:

“Before the Sino Company arrived, when new families came to the village, the village would divide some land for them in areas where no one was the owner before, maybe further away than was already cultivated. Now there is no new land for new families, only building land, and they [new families] cannot get land from the Naiban, but have to buy from other villagers or borrow the land” (Vil. Com. Member, Group Int., 27.10.2012).

Currently, the only land available to new households was land for house construction in the built-up area of the village, and consequently none of the resettled Khmu households in the village were able to get access to agricultural land through customary mechanisms but were left to buy, rent or borrow plots of agricultural land from other villagers. For these households, rice yields were very variable and depended on the size and soil quality of the plots they borrowed. One respondent voiced concern that it might be even more difficult to find new plots of land to rent or borrow in the future, because a lot of the upland already had rubber gardens. Since several of the long-settled Lue households expressed a desire to plant rubber or other tree crops in their remaining upland fields, this concern might be well-founded. Though the majority of the original Lue population had enough land for the time being, the

village authorities expressed concern about land scarcity in the future in relation to a potential population increase.

The limited land availability was also evident in the fact that none of the 19 ‘average’ households that lost one or more swidden plots to the concession (On average: 2 plots, N = 13) had been compensated with alternative land. Only two respondents in the survey had asked the company or district for compensation but had been told that their lack of permanent certificates for these land plots excluded them from receiving any compensation, since the land was formally owned by the state. Many respondents used the same arguments when explaining why they had not even asked for compensation and based their argumentation on the lack of formal land rights to the uplands. Some villagers also indicated that they had felt compelled to plant rubber on their swidden fields, when the Sino Company started working in the village, as a way of protecting their land assets.

“We didn’t have a choice. When they first came to the village, the company wanted to take the land, so we offered to do contract farming instead, and the company agreed to provide the seeds” (HH Int. 20, Q7.1.1, 12.11.2012).

Another respondent likewise stated that:

“We used to grow upland rice in that area, where the plantation should be. So we offered the idea to grow rubber in this area ourselves instead of the company taking the land” (HH Int. 13, Q7.1.1, 10.11.2012).

These statements substantiate the general opinion amongst villagers on their lack of real influence over the decision to grant the land to the concession within the village territory, as well as their fear of losing land to the Company if they did not agree to plant rubber themselves.

The concession project also influenced the villagers’ perception of their own land tenure security. Between 2004 and 2008 the District carried out the Government’s Land Titling Project concentrating on the land along the main roads (Head of DNRE, Int., 16.10.2012). Na Nhang Neua had been subject to titling around 2006-2007, when the villagers could get their house-plots and paddy land registered and granted a Permanent Land Use Certificate (PLUC). According to the village committee the cost of surveying one plot of land had been 6,000LAK³¹ (Group Int., 24.10.2012), and 28 of the 29 ‘average’ households with paddy land had PLUCs, as did the single ‘poor’ household. One household explained they only had a PLUC for their paddy land close to the road, and the single Khmu household that had purchased the land after the titling project did not have a PLUC for their land.

In general, the certification process had given the villagers a sense of tenure security for their certified lands and most respondents were well aware of the rights to use, sell and mortgage their land inherent in the PLUC. Respondents explained that the certificates ensured their ownership of the land, and

³¹ LAK: Laotian Kip. 1 USD = 7.660 LAK (Rate 22.04.2013).

25HH indicated that they felt completely sure that their land was secure and not alienable. As two respondents explained:

“No one can take the land - it is the thing to guarantee we are the owner. The names in the papers are mine and my husbands” (HH Int. 34, Q4.7, 26.11.2012).

“If someone private wants to take the land they can't. The government can take the land but then they have to pay compensation for the land” (HH Int. 2, Q4.9.1, 25.10.2012).

The latter quote also illustrates a point made by several interviewed villagers, namely that the District had used the discontent among villagers about the lack of compensation as an argument to promote the certificates. The general perception among the villagers now was that in case of new Government projects in their village, that would seize their lands, they were guaranteed compensation for the land with certificates.

The same feeling of tenure security did not extend to the swidden plots. Since the land titling project had targeted the easily accessible paddy and building land, only three of the respondents held PLUCs for swidden plots located along the road. Additional seven households had tax receipts for their swidden land, while 15HH did not have any papers for their upland areas. The quote below highlights the feeling of insecurity felt by many villagers in regards to their land right status in the uplands:

“For swidden land we have no paper: if a project from the government wants to take the land they can – mostly the villagers don't have certificates for the upland. We would like the certificate for the upland plots now, but no staff has come so that this can be made possible” (HH Int. 10, Q4.9.1, 26.10.2012).

Moreover, the quote illustrates how the land titling project for the paddy land has made the villagers fully aware of their lack of tenure security in the uplands. Villagers highlighted that land without certificates was state land, and that they could not do anything if the government decided to make another project in the village on these lands. Others noted that they had tried to ask about certification in the uplands, but without results.

Loss of livestock

Another major consequence of the concession identified by the villagers was the loss of livestock, especially buffalos and cattle. When the Company started working in the area, the District had imposed a strict penalty scheme for damage caused to the rubber by any type of livestock, and stories of penalties of up to 300,000LAK³² were reported by villagers. Though none of the respondents in the survey had paid penalties themselves, these stories had scared the villagers into selling off their big livestock. In the interview with the Naiban in the neighbouring village, Phongchong, the rate for destroying one rubber seedling was reported to be around 50-100,000LAK depending on the size of

³² Laotian currency: Laotian Kip. 1USD = 7731.00LAK (US Treasury Exchange rate of 31.05.2013, <http://www.fms.treas.gov/intn.html>).

the seedling. According to the villagers in Na Nhang Neua, the District had argued that the rubber was the property of the company, and thus subject to compensation if damaged by roaming animals. The villagers' frustration and discontent with the stance of the District is evident in the quotes from the household interviews below:

“It was difficult to keep the livestock. They [the villagers] offered the idea to the company that the company should build a fence around the rubber - if the company supplied the equipment the villagers could put up the fence themselves. But the company gave them no answer on this – despite that all the villagers offered this idea” (HH Int. 10, Q6.8.1, 26.10.2012).

“Some villagers said to the company that they should make fences around the rubber - but they got no answer” (HH Int. 32, Q9.2.1, 16.11.2012).

Customarily fences were built around paddy rice and cash-crops in order to protect them from grazing animals. However, the extent of the rubber concession area and the opinion amongst villagers that the rubber had been imposed on them, made the villagers reluctant to make the large investment in building the fence. The villagers also pointed out that they did not have the resources to provide the materials for such a large fence.

Figure 11 shows the decline in households raising buffalos, cattle and pigs between now and 10 years ago. Based on the numbers given by survey respondents, the average households had a mean of 6-7 buffalos per household 10 years ago (total: 203, N=30)³³. Only two interviewed households still had cattle, and one of them explained that he invested in three cows after having sold the buffalos to grass the paddy, since cows are easier to maintain.

As a result of the loss of buffalos and cattle, villagers reported an associated decline in the soil fertility in the paddy lands, since buffalos and cattle had provided the important manure when grazing the paddy land. Though a bio-physical assessment of the soil quality in the paddy lands was outside the scope of this study, it was noted that one third of the interviewed households had experienced a decline in the paddy rice yields since the establishment of the plantation, and all attributed this decline to the lack of manure. Since only four 'average' households indicated that they used fertilisers on their paddy fields, and only one of these during rice cultivation, the lack of input to the paddies could continue the deterioration of soil quality. Fear of this scenario and of the continuing decline of rice yields was also expressed by villagers. In addition, villagers highlighted increasing problems with grasses and weeds in the paddy fields and in the forest, where the buffalos had previously kept the grasses under control, as a side-effect of the loss of livestock.

³³ Estimate based on the average number of animals stated by the interviewed households. If a respondent answered “I had between 10-20 buffalos 10 years ago”, the mean of 15 has been used in the presented numbers. The Naiban estimated that there had been around 300 buffalos in the village when the concession was implemented, which could indicate either a slight overestimation of livestock possessions by survey respondents or an underestimation by the Naiban.

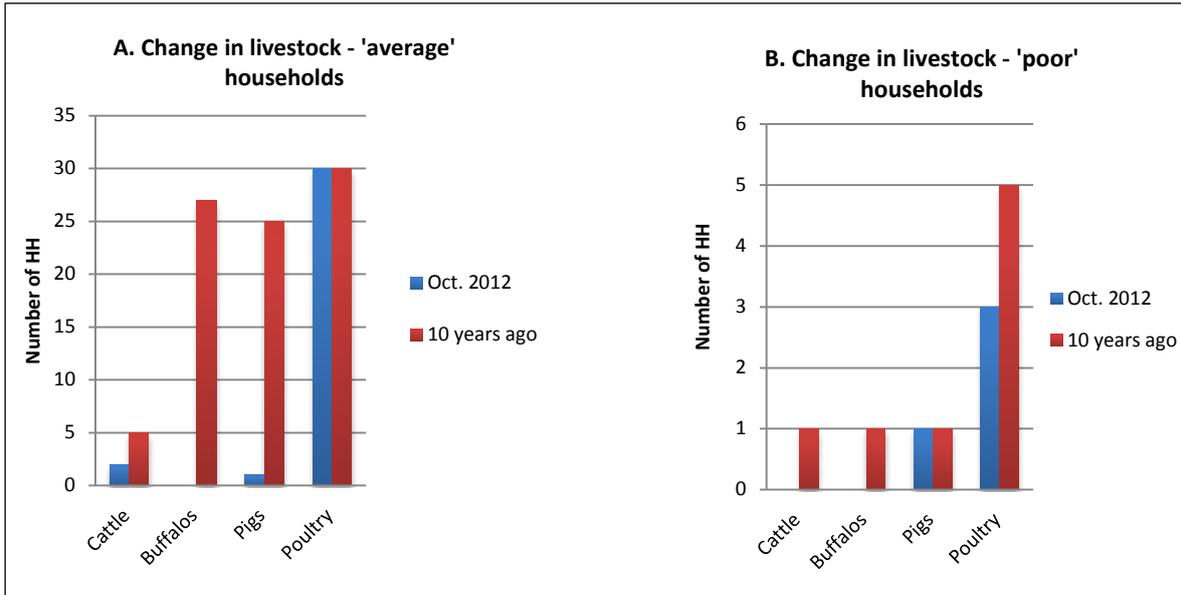


Figure 11: Change in livestock among villagers between now and 10 years ago. Change in buffalos and cattle were associated with the concession, while the steep decline in households raising pigs was explained by a mix of factors; diseases, lack of land, lack of feed, and lack of time to take care of them.

Some of the ‘average’ households had mitigated the loss of buffalos as grazers and draught animals by investing in cutters and tractors to use in soil preparation and cultivation. The machines had significantly reduced the labour intensity of the field preparation phase for households with the money to buy gasoline for the machines, and a system of exchange of labour in the harvest season for use of the machines existed between the villagers. One of the ‘poor’ households also explained that she lend her paddy land to another household for tobacco cultivation in the dry season, in exchange for them preparing the plot for rice planting. However, several villagers noted that the need for money to cultivate paddy rice had increased since the machines required large amounts of gasoline and more intensive maintenance than livestock.

Environmental feedbacks

Several villagers furthermore commented that the rubber plantation had had a number of environmental consequences for the rivers and forest in the village area. This qualitative evidence points to a number of negative feedbacks between the establishment of the rubber plantation and important ecosystem services of the upland forest areas. In relation to impacts on hydrology and water quality in the rivers, several villagers noted that the level of water in the streams and rivers had dropped after the rubber had been planted in the village. As explained by two villagers:

“It [the rubber] has made the river dry - in the past there were big trees in that area to store the water in the land and sent it back to the river - now the rubber trees just store the water, but don't send it back” (HH Int. 11, Q9.2.1, 26.11.2012).

“In the past there were forest in that area to protect the stream - now the river is dry, and there is not enough water to grow the rice [...] and there is not a lot of rain, the company

cut the trees so rain is late because there is no big trees to stock the water” (HH Int. 14, Q9.2.1, 10.11.2012).

The villagers had traditionally had a system for protecting the forests around the vital streams in the uplands by inhibited logging and clearance of new fields in these areas. Consequently, the forest around the streams had included mature trees and vegetation. However, the entire area was cleared when the concession was implemented, without regards to the ecosystem services that these older patches of forest provided. Moreover, the villagers raised concerns about the use of pesticides and fertilisers by the Sino Company in the plantation in relation to both non-timber forest products (NTFP) for household consumption and to water sources, as described by two respondents:

“In the past we used to collect NTFP in that area - it had secondary forest and young fallow - but now there is no forest anymore, and we are afraid to collect the NTFPs in the area with the rubber plantation, because the company uses the fertiliser and the chemicals on the rubber” (HH Int. 14, Q9.1.1, 10.11.2012).

“In the past we could drink the water in the river, it was very clean - now the company use the chemicals in the plantation, so you can't drink the water and the colour is very dirty” (HH Int. 32, Q9.2.1, 16.11.2012).

The main source of drinking water in the village was a clean gravel-water system that provided running water to several taps in the village from an uphill stream, but the villagers had previously used the smaller streams in the hills as a source of drinking water when working in the fields or in the forest. This was explained by one respondent:

“Now I have to bring water from home, if I go to that area. Before we could drink the water in the stream” (Group Int., 28.11.2012).

No direct health problems were reported by villagers related to the chemical inputs used in the plantation, but the villagers were nonetheless concerned about the Company's use of chemicals.

6.2. Consequences and changes in the neighbouring villages

Land system in Ban Houay-Kong

Due to its location in a dominantly hilly upland area, the traditional land-use system in Houay-Kong differed from Na Nhang Neua on some key points. Traditionally, the land use system in Houay-Kong had been completely based on swidden farming with upland rice as the main subsistence crop in combination with vegetables, some cash-crops and livestock rearing. Only small patches of relatively flat land in the lower lying areas of the hills had been converted to paddy fields around 25-30 years ago, when villagers had cleared the lowlands themselves and established paddy fields. Consequently, the majority of the households did not have paddy land, and those that did had been living in the village for a long time.

In the past decades however, the land system had undergone some of the same changes as the swidden component of the land system in Na Nhang Neua as a consequence of government upland policies, restrictions on shifting cultivation and of population increases. As explained by one of the household respondents:

“They [the village] had a lot of land in the past, to clear new land every year. In the past we would leave a plot 7 years before returning to it. Then it changed to only shifting every three years, and this year I grew the rice in the same plot again as last year. I only have one plot now, because we divided some land for the daughter” (HH Int. A, Q5.9.1, 20.11.2012).

This quote stresses how the fallow lengths and rotational cycle in the swidden land system had been reduced over the past years. Participants in one of the group-interviews indicated that the policy to restrict shifting cultivation was carried out around 2000, where each household had been allocated three fields in the uplands³⁴. The quote also indicates how households dividing land to their children face pressure on their own rice production.

Aside from the changes in swidden rice cultivation, there had been an increasing commercialisation of the crop production in the uplands with an increase in the number and varieties of annual and perennial cash-crops cultivated by farmers. The villagers reported that the District, as well as private traders from the cities and from China, had promoted a range of different cash-crops³⁵ that were mainly sold to traders coming to the village. Some of these cash-crops were promoted in contract farming arrangements, where the traders or companies provided the seeds and inputs, which were then deducted from the price paid to farmers. These cash-crop promotions were to some extent experimental with some more successful than others. Villagers with paddy land were also growing

³⁴ Of approximately 1ha each.

³⁵ Including Job's tears, bamboo grass, sesame and mak naman, the local name for an oil fruit crop used to make vegetable oil.

tobacco for a Vientiane based tobacco company³⁶, which had begun operating in the village three years ago and provided the seeds and fertilisers for the villagers. A number of villagers had apparently given up upland rice cultivation altogether, and concentrated on cultivation of cash-crops.

Direct and indirect land system consequences of the concession in Houay-Kong

The 80ha concession plot agreed upon in Houay-Kong was located in an area quite far from the main agricultural land of the village in an area bordering three neighbouring villages, which had allowed the Company to establish a large consecutive plantation. According to the Naiban, 30-40HH had previously used this area for swidden rice cultivation but had been allocated land in other areas instead. The Naiban stressed that the total agricultural land was adequate for the needs of the village, despite indications from other villagers about increasing pressures on the land base. The available land was located very far from the road and the village built-up area, which might explain the discrepancy between the Naiban and the villagers' experience of land shortage. One of the poorer households interviewed explained that they had to walk three hours to reach their upland fields and stay in a small cottage while carrying out the most time consuming cultivation tasks.

In Houay-Kong around 120HH had entered into contract farming arrangements with the Company. Most of these small rubber gardens were located in the area surrounding the village built-up area and in close proximity to the road, in order to make transport of the latex easy. Among the interviewed households eight had contracts, while one had their own rubber garden. According to the Naiban only a few households were smallholders, mainly village committee members including the Naiban himself. The Deputy Naiban explained that the Naiban had been quick to volunteer to establish a rubber garden on a piece of community forest immediately behind the village, which the District had designated for rubber³⁷.

In general the interviewed households had a positive attitude towards the contract farming scheme, since the company provided the seeds for free and only required 30 pct. of the profits. The negative sentiments and the feeling of coercion to enter into contract farming found in Na Nhang Neua were thus not present in Houay-Kong. In relation to this, it can be noted that a few households in Houay-Kong had begun tapping the rubber in the spring 2012, and the villagers had thus seen the monetary benefits from the rubber production.

The implementation of the concession had furthermore not led to a loss of livestock to the same extent as in Na Nhang Neua. Due to the relatively large size of the village lands, they had been able to move some of the livestock into a designated area far from the village and rubber gardens. However, none of the interviewed households had buffalos and three had cattle, but only a few of them attributed this change to the rubber plantation. Most of the households had sold the livestock to finance medicine, house construction or expenses associated with resettlement. Others revealed that the area had been

³⁶ The Deputy Naiban did not remember the name of the tobacco company.

³⁷ This information was however not discussed directly with the Naiban, who was a very busy man reluctant to talk much about the rubber.

prone to disease among the livestock, which had killed a lot of them as well. The interviewed paddy farmers did state that the loss of livestock had caused a decline in soil fertility, but did not emphasise the importance of this for the paddy yields to the same extent as in Na Nhang Neua.

A diversity of experiences – evidence from neighbouring villages

The range of land system change trends experienced in Na Nhang Neua and Houay-Kong, as well as the differences between them, were to a large extent also found in the other seven villages with concession plots. Two main types of change patterns could be distinguished following the typology of the villages described in Section 3.4 (See Appendix 5 for an overview of the villages).

The first type of villages³⁸ were mainly characterised by the mixed upland-lowland farming system found in Na Nhang Neua, and by low land availability contra population pressure already before the concession was established. These villages had also experienced a loss of livestock, decreasing paddy fertility and loss of upland areas that had put further pressure on the available land base for subsistence agriculture. As a consequence of the land scarcity, the Naiban in one of these villages, Na Mai, explained that although the villagers initially joined the Company's contract farming scheme, many households had uprooted the rubber seedlings again in order to cultivate rice, because they had no alternative subsistence or income opportunities in the 7-8 years before the rubber was mature for harvest. The second type of villages³⁹ were mainly characterised by fairly high land availability contra populations pressure before the concession and a land use system based on swidden as in Houay-Kong. In these villages, the people had been able to move the livestock into a different area from the rubber plantation and had thus mitigated the negative consequences associated with the concession. Moreover, households that had lost land had been allocated land in other areas.

Though this typology of villages holds on a general level, some experiences in the different villages cross over between categories. In one village of the second type, Khanloum, the villagers had been compelled to sell some of the livestock, and since the Lue part of the population had some paddy land, declining soil fertility on these fields was reported by the Naiban. In another village Khanteung, the size of the concession plot was 450ha and the Naiban reported that the villagers had been very discontent with the concession plans, since the plot granted was located in the fertile areas close to the village built-up area. Though this village still had enough land to sustain the population at the moment, the Naiban expressed concern about the future.

As was the case in Houay-Kong, some households in the alternative contract farming schemes with Laotian businessmen in Houay-Hit and Houay-Ha had begun tapping the rubber in 2012⁴⁰. Both villages had tapped and sold latex three times between June and November, and reported continually dropping prices over the period. The first harvest had been sold at 13,000LAK/kg in June, while prices

³⁸ Houay-Hit, Na Nhang Tai, Na Mai and Phongchong.

³⁹ Lan-Kang, Khanloum and Khanteung.

⁴⁰ These two villages are the ones with contract farming schemes with Laotian businessmen, and the tapping was done by households in these schemes. The tapping had not begun on the Sino Company concession plot in Houay-Hit (Houay-Ha does not have a concession plot).

dropped to 10-11,000LAK/kg in July and to 9,000LAK/kg in November. The Naiban in Houay-Ha described how prices had been as low as 6-7,000LAK/kg in August, but that their contractor had advised against selling since he had to share in the profits. In both villages the Naibans noted that households were content with the latex production and the profits they earned.

7. Changing livelihoods and consequences of the concession

The following chapter addresses the results of the fieldwork in relation to the concessions consequences for the livelihood strategies of the villagers. Since the previous chapter addressed the agricultural activities of the villagers, the following focuses on their income generating activities and the consequences of the concession in relation to these. The first part presents the results in relation to the primary case village, while the second part broadens the scope of the analysis with supplementary evidence from the neighbouring villages.

7.1. Consequences and changes in Na Nhang Neua

Income diversification

Though the villagers in Na Nhang Neua still mainly base their livelihoods on agricultural activities for both subsistence and market purposes, the results from the survey show that many households have diversified their strategies to pursue a variety of non-agricultural activities as well⁴¹. Figure 12 shows the range of income sources that survey households have had within the last year and around 10 years ago. As can be seen, there has been an increase in the number of average households generating income from non-agricultural sources such as construction work, wage labour in the village, migration for wage labour elsewhere and handicraft, mainly weaving. Some average households have additionally set up businesses such as small convenience or auto-repair shops, or they operate as middlemen in the trade of tobacco or rice.

Figure 12 also markedly displays the decline in livestock rearing in the village. While over half of the ‘average’ survey respondents generated income from sales of buffalos and cattle ten years ago, none do this today. Likewise, there is a small decrease in the number of ‘average’ households generating income from sales of upland rice, which also links to loss of upland fields in relation to the concession. However, since only four ‘average’ households indicated that they generated income from sales of upland rice ten years ago, the impact of the concession on this source of income is relatively small compared to the impact on livestock.

⁴¹ The term “non-agricultural” is based on the definition presented by Barrett et al. (2001) stating “*Non-farm or non-agricultural = all activities outside the agricultural sector, regardless of location or function*” (p. 319).

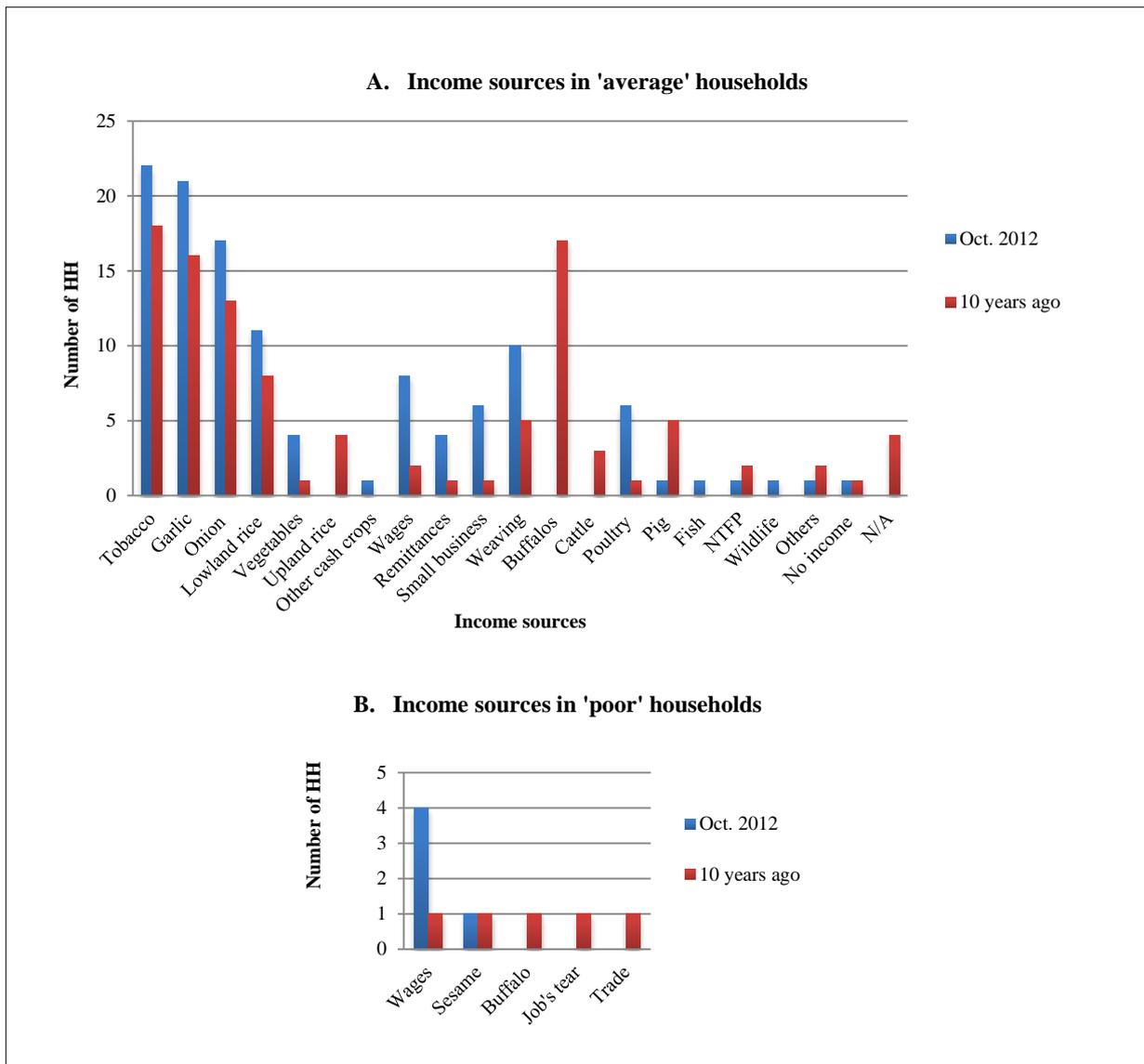


Figure 12: Results of survey on household income sources in ‘average’ households (A) and ‘poor’ households (B) at the time of fieldwork and 10 years ago. The bars show the number of households indicating that they generate monetary income from this type of activities. Households could indicate multiple sources of income and income sources were not ranked in relation to importance for household economy. Wage labour includes working for other villagers, government employment and employment in the Sino Company.

For the five ‘poor’ households, the variety of current and past income sources is significantly lower than for ‘average’ households and wage labour dominates as the main source of income for four of the ‘poor’ households. These respondents explained that the resettlement to Na Nhang Neua had limited their income activities, mainly due their lack of access to land, but also since they had sold off livestock and other assets to finance the transport and move. There is a marked difference between the level of diversification among ‘average’ and ‘poor’ households in the survey.

Among the ‘average’ households, the trend towards larger income diversification runs along a commercialisation trend in the agricultural production. More ‘average’ households get income from

sale of agricultural produce now than before, and the villagers explained that trade in agricultural, forest and other products had increased over the past 10 years in the village. Twenty-nine of the ‘average’ households sold one or more products, with NTFPs, tobacco, rice and vegetables, garlic and onions as their main products, see Table 8. Again, a significant difference exists between ‘average’ and ‘poor’ households in relation to market interaction. In fact only one ‘poor’ household had sold anything within the last year; the others did not produce anything to sell.

Table 8: Products marketed by household respondents within the last year. ‘Handicraft’ includes weaving and baskets; ‘Other cash crops’ includes garlic and onions; ‘Vegetables’ refers to green vegetables. The categories are not mutually exclusive (Source: Household survey).

Product	‘Average’ HH	‘Poor’ HH
Tobacco	25	0
Handicraft	19	0
Other cash crops	17	1
Rice	15	0
Livestock	13	1
Vegetables	12	0
Fruit	6	0
NTFP	4	0
Fish	3	0
Timber	2	0
	(N=30)	(N=5)

In general trade takes place within the village at a travelling market every 10th day or between households on a day to day basis. Traders from outside the village also come to buy and sell products “at the house”⁴², and many respondents attributed this to the easy accessibility of their village and the good road condition. The quote below highlights the importance attributed by the villagers to the development of road infrastructure for their ability to engage in market activities;

“The road came and it became comfortable then to sell and buy, before there was some road, but it was difficult to go with the car” (HH Int. 35, Q3.7.1, 26.11.2012).

⁴² A phrase used by many survey respondents indicating that the traders drive through the village and stop if someone wants to sell or buy produce. It also referred to villagers going to each other’s houses to buy specific vegetables, fruits or poultry.

Another respondent very interestingly pointed to the importance of the new telecommunication infrastructure:

“It is easier now [selling products] because of the road ... and there are mobile telephones now, so we can call to someone and say we have something to sell” (HH Int. 32, Q3.7.1, 16.11.2012).

As indicated by this quote, mobile phones have created new opportunities for market interaction, since the villagers have the opportunity to engage more actively with traders. The general increase in market engagement was commented on by some older villagers, who noted that in the past the economy had been based on exchange of products, while everyone now had money to buy things and more products to sell. Others indicated that the need for cash income had risen over the past 10 years in the village for expenses such as electricity, land tax or taxes for the village committee and gasoline for tractors, cutters and motorbikes, driving and facilitating the need for increasing commercialisation and engagement in non-agricultural activities.

Plantation employment, income generation and rubber cultivation

Among the interviewed government officials in both Nambak and Luang Prabang, the GoL’s overall justification narrative about bringing steady employment to villagers was prominent when discussing the potential benefits to local communities of the concession. Officials highlighted that villagers initially had job opportunities in clearing and weeding the rubber, and eventually in tapping the rubber. Furthermore, the District Governor emphasised that they had selected villages that mainly based their livelihoods on swidden cultivation to host the concession in order to provide job opportunities for them.

In Na Nhang Neua, most households went to work for the Sino Company when it first started operating in the village in 2006. The villagers were employed on a daily basis to cut the forest, clear the soil and dig and plant the rubber seedlings. Later on the Company had employed villagers to weed in the plantation three times per year. Among the ‘average’ households, 16HH indicated that one or more household members had had worked for the Company in the beginning, but 13HH had stopped again due to the working conditions, and 12HH stated that they had never worked for the company. Reasons given were mainly that the plantation work was too hard and the wages too low compared to alternative income opportunities in the village. Reported wage rates ranged from 20,000-40,000LAK/day, or 300,000LAK for clearing one hectare of rubber plantation⁴³, and respondents indicated that these rates did not correspond fairly to the working conditions. Others pointed to the lack of labour in their households due to old age, health problems or because the children were too young as reasons for not working there anymore. One farmer reported that the villagers had to use their own cutting machines to cut the grass and weeds in the plantation, which used a lot of gasoline. The cost of the gasoline almost outweighed the wages, making the work very unattractive. The

⁴³ The per day wage rate depended on the number of people helping in clearing the plot, the number of days it took and whether the plot was difficult or easy to clear.

alternative, to weed the plots by hand, would take too long and be too hard to be worthwhile. In addition, some villagers indicated that the work was fairly sporadic and was paid on a day to day basis, without any contract, making it unstable and unattractive.

A few ‘average’ respondents indicated that they would have liked to continue working in the plantation, and explained that they needed the income since they had few alternative options in their households. Three of these respondents indicated that they had worked in the plantation earlier, but that they were now denied employment due to their age. A younger woman expressed concern that her lack of connections among the Company staff was the reason they had not selected her. These villagers also indicated that the actual amount of work available in the plantation at the moment was fairly limited, since the rubber was not mature and the tapping not yet begun. The ‘poor’ Khmu households that otherwise depended on wage labour to secure income and food provision, interestingly also indicated that they did not work in the plantation. The reason given was their late arrival in the village after the plantation had been established and the procedures for labour recruitment set up. Instead, the small amount of work in the plantation was reported to be carried out by workers from outside the village. Unfortunately, it was not possible to get an interview with the Company’s staff in the plantation work camp, mainly due to reluctance by the District staff to endorse a visit. Overall, the employment opportunities provided by the Sino Company seemed largely unattractive and unviable for the majority of the households interviewed.

In general, 20 ‘average’ households indicated that they had experienced a change in their sources of income, and 11 of these furthermore indicated that their level of income had decreased since the establishment of the plantation (see Table 9). One respondent noted that the household income level had increased when they first started working with the Sino Company, but had decreased again because there was no work in the plantation now.

Table 9: Change in relation to income sources and level of income among average households in Na Nhang Neua. Not related indicates that the respondent had experienced a change in level of income, but did not attribute this to the concession. N/A=not available, and includes the two Khmu households that did not live in the village before the concession arrived. Since only one poor household was living in the village before the concession, numbers for poor households have been excluded here (Source: Household survey).

Main sources of income	Level of income (N=30)					Total
	Decrease	Same	Increase	Not related	n/a	
Changed	11	4	1	1	3	20
Not changed	1	2	1	0	0	4
n/a	3	1	0	0	2	6
Total	15	7	2	1	5	30

The changes in sources of income, as well as in level, were mainly attributed to the loss of buffalos and swidden agriculture. Before the rubber plantations had been established in the area, the price of a buffalo was around 2-3mio. LAK and buffalos functioned as a capital investment that could be

collected in times of money shortage or for larger expenses. The majority of the households had spent the money generated from the sale of buffalos on a range of general household expenses such as food, clothes or medicine. However, a number of households had also invested in agricultural utilities; mainly tractors and cutters, but also rice processing machines for shelling rice. Others had invested in house improvements, motorbikes or spent it on education for their children.

The small increase in ‘average’ households gaining income from remittances, shown earlier in Figure 12, was explained as the result of increasing migration following the arrival of Sino. The villagers explained that after the initial period of clearing the land and establishing the plantation in 2007-8 and due to the decrease in agricultural activities in the uplands as well as livestock rearing, both men and women had started migrating in order to find new employment opportunities. As one villager explained:

“In the past we only had upland, lowland and buffalos, no one went to find the work in other places. Then the rubber came and we had to sell the livestock, so then there was nothing to do and people started to go” (Group Int., 28.11.2012).

In around half of the interviewed ‘average’ households (16HH, N=30) and in three of the ‘poor’ ones (N=5), one or more household members were reported to have migrated for work outside the village within the last year. In these 19HH, a total of 35 people, 24 women and 11 men, predominantly unmarried daughters and sons were migrating for work in the trade and service sector or at construction sites in Luang Prabang, Vientiane and Thailand. When asked directly about remittances, seven households answered that they did receive money from migrating household members, while five answered that they “*sometimes*” received remittances. Some villagers also highlighted that aside from the rubber driving some part of the migration trend, many of the younger villagers actively chose to leave the agricultural sector and to seek employment outside the village and in the bigger cities.

When discussing income changes related to the concession, some villagers highlighted their potential future income from the rubber gardens. Among the surveyed households 22 ‘average’ households had planted rubber on their swidden fields with 10HH being either smallholders or contract farmers and two households being both. Eight ‘average’ households and all five ‘poor’ ones had not invested in rubber, and explained that lack of land or labour had been the primary reasons. Contract farmers indicated that the lack of money to buy the rubber seedlings was the main reason for entering into the contracts, and the main barrier for them not to invest in rubber on their own. Conversely, smallholders emphasised that by planting rubber without the Sino Company, they would not have to share the profits. However, most of the villagers did not expect to start tapping until a year or two and some uncertainty existed among the respondents as to the expected future income potential from the rubber.

Rice production and food security issues

Despite the decline in rice yields and soil fertility experienced by a third of the ‘average’ households, 25HH produced sufficient rice for the entire year, and 14 of these had been able to sell surplus rice

within the last year. The majority of the ‘average’ households had never experienced a year without sufficient rice, despite the abandonment of upland rice productions. The main reason given by households, who had experienced rice shortages in the past, was the size of the household in relation to the available land and labour resources. When children had grown up and household sizes reduced, the rice production from the paddy land had been sufficient. The five ‘average’ households that experienced rice shortage, lacked rice for an average of 2.8 months (range: 2-5.5), and two of these were the recently resettled Khmu. The rest indicated that age and household size were the main reasons for their rice shortage. Actions to obtain rice for the remaining months included using money from wage labour or other sources, or borrowing from relatives.

Among the ‘poor’ households, on the other hand, only one had produced enough rice to cover the household’s needs in 2012. This respondent noted that the upland plot borrowed this year had particularly good soil and therefore provided a sufficient harvest. The rest of the poor households lacked rice for an average of 8.8 months (range: 3-12) and they attributed the insufficiency to a combination of lack of land and lack of labour. Furthermore, three of the ‘poor’ respondents stressed that the amount of wage labour in the village was also insufficient to generate income to purchase sufficient rice, and that they thus lacked both adequate subsistence rice production and income opportunities. Actions taken to address the rice-shortage among the ‘poor’ households therefore included exchanging labour for work in the village, borrowing rice from relatives or reducing consumption in the household. One of the ‘poor’ households also indicated that they had sold rice at one point during the past year in order to be able to cover some of the household’s other expenses, though they knew that the rice harvest was insufficient to last the entire year.

In relation to other sources of food, twenty-six ‘average’ and three ‘poor’ households indicated that NTFPs are still a main part of household consumption. As shown in Table 10, however, since the establishment of the plantation, a third of the average households indicated that they collected less food in the forest than before (10HH, N = 30). The general loss of forest and fallow areas was mentioned as a reason for a decline in the availability of the NTFP, as was the fear of the chemical pollution from the rubber plantation.

Table 10: Change related to food provision among ‘average’ households as a result of the concession. (Source: Household survey).

Change	Collection of food in forest	Purchase of food in market
Decrease	10	1
Same	16	14
Increase	0	8*
Not related	0	1
n/a	4	6

* Includes two who purchase more, but do not relate the change to the concession

It can be noted from Table 10 that eight households purchase more food in the market now than before the concession. Six of these households specifically attribute the change to the loss of big livestock as a source of meat for household consumption and for celebrations. Due to the general decrease in the stock of buffalos and cattle in the District, the price of a buffalo had apparently increased to around 8-10mio. LAK, making meat an expensive commodity. The remaining two households who had increased their purchase of food items in the market explained that age and the mere availability of a market to buy food had increased their spending.

Among the Lue households that had always been settled in the village, the evidence presented here indicates that rice sufficiency is mostly associated with the paddy production, while the upland rice in the past had had a supplementary and flexible function as both food and cash-crop. In addition to affecting rice yields in the paddies, the establishment of the plantation had therefore mainly affected the buffering capacity between lowland and upland rice production, though not to the extent that villagers reported serious rice shortage. For the recently resettled Khmu households, both 'poor' and 'average', their experience of rice shortage in Na Nhang Neua was mainly attributed to a lack of land and income opportunities, and indirectly associated with the rubber plantation and its effect on land availability and land scarcity in the village.

7.2. Consequences and changes in neighbouring villages

Livelihood diversification and food security in Houay-Kong

The commercialisation of agricultural activities experienced in Na Nhang Neua had also taken place in Houay-Kong, perhaps to an even greater extent. Improved road infrastructure and increasing market interaction with Laotian and Chinese traders were emphasised by the interviewed households as reasons for increasing sales of crops. In particular, Job's tears had been adopted by villagers a few years earlier, when a company had promoted cultivation by providing the seeds. Furthermore, trade in NTFPs had also gone up, though some villagers indicated that there had been a decrease in the availability of some of these plants as a result of the increasing number of people collecting them. As in Na Nhang Neua, a few households had also diversified their income generation by setting up small businesses or activities as intermediary traders between villagers and outside traders. However, from observations in the village fewer small businesses existed than in Na Nhang Neua, potentially due to its relatively more remote location in relation to the District town and other villages.

Migration was also a part of many households' livelihood strategies in Houay-Kong. Among the interviewed households, six out of eleven had one or more household members currently working mainly in Vientiane, but also in China and sending remittances back. In one of the group interviews an interesting contradiction appeared between the younger and older participants' explanations about how the rubber had influenced not only migration but also general income levels. The elder farmers indicated that since the establishment of the concession and the sale of a lot of the livestock, income had decreased and migration for construction work in Vientiane, Luang Prabang and Oudomxay had gone up. Contrastingly, the younger farmers highlighted that since they could get employment in the

plantation, the number of younger men migrating had fallen after the concession was granted. According to the group interview participants, the difference arose because the plantation work was hard and therefore mostly suitable for the stronger young men (Group Int., 24.11.2012). The Naiban explained that 24 households, predominantly ones that had swidden fields in the concession area before, have permanent contracts with the Company for taking care of the rubber and weeding in the plantation. Six of the interviewed households indicated that they worked in the plantation from time to time on the same conditions as in Na Nhang Neua. However, contrary to the villagers in Na Nhang Neua, the villagers in Houay-Kong indicated that they were rather content with the work in the plantation and that their level of income had risen, since no wage work had been available in the village before. Some insecurity however existed in relation to the potential future income from tapping.

As touched upon in Section 6.2, the villagers in Houay-Kong did not emphasise the negative impact of the concession on rice production to the same extent as in Na Nhang Neua, mainly due to the lesser prominence of paddy rice cultivation. Instead, 10 out of 11 households stated that their rice harvest in the swiddens decreased, but as a result of the Government's land management policies and of labour constraints rather than of the concession. Half of the households experienced rice shortage for an average of 2.3 months (range 1-6.5; N=7), but mitigated this by selling cash-crops, NTFPs or by borrowing rice from relatives.

A diversity of experiences – evidence from neighbouring villages

The typology of villages described in relation to land system change is also to some extent reflected in the general attitudes among the interviewed Naibans. In the first type of villages, which had experienced land scarcity and the biggest loss of livestock with associated impact on the paddy yields, the opinions regarding the concession were very negative with the Naiban in Phongchong stating:

“No good thing has come from the rubber” (Int., Naiban in Phongchong, 19.11.2012).

On the other hand, in the second type of villages, which had had enough land to allocate new plots to affected households and had been able to move the livestock away from the rubber plantation, the Naibans generally expressed more balanced and positive attitudes toward the rubber development. However, this simplified classification does not fully represent the complexities and diversities also existing in some of these villages.

The Sino Company had built roads connecting two of the most remote villages visited, Lan-Kang and Khanloum, to the main road. Apparently, the District had used the construction of roads as a leverage point in the negotiations over allocation of land to the Company, as explained by the Naiban in Khanloum:

“The Steering committee said to the villagers: ‘If you don’t give the land to the company, you will not get any road, because the government doesn’t have any funding to build a road” (Int., Naiban in Khanloum, 17.10.2012).

Despite this apparent pressure from the District, both Naibans stressed the immense importance and positive difference that the road had made in improving the livelihoods of the villagers for both income opportunities and infrastructure developments in terms of clean water provision, sanitation and electricity. Before the roads were constructed, the villagers had to carry their produce to the nearest village to sell, often walking 3-4 hours. After the roads were built, however, traders could come to the village and the villagers could use cars and motorbikes for transporting themselves and their goods to the markets. Especially in Khanloum, the positive influence of the road construction seemed to mitigate some of the negative consequences of the loss of livestock. This was also the case in Na Mai, where the Company had built a small road connecting the plantation plots to the main road and thus creating better access for villagers to their agricultural fields. Though this village otherwise had a very negative experience with land shortage and loss of livestock, the road made the overall impression given by the Naiban both positive and negative.

The villages also differed in relation to the emphasis placed on the employment opportunities created by the Company. Again despite the negative consequences for land shortage in Na Mai, the Naiban stressed the positive impact of the employment opportunities in the plantation for the villagers' livelihoods. Furthermore, he expressed hopes for potential future employment opportunities in tapping the rubber and in a processing factory that the Sino Company plans to build. Currently, however, the rubber planted area in the District was not enough to provide the adequate latex supply to fulfil the capacity needs of a processing plant to an extent that would make such an investment viable (Sino Company Chairman, Int., 15.11.2012). Therefore, the prospects of factory employment might well be far in the future.

Similar opinions were expressed by the Naibans in Lan-Kang and Khanloum, the villages discussed above, where the employment opportunities provided by Sino had brought income increases to many villagers. As explained by the Naiban in Lan-Kang:

“The main good thing that came from the concession is the road. If the road hadn't come, the electricity and the clean water system couldn't have come. The second thing is that they [the villagers] can get income from working in the company. All in all no bad developments have come from the concession” (Int., Naiban in Lan-Kang, 28.10.2012).

The Naiban in Khanloum similarly pointed out that in comparison with other villages without a road and without the presence of the Company his village was not poor anymore. The previous remoteness of these villages had prohibited many non-agricultural livelihood activities until the construction of the road, and the opportunities for plantation work had arisen when the Sino Company started working in the area.

V. DISCUSSION

8. Land, livelihoods and concessions

In the following chapter the main results are discussed in the light of the thesis' three research objectives in order to answer the overall thesis question.

8.1. Getting access to land – the implementation of the concession

The implementation of the Sino Company concession in Nambak highlights the complexity of the issue of access and exclusion in relation to concession developments. As noted, the Sino Company used their relationship with a reputable Laotian businessman to establish contacts with the District and Provincial authorities, gaining legitimacy as a rubber investor in the eyes of the authorities. Though the connection between the Sino Company and Tongly was not completely clear, it highlights the increasing role of national and local elites in bringing about large-scale land acquisitions in Laos and elsewhere (see Cotula 2012:11-12).

The analysis presented has also highlighted how the Sino Company in close collaboration with the Nambak District authorities acquired access to land in the targeted villages by using a combination of market, force, legitimising and regulatory powers to exclude the previous users (Hall et al. 2011).

The District targeted upland areas to which the villagers held no formal land certificates and therefore could not defend their claims. The land was formally 'state land', a fact used by both officials and villagers in explaining the lack of compensation and real negotiation. Most villagers did not feel part of the negotiation process and had simply experienced the District's meetings in the village as a promotion campaign for rubber cash-cropping. In this sense, the Company and District attempted to use market powers to convince villagers of the benefits of conversion of upland fields to rubber. In most villagers' accounts, however, the fear of resisting government development projects was most prominent. In other accounts on land concession from elsewhere in Laos, similar stories have been reported about the use of both force and market powers to convince villagers to give up their lands. McAllister (2012) shows how the 'negotiation' process over land in a small Khmu community resulted in the District Governor threatening the villagers with resettlement if they did not agree to concede land to the company, and concludes: "*The villagers felt that they could not refuse the governor, and so the rubber plantation was approved with "official" consent of the village*" (McAllister 2012: 12). Though none of the villagers in the present study told stories mirroring the forceful implementation, shown in relation to the Sino Company in Pak Ou (McAllister 2012) or to some of the Vietnamese concessions in the Southern provinces (Kenney-Lazar 2012, 2011; Baird 2010), they did feel coerced to either give up their land for concession development without compensation, or to convert their upland fields into rubber plots. However, as stressed by Hall et al. (2011), the power of force might not necessarily be enacted through violence or outright threat; it can be effectively employed implicitly in cases where the fear of violence is enough to pacify potential resistance.

The District also conveyed a sense of 'objective' legitimacy to the land identification process by basing the selection of villages on the bio-physical rubber suitability mapping (Figure 7, p. 57). The suitability criteria were used to justify *not* targeting some villages, which were unattractive due to

other factors such as low accessibility. Accessibility played a prominent role in the negotiations between the District and the Company for the land selection, despite both parties' emphasis on the general justification narratives of poverty alleviation, eradication of shifting cultivation and general rural development.

The results from Na Nhang Neua also highlight how the government authorities use regulatory mechanisms to justify conversion of land uses and covers. The land use map put up in November 2012 shows how the majority of the village territory is zoned as "*Village reserved land for agricultural expansion*", while in fact being used by villagers for upland gardens, rice cultivation or smallholder rubber plots. By zoning this land, as a reserve for agricultural expansion, the authorities are effectively 'freeing up' space for concession development and justifying the intervention already carried out. This classification shows a case of 'state simplifications' of land uses which has been discussed as one of the key operational mechanisms for land use conversions in relation to large-scale land acquisitions (Borras & Franco 2012: 45, citing Scott 1998). It furthermore shows, how regulation by zoning is a means by which the government can justify a specific development policy, as also discussed extensively in the literature on the consequences of land reforms and the Land and Forest Allocation Programme in Laos (Lestrelin et al. 2012; Lund 2011; Fujita & Phanvilay 2008; Ducourtieux et al. 2005; Vandergeest 2003).

Despite the powers of exclusion employed by the Company and the District to gain access to land in Nambak, the final land allocation was also a result of the wielding and yielding process of power between district and villagers (De Haan & Zoomers 2005). In Na Nhang Neua, the villagers managed to reason with the authorities and minimise the plot allocated to the Company. Though the villagers did not have any power to overturn the overall decision about the concession, they used their personal relationships with the District representatives to negotiate a deal which was less intrusive. Likewise, the Naiban in Houay-Yen had managed to argue that since his village was recently relocated to its current position and therefore had limited land available for cultivation, they did not have any spare land for concession development. In this way, he effectively employed the power of legitimacy to negotiate to the village's advantage. These accounts illustrate that local people to some extent are agents of change with a relative position of power to negotiate their own circumstances⁴⁴ (Cramb 2007; Rigg 2005).

⁴⁴ In addition, it can be noted that McAllister (2012) reports how villagers from Na Nhang cluster in Nambak District apparently organised a petition in 2006, against the District and Company's policy on roaming buffalos versus fencing of the rubber plots. This petition had reached the national media in two critical articles in Vientiane Times, where the farmers argued for the importance of their livestock in livelihood strategies, while the District argued that the villagers should make sure to fence off the animals (VT 2006a; VT 2006b). Since no village Naiban or villagers in Na Nhang Neua brought up the topic during interviews, and since this information was unfortunately only brought to my attention after the fieldwork was conducted, no follow-up interviews were possible.

8.2. Concession-induced change in a complex land system

The swidden component of the land system in Na Nhang Neua had been subject to gradual changes in both use and cover in the years leading up to the concession, mainly in response to the District's land zoning efforts and restrictions on household upland fields. This is well in line with the general perception of agrarian transformations in the Northern Uplands in Laos characterised by the shift from extensive subsistence to intensive commercial land practices (Heinimann et al. 2013; Fox et al. 2009; Thongmanivong et al. 2009a; Thongmanivong & Fujita 2006).

However, none of these gradual changes were as widespread as the land cover conversion from the extensive forest and swidden system to the intensive mono-cropped rubber plantation. This conversion not only limited the villagers' access to upland fields (as discussed below), it also affected the environment and ecosystem services on which they depend. The qualitative assessment of the environmental change presented here is supported by bio-physical evidence from other studies in Laos and elsewhere in Southeast Asia (Mertz et al. 2009; Ziegler et al. 2009a). These studies show how the conversion of swidden to intensive rubber cultivation on a large-scale decreases water flows in rivers, since rubber plantations decrease subsurface soil water and reduce discharge to streams (Guardiola-Claramonte et al. 2010; Mann 2009; Ziegler et al. 2009b); decrease soil quality and carbon storage (Bruun et al. 2009); and decrease forest biodiversity (Rerkasam et al. 2009; Padoch et al. 2007). It has also been demonstrated how use of chemical fertilisers and pesticides by rubber companies have increased pollution of forest and water bodies, and led to a decrease in the availability of non-timber forest products (Kenney-Lazar 2011; Baird 2010; Obein 2007). In Na Nhang Neua the changes in the quality of the forest cover were also reported to have affected precipitation patterns, which in turn affect both other garden crops in the uplands and paddy rice cultivation.

The results also show that there is a significant negative coupling between the establishment of the rubber plantation in the uplands and the soil quality in the lowland component of the land system. The loss of forest grazing lands combined with the strict penalty scheme for damage to rubber seedlings has effectively prohibited villagers from rearing livestock, especially in the land-scarce villages. This in turn has led to a loss of manure in the paddy land and a decline in paddy rice production. Other studies have found similar patterns in relation to Vietnamese rubber plantation developments in the South of Laos (Kenney-Lazar 2011; Baird 2010; Obein 2007). While these studies focus on the direct consequences of upland enclosure on grazing land and the associated loss of livestock as a capital asset, the results presented here stress the importance of the indirect effects on seemingly unconnected parts of the land system, notably the paddy component.

Another important issue is the *de facto* privatisation of upland resources, which was previously held under common tenure systems. With the enclosure of a large part of the village's uplands, the availability of upland agriculture and forest resources for household consumption was significantly limited. The consequences of this enclosure were particularly negative for the 'poor' and recently resettled Khmu households that had difficulties in gaining access to land. The consequences of internal

resettlement have been shown to have very negative consequences for households in regards to livelihood activities, access to resources and income opportunities in all parts of Laos (Baird & Shoemaker 2007; Evrard & Goudinard 2004; Vandergeest 2003). Since none of the resettled households had arrived in the village before the concession, it was not possible to explore the extent to which the customary mechanisms for allocating land to newcomers had worked prior to the concession. However, as Baird (2010) notes, although concessions often have consequences for all community members, consequences are particularly felt by the poorest and least resourceful households since they depend more on communal resources.

The concession furthermore entailed an *indirect* enclosure of resources. The Company's use of chemical fertilisers and pesticides in the plantation essentially prohibited collection of NTFPs as well as use of water from streams in areas outside the plantation, due to the villagers' fear of pollution. Moreover, since the Sino Company had cleared the land for planting rubber without regard for the villagers' regulatory management system for protecting the forest around the streams, the Company had alienated the villagers from direct control over a vital resource they depended on. The term used by villagers to explain the water intensity of the rubber, that "*the rubber is stocking the water*", then in essence describes this indirect enclosure of water resources by the Company. These results stress that large-scale land acquisitions often entail a corresponding, but informal acquisition of water resources (Anseeuw et al. 2012; Cotula 2012; White et al. 2012).

In addition to the resource enclosure enforced through the implementation of the concession, the expansion of smallholder and contract rubber facilitated by the concession can be seen as a form of small-scale enclosure of resources (Hall 2011; Hall et al. 2011; Thongmanivong et al. 2009a). Aside from the conversion of households' plots to rubber in both Na Nhang Neua and Houay-Kong, the story of the Naiban in Houay-Kong who through his position in the concession-negotiation process was able to quickly volunteer to plant rubber on a piece of community forest in a very advantageous location demonstrate this point. In this way, this piece of land was effectively privatised and other users excluded. In both case-villages, land availability for new households and households seeking to expand cultivation of other crops was limited as a result of the conversions to rubber.

8.3. Concession-induced livelihood transformations

In general, the livelihood system found in the case villages and the changes they have experienced in recent years correspond well with other studies on livelihood transformations from subsistence to market oriented strategies in a Laotian context (Heinimann et al. 2013; Fox et al. 2009; Thongmanivong et al. 2009a; Thongmanivong & Fujita 2006; Rigg 2005, 2006a, 2007). Households had to some extent diversified their strategies by engaging in non-agricultural activities as well as commercialised agricultural activities, and migration had increased as well. However, in Na Nhang Neua some differences existed between households in relation to engagement in non-agricultural activities, both within the 'average' group of households and between 'average' and 'poor'.

While some of the ‘average’ households had managed to divert surplus assets, money or labour into non-agricultural activities such as small businesses or trade with relatively high entry barriers, others were still primarily farmers. Access to agricultural land, especially paddy land, seemed to be the most important determinant of wealth and inequality in the village, although labour availability is also essential. General studies of Laos have shown that rural people identify livestock as the most important source of wealth (Baird 2010), and livestock has possibly also been a source of inequality among households. The multi-functionality of livestock makes them flexible assets, and the general loss of livestock constitutes a source of increased household vulnerability, especially in households without adequate means to mitigate this loss. Moreover, the capital inputs required to buy gasoline for these machines introduces a new source of inequality between households. Although livestock is also a vulnerable investment which is prone to epidemic disease and unusual weather conditions⁴⁵, these vulnerabilities are largely independent of household wealth. Due to the limitations of the wealth stratification and selection of households in this study, it was difficult to carry out a deeper analysis and discussion of the differentiation within the group of ‘average’ households, and consequently determine clear causal explanations for the discussed patterns.

Moreover, although both ‘average’ and ‘poor’ households engage in non-agricultural activities, there was a marked difference between the types of activities they do. The ‘poor’ households were largely dependent on wage work with low entry barriers such as working for other villagers on house-construction or working in the brick-factory in the village. While access to land explained the ability of ‘average’ households to diversify their activity portfolio, *lack* of access to land was the primary reason for ‘poor’ households’ engagement in non-agricultural activities. At the village level, livelihood diversification was therefore both the result of push- and pull-factors (Barrett et al. 2001). For concession developments in Laos, Hanssen (2007) similarly notes how the strongest households in communities are often able to find alternative livelihood opportunities most quickly, while the poorest and most vulnerable have difficulties adapting.

A number of issues emerge as important for changing the conditions for households’ vulnerabilities in relation to the introduction of rubber in the livelihood system. First of all, rubber is a long-term investment. This requires that households have alternative land for rice production or alternative income opportunities in the years while the rubber matures. If this is not the case, as illustrated in the story from Na Mai village, households can be forced to uproot the rubber again to plant rice with a consequent loss of their initial investment. Furthermore, producing rubber, as well as other cash-crops, exposes households to the risks of market conditions (Fox & Castella 2013; Thonmanivong et al. 2009; Hicks et al. 2009). Since natural rubber is a global commodity, prices are prone to large fluctuations facilitated by shifts in demands and supply from around the world as well as by the overall condition of the global economy (Fox & Castella 2013; Hicks et al. 2009). At the local level,

⁴⁵ In the village of Vienghin-Suong, located in relatively high altitudes, the Naiban explained how some of the villagers’ buffalos had died in the past winter due to unusually cold weather conditions. A lot of the villagers got scared and sold their buffalos, causing the number of buffalos to decrease from 160 to 41 over the past year.

this had already been experienced by villagers in the two villages that had started tapping. Since smallholders in Northern Laos only produce for the Chinese market they are also highly vulnerable to changes in export conditions, as pointed out by Manivong & Cramb (2008) in relation to the temporary closure of the border trade with China in late 2006. Likewise, in May 2013 Laotian media reported that the Sino Company's factory in Oudomxay Province was experiencing exporting problems following a Chinese ban on the import of Laotian rubber (VT 2013). Others argue that the expected continued economic growth in China coupled with the expected continued rise in crude oil prices at the global level will make smallholder rubber investment in Northern Laos profitable for a long time (Hicks et al. 2009; Manivong & Cramb 2008).

Moreover, once the rubber matures for tapping and if production turns out to be profitable, it has the potential to be a new source of inequality between 'average', 'poor' and resettled households in the village, since none of the 'poor' or resettled households had rubber gardens. Furthermore, a potential source of economic differentiation might arise between smallholders and contract farmers. While smallholders are in theory free to tap and sell latex when and to whom they choose, contract farmers' access to the markets is controlled by their contractors. Since contractors share in the profit of the sale of latex, they might not allow contracted farmers to sell if prices drop below investment costs. This was experienced in Houay-Ha where the Laotian contractor told villagers to wait with sales until prices had risen again. As for the Sino Company, their combination of concession investment and contract farming might also facilitate a scenario where the Company taps and exports concession areas first, before buying latex from the contract farmers. In regards to this, Hanssen (2007) notes that even though farmers enter into apparently secure contracts with companies, these companies might turn out to be less reliable in relation to honouring contracts. On the other hand, smallholders are responsible for marketing their own produce, and since the Sino Company is the only larger buyer in the area at the moment, this might increase smallholders' vulnerability to price fluctuation. If prices drop or export expenses rise, the Company might not be inclined to buy latex from the smallholders since they do not have a share in this profit. Since none of the villages had started tapping the Sino Company's contract plots or concession areas it is, however, difficult to fully discuss the implications for smallholders and contract farmers.

Finally, households had become more vulnerable in relation to food security, since the rubber had indirectly affected the paddy rice yields while simultaneously diminishing opportunities for upland rice cultivation and availability of food sources in the forest. This destroyed the buffering capacity between the upland and lowland rice production. Moreover, while rice is a flexible crop that could be sold in times of surplus production, rubber is only a cash-crop. This consequence was also highly differentiated, since the majority of 'average' households in Na Nhang Neua still maintained overall food security from the paddy rice production, while the 'poor' households were severely affected.

In relation to the GoL objective for providing steady employment and permanent livelihoods to villagers by promoting large-scale plantation projects, the results show that the villagers in Na Nhang

Neua had largely rejected the employment opportunities presented by the Sino Company. The primary reasons seemed to be the availability of more profitable alternative activities coupled with the negative sentiments towards the company stemming from the perceived unfair wage-work ratio and the penalty scheme for rubber damage, something also noted in a village community in the Sino Company's plantation in Pak Ou District (McAllister 2012). Moreover, after the initial period of establishing the plantation the amount of work in available was also limited. On the other hand, the villagers in Houay-Kong and in some of the other villages were more inclined to work for the Company from time to time. This could be explained by the more remote location, lower level of accessibility and fewer wage work opportunities in these villages. However, since they still have access to some agricultural land, and households continue to engage in agricultural activities, the present case differs significantly from the accounts from the Southern Provinces in Laos, where concessions have resulted in a complete enclosure of villages' lands and hence a complete transformation of farmers into wage-labourers (Kenney-Lazar 2012, 2011; Baird 2010, 2011).

The discussion throughout this chapter has primarily focused on the critical outcome of the concession, somewhat driven by the negative position of the villagers in Na Nhang Neua towards the project. However, the concession had provided some of the acclaimed benefits in terms of road infrastructure and employment opportunities to the very remote and poor villages, although differences most likely exist in these villages as well in relation to households' abilities to access and engage in the new livelihood opportunities. The general development level in terms of electricity, clean water provision and market access had improved significantly due to the concession, and Naibans seemed content with the trade-off of upland for road access. In relation to this, Rigg (2005) has argued that the majority of rural people in Laos are actively seeking out these new development opportunities that can reduce the labour constraints of upland agriculture, increase income generation and improve their general wellbeing.

8.4. Concession development at the resource frontier

The agrarian transformation processes observed in Na Nhang Neua and Houay-Kong were deeply influenced by the GoL's policies on rural development and land management. Land zoning and allocation had restrained availability of upland fields per household and imposed restrictions on the use of forest resources, even before the concession was established. In both villages some households had been subject to government resettlement, which clearly affected their livelihoods in the 'new' villages. As argued, these different policies have been an instrument in the GoL's attempts to control land and people in the uplands. In this context, granting a large-scale rubber concession in these villages can be seen as a continuation of this development agenda within the overall push for "*Turning land into capital*" (Lestrelin et al. 2012; Dwyer 2007).

In relation to this, Barney (2009) argues that the particular historical context of upland development in Laos has created the 'frontier' as a space for both state-led resource development and neo-liberal capital-intensive resource investments. Therefore, he argues, the resource frontier in Laos is not only

defined by capitalist relations of exploitations, but also by clientalist and bureaucratic relations that form a particular context for resource exploitation and enclosure. Understanding all of these relations become important, when investigating large-scale land acquisitions by which the state apparently hands over control over vast tracts of land to foreign investors, and to some extent give up some of their territorial authority. However, Dwyer (2013) shows how granting concessions to foreign investors in some cases strengthen the power of the central government contra lower-level authorities or certain population groups. In general, the role of the state in facilitating and shaping the specific context for land acquisitions have recently been highlighted in the literature (see Wolford et al. 2013).

The rubber boom and increase in concessions in Northern Laos can hence be seen as the outcome of a convergence of state agendas for market based upland development and regional economic drivers. While the companies producing rubber become vehicles for the state's goals to commercialising agricultural activities and introduce new production forms such as contract farming, the state grants the companies the legal and regulatory support to access large-tracts of land necessary for their investments. In the present study, the combination of exclusionary powers employed by the District and the Sino Company in Nambak District, illustrates how state authority and market forces join to produce a specific context of coercion in terms of land use conversion and enclosure of upland resources at the local level. This context of coercion implies a difference from the other commercialisation trends observed in the area driven by small-scale traders and buyers of forest products and other cash-crops. As illustrated in stories from Houay-Kong, these arrangements were relatively loose and left the individual farmer with a great deal of decision-making power, contrary to the rubber development. Both the concession development and the small-scale commercialisation of land uses illustrate how the local land systems are increasingly influenced by distant drivers in demand from foreign markets and influenced by regulatory environments outside the national sphere. The land constraints in Southern China, the expected growing demand for rubber on the Chinese market and the economic incentives provided to Chinese businesses through opium-replacement schemes are factors driving the 'outsourcing' of rubber production to Northern Laos. This points to some degree of teleconnections in the transformations taking place in the case-area. Further analysis should go into how these drivers interact, and whether the expansion of rubber in Northern Laos influences the regulatory environments for rubber production in China.

A final important issue that the present study illustrates is the problems associated with the narrative of the 'unexploited' and 'empty' resource frontier as a justification for promotion of concessions in Laos, and large-scale land acquisitions in general (Cotula 2012; White et al. 2012). As noted, the policy for agricultural development in Nambak included industrial tree crop plantations based on the notion that the District had vast areas of 'unexploited' land. The District had been targeted for the Sino Company rubber concession. However, since the contract was largely negotiated and signed at the provincial and central government levels, the size of the concession was determined without identifying the actual land. Consequently, and despite the 'identification' of 26,000ha of 'suitable' rubber land, the District was unable to accommodate the full 7,000ha in the concession contract. A similar trend is shown by

Baird (2010) for a rubber concession in Champassak Province, who notes “*once the concessions were approved, there was pressure on lower level officials, especially those in the district, to find “available” land, even when there was not actually much available. This, in turn, has led to government officials pressuring village headmen to agree to sign away their land*” (p. 9). In Nambak, the District authorities currently acknowledge the limitations to the ‘available land’ narrative and the difficulties in conceding land with pre-existing uses and users, despite the signed contract. This account highlights the complexities surrounding the implementation and consequences of large-scale plantation projects, as they are negotiated in uneven and dynamic power relations across different sub-national governance contexts (Lestrelin et al. 2012; Barney 2012).

9. A brief methodological critique

Before drawing the overall conclusions of the thesis, a number of the analytical choices need a brief critical reviewing. Firstly, the choice of Na Nhang Neua as primary case village influences the conclusions drawn in this study. As became apparent during the fieldwork, the village had an advantageous location close to the Nambak District Town and good accessibility to markets and alternative income activities. Furthermore, the District's plans for developing Na Nhang Neua as a Cluster Development Village meant that the village was subject to a relatively high level of political and economic focus from the authorities. Na Nhang Neua was thus to some extent more affluent compared to some of the more remote upland villages, which influence the conclusions on livelihood diversification and in relation to the consequences of the concession. However, by including the information from the other villages, the analysis has been substantiated.

Secondly, although triangulation between Na Nhang Neua and Houay-Kong, as well as with the other ten villages, brings attention to critical aspects of the diversity of experiences in the area, the comparison is based on highly different depths of information. Due to the time constraints for the fieldwork, only one week was possible in Houay-Kong and some trade-offs between household interviews and other activities had to be made. The conclusions based on this information are therefore necessarily subject to some limitations. The same is evident in the comparisons between 'average' and 'poor' households in Na Nhang Neua, since only five 'poor' households were interviewed.

Lastly, the scale-choice inevitably induces an element of inclusion and exclusion in the analysis. In relation to this, the choice of the household as the smallest unit of analysis excludes the potential for investigating intra-household dynamics of change and consequences of the concession. Likewise, by choosing Heads of Households as main respondents, perspectives of other household members were not included. During the fieldwork, for example, age differences emerged as an important issue in relation to how villagers experienced the consequences of the concession. An interesting aspect for future research could therefore be to investigate how concession-induced changes affect different groups of villagers based on e.g. gender or age.

VI. CONCLUSION

10. Conclusion

In the context of a global rush for natural resources, the Northern Uplands of Laos have been regarded as one of the last resource frontiers to be incorporated into the regional and global economic circuit. As a result the area has been targeted for an increasing number of transnational land concessions, facilitated in part by regional economic drivers and in part by the Government of Laos' own efforts to manage and control the Uplands. Through a qualitative case-study, the aim of this thesis was therefore to investigate the consequences of large-scale land concession for local people's access to resources and the associated implications for land systems and livelihood strategies.

As the results presented show, the Sino-Lao Chilan Rubber Development Company Ltd. worked closely together with the District authorities to identify the land and implement the concession. By employing a range of exclusionary powers the Company gained access to land in the targeted villages and effectively enclosed some parts of the villages' lands and excluded use of others. Despite the consultation of some village authorities in the negotiations over land allocation, most villagers in the case villages did not feel included in the process. Instead a great deal of coercive incentives was used not only to get concessional land, but also to convince villagers to convert upland fields to rubber plots.

In Na Nhang Neua the enclosure of land for the concession affected land availability for upland cultivation of rice and cash-crops, availability of forest products for household consumption and availability of land to allocate to new and resettled households. The direct consequence for the land system was a large-scale conversion of the extensively used swidden areas to intensive rubber cultivation in the uplands. This conversion facilitated a negative environmental feedback associated with falling water levels in streams and some indication on changing precipitation patterns. In addition, the analysis reveals that a significant indirect negative coupling exists between the rubber plantation and the land use efficiency in the rice paddies. By imposing a strict penalty scheme for damage to rubber seedlings the Company and District indirectly enclosed upland grazing areas and prohibited villagers from continuing livestock rearing. This had negative impacts on soil fertility in the paddy fields and declining paddy rice yields. Though the majority of the households in Na Nhang Neua were still largely food secure, the combined impact on paddy rice and the destruction of the buffering capacity between the upland and lowland rice production had increased the vulnerability of the food provision. In addition, the Company's use of chemicals and fertilisers, as well as the high water use of rubber trees in the plantation limited the villagers' access to non-timber forest products and water, which had previously been held under common tenure systems.

The present study illustrates how analysis of resource enclosure and land use change in response to large-scale land acquisition requires analytical attention to the full complexity of the existing land systems. Rather than only looking at the one-to-one effects of change related to the conceded land, it is important to take all indirect and cascading effects into account as well, when discussing the consequences for the livelihoods of local people. The combined use of theoretical perspectives from

the land systems concept, the livelihood perspectives and the attention to access, as an enabling and constraining condition, facilitates such analysis.

The results also show that the availability of alternative income activities in Na Nhang Neua made the employment opportunities presented by the Company unattractive for most villagers. The main consequence for households' livelihoods was the loss of livestock as a capital reserve in times of emergency. Though some households had been able to mitigate this loss by investing in tractors and cutters, this had increased their dependence on cash-income to supply fuel for the machines. The introduction of rubber in the livelihood and land system also presents opportunities for increasing household incomes in the future. Since none of the villagers in Na Nhang Neua had started tapping the rubber at the time of data collection, a complete assessment of the consequences for household income levels and livelihood outcomes was, however, not possible at the time of the fieldwork. In general, the level of diversification, commercialisation and migration had increased within the village over the past decade, partly in response to the changes brought by the concession, partly in response to the overall processes of agrarian transformation facilitated by state development policies and regional economic drivers.

Finally, the diversity of experiences with the concession between the surveyed villages in Nambak District shows how the specific development context prior to a project even within a small geographical area can influence consequences and outcomes significantly. In this case availability of land, availability of alternative income opportunities and relative remoteness prior to the concession was shown to be determining factors for the positive or negative implications of the concession. This highlights the danger of simplifying conclusions and recommendations, and stresses the importance of place-based and context-sensitive studies.

VII. REFERENCES

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VIII. APPENDIXES

Appendix 1: Case selection criteria

The SNIS-project case selection was primarily based on the extensive national inventory of the land investments and concessions granted by the Laotian government to domestic and foreign investors, see Schönweger et al. (2012). A selection of companies for case-studies was then carried out to ensure coverage of the main investor countries, as well as the main geographical ‘hot spot’ of investment in Laos at present. The following five foci for research were chosen:

- Large scale investment on the Bolaven Plateau
- Large scale investment within Vientiane Province
- Vietnamese investment mainly in Southern Laos
- International (not Vietnamese or Chinese) investment mainly in Central Laos
- Chinese investment mainly in the North

Within each of these five areas a maximum of five companies and concessions were selected based on the following criteria:

- Concession size more than 1000 ha
- The concessions were located in the agro-forestry sector
- The concession implementation had started a year ago or earlier
- The concessions were a balanced mix of perennial crops and permanent crops (tree crops)
- The concessions had affected villages in remote areas and less remote areas (measured in distance to next district capital)

Given an overall interest in the regional inter-linkages in land acquisitions, and Chinese investments in Laos in particular, a focus on the Chinese investments in the North was chosen. The SNIS pre-selection of companies had two operating in Luang Prabang Province and one operating in Luang Namtha Province.

Screening of all three Chinese companies was, however, not possible due to time restraints for the fieldwork, and the exploration of companies was therefore limited to the two companies operating in Luang Prabang Province in Nambak District and Pakxeng District, respectively.

Appendix 2: Activity schedule for fieldwork

Table 1 Activity schedule for field work in Luang Prabang, Laos – Period 14.10.2012-04.12.2012

Date	Activity	Informants	Place
Preparation phase in Vientiane and Luang Prabang			
17.09.2012-	Field preparations		CDE, Laos Country Office,
13.10.2012	Hiring of translator		Vientiane
14.10.2012-	Field upstart and		TABI Project Office
16.10.2012	preparations of official documents		Luang Prabang
Preliminary field visit – surveying for case district and case villages			
16.10.2012	Meeting and interview	Deputy Head of Office	District Agriculture and Forest Office (DAFO), Nambak
16.10.2012	Interview	Planning Official	Planning and Investment Office, Nambak
16.10.2012	Interview	Head of Office	Natural Resources and Environment Office, Nambak
16.10.2012	Three village visits (survey) Interviews	Naiban	Na-Nhang-Neua Houay-hit Houay-yen
17.10.2012	Three village visits (survey) Interviews	Naiban	Khanloum Houay-kong Na Mai
18.10.2012	Meeting and interview	Deputy Head of Office	District Agriculture and Forest Office (DAFO), Pakxeng
19.10.2012	Meeting and interview	District Governor	District Administration, Governor's Office, Pakxeng
19.10.2012	Interview	Head of Office	Natural Resources and Environment Office, Pakxeng
19.10.2012	Interview	Technical staff	Planning and Investment

			Office, Pakxeng
19.10.2012	Two village visits (survey) Interviews	Naiban	Hat Sam Don Koun
Pre-evaluation in Luang Prabang – final selection of case			
20.10.2012- 21.10.2012	Evaluation of information from surveyed villages Selection of case study and case village Revision of questionnaire		Luang Prabang
Pre-evaluation in Luang Prabang – final selection of case (Cont.)			
22.10.2012	Interview	Head of Investment Promotion Sector	Dept. Planning & Investment, Luang Prabang
22.10.2012	Interview	Provincial Officer	Provincial Agriculture and Forest Office (PAFO), Luang Prabang
22.10.2012	Interview	Provincial Officer, Co-director	Dept. for Rural Development and Poverty Alleviation, Luang Prabang
First field trip – Nambak District Town and Na Nhang Neua			
23.10.2012	Meeting and interview	Head of Office	District Agriculture and Forest Office (DAFO), Nambak
24.10.2012	Meeting and interview	Vice-District Governor	District Administration, Governor's Office, Nambak
24.10.2012	Group interview	Deputy Naiban Head of Village Fund Vice head of Village Fund	Na Nhang Neua, Village Committee
25.10.2012- 29.10.2012	Household questionnaires (12)	Head of households	Na Nhang Neua
27.10.2012	Group interview	Naiban	Na Nhang Neua, Village

	Resource mapping	Leader of the village committee Head of village fund	Committee
27.10.2012	Village walk	Farmer	Na Nhang Neua
28.10.2012	Two village visits (survey) Interviews	Village headman (Naiban)	Lan-kang Khanteung
24.10.2012- 30.10.2012	Participant observation and informal talks	Villagers	Na Nhang Neua
Mid-term evaluation and preliminary data analysis – Vientiane			
01.11.2012- 07.11.2012	Mid-term evaluation and preliminary data analysis Revision of questionnaire		CDE, Laos Country Office, Vientiane
Second field trip – Na Nhang Neua, Houay-Kong and village surveys			
08.11.2012	Interview	Deputy Head of Office	Rural Development and Poverty Alleviation Office, Nambak
09.11.2012	Interview	Technical staff	Economics Office, Nambak
09.11.2012	Interview	Technical staff	Educations Office, Nambak
10.11.2012- 17.11.2012	Household questionnaires (21)	Heads of households or wives	Na Nhang Neua
Second field trip – Na Nhang Neua, Houay-Kong and village surveys (Cont.)			
12.11.2012	Group interview School and work in the house	Village children	Na Nhang Neua
13.11.2012	Three village visits (survey) Interviews	Naiban	Vienghin-Soung Houay-Ha Na-Nhang-Tai
15.11.2012	Interview	Chairman of the Company	Chilan Lao-Sino Rubber Development Company, Company Office, Nhamtouan

17.11.2012	Group interview Agricultural seasonal calendar	Farmers	Na Nhang Neua
18.11.2012	Follow on questionnaires (4)	Questionnaire respondents	Na Nhang Neua
19.11.2012	One village visit (survey) Interview	Naiban	Pongchong
19.11.2012	Interview	Naiban and Second- Deputy Naiban	Houay-kong
20.11.2012- 24.11.2012	Household questionnaire (11)	Head of Households or wives	Houay-kong
21.11.2012	Village walk	Second-Deputy Naiban	Houay-kong
22.11.2012	Group interview Agricultural seasonal calendar	Upland farmers	Houay-kong
24.11.2012	Village walk	Deputy Naiban	Houay-kong
24.11.2012	Group interview Resource mapping	Naiban Deputy Naiban Second-Deputy Naiban Head of Village Committee	Village committee, Houay- kong
24.11.2012	Group interview Agricultural seasonal calendar	Lowland farmers	Houay-Kong
19.11.2012- 25.11.2012	Participatory observation and informal talks	Villagers	Houay-Kong
26.11.2012- 27.11.2012	Household questionnaires (3)	Heads of household	Na Nhang Neua
28.11.2012	Group interview	Rubber smallholders	Na Nhang Neua
28.11.2012- 29.11.2012	Follow-ups on questionnaires	Questionnaire respondents	Na Nhang Neua

29.11.2012	Interview	Former head of village committee	Na Nhang Neua
29.11.2012	Group interview	Rubber contract farmers	Na Nhang Neua
Second field trip – Na Nhang Neua, Houay-Kong and village surveys (Cont.)			
26.11.2012- 01.12.2012	Participatory observation and informal talks	Villagers Head of PNRE	Na Nhang Neua
04.12.2012	Interview	Vice-head of section for Land Development	Dept. for Natural Resources and Environment, Luang Prabang
Post-evaluation in Vientiane			
05.12.2012- 11.12.2012	Final field evaluation and rap-up of field stay Presentation of preliminary results		CDE, Laos Country Office, Vientiane

Appendix 3: Household questionnaire

Template of the questionnaire used in both villages. Due to the extra language barrier and time constraints in Houay-Kong, the questions 3.4 to 3.8 were left out. Furthermore, after the midterm evaluation in Vientiane additional questions were added to the questionnaire, and follow-up visits were made to the seven out of the twelve households visited in the first round, the last five were unavailable due to either illness or other engagements. The last part of this template show the additional questions posed.

Household questionnaire - template

Questionnaire number: _____ Date and time: _____
 Respondent name: _____ Number of people present under interview: _____
 Type of house: _____

Part 1: Respondent and household characteristics

(Investigating present livelihood strategies and change from _____ years ago)

1. Respondent information

Respondent	Gender (F=female M=male)	Status in household	Ethnicity	Age	Education
1					
2					
3					
4					

2. Household information:

- 2.1. How many people are living in your household in total? _____
- 2.2. How many people in your household are in the following age groups...?

Age group	Male		Female	
	Live in village	Live outside the village	Live in village	Live outside the village
Below 5 years				
6-14 years				
15-35 years				
36-59 years				
Above 60 years				
Total				

- 2.3. Is there anyone in your household that live outside the village? (Who and where?) _____
- 2.3.1. Do they sometimes come back and stay in your house? Yes No
- 2.4. How many years have your household been an individual unit? _____
- 2.5. How many years have your household been settled in this village? _____
- 2.5.1. Why did you choose to move to this village? _____
- 2.5.2. Have your household been resettled by the government to the village? Yes No
- 2.5.3. If yes, where did you live before? _____

Part 2: Livelihood strategies

3. Household livelihood activities

- 3.1. Have someone in your household been engaged in the following activities within the last year... (wet and dry season)?

Type of income activity	Season (W=wet, D=dry, B=both, N=no)	Who participates in this activity?					
		Children (<14)	Men (14-59)	Women (14-59)	Elderly men (>59)	Elderly women (>59)	All
a. Cultivating lowland rice for own consumption							
b. Cultivating upland rice for own consumption							
c. Cultivating vegetables							
d. Cultivating tobacco							
e. Other agriculture for sales (cash crops)							
f. Production of contract rubber							
g. Production of smallholder rubber							
h. Raising of livestock							
i. Collection of timber forest products							
j. Collection of NTFP							
k. Migration for paid work							
l. Wage labour (Specify what)							
m. Construction work							
n. Working in for the company							
o. Job in the government							
p. Have own business (specify which kind)							
q. Fishing							
r. Hunting							
x. Others, specify what							
x1.							

- 3.2. In general, would you say that your household are doing more or less different things now, than _____ years ago? More Less Same
- 3.2.1. What is the reason for this? _____

3.3. What are the main sources of income for your household now and _____ years ago?

Rank	Activity now	Activity _____ years ago
1		
2		
3		
4		
5		

3.3.1. If changed, what are the main reasons behind the change? (Explain)

3.4. Have someone in your household sold any of the following products on the market or in the village within the last year?

Type of product	Indicate type	Season (W=wet, D=dry, B=both)	Where did you sell the crop? (Village, market (name of market), traders coming to the village)
a. Rice (Upland, paddy)			
b. Vegetables			
c. Fruits			
d. Tobacco			
e. Other cash crops			
f. Livestock			
g. Timber products			
h. Non-timber forest products			
i. Handicraft			
j. Fish (river, pond)			
x. Others, specify...			

3.5. Do you ever sell your products other places than within the village? Yes No

3.5.1. If yes, where? _____

3.6. In general, do you think it is easy or difficult to sell your product?

3.7. In general, do you think it is easier or more difficult to get to the market now, if you compared to _____ years ago? Easy Difficult Same

3.7.1. What the main reason for this?

3.8. What are the main things that you use the money that you earn to now and _____ years ago?

Rank	Expenditure now	Expenditure _____ years ago
1		
2		
3		
4		
5		

3.8.1. If changed, what are the main reasons behind the change? (Explain)

3.9. Which kind of livestock does your household have now and 10 years ago? Have your number of livestock increased or decreased in the period?

Type of livestock	Today	_____ years ago	Change (I=increase; D=decrease; S=same)	Reason for change
	Numbers	Numbers		
a. Cattle				
b. Buffalo				
c. Pigs				
d. Poultry				
e. Goats				
x. Others, specify				
x1.				

3.10. What is the main reason that you keep and raise livestock? (Explain)

3.11. What have you used the money from the sale of cows/buffalos for?

Migration (if indicated above in 3.1)

3.12. Above you have indicated that someone in your family migrates for agricultural or other work, which kind of work do they do and where? _____

3.13. How often do they come back and stay in your household? _____

3.14. Do he/she/they contribute with income to the household? Yes No

4. Land and agriculture

4.1. Which kind of land do your household have access to?

Type of land	Availability		Usage**	Access (How did you gain access to your fields?)	Tenure (What kind of paper do you have for your land)
	Now	Now			
a. Paddy land (Wet season)			(1) Rice (2) Vegetables (specify) (3) Fruits (4) Cash crops (specify) (5) Tree crops (specify) (6) Livestock (7) Collection of food (8) Collection of other products	(1) Inheritance (2) Clearing of land/claim (3) Purchase (4) Renting/leasing (5) Borrowing (6) Through village leadership (7) Through government (8) Others, specify ...	(1) Land tax declaration (2) Temporary certificate for agricultural land (3) Permanent certificate of land (4) Title (5) Others, specify ...
b. Paddy land (Dry season)					
c. Swidden land					
d. Garden land					
e. Booked land					

4.2. What is the main reason for changes in your agricultural practice between now and _____ years ago?

4.3. Do you use any inputs in your agricultural production?*

4.4. What kind of inputs, and where do you get them from?*

4.5. When did you start using inputs?*

4.6. Do you think you have enough land for cultivating your crops?

4.6.1. If no, what is the reason for this?

If household have titles or papers for land:

4.7. What kind of rights, do the papers that you have for your land give you? (Explain)

4.8. Can you sell or lease your land based on these papers?

4.9. Do you feel secure about your land holdings/access to land (all types of land)?

4.9.1. Can you explain why this is?

4.10. Do you have any land you do not feel secure about?*

4.10.1. Can you explain why?

5. Food security

5.1. How much rice did your household produce this year?

	Upland rice (kg)	Paddy rice (kg)
Wet season (last year)		
Dry season (this year)		
Wet season (this year – expected)		

5.1.1. Why do you expect this year's rice harvest in the wet season to be more/less than last year? (Explain)

5.2. Is this year's rice harvest enough, to feed your household through the whole year? Yes No

5.2.1. If no, how many months did you not have rice for? _____

5.3. How much rice did you buy this year? _____

5.4. If you don't produce enough rice to last the whole year, how do you get rice for the other months?

- a. Exchange labour for rice
- b. Sell livestock to buy rice
- c. Sell other assets to buy rice
- d. Use money from wage labour
- e. Borrow money from neighbours of family
- f. Borrow money from the bank
- g. Use money earned from other crops
- h. Borrow rice from relatives/neighbours
- x. Others, specify _____

5.5. If you lack food in some months, what is the main reason?

5.6. Has there ever been a year without sufficient rice?*

5.7. In general did your household use to sell rice in the past _____ years ago?*

5.7.1. What have changed?*

5.8. Does your household's rice production vary from year to year?

5.8.1. If yes, what is the main reason for the variation? (Explain)

5.9. In general, have your production of rice increased or decreased, significantly/very much, compared to _____ years ago?

5.9.1. If yes, what is the main reason for the change?

5.10. Where do you mainly get the following food from?

Source	
Food	Own production
a. Meat	Buy in market
b. Fish	Collect in forest
c. Vegetables	
d. Fruits	

Part 3: Concession

(Investigating livelihood changes brought by the concession)

6. The concession

6.1. Do you know about any land concession in your village? Yes No

If yes, continue questionnaire:

6.2. Do you know the name of the company(ies) operating in your village and what do they produce?

6.3. Do you know about the Sino Company? (Where are they from, what do they produce?)*

6.4. Do you know where the company is from? Nationality? _____

6.5. When did you first hear about the concession? _____

6.6. Where did you learn about the concession? Who told you about it? _____

6.7. Where you part of the decision-making process for establishing the plantation in this village?
Yes No

6.7.1. If yes, what was your role? _____

6.7.2. If no, why where you not a part of it? _____

6.8. Did you agree with the decision to grant land to the concession company? Yes No

6.8.1. Explain why you agreed/didn't agree? _____

7. Rubber production

Contract farming:

7.1. Do your household do contract farming with the company? Yes No

7.1.1. Why are you doing contract farming? _____

7.2. How much land have you planted rubber on for the concession? _____

7.3. When did you start in the contract farming? _____

7.4. What are the details in the contract between you and the company? (explain) _____

7.5. Are you happy to be part of the contract farming with the company? (Explain)

7.6. Why are you not part of the contract farming with the company? (explain)

Smallholder*:

7.7. Do your household have smallholder rubber? Yes No

7.7.1. Why are you growing rubber on your own? _____

7.8. How much land have you planted rubber on? _____

7.9. When did you plant your rubber? _____

7.10. Where did you get your rubber? _____

7.11. Is the rubber growing good? When can you begin tapping the rubber? _____

8. Land loss

8.1. Have your household lost land or lost access to land due to the concession? Yes No

8.2. If yes, which type of land was lost and how much?

Type of land	Lost land? (Tick if yes)	How much land? (ha)	Did you receive compensation for the land?	Which kind of compensation? (Money, land, job)	Level of compensation
a. Swidden land					
b. Paddy land (wet season)					
c. Paddy land (dry season)					
d. Garden land					
e. Booked land					

8.3. Were you promised compensation for land, which you did not receive? Yes No

8.3.1. Why did you not receive it? What was the explanation for no compensation?*

Answers if compensation is received:

8.4. Who negotiated the compensation?

a. A household member b. The headman c. The villages committee

d. The government e. There was no negotiation f. Don't know

8.5. Did you receive a contract with the terms of the land transaction and compensation? Yes No

8.5.1. If yes, what does the contract say? _____

8.6. Are you happy with the level of compensation (either land or money)? Yes No

8.7. Why are you happy/not happy? _____

8.8. What have you used your compensation for? _____

Answers if no compensation:

- 8.9. Did you ask for compensation for your land? Yes No
8.9.1. If yes, did you get an explanation for not being compensated? Yes No
8.9.2. What was the explanation: _____
8.9.3. If no, why did you not ask for compensation? _____
8.10. Do you know why your household wasn't compensated by the company? Yes No
8.10.1. If yes, what was the explanation? _____

9. Access to natural resources

- 9.1. Have you changed the way you use the forest around the village, since the concession company started working in the area? Yes No
9.1.1. If yes, what has changed? _____
9.2. Have you changed the way you use the rivers around the village, since the concession company started working in the area? Yes No
9.2.1. If yes, what has changed? _____

- 9.3. Have the establishment of the plantation had any consequences for the number of livestock that you raise?

Increase Decrease Same

9.3.1. Why have it changed? _____

10. Employment (if household is employed by company):

- 10.1. What kind of work do they do? _____
10.2. How are they paid for the work? And how much do they receive? _____
10.3. Do they have a contract for the work they do? Yes No
10.3.1. If yes, what is in the contract? _____
10.4. What is the reason that no one in your household works for the company?*_ _____
10.5. Did anyone in your HH work for the company in the beginning?*_ Yes No
10.5.1. Which type of work?*_ _____
10.5.2. How much were you paid?*_ _____

10.5.3. Did you have a contract for the work?*_ Yes No

10.5.4. What was in the contract?*_ _____

10.5.5. Why did they stop?*_ _____

11. Income

11.1. Have the concession changed the main activities for generating income in your household?

Yes No Same

11.1.1. Can you explain the changes? _____

11.2. Have the level of your income increased or decreased after the establishment of the plantation

Increase Decrease Same

11.2.1. Why have it changed? _____

12. Food security

12.1. In general, do you harvest more or less rice now than before the concession?

More Less Same

12.1.1. If yes, what is the explanation? _____

12.2. In general, do you buy more or less food on the market now than you did before the plantation was established?

More Less Same

12.2.1. If yes, what is the explanation? _____

12.3. In general, do you collect more or less food in the forest now, than before the plantation was established?

More Less Same

12.3.1. If yes, what is the explanation? _____

13. Overall view on the concession:

13.1. In your opinion, what is the biggest change to your household after the establishment of the plantation? _____

13.2. In your opinion, what is the biggest change to the village in general after the establishment of the plantation? _____

13.3. Has the concession brought any good or bad development to the village? _____

General observation

Additional questions for questionnaire respondents:

3. Livelihood activities

3.1.1. What have you used the money from sale of livestock (cows/buffalos) for?

Agricultural system

4.7. Do you use any inputs in your agricultural production? Yes No

4.8. What kind of inputs, and where do you get them from?

4.9. When did you start using inputs?

4.10. Do you have any land you do not feel secure about? Yes No

4.10.1. Can you explain why?

5. Food security

5.6 Has there ever been a year without sufficient rice? Yes No

5.7 In general did your household use to sell rice in the past, _____years ago?

5.7.1 What have changed?

Appendix 4: Household survey respondents

Table 1. Respondents in Na Nhang Neua.

Nr.	Date of interview	Wealth category	Ethnicity	Years since re-settled to the village	Gender of respondent	Respondent (Status in HH in relation to the Head of HH)	Age of respondent
1	25.10.12	'Wealthy'	Lue	---	Male	Head of HH	45
2	25.10.12	'Average'	Lue	---	Male	Head of HH	55
3	25.10.12	'Poor'	Khmu	1	Male	Head of HH	34
4	25.10.12	'Poor'	Khmu	1	Male	Head of HH	43
5	25.10.12	'Average'	Lue	---	Male	Head of HH	62
6	25.10.12	'Average'	Lue	---	Male	Head of HH	62
7	26.10.12	'Average'	Lue	---	Male	Head of HH	55
8	26.10.12	'Average'	Lue	---	Male	Head of HH	64
9	26.10.12	'Poor'	Khmu	5	Male	Head of HH	43
10	26.10.12	'Average'	Lue	---	Female	Wife	56
11	26.10.12	'Average'	Lue	---	Male	Head of HH	60
12	29.10.12	'Average'	Lue	---	Male	Head of HH	65
13	10.11.12	'Average'	Lue	---	Female	Wife	52
14	10.11.12	'Average'	Lue	---	Male	Head of HH	60
15	10.11.12	'Average'	Lue	---	Male	Head of HH	76
16	10.11.12	'Average'	Lue	---	Male	Head of HH	64
17	11.11.12	'Average'	Lue	---	Male	Head of HH	55
18	11.11.12	'Average'	Khmu	4	Female	Wife	53
19	11.11.12	'Average'	Lue	---	Male	Head of HH	52
20	12.11.12	'Average'	Lue	---	Female	Head of HH	27
21	14.11.12	'Average'	Lue	---	Female	Wife	37
22	14.11.12	'Poor'	Khmu	1	Male	Head of HH	46
23	14.11.12	'Average'	Lue	---	Male	Head of HH	50
24	14.11.12	'Average'	Lue	---	Male	Head of HH	55
25	14.11.12	'Average'	Lue	---	Male	Head of HH	45
26	15.11.12	'Average'	Lue	---	Male	Head of HH	53
27	15.11.12 / 17.11.12	'Average'	Lue	---	Male	Grandfather	70
28	15.11.12	'Average'	Lue	---	Male	Head of HH	51
29	15.11.12	'Average'	Lue	---	Female	Head of HH	45
30	16.11.12	'Average'	Lue	---	Female	Wife	60
31	16.11.12	'Poor'	Lue	---	Female	Head of HH	45
32	16.11.12	'Average'	Lue	---	Male	Head of HH	60
33	17.11.12	'Average'	Lue	---	Female	Daughter	42
34	26.11.12	'Average'	Lue	---	Female	Wife	45
35	26.11.12	'Average'	Lue	---	Male	Head of HH	47
36	27.11.12	'Average'	Khmu	3	Male	Head of HH	58

Table 2. Respondents in Houay-Kong.

Nr .	Date of interview	Wealth category	Ethnicity	Years since re-settled in the village	Gender of respondent	Respondent (Status in HH in relation to the Head of HH)	Age of respondent
A	20.11.12	'Average'	Khmu	33	Male	Head of HH	57
B	20.11.12	'Average'	Khmu	24	Male	Head of HH	60
C	21.11.12	'Average'	Khmu	11	Male	Head of HH	41
D	21.11.12	'Average'	Khmu	---	Male	Head of HH	53
E	22.11.12	'Average'	Khmu	12	Male	Head of HH	58
F	22.11.12	'Poor'	Khmu	3	Male	Head of HH	62
G	22.11.12	'Poor'	Khmu	10	Male	Head of HH	40
H	23.11.12	'Average'	Khmu	---	Male	Head of HH	55
I	23.11.12	'Average'	Khmu	17	Female	Head of HH	45
J	24.11.12	'Average'	Khmu	---	Male	Head of HH	47
K	24.11.12	'Average'	Khmu	---	Male	Head of HH	58

Appendix 5: Village overview and typology

Type 1 villages: Main land system mixed upland-lowland																
Village name	Cluster	Distance from district capital (km)	Number of household	Population	Ethnicity	Accessibility	Main farming system Current	Concession area	Contract farming	Small-holders	Previous use	Main negative consequence	Main positive consequence	Livestock	Land	General opinion
Na-Nhang-Neua	Na-Nhang	11	170	663	Lue (152 HH) Khmu (18 HH since 2006)	Good	Lowland	100ha	Yes	Yes	Upland rice Grassland Secondary forest	Loss livestock Paddy land soil River dry Loss of upland	---	Lost all Penalties	Land scarcity Stop SC before Sino	Very unhappy No choice State land
Na-Nhang-Tai	Na-Nhang	9	122	548	Lue (112 HH) Hmong (10 HH)	Good	Lowland	(100ha)*	Yes	Yes	Upland rice Grassland	Loss livestock Paddy land soil Loss of upland	Nothing	Lost all Penalties	Land scarcity	Very unhappy No choice Strongly disagree State land
Na-Mai	Na-Nhang	15	230	1099	Lue (90 HH) Khmu (140 HH since 2004)	Good	Mixed Lowland (Lue) Upland (Khmu)	130ha	Yes	Yes (few HH)	Upland farming	Loss of land Some HH become food insecure Loss of livestock	Road construction to agricultural area Income + potential future income	Lost all Feared penalties	Land scarcity No land to allocate to HH who lost land or to new households	Good and bad
Houay-Hit	Na-Nhang	11	187	920	---	Good	Lowland Upland Mixed	100ha	Yes (Not Sino Company)	---	---	Loss of upland HH can't grow rubber themselves Loss of livestock	Company contributed money to repair the road; and 2tons cement for the temple	Lost all	---	Very unhappy State land
Phongchong	Na Nhang	21	58	244	Lue	Low	Mixed Lowland Upland	100ha	No	No	Upland farming (30HH) Young and old fallow Community forest	Lost livestock grass in the forest and the paddy No income from livestock Loss of upland	Employment in the beginning Easy with no fences	Lost livestock Scared of penalties	Land scarcity	Nothing good from the company
Houay-Yen	Na-Nhang	7	104	681	Khmu	Good	Lowland	0	No	Yes (Not Sino Company)	Upland crops – rice, sesame, others	---	---	---	Land scarcity Still land for some rice	---
Houay-Ha	Na Nhang	14	75	301	Lue	Okay	Lowland Mixed livestock	0	Yes (Not Sino)	No	Upland rice	---	---	---	---	---
Vienghin-Suong	Na Nhang	22	115	926	Khmu (39 HH) Hmong (76 HH)	Low	Upland Mixed livestock	0	No	Yes (2HH)	---	---	---	---	---	---

Type two villages: Main land system – upland																
Village name	Cluster	Distance from district capital (km)	Number of household	Population (Total)	Ethnicity	Accessibility	Main farming system Current	Concession area	Contract farming	Small-holders	Previous use	Main negative consequence	Main positive consequence	Livestock	Land	General opinion
Houaykong	Na-Nhang	20	180	955*	Khmu	Okay	Upland	80ha	Yes (120HH)	Yes (few HH)	Shifting cultivation Upland rice and crops	Loss of upland (30-40HH) Loss of some livestock Loss of income from buffalos	Employment (24HH) Income increase See good rubber returns	Loss some livestock Still keep some livestock in the upland	No land scarcity HH got new land after concession Enough land for everyone	Good and bad
Khanloum	Namdouan	49	140	779	Lue Khmu (89% - 2004)	Low	Mixed Upland/garden (Khmu) Lowland (Lue)	200ha	No	Yes (few HH)	Upland crops (cultivate new area that used to be conservation forest)	Loss of livestock Loss upland	Road Employment (Khmu) (Division of labour – Lue have permanent jobs with paddy)	Lost all Paddy yield decrease Grass in paddy	HH using concession area got new fields for cultivating upland rice	Good and bad Compared to other villages with no road and no company they are not poor anymore
Lan-Kang	Namdouan	48	91	506	Khmu	Very low	Upland and garden Little bit of paddy land	117ha	No	No	Upland farming (10-20HH) Young and old fallow	Loss of land (no big problem)	Road construction Employment by Sino Income increase Future income from tapping	Move livestock to other area	No land scarcity Abundant land for allocating HH	Good Villages chosen because very poor
Khanteung	Namdouan	43	146	819	Khmu (except 1 Lao Lue HH)	Low	Upland	450ha	no	Yes (few HH)	Upland rice and crops (35HH)	Loss of upland Loss of livestock for some HH	Employment (HH who had a plot of land lost to concession could work on that land) Income opportunity	Some HH sold livestock No livestock → no income No livestock to kill for festivals	Enough at the moment, but maybe not in future Had to divide land between them to give to HH who lost the land	Not happy Disagreed

Explanations

Accessibility:	Assessed qualitatively in relation to the journey time and road conditions for travelling there
Main farming system (current):	Assessed based on the Naibans' answers on types of land, types of crops cultivated and other agricultural activities
Previous use:	Based on the Naibans' answers on what the land was used for before the implementation of the concession
Main negative consequences:	Assessed based on the Naibans' answers on main consequences, direct question: "Has the concession brought any bad developments to the village?"
Main positive consequence:	Assessed based on the Naibans' answers on main consequences, direct question: "Has the concession brought any good developments to the village?"
Livestock:	Assessed based on the Naibans' answers on livestock rearing in the village currently and in the past
Land:	Assessed based on the Naibans' answers on land availability in the village currently and in the past
General opinion:	Assessed based on the Naibans' overall opinions of the consequences of the concession

Appendix 6: Provincial Land-use map of Na Nhang Neua

As noted in Chapter 6, the land-use map pictured in Figure 9, page 66 shows some discrepancies in relation to the size of the village territory.

Figure 13 below shows the same map overlaid with a grid drawn based on the scale bar in the left corner of the map. The scale bar is 1km and each square represent 1 km². Based on this grid a rough estimation results in a total village area around 1200ha, and thus significantly higher than the estimate given by the village committee. Since this discrepancy was only discovered during data analysis after the fieldwork, it was not possible to discuss the differences with the village authorities. However, it shows some of the difficulties in obtaining reliable information in the field, especially when working with translators.

Figure 13: Land-use map put up in village during field work. The title reads: *Land use map of Ban Na Nhang Neua*. The legend reads from the top and down: 1) Road; 2) River; 3) Village reserved land for agricultural expansion; 4) Wet paddy land; 5) Individual residential area; 6) Cemetery; 7) Village protection forest; 8) Village production forest; 9) Village conservation forest; 10) Industrial tree plantation area. The red line indicates an estimate of the concession area, while the yellow dotted line indicates the main area for smallholder and contract farming rubber.

