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Large-Scale Land Acquisitions

Les acquisitions de terre à grande échelle

Part 2. Land Dynamics and Livelihoods in South-East Asia

## Marginal Lands or Marginal People? Analysing Key Processes Determining the Outcomes of Large-Scale Land Acquisitions in Lao PDR and Cambodia

PETER MESSERLI, AMAURY PEETERS, OLIVER SCHOENWEGER, VONG NANHTHAVONG AND  
ANDREAS HEINIMANN

### **Abstracts**

This chapter aims to overcome the gap existing between case study research, which typically provides qualitative and process-based insights, and national or global inventories that typically offer spatially explicit and quantitative analysis of broader patterns, and thus to present adequate evidence for policymaking regarding large-scale land acquisitions. Therefore, the chapter links spatial patterns of land acquisitions to underlying implementation processes of land allocation. Methodologically linking the described patterns and processes proved difficult, but we have identified indicators that could be added to inventories and monitoring systems to make linkage possible. Combining complementary approaches in this way may help to determine where policy space exists for more sustainable governance of land acquisitions, both geographically and with regard to processes of agrarian transitions. Our spatial analysis revealed two general patterns: (i) relatively large forestry-related acquisitions that target forested landscapes and often interfere with semi-subsistence farming systems; and (ii) smaller agriculture-related acquisitions that often target existing cropland and also interfere with semi-subsistence systems. Furthermore, our meta-analysis of land acquisition implementation processes shows that authoritarian, top-down processes dominate. Initially, the demands of powerful regional and domestic investors tend to override socio-ecological variables, local actors' interests, and land governance mechanisms. As available land grows scarce, however, and local actors gain experience dealing with land acquisitions, it appears that land investments begin to fail or give way to more inclusive, bottom-up investment models.

Cet article vise à combler le fossé existant entre les études de cas, qui fournissent généralement des aperçus qualitatifs basés sur les processus, et les inventaires nationaux ou mondiaux, qui offrent généralement des analyses spatialement explicites et quantitative de modèles plus larges ; il souhaite ainsi présenter des données adéquates pour l'élaboration des politiques concernant les acquisitions de terres à grande échelle. C'est pourquoi il relie les modèles spatiaux d'acquisitions de terres aux processus sous-jacents de mise en œuvre de l'attribution des terres. Du point de vue méthodologique, relier les modèles et les processus décrits s'est avéré difficile, mais nous avons identifié des indicateurs qui ont pu être ajoutés aux inventaires et aux systèmes de surveillance, rendant alors les liaisons possibles. Une telle combinaison d'approches complémentaires peut aider à déterminer où il existe un espace politique pour une gouvernance plus durable des acquisitions de

terres, à la fois géographiquement et eu égard aux processus de transitions agraires. Notre analyse spatiale a révélé deux modèles généraux : 1o des acquisitions relativement importantes, liées à la foresterie, qui ciblent des paysages forestiers et interfèrent souvent avec les systèmes agricoles de semi-subsistance ; 2o des acquisitions plus petites, liées à l'agriculture, qui ciblent souvent des terres agricoles existantes et interfèrent également avec les systèmes de semi-subsistance. En outre, notre méta-analyse des processus de mise en œuvre des acquisitions de terres montre que les processus autoritaires émanant du sommet dominant. Initialement, les exigences de puissants investisseurs régionaux et nationaux ont tendance à primer sur les variables socio-écologiques, les intérêts des acteurs locaux et les mécanismes de gouvernance foncière. Cependant, au fur et à mesure que les terres disponibles deviennent rares et que les acteurs locaux acquièrent de l'expérience face aux acquisitions de terres, il apparaît que les investissements fonciers commencent à échouer ou à céder la place à des modèles d'investissement plus ascendants et inclusifs.

## Index terms

**Thematic keywords** : governance, enterprises, agriculture, exports, agricultural policy, financial globalisation, foreign direct investment (FDI), commodities, large-scale land acquisitions

**Geographic keywords** : Asia South-East, Laos, Cambodia

## Editor's notes

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## Full text

# 1. Introduction

- 1 A growing body of scientific evidence on large-scale land acquisitions (LSLAs) is helping to inform the heated debate regarding this rapidly unfolding phenomenon. Some researchers—particularly those using qualitative, in-depth case studies—have examined land-acquisition processes within the dynamics of agrarian change and larger political-economic shifts. Other researchers have striven to establish quantitative inventories of LSLAs to improve our understanding of the scale and dimensions of land acquisitions at the national (Görge et al., 2009; Schönweger et al., 2012; Üllenberg, 2009), regional (Friis and Reenberg, 2010), or global level (Anseeuw et al., 2012; Cotula, 2012; Deininger and Byerlee, 2011). Based on such inventories, the World Bank has deemed 445 million hectares (ha) of land worldwide to be 'marginal land' that could benefit from agricultural investments because it is not forested or under protection and has population densities below 25 people per km<sup>2</sup> (Deininger and Byerlee, 2011).
- 2 Both qualitative case-based approaches and quantitative inventory-based approaches have persistently met with difficulties and criticism when it comes to guiding policy on land investments. While case studies focussing on specific local contexts are good at capturing processes and interactions, they have limited geographical validity and are typically ill-suited to generalising and informing policy at higher spatial levels (Anseeuw et al., 2012; Messerli et al., 2013). By contrast, regional and global inventories based on quantitative approaches are useful for making large comparisons, but frequently lack insight into processes and fail to account for variety and differentiation; they have also been criticised for relying on faulty or incomplete data sources and for lacking verification on the ground (Edelman, 2013; Oya, 2013). Similarly, hasty assessments about unused or underused 'marginal' land have been consistently refuted by intensive case study research (Borras Jr. et al., 2011; Dwyer, 2013; Nalepa and Bauer, 2012). This research has shown that land targeted by international land deals is often not idle at all, but rather is subject to claims and is used by people who are increasingly being marginalised by processes of globalization.
- 3 From a policy perspective, it remains a point of dispute whether or to what extent LSLAs target marginal land and/or create marginalised populations. Overall, the policy-related evidence provided by researchers appears ambiguous and often contradictory. Because of this, recent proposals have recommended bringing together country-level and case-based research approaches, taking advantage of conceptual and methodological complementarities (Messerli et al., 2013; Scoones et al., 2013). Such a research agenda would aim at linking patterns of quantitative, place-based (spatially referenced) assessments of LSLAs to insights from processes-based, frequently qualitative case studies.
- 4 Supplying useful scientific evidence for decision-making and policymaking has also proven difficult in South-East Asia. Here, LSLAs have emerged mainly as a regional phenomenon, contrasting somewhat with the 'land rush' in Africa and Latin America where global drivers are seen as especially important (Anseeuw et al., 2012). Such acquisitions reflect a broader picture of agricultural and societal transformation, characterised by a rapid shift away from rural subsistence-

oriented agriculture in favour of more urbanised societies and industrialised, market-based forms of land use. Often termed 'agrarian transition' (De Koninck, 2004; Rigg, 2006), this transformation comprises many simultaneously occurring processes such as agricultural intensification and territorial expansion, market-based economic integration, rural-urban migration, new forms of regulations governing agricultural production, and urbanisation. None of these processes necessarily follow a linear path and their pace differs from place to place. Rural transformation processes vary considerably across the region and across different scales, making it difficult to properly conceptualise and understand changes in the Asian countryside as they occur (Rigg, 2005). LSLAs have led to highly dissimilar outcomes from one place to another. Thus, using single case studies or locally obtained empirical results to formulate regional or national policy is highly problematic.

- 5 This paper focuses on land investments in Laos and Cambodia. The land resources in both countries are under significant pressure from LSLAs, especially as a result of foreign direct investment by neighbouring riparian countries. Our overall goal is to identify distinct spatio-temporal patterns of LSLAs across the two countries and to attempt to link them to recurrent or archetypal processes of implementation of land deals from concession granting to the final allocation of land. This encompasses two primary objectives: (1) methodologically, we aim to explore and illustrate how quantitative, place-based (spatial) analysis of land investments can be linked to process-based, qualitative studies; (2) as regards content, we aim to improve—based on better methodology—the generalisation of evidence on LSLAs for policymaking and decision-making.
- 6 The paper is structured as follows. In section 2, we describe our methodology and the results of analysing spatial patterns of LSLAs based on country-level inventories. Here, we focus on the origin of the investors, on crop types, and on geographical target contexts (including social and ecological characteristics). In section 3, we describe how we used a meta-analysis of case studies to identify key factors of LSLA implementation processes and recurrent linkages between these key factors. Based on these recurrent linkages, we propose four so-called archetypes of land acquisitions as the basis for a working typology of implementation processes. Finally, in section 4 we discuss whether and to what extent spatial patterns of land deals can be related to archetypes of implementation processes in order to improve the validity and generalisation of research results for policymaking purposes.

## 2. Analysing Spatial Patterns of LSLAs in Laos and Cambodia

### 2.1. Materials and Methods

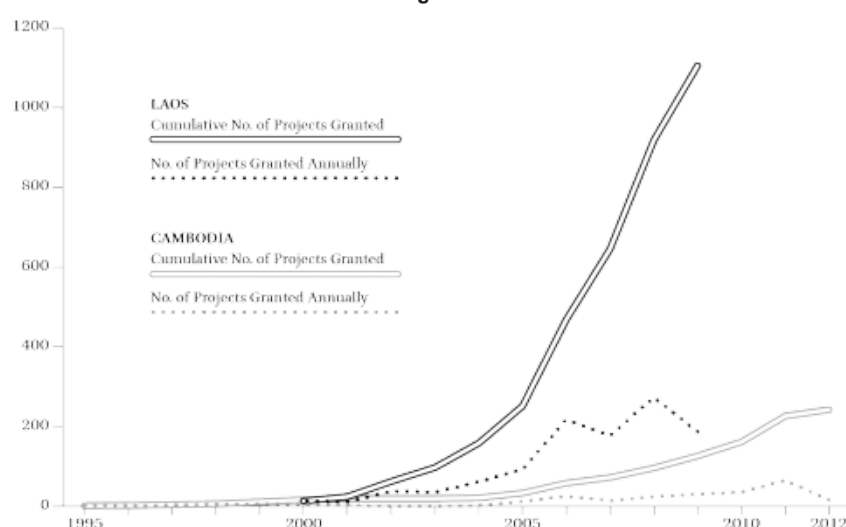
- 7 In both Laos and Cambodia, national databases of LSLAs have been gradually built using different information sources furnished by different agencies and initiatives. In Laos, the bulk of data was collected through an inventory of land concessions and leases (from the local level to the national level) conducted between 2007 and 2010, with additional updates and data cleaning occurring in 2012 (Schönweger et al., 2012). Only 50 per cent of the granted deals collected in this inventory were spatially referenced. For the purpose of our analysis, only the spatially referenced deals were used, encompassing 597,600 ha of land (out of 1.1 million ha, in total, of granted land concessions and leases).
- 8 The Cambodian database was drawn together from a variety of information sources. It includes official data gathered by Open Development Cambodia (ODC, 2013); data from LICADHO (2013); data from NGO Forum (2012); and data from the Ministry of Agriculture, Forestry and Fisheries of Cambodia (2012); as well as our own field data. The resulting database combines data on land concessions (with spatial-reference data) comprising 490 deals that cover 4.5 million ha; the most recent updates and data cleaning took place in September 2013.
- 9 Using these unique data sets, we conducted a descriptive analysis looking at investors' country of origin, the intended purpose of the deal (by sub-sector), and the date of approval for each land deal. To gain some initial insights into the national-level characteristics of land acquisitions in Laos and Cambodia, we compared the geo-referenced land-deal data with other important spatially referenced country-level data sets, in particular those on poverty incidence, accessibility to provincial capitals, and land cover. Because the national land cover data sets for Laos and Cambodia were not comparable (due to differing methods and classifications), globally available data were used from the GlobCover 2009 land classification (Arino, 2010). We calculated the accessibility of provincial capitals (i.e. travel time in minutes) with cost–distance algorithms in ArcGis 10, using national road data sets, digital elevation models, land cover data, and main rivers as inputs (Messerli et al., 2008). For Laos, we used village-level poverty data—from Epprecht et al. (2008)—that were calculated using small-area estimation based on figures from the 2005 Lao Population and Housing Census and the 2003 Lao Expenditure and Consumption Survey (LECS) III. For Cambodia, poverty measures were derived from the Identification of Poor Households Programme data set (Kingdom of Cambodia, 2012) and the Commune Database (NCCD, 2012) for 2008–2010.

## 2.2. Spatial Patterns of LSLAs in Laos and Cambodia

### 2.2.1 Dimensions and Scale of LSLAs

- 10 An openness to private investment in the form of land concessions has been present in the economic development policies of both countries for many years. In Cambodia, a new legal framework was adopted for land investment in 2001; the same occurred in Laos in 2003. In both countries, a series of additional laws and decrees have reinforced and concretised the trend towards private land investment (NAoL, 2004; GoL 2008; RGC, 2005). Investors' responses have not been slow in coming, giving rise to a veritable 'land rush' in both countries. The countries' respective governments have also made private investments in land an explicit part of their official development strategies and policies. But the growing scale and pace of land concessions have proven highly challenging to govern properly, sparking criticism both locally and internationally. The total number of concessions granted in Laos increased fiftyfold between 2000 and 2009, rising steeply after 2005 (Figure 6.1). In Cambodia, there was also a sharp increase in land deals after 2005. The most impressive observation, however, remains that—starting in 2000—it took only eight years to double the area granted to investors, from 0.5 million ha in 2000 to over 1 million ha in 2008, and only another four years to double it again, reaching over 2 million hectares in 2012.

**FIGURE 6.1: Trends of land concessions granted in Cambodia and Laos.**



*Note:* Figures for Cambodia do not include mining concessions, as no information about the granting date of mining concessions was available.

Source: Authors.

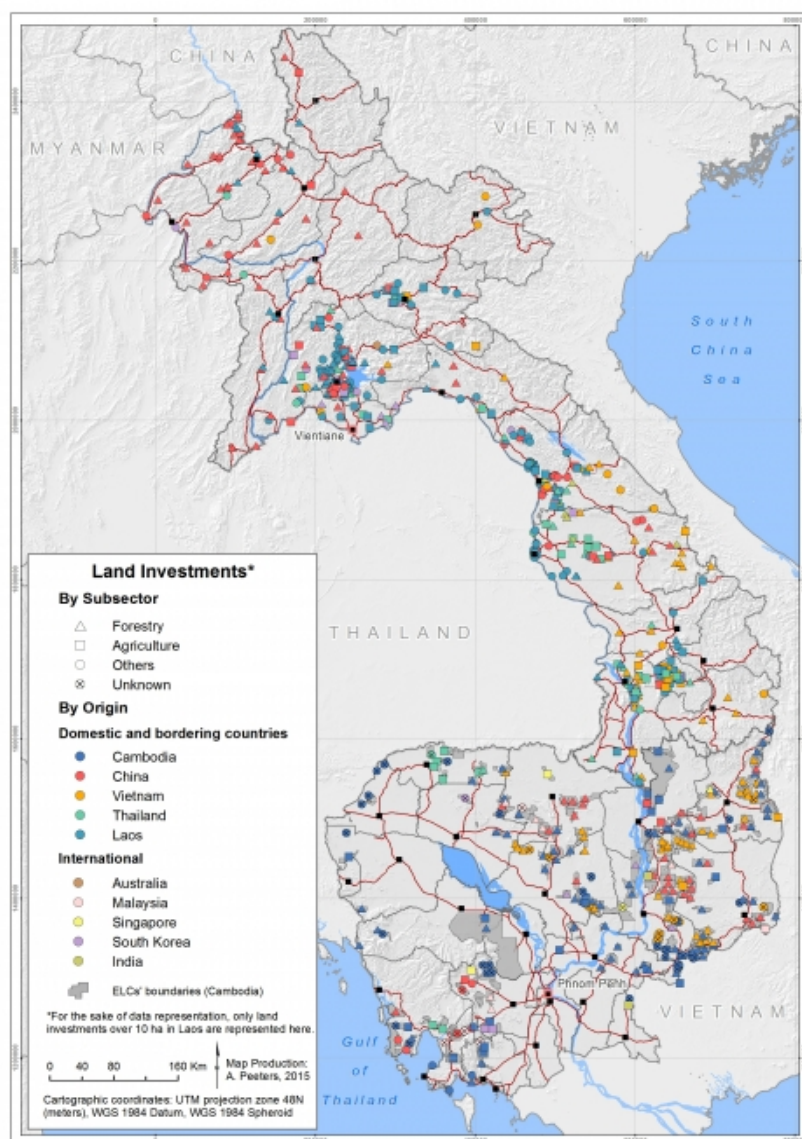
- 11 Despite the announcement of moratoriums on new land concessions in Laos (2007, 2009, and 2012) and Cambodia (2012), these deals play a major role in the economies of each country and will continue to do so based on the sheer size of existing deals. Today, Laos has already granted approximately 2,640 land concessions for 1.1 million ha (Schönweger et al., 2012), while Cambodia has granted about 490 concessions for 4.5 million ha, including mining concessions. Notably, land granted as concessions or leases constitutes around 5 per cent of the territory of Laos and around 25 per cent of the territory of Cambodia.

#### 2.2.2 Spatial Distribution of LSLAs

- 12 While land investments are spread throughout the two countries, there are regions where they are more clustered and more highly concentrated in terms of land area used (Figure 6.2): in the north of Laos, in the north and the northeast of Cambodia, and also in the south-western region of Cambodia. With regard to the origin of investors, domestic investments play an important role in terms of the absolute number of deals in both countries. These domestic investments are distributed in a similar manner to foreign investments across each country.

**FIGURE 6.2: Investment project locations in Laos (above) and Cambodia (below) by investors' countries of origin and by subsectors.**





Source: compiled based on Schönweger et al. (2012), ODC (2013), LICADHO (2013), NGO Forum (2012), and our own data collection.

### 2.2.3 Investors and Main Sub-Sectors Behind LSLAs

- 13 While in Cambodia domestic deals account for almost 50 per cent of the entire land area granted, in Laos they account for less than 15 per cent (Table 6.1). Consequently, domestic investors in Laos have much smaller deals (by area) on average. Non-domestic investments are dominated in both contexts by the following neighbouring countries: China, Vietnam, and Thailand. The proximity of areas to country of origin of the investors who invest in those areas partly explains the distribution of these regional investments (Figure 6.2). Investments from foreign countries outside the region, aggregated here under the category 'international', only represent small shares (by area and number) of the remaining concessions (Table 6.1).
- 14 In terms of the intended purpose of deals, the forestry sub-sector—including all forms of tree crops (mainly rubber, eucalyptus, and teak)—outweighs the agricultural sub-sector in both countries based on land area used: the figures are 15,157 km<sup>2</sup> (forestry) versus 2,813 km<sup>2</sup> (agriculture) in Cambodia; and 2,878 km<sup>2</sup> (forestry) versus 834 km<sup>2</sup> (agriculture) in Laos. Again, regional investors from neighbouring countries are the main source of forestry-related land deals in both countries taken together (53 per cent of deals), with domestic investors also being very important in Cambodia (44 per cent of deals). International investors hold only 11 per cent of all forestry concessions in both countries combined. Agriculture-related land deals are generally smaller than forestry-related land deals. Agriculture-related investments are dominated by regional (40 per cent of deals) and domestic stakeholders (39 per cent of deals) in Laos and Cambodia combined; international investors account for another 21 per cent of agriculture-related deals. It is also important to note the significance of the mining sector in Laos, as it accounts for the biggest share of land (92 per cent) among the sub-sectors classified under 'Other' for that country (Table 6.1).

**TABLE 6.1: Origin of investors, former land-cover status, and accessibility of land investments in**

**Cambodia and Laos.**

	Main sub-sectors	Deals		Investors' origin								Land cover					Access **
		No.	Area	Domestic		Regional*		Internat.		Unknown		Forest	Mosaic	Cropland	Other	Total	
		#	Km <sup>2</sup>	#	Km <sup>2</sup>	#	Km <sup>2</sup>	#	Km <sup>2</sup>	#	Km <sup>2</sup>	%	%	%	%	%	Min.
Cambodia	Forestry	142	15,157	62	8,575	65	5,361	14	1,209	1	12	44.0%	37.1%	18.8%	0.1%	100%	199
	Agriculture	43	2,813	21	1,245	12	966	8	509	2	93	37.7%	41.1%	21.1%	0.1%	100%	143
	Other	11	723	4	213	3	461	0	0	4	49	38.2%	55.1%	4.4%	2.3%	100%	232
	Unknown	84	4,322	36	1,300	13	801	12	1,340	23	880	42.2%	40.1%	17.6%	0.1%	100%	171
	Total	280	23,014	123	11,333	93	7,588	34	3,058	30	1,034	42.8%	38.6%	18.5%	0.2%	100%	—
Laos	Forestry	262	2,878	80	257	150	1,818	32	803	0	0	39.3%	42.8%	17.8%	0.1%	100%	123
	Agriculture	149	834	53	87	64	664	32	83	0	0	22.7%	29.7%	47.0%	0.6%	100%	96
	Other	935	2,264	673	486	220	1,633	42	146	0	0	40.0%	42.0%	16.8%	1.2%	100%	257
	Total	1,346	5,976	806	829	434	4,115	106	1,032	0	0	37.2%	40.7%	21.5%	0.6%	100%	—
	Forestry	404	18,035	142	8,832	215	7,179	46	2,013	1	12	43.3%	37.9%	18.6%	0.1%	100%	161
Cambodia & Laos	Agriculture	193	3,646	74	1,332	76	1,630	40	592	2	93	34.5%	38.7%	26.6%	0.2%	100%	120
	Other	946	2,987	677	699	223	2,094	42	146	4	49	39.6%	45.1%	13.8%	1.5%	100%	244
	Unknown	84	4,322	36	1,300	13	801	12	1,340	23	880	42.2%	40.1%	17.6%	0.1%	100%	171
	Total	1,626	28,990	929	12,162	527	11,703	140	4,090	30	1,034	41.7%	39.0%	19.0%	0.2%	100%	—
	Forestry	404	18,035	142	8,832	215	7,179	46	2,013	1	12	43.3%	37.9%	18.6%	0.1%	100%	161

\*Regional refers to countries neighbouring Cambodia and Laos—namely, Vietnam, Thailand, and China.

Source: Authors.

\*\*Accessibility refers to the time needed to travel to the nearest provincial capital (in minutes).

## 2.2.4 Geographic Contexts of Land Acquisitions at the National Level

- 15 Overlaying our map of land deals with earlier land cover data revealed some interesting spatial patterns. Overall, land concessions are mainly granted in forested landscapes (42 per cent) and in landscape mosaics of forest, shrub-land, and grassland (39 per cent); in Laos, such landscape mosaics have historically been the site of small-scale (mainly shifting) cultivation. Other general patterns emerging in both countries are that forestry-related concessions (e.g. tree plantations) tend to be granted in forested landscapes, while deals with an agricultural focus tend to be granted in landscapes of existing cropland. In Laos, agriculture-related concessions are twice as likely to be granted in cropland landscapes than in other types of landscapes.
- 16 Moreover, our spatial analysis reveals that the vast majority of investments are located in relatively easily accessible areas. Concessions in agriculture are the closest to provincial capitals in both countries, with an average travel time of two hours. Forestry concessions come next with an average travel time of two hours and 41 minutes to provincial capitals. Finally, concessions in other sub-sectors average over four hours of travel time—this especially reflects the importance of mining concessions in Laos, which must be situated where mineral deposits are located, of course, regardless of how remote that situation is. In Laos, land concessions tend to be more accessible than in Cambodia. Nevertheless, the main investors (domestic, Chinese, and Vietnamese) also run projects in very remote areas of both countries.

## 2.2.5 Summarising Patterns of Forestry- and Agriculture-Related LSLAs

- 17 Laos and Cambodia have both experienced a sharp increase in LSLAs over the past decade, corresponding to a fiftyfold increase in the number of land deals in Laos and a fourfold increase in the area granted in Cambodia. The land acquisitions in Laos are smaller in size but greater in number, and in Cambodia fewer but larger. Our analysis of the geography of LSLAs in both countries revealed some key commonalities and differences. Aware of the risks of oversimplification, we nevertheless identified and defined the following general patterns and socio-ecological contexts of LSLAs.
- 18 First, forestry is the most important concession-related sub-sector in Cambodia and Laos based on the amount of land involved. Investors from neighbouring countries—especially Vietnam and China—play a bigger role in these forestry-related concessions than do international investors from outside the region. In Cambodia, domestic investors also play a key role in this sub-sector. Forestry-related concessions are typically granted for large, contiguous plots of land, often relatively close to borders of riparian countries. In most cases, these plots are located in landscapes previously classified as ‘forest’; this suggests that investors may also see opportunities to extract value from timber obtained when clearing and preparing investment plots for their ‘intended purpose’. In Laos, the areas where forestry concessions are located exhibit the highest poverty rates of all areas affected by LSLAs, while in Cambodia, forestry deals are in average below the national mean but concern less poor areas compared to agricultural deals. The agrarian systems affected are partly subsistence farming systems but more often semi-subsistence systems because their relatively good accessibility enables farmers to diversify their activities to include growing commercial crops or earning off-farm income.
- 19 Second, agriculture is the next most important concession-related sub-sector. Domestic and regional investors both play an important role in this sub-sector. Agricultural concessions are

typically smaller in size than forestry concessions but are somewhat more accessible. In Laos, they tend to occur in areas displaying lower poverty incidence. Though some agricultural concessions target areas classified as forests, they more frequently target existing croplands and thus affect populations practicing lifestyles of semi-subsistence, commercial agriculture, and/or off-farm activities.

### 3. Analysing Patterns of LSLA Implementation Processes

20 After identifying these general patterns and socio-ecological contexts of land acquisitions, we sought to distinguish the different types of implementation processes that steer such acquisitions. We defined implementation processes as encompassing all phases, from the initial negotiation of a land concession to the final allocation of land in specific socio-ecological contexts. Our process-based analyses comprised three steps: (i) conducting case studies on different types of LSLAs in order to understand the actors, activities, and institutions that guide the implementation of land deals; (ii) conducting a meta-analysis of these case studies in which we identified common key factors and analysed their role in the implementation process; (iii) pinpointing and examining recurrent linkages between the key factors in an effort to distinguish archetypes of LSLA implementation processes as part of a broader typology. The following section describes each of these steps. While it provides a detailed account of the specific set of methods used and the results obtained, the case studies are initially described only briefly (number and type), as we wish to focus more attention on how they were used in our meta-analysis.

#### 3.1. Case Studies on Implementation Processes of LSLAs

21 Our meta-analysis draws on 15 case studies primarily conducted as Master's thesis projects between 2011 and 2013 in Laos and Cambodia, as part of a broader research project (Michel, 2013; Sommer, 2013; Zurflueh, 2013). Each case study focused on a separate company that sought to acquire land in order to invest in a specific crop. The case studies were designed to improve our understanding of land-deal implementation processes over time (from negotiations to allocation of land) and across different scales, whether spatial or administrative. Each was conceptually based on a human actor model that differentiates the activities and agency of actors from the dynamic conditions of action and the intuitions in which actions are embedded (Wiesmann et al., 2011). The case studies were selected based on national inventories of land investments in Cambodia (LICADHO, 2013; ODC, 2013) and Laos (Schönweger et al., 2012) using factors such as crop type, investor origin, and size of concession area as sample criteria. A total of 22 case studies in seven Lao provinces and 8 case studies in two Cambodian provinces were conducted; of these, 15 were included in our meta-analysis (see Table 6.2).

**TABLE 6.2: Case studies used for the meta-analysis of LSLA implementation processes.**

Crop	Investors' origin	Company	Location (Province)	Area granted (ha)
Rubber	China	Ruifeng	Luangnamtha	10,000
		Lilieng	Vientiane Prov.	2,500
		Rongxieng	Savannakhet	2,407
		Guangda	Savannakhet	1,800
	Vietnam	Daklak	Attapeu, Champasack	10,000
		Hoang Anh Ya Lay	Attapeu	10,000
		Ho Chi Minh Youth	Attapeu, Champasack	6,000
		Viet Lao Rubber	Champasack	10,000
		Joint Stock		
	Thailand	Lao Thai Hua	Vientiane Prov.	30,000
Eucalyptus & Acacia	China	Sunpaper	Savannakhet	39,000
	India	Birla Lao	Khammuane, Savannakhet	50,000
Coffee	Japan	Oji Lao	Khammuane	50,000
	Singapore	Outspan	Champasack	2,900
	Thailand	Paksong Highland	Champasack	3,100
Sugar cane	Thailand	Mitr Lao	Savannakhet	10,000

## 3.2. Meta-Analysis of Case Studies on LSLA Implementation Processes

### 3.2.1 Identification of Key Factors

- 22
- In general terms, our meta-analysis corresponds to an a posterioricomparison of already published case studies (Lambin and Geist, 2006). However, our approach differs from many meta-analyses in land science that investigate land use decision-making based on comparison of predefined direct or indirect drivers. Because each of our case studies followed a conceptual design based on a human actor model (Wiesmann et al., 2011), they revealed numerous interrelations between actors, actions, conditions of actions, and institutions. In order to maintain this broad range of important variables and also to focus our analysis on the most relevant, recurrent interactions, we performed a sensitivity analysis for each case study as a basis for our meta-analysis. The sensitivity model for the analysis of dynamic systems was initially developed by Vester and Hesler (1987), and then further adapted for the analysis of socio-ecological systems by Messerli (2000). It initially requires researchers to define a set of key factors that: (i) are representative of the social, political, economic, and environmental dimensions of the system; and (ii) capture key interactions between these factors occurring in the system.
- 23
- This narrowing down of key factors was discussed and carried out together with the researchers who conducted the original case studies. We defined three general domains considered to be important mutual conditions of action in the LSLA implementation process: the domain of *land investment*, the domain of *land governance*, and the domain of the *socio-ecological context*. For each of these domains, we then chose eight key factors covering relevant components of the human actor model and corresponding to the criteria mentioned above in (i) and (ii). Table 6.3 lists all 24 key factors identified across the three general domains, specifying their quality and rationale.

TABLE 6.3.1: Key factors in LSLA implementation processes (part 1)



#	Key factor	Quality and rationale
Domain of land investment	1. Origin of investors	Country of origin
	2. Type of crop	Intention of investment
	3. Time of investment	Year when land was allocated
	4. Access to political power	Investors' access to political power including historical ties and political backing in host country and country of origin
	5. Access to cheap labour force	Perceived and actual availability and price of labour force
	6. Size of company	Overall power of company including access to capital and stock exchange
	7. CSR commitment	Investors' commitments to corporate social and environmental sustainability and a good reputation
	8. Size of concession	Total size of land requested and granted for investment
Domain of land governance	9. Economic growth strategies	Government endeavours to push economic growth through regional integration and foreign direct investment (FDI) in land
	10. Policies related to land	Includes policies related to shifting cultivation, land use planning, infrastructure development, relocation, etc.
	11. Top-down granting of concessions	Central level officials granting concessions and delegating implementation to lower administrative levels
	12. Power of district/provincial officials	Power of provincial and district officials actively involved in granting rights and support to investors
	13. Experience with LSLAs	Decision makers' prior experience of LSLAs
	14. Patronage and corruption	Patronage and corruption among different stakeholders and also across sectors and levels
	15. Land tenure insecurity	Legal pluralism and relative power differentials of institutions governing land access and land use rights
	16. Land surveys	Companies and/or government collecting information on land, involved stakeholders, and possible impacts

TABLE 6.3.2: Key factors in LSLA implementation processes (part 2)

#	Key factor	Quality and rationale
17.	Available and suitable land	Land availability as perceived by local people or as constructed by powerful actors and policies
18.	Land cover and land use	Pre-existing land use and land cover in areas targeted for land investments
19.	Logging	Logging prior to investment is often seen as an important incentive for investors or/and authorities involved
20.	Biophysical factors and topography	Opportunities to acquire large and connected plots of land; biophysical factors influencing suitability such as soil, climate, altitude
21.	Historical ties	Confidence of rural population and local authorities in investors from neighbouring regions and countries based on a shared history
22.	Capability and assets of villagers	Includes factors of well-being/poverty and ethnicity, as well as social relations, networks, etc. of villagers and their representatives
23.	Accessibility	Accessibility in travel time to nearby city centres, processing factories, and border crossings. Defined by topography, infrastructure, and land use
24.	Land allocation	Final identification and allocation of land to the investor as a new land user

Source: Authors.

### 3.2.2 Meta-Analysis of Case Studies and Role of Key Factors

- 24 Having defined domains and representative sets of key factors, we were then able to focus in a comparative manner on our main object of interest: the diverse *interactions* between these key factors. For each case study, we assessed any possible interactions between the 24 key factors in either direction (i.e. influencing or being influenced). Referring back to the original research results of every case study, we assessed any possible interaction between any two factors. Based on their knowledge of the case-study settings, the researchers involved rated each possible interaction between key factors on a scale from absent (0), through weak (0.5) and moderate (1.0), to strong (2.0). This rating system enabled us to calculate the average strength of an interaction between any two key factors across all 15 case studies.
- 25 The matrix in Figure 6.3 summarises the most important interactions observed in each of the 15 case studies (shaded in dark gray). For example, reading across row 1 we see that the key factor (KF) Origin of Investor (KF 1) has a direct and strong influence on Access to Political Power (KF 4) and on the Size of Concession (KF 8). Similarly, reading down column 17 we see that Available Land (KF 17) is influenced by various key factors from different domains, including: Type of Crop (KF 2), Time of Investment (KF 3), and Size of Concession (KF 8) from the *land investment* domain; Policies Related to Land (KF 10), Land Tenure Insecurity (KF 15), and Land Surveys (KF 16) from the *governance* domain; and Capability and Assets of Villagers (KF 22), Accessibility (KF 23), etc. from the domain of *socio-ecological context*. Among other things, this powerfully demonstrates that, in practice, ‘available land’ (KF 17) cannot be observed strictly by means of remote sensing or according to environmental indicators; rather, it is something that is constructed based on power relations between actors and according to relevant policies.
- 26 Beyond looking at influences from a first factor on a second factor, we can use the matrix to examine how a second factor influences a third factor, and so on. This makes it possible to describe whole chains of interactions. For example, the Time of Investment (KF 3) is seen to strongly influence the Power of District/Provincial Officials (KF 12); indeed, during the early years of concession granting, alliances between provincial officials and investors flourished, and land deals did not require national-level approval. Provincial officials (KF 12), in turn, strongly influence the way Land Surveys are conducted (KF 16). As a consequence, provincial officials are able to define Available Land (KF 17) according to their own interests and those of investors. Finally, this definition of Available Land (KF 17) determines Land Allocation (KF 24) and the granting of contiguous plots and large Sizes of Concessions (KF 8).

FIGURE 6.3: Meta-analysis of case studies using the sensitivity model

Key factors	Land investment								Land governance								Socio-ecological context								AS	PS	IR					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24								
Domains of land investment	Origin of investor	1	0.67	0.09	1.03	0.73	0.69	0.64	1.00	0.27	0.20	0.44	0.44	0.30	0.72	0.00	0.70	0.11	0.10	0.30	0.14	0.05	0.35	0.11	30	11	30					
	Type of crop	2	0.67	1	0.69	0.48	0.70	0.50	0.80	0.34	0.34	0.39	0.34	0.30	0.30	0.18	0.70	0.06	0.04	0.47	0.57	0.09	0.73	0.05	0.67	11	94					
	Time of investment	3	0.09	0.69	1	0.48	0.50	0.50	0.70	0.27	0.20	0.44	0.44	0.30	0.72	0.00	0.70	0.11	0.10	0.30	0.14	0.05	0.35	0.11	30	11	30					
	Access to political power	4	0.73	0.69	0.50	1	0.69	0.64	1.00	0.44	0.30	0.39	0.34	0.30	0.72	0.00	0.70	0.11	0.10	0.30	0.14	0.05	0.35	0.11	30	11	30					
	Access to cheap labour force	5	0.69	0.48	0.50	0.64	1	0.69	0.64	0.44	0.30	0.39	0.34	0.30	0.72	0.00	0.70	0.11	0.10	0.30	0.14	0.05	0.35	0.11	30	11	30					
	Size of company	6	0.69	0.50	0.50	0.64	0.69	1	0.69	0.44	0.30	0.39	0.34	0.30	0.72	0.00	0.70	0.11	0.10	0.30	0.14	0.05	0.35	0.11	30	11	30					
	Land investment	7	0.69	0.48	0.50	0.64	0.69	0.64	1	0.44	0.30	0.39	0.34	0.30	0.72	0.00	0.70	0.11	0.10	0.30	0.14	0.05	0.35	0.11	30	11	30					
	Size of concession	8	0.69	0.50	0.50	0.64	0.69	0.64	0.69	1	0.44	0.30	0.39	0.34	0.30	0.72	0.00	0.70	0.11	0.10	0.30	0.14	0.05	0.35	0.11	30	11	30				
Domains of land governance	Economic growth strategies	9	0.27	0.20	0.44	0.44	0.30	0.39	0.34	1	0.27	0.20	0.44	0.44	0.30	0.72	0.00	0.70	0.11	0.10	0.30	0.14	0.05	0.35	0.11	30	11	30				
	Policies related to land	10	0.27	0.20	0.44	0.44	0.30	0.39	0.34	0.27	1	0.27	0.20	0.44	0.44	0.30	0.72	0.00	0.70	0.11	0.10	0.30	0.14	0.05	0.35	0.11	30	11	30			
	Top-down granting of concessions	11	0.14	0.06	0.30	0.30	0.47	0.00	0.00	0.44	0.27	1	0.27	0.20	0.44	0.44	0.30	0.72	0.00	0.70	0.11	0.10	0.30	0.14	0.05	0.35	0.11	30	11	30		
	Power of district/sector officials	12	0.44	0.30	0.44	0.00	0.00	0.16	0.00	0.00	0.44	0.27	1	0.27	0.20	0.44	0.44	0.30	0.72	0.00	0.70	0.11	0.10	0.30	0.14	0.05	0.35	0.11	30	11	30	
	Experience with LSLAs	13	0.30	0.20	0.40	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.17	0.02	0.23	0.04	0.11	0.16	0.05	0.13	0.16	0.07	0.00	0.02	4	10	10	10	10			
	Language and corruption	14	0.11	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.13	0.13	0.13	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Land tenure security	15	0.09	0.16	0.00	0.19	0.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.06	0.42	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Land surveys	16	0.03	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Domains of socio-ecological context	Available and suitable land	17	0.44	0.00	0.00	0.23	0.11	0.13	0.23	0.44	0.00	0.00	0.23	0.11	0.13	0.23	0.44	0.00	0.00	0.23	0.11	0.13	0.23	0.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Land cover and land use	18	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Logistics	19	0.06	0.41	0.23	0.13	0.00	0.06	0.00	0.00	0.27	0.00	0.00	0.42	0.00	0.46	0.00	0.00	0.23	0.00	0.23	0.00	0.14	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Biophysical factors and topography	20	0.03	0.44	0.23	0.00	0.00	0.00	0.00	0.00	0.23	0.44	0.11	0.00	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Historical ties	21	0.09	0.00	0.00	0.44	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Capability and assets of villagers	22	0.09	0.00	0.00	0.44	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Accessibility	23	0.06	0.41	0.23	0.13	0.00	0.06	0.00	0.00	0.27	0.00	0.00	0.42	0.00	0.46	0.00	0.00	0.23	0.00	0.23	0.00	0.14	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Land location	24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Personality (PS)		3	3.8	2.8	3.9	3.0	3.8	3.7	3.7	3.7	3.8	3.8	3.7	3.8	3.7	3.8	3.7	3.8	3.7	3.8	3.7	3.8	3.7	3.8	3.7	3.8	3.7	3.8	3.7	3.8	3.7	3.8
Activity Ratio (AS/PS)		4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

Note: The matrix shows the average ratings of interactions between any of the 24 key factors in our 15 case studies. The ratings ranged from strong (2.0), through moderate (1.0) and weak (0.5), to absent (0.0). The active sum (AS) and passive sum (PS) of each factor were calculated in order to assess the factor's activity ratio (AS/PS) and its total strengths of interaction (IR).

Source: Authors.

27 Perhaps of even greater interest from a policy perspective is to identify which key factors play the biggest role in particular outcomes of the LSLA implementation process. Our meta-analysis provides information on the general role played by each factor, in particular how strongly each factor interacts with others in the system and whether it exerts or is subject to more influence overall. To this end, we calculated: (i) the sum of the influences that each factor *exerts* (referred to as the active sum, or AS, for each row), and (ii) the sum of the influences that each factor *is subject to* (referred to as the passive sum, or PS, for each column). By comparing the active sum of any given factor with its passive sum, we can calculate its activity ratio (AR=AS/PS)—that is, whether and to what extent it exerts a greater influence than it is subject to. In addition, it is very useful to calculate how strongly each factor interacts with other factors. This can be done by multiplying the active sum by the passive sum to arrive at the total strength of interaction (IR =AS\*PS).

28 Next, we identified all the factors that display activity ratios where the active sum outweighs the passive sum (AS/PS >1). These factors may be seen as having the biggest influence on the outcomes of the implementation process. In the *land investment* domain, these factors comprise Origin of Investor (KF 1), Type of Crop (KF 2), Time of Investment (KF 3), and Size of Company (KF 6). Indeed, the case studies we analysed showed that large companies—mainly from Vietnam and China—that arrived early and invested in forestry concessions (e.g. rubber, eucalyptus) were generally able to obtain large plots of land, where they wanted them, with little to no resistance or administrative obstacles. By contrast, relatively small companies and latecomers experienced significantly more problems and were required to cooperate with district officials, to conduct land surveys, and to negotiate the allocation of smaller plots of land with villagers. In the *land governance* domain, the most influential key factors comprise national-level Economic Growth Strategies (KF 9) and Policies Related to Land (KF 10), as well as different actors' Experience with LSLAs (KF 13). In the *socio-ecological context* domain, only Accessibility (KF 23) of urban centres appears to play an influential role; Biophysical Factors (KF 20) and Historical Ties (KF 21) exhibit positive activity ratios but appear only weakly interrelated.

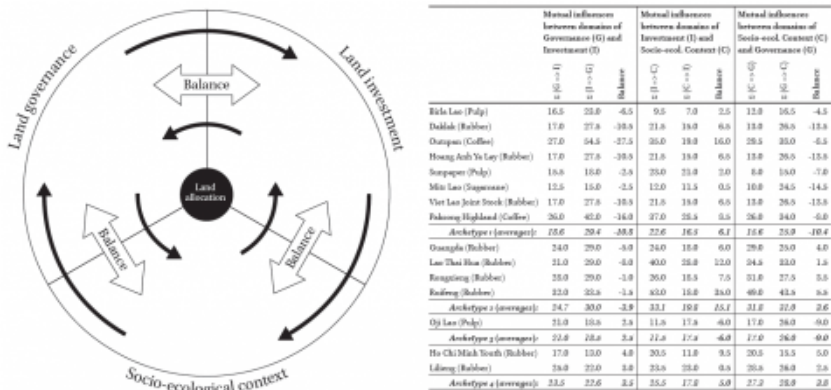
29 Finally, we identified all the factors that display activity ratios where the passive sum outweighs the active sum (AS/PS<1) but which are highly interrelated. These factors may not have the power to influence the outcomes of the implementation process; however, because they are strongly influenced by many other factors, they serve as useful indicators of the type of implementation process in question. The most important of these indicative factors are the quantity and quality of Available Land (KF 17) and Land Allocation (KF 24), which vary substantially depending on whether the corresponding implementation process occurs in a more authoritarian/top-down or participatory/bottom-up manner. Further, Size of Concession (KF 8) serves as an excellent indicator of the type of implementation process, since careful negotiations and planning processes usually result in more fragmented, modestly sized plots than originally anticipated or desired by investors. Lastly, the following factors serve as useful indicators of the monitoring of the implementation process—that is to say, in terms of the role they play: the type and quality of Land Surveys conducted (KF 16), the role attributed to pre-existing Land Use (KF 18), and the Capability and Assets of Villagers (KF 22). The fact that villagers' capabilities only serve as an indicator and not as an influential factor suggests that villagers' empowerment is subject to very real constraints. Indeed, from a systemic perspective, other factors have a much bigger role in the outcome of LSLA implementation processes.

### 3.3. Archetypes of LSLA Implementation Processes and Resulting Typology

30 As shown above, our meta-analysis enabled generalisation, based on 15 case studies, of the importance of different key factors in the LSLA implementation process. As we have also seen, however, the interactions between these factors display different qualities and levels of strength, involve feedback mechanisms and chain-like effects, and ultimately lead to different outcomes. In an effort to account for such differentiations in our meta-analysis, we looked for recurrent linkages between the key factors, links that may point to archetypal patterns. So defined, the resulting archetypes could provide the basis for a working typology of LSLA implementation processes.

31 For this purpose, we analysed how the three main domains of the implementation processes—namely, *land investment*, *land governance*, and *socio-ecological context*—influenced each other. For example, do the combined factors from the *land governance* domain exert a greater influence on the combined factors from the *land investment* domain or vice versa? To find out, we analysed the matrix of influences for every case study (Figure 6.3) and calculated the balance of influences between any two domains of the implementation process. Our analysis of all 15 case studies revealed four distinct archetypes in terms of the way the main domains influence each other (Figure 6.4). They are detailed below.

FIGURE 6.4: Archetypes of LSLA implementation processes.



Note: Archetypes were identified based on patterns in the way factors from one domain cumulatively influenced or were influenced by the factors in another domain: land governance, land investment, and socio-ecological context (see diagram). For every case study, the balance of influence (net cumulative effect of factors) was calculated between domain pairs. This resulted in four distinct types of archetypes (see table to the right of the figure).

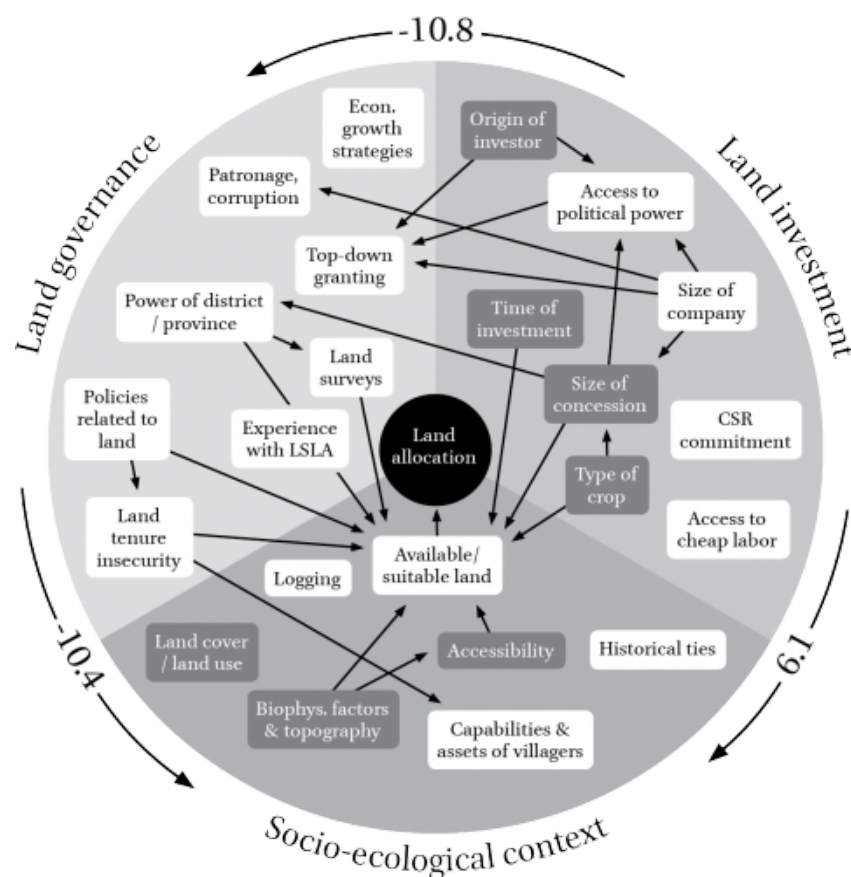
Source: Authors.

### 3.3.1 Archetype 1: Marginal People

32 Our analysis of the interrelations between the selected key factors revealed the following pattern among eight of the 15 case studies: a net influence exerted by the domains of *land governance* and *land investment*, respectively, on the domain of the *socio-ecological context*; and, at the same time, a net influence exerted by *land investment* on the *land governance* domain (observe the directions of the arrows in the outer ring of Figure 6.5). Based on this shared pattern, we posit an implementation-process archetype we refer to as ‘Marginal People’: land acquisitions in this category are essentially steered by the claims of powerful external actors, irrespective of local realities, thus exploiting and exacerbating the weak position of marginalised populations.

FIGURE 6.5: Archetype ‘Marginal People’.





Note: Recurrent interactions among key factors in LSLA implementation processes (displaying an average rating  $\geq 1.25$ ). The outer arrows indicate the net balance of mutual influence between domains.

Source: Authors.

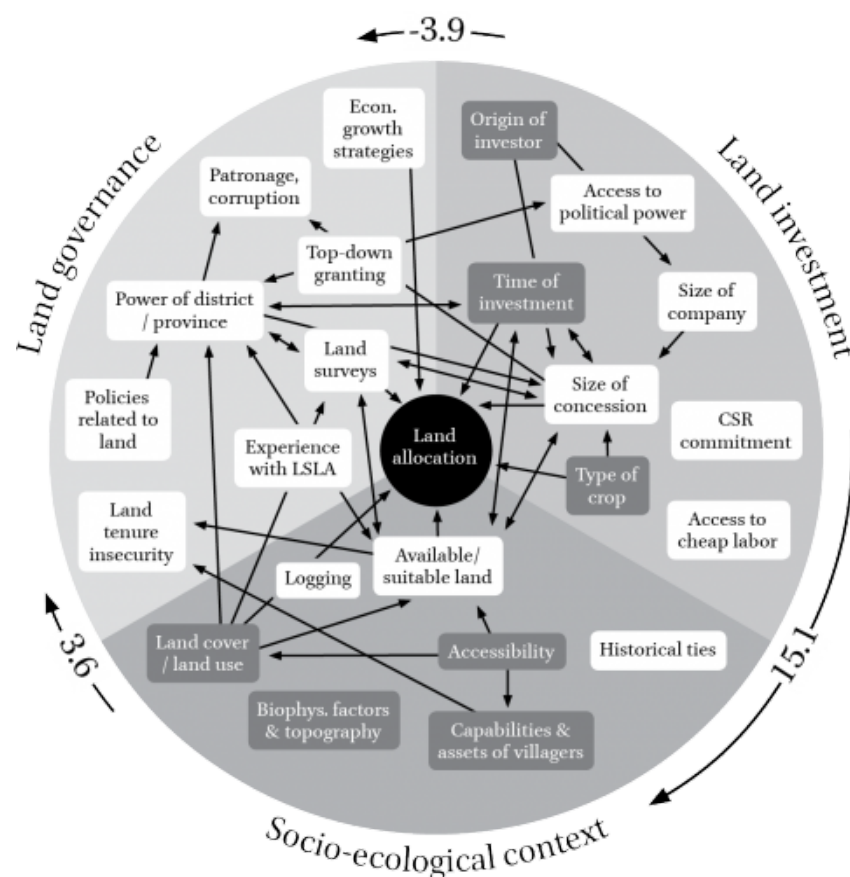
- 33 For the majority of the case studies in this category, analysis of the recurrent interactions between key factors (Figure 6.5) reveals strong ties in the *land investment* domain. Origin of Investor (KF 1)—typically neighbouring countries such as Vietnam, China, or Thailand—is positively correlated with the Size of Company (KF 6) and has a favourable influence on investors' Access to Political Power (KF 4). In many cases, strong alliances were established between investors and provincial authorities on either side of nearby national borders. These factors, corresponding to strong political and economic backing, in turn influence the intended Size of Concession (KF 8)—relatively large in these case studies (44,500 ha for pulp concessions and 10,000 ha for rubber concessions, on average). The strengths of the *land investment* domain led to recurrent influences on both the domain of *socio-ecological context* and on the domain of *land governance*. Notably, the definition of Available and Suitable Land (KF 17) appears to be defined by the Type of Crop (KF 2) and on the Size of Concession (KF 8) requested. Further, the efficient Top-Down Granting of Concessions (KF 11) corresponds to investors who arrived early on. Due to their lack of Experience with LSLAs (KF 13), local authorities and villagers could be easily swayed by empty promises. While key factors of the local *socio-ecological context* may influence the definition of Available and Suitable Land (KF 17) to a certain degree, they have limited influence on the Time of Investment (KF 3), Type of Crop (KF 2), or Size of Concession (KF 8). At the same time, key factors from the *land investment* domain influence processes in the domain of *land governance*. Investors' Access to Political Power (KF 4) and economic power corresponds to Top-Down Granting of Land Concessions (KF 11), which limits the Power of District/Provincial Officials (KF 12). Such access to power also strongly influences the conduct of Land Surveys (KF 16), contributing to greater Land Tenure Insecurity (KF 15). These factors together influence what is defined as Available and Suitable Land (KF 17) and to what degree the Capability and Assets of Villagers come into play (KF 22).

### 3.3.2 Archetype 2: Marginal Governance

- 34 Four cases of rubber investments from Chinese and Thai companies revealed a different pattern of recurrent interactions among key factors. While the net influence emerging from the *land investment* domain still dominates the influence of the *socio-ecological context* and the *land governance* domains, respectively, key factors in the *socio-ecological context* now clearly affect *land governance*. We refer to this archetype as 'Marginal Governance', since land governance here is shaped by specificities of the socio-ecological context, but still remains largely under the control of the *land investment* domain.



FIGURE 6.6: Archetype 'Marginal Governance'.



Note: Recurrent interactions among key factors in LSLA implementation processes (displaying an average rating  $\geq 1.25$ ). The outer arrows indicate the net balance of mutual influence between domains.

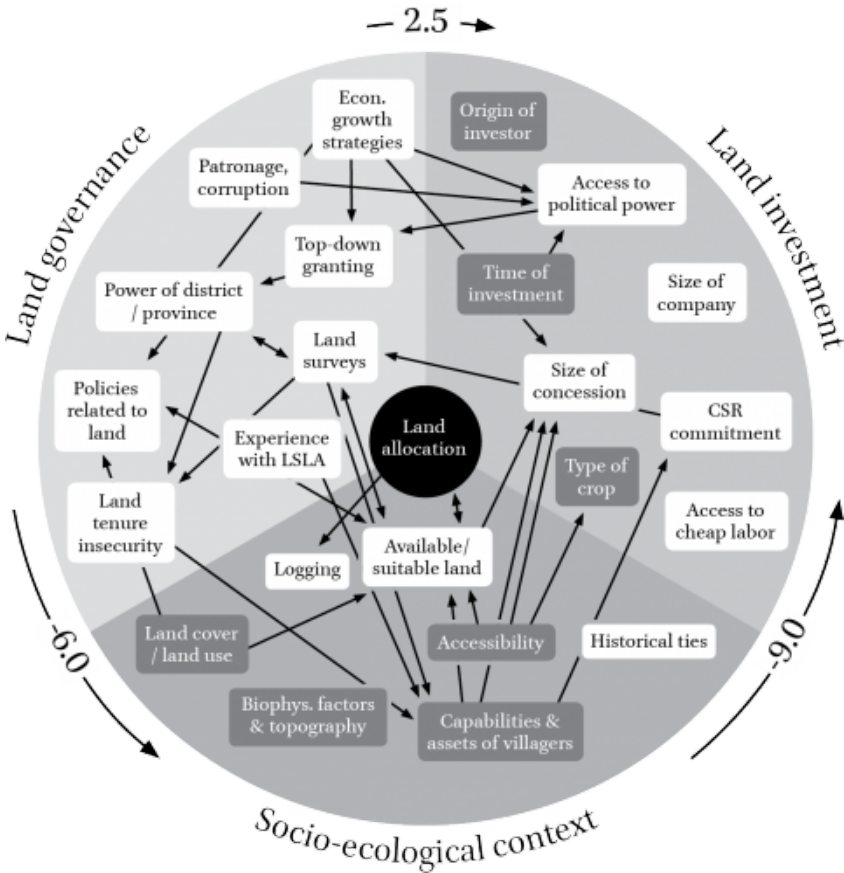
Source: Authors.

35 The recurrent interrelations of key factors in these four case studies (Figure 6.6) once again point to strong investors, namely two relatively small and two large companies (Ruifeng from China, and Lao Thai Hua from Thailand), which were initially granted concession areas of 10,000 ha and 30,000 ha, respectively. These large investments exerted powerful influences on the Power of Provincial/District Officials (KF 12) and the implementation of Land Surveys (KF 16). In addition, the Size of Concession (KF 8), Time of Investment (KF 3), and Type of Crop (KF 2) dictated what land was deemed available and needed to be allocated.

36 Also notable in these cases, key factors of the *socio-ecological context* were not simply overruled by outside forces. We observe in Figure 6.6 that Available Land and Suitable Land (KF 17), Land Cover and Land Use (KF 18), Capability and Assets of Villagers (KF 22), and Accessibility (KF 23) exerted an influence on the Size of Concession (KF 8) and the Power of District/Provincial Officials (KF 12), and shaped the outcomes of the Land Survey (KF 16). In other words, the definition of available land and the final allocation of land were also influenced by people, by pre-existing land use, topography, and accessibility. This new pattern can be explained as follows: firstly, large companies with higher CSR standards (and a sensitivity to reputational risks), such as the Lao Thai Hua company, explicitly followed a bottom-up approach, paying careful attention to the context of the investment. Others, such as the Rongxieng Company, also adopted a more bottom-up approach, but only following initial bad experiences using an authoritarian approach (involving use of armed soldiers). The key characteristics of this archetype of implementation processes are strong investors who maintain control but pay careful attention to the socio-ecological context and allow it to shape land governance. Such investors are willing to accept a slower LSLA implementation process, smaller concessions than originally planned, or the subdivision of concessions into multiple plots. In one case, such perceived downsides were compensated for by means of high-value timber-extraction activities during land clearing.

### 3.3.3 Archetype 3: Marginal Investments

37 One case study involving a Japanese pulp production company exhibited a unique pattern of LSLA implementation, which did not fit with the other archetypes. In this case, the *land investment* domain was clearly dominated by factors in the *land governance* and *socio-ecological context* domains, ultimately threatening the whole project. While it is only a single case, we wish to highlight it as it may point to a unique archetype that we will refer to as 'Marginal Investments'.



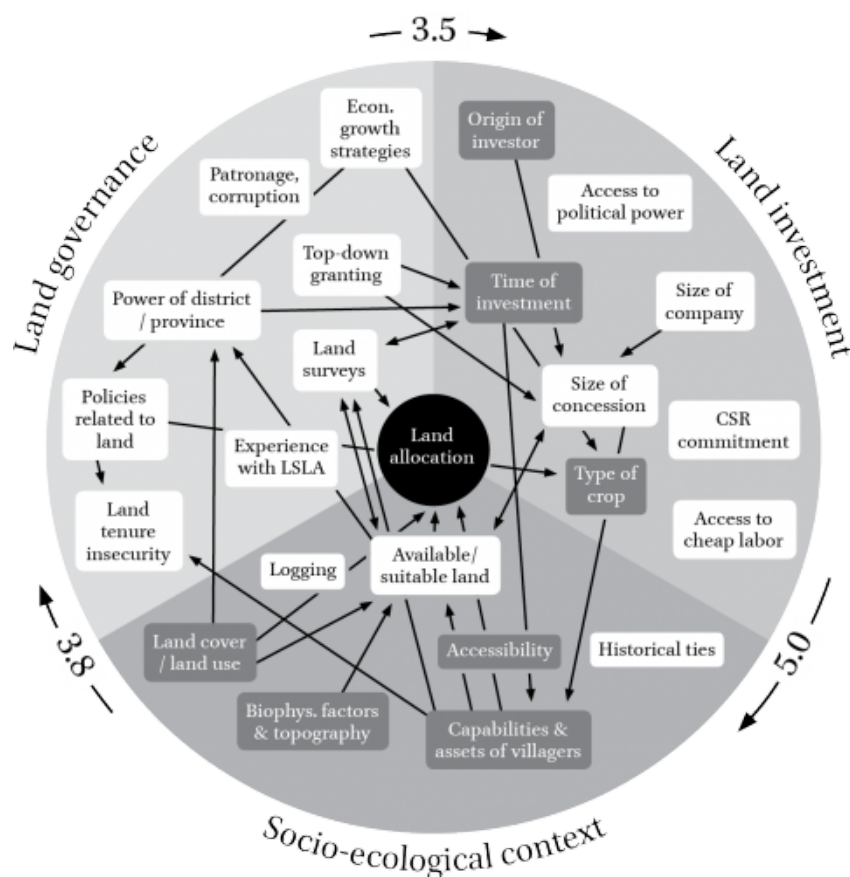
Note: Recurrent interactions among key factors in LSLA implementation processes (displaying an average rating  $\geq 1.25$ ). The outer arrows indicate the net balance of mutual influence between domains.  
Source: Authors.

38 In this type of LSLA implementation process (Figure 6.7) the company experienced a very smooth start because it was able to take over a pre-existing concession and benefited from Access to Political Power (KF 4) through high-level diplomatic ties. Despite its promising start, however, years have passed and the company continues to struggle to actually have the land allocated. They lack support from District/Provincial Officials (KF 12) and there is no longer enough Available and Suitable Land (KF 17) due to the earlier 'land rush' (Time of Investment—KF 3). Villagers and authorities from districts/provinces have also learned from past Experience with LSLAs (KF 13) and are now able to negotiate better conditions for land deals. In such cases, the Capability and Assets of Villagers (KF 22) and local authorities—that is, their ability to resist coercion or financial temptations and to negotiate effectively with companies and district officials—considerably influence contractual modalities (e.g. contract farming or concession type) and the overall terms of investment (e.g. land area, compensation). This has led the company in question to pursue a more bottom-up approach, fulfilling CSR commitments. However, this approach has allowed local socio-ecological factors—pre-existing Land Cover and Land Use (KF 18) and lack of Available Land and Suitable Land (KF 17)—to act as constraints, increasing the risk of investment failure. In response, the company recently diversified the crops it intends to produce from eucalyptus to a variety of agricultural products, and is conducting market and suitability studies.

### 3.3.4 Archetype 4: Marginal Land

39 Finally, two case studies—involving a Vietnamese and a Chinese rubber investment, respectively—revealed yet another pattern of LSLA implementation. We believe these companies provide a good example of effectively targeting agricultural investments towards underused land, and we refer to the corresponding archetype as 'Marginal land'. In these cases: the *socio-ecological context* mainly influences *land governance*; *land governance* controls the *land investment* domain; and *land investment*, in turn, shapes the *socio-ecological context* (Figure 6.8).

FIGURE 6.8: Archetype 'Marginal Land'.



Note: Recurrent interactions among key factors in implementation processes of large-scale land acquisition (manifesting an average rating  $\geq 1.25$ ). Outer arrows refer to the net balance of mutual influences between domains.

Source: Authors.

- 40 First of all, the recurrent interactions observed between key factors indicate limited economic and political power on the part of the companies involved. While the *land investment* domain had some influence on the way Land Surveys (KF 16) were carried out, it did not significantly influence Policies Related to Land (KF 10) or Top-Down Granting of Concessions (KF 11). This prevented the investors from manipulating aspects of land governance to their advantage. The search for Available and Suitable Land (KF 17) proved to be a very difficult endeavour for the investors. As they arrived later than other companies in the respective regions, their own interests—for example, obtaining a large Size of Concession (KF 8) or producing a specific Type of Crop (KF 2)—played a limited role in defining what was deemed available. They were obliged to negotiate locally regarding available land and, as a result, key factors of the *socio-ecological context*—such as Land Cover and Land Use (KF 18), Biophysical Factors and Topography (KF 20), Accessibility (KF 23), and Capability and Assets of Villagers (KF 22)—played a significant role. Though it was a lengthy and frequently complicated process, the resulting Land Allocation (KF 24) was the most inclusive of all those observed, with both villagers and investors agreeing to it. These actors then sought support in terms of land governance from provincial and district authorities, eventually requesting Land Surveys (KF 16) and formal recognition of the agreements. Ultimately, these processes positively influenced the implementation of Policies Related to Land (KF 10) and Land Tenure Insecurity (KF 15) (the latter in the sense that such insecurity was reduced).

## 4. Synthesis and Discussion

- 41 In previous sections, we have presented the results of applying two complementary approaches to the analysis of LSLAs, in an effort to provide better evidence for policymaking. On the one hand, we conducted a spatially referenced analysis of land acquisitions in Laos and Cambodia, revealing patterns of investor type, investment purpose (sub-sector), and socio-ecological contexts. On the other, we conducted a process-based analysis of LSLA implementation, reaching from initial negotiations to the final allocation of land. This was done by means of a meta-analysis of case studies in which we identified recurrent interactions between selected key factors of LSLA implementation. This enabled us to identify possible archetypes that could serve as a basis for a working typology of LSLA implementation processes.
- 42 Both approaches are capable of generating policy-relevant information, but each has clear limitations on its own (discussed below). That fact brings us back to our guiding question: can distinct spatial patterns be tied to specific types of LSLA implementation processes by means of

common indicators? This would enable observers to either interpret spatial patterns in terms of underlying implementation processes, or to validate and generalise case-study findings regarding implementation processes to inform policies at higher spatial levels.

43 Our spatial analysis of LSLA inventories revealed two general patterns. (1) Numerous regional investors and some domestic investors have engaged in forestry sub-sectors, mainly focussing on rubber and eucalyptus or acacia plantations. The corresponding concessions are generally large, contiguous plots of land found in somewhat inaccessible landscapes once classified as forest or shrub land. The populations affected by these concessions are generally poorer and often practice small-scale agriculture (mainly, in Laos, shifting cultivation). (2) A mix of regional, domestic, and some international investors have engaged in agricultural sub-sectors. Their concessions are generally smaller and often compete with pre-existing cropping mosaics cultivated by smallholders. The affected areas are usually relatively accessible and populated by less-poor people in Laos and by poorer people in Cambodia.

44 These insights are consistent with a growing body of evidence showing that LSLAs are a strong driver of agrarian transition in South-East Asia (Anseeuw et al., 2012). LSLAs have increased exponentially, making rural areas the site of fierce competition over resources in settings where powerful investors from riparian countries play a key role (Schönweger et al., 2012). Our analysis shows that optimistic assumptions about investment mainly flowing to 'marginal land'—that is, land that is unused yet suitable for agriculture—are fundamentally flawed (Borras Jr. et al., 2011; Cotula et al., 2009; Messerli et al., 2014). Instead, land concessions are increasing resource competition, affecting two vulnerable groups in particular: smallholders in densely populated cropping mosaics; and poorer ethnic minorities in forest mosaics where shifting cultivation is common. Overall, spatial, quantitative analysis of land concessions clearly demonstrates that LSLAs are and will remain a driving force of agrarian transition in the region. Given the advanced stage of expansion into agricultural and forested landscapes and existing conflicts with affected land users, policymaking questions should no longer be limited to whether to permit, prevent, or regulate the arrival of LSLAs in the area. Rather, the focus must increasingly shift to policies relevant to conflict resolution, labour issues, and outmigration as new drivers of poverty.

45 In view of such questions, our analysis of spatial patterns remains very coarse and provides insufficient differentiation. While some general correlations can be posited between the origins of investors, the type of operations they conduct, and the socio-ecological contexts targeted, we neither understand the causalities of LSLA implementation processes nor can we identify the precise spatio-temporal contexts with the most vulnerable environments and populations.

46 However, our meta-analysis of case studies reveals a more differentiated picture of the processes behind the implementation of LSLAs. The majority of our case studies pointed to an archetype of LSLA implementation processes that we have termed 'Marginal People'. In this sort of authoritarian, top-down LSLA implementation process, 'available land' is defined less according to local socio-ecological factors than it is according to factors from the domains of investment and land governance. Contrary to the analysis of spatial patterns, we found that this type of implementation process can be observed both in the forestry sector and in the agricultural sector, encompassing crops as varied as rubber, eucalyptus, coffee, and sugar cane. Also, it involved investors from different countries of origin, both regional and international. Closely related to this type of LSLA implementation is the archetype we refer to as 'Marginal Governance'. It too is characterised by a strong investment domain but is somewhat shaped by the socio-ecological context, providing an empowerment to the socio-ecological context vis-à-vis policy pressures. Nevertheless, the economic and political power wielded by investors means that land governance is ultimately constrained in its effectiveness.

47 The remaining case studies were attributed to two more recent types of LSLA implementation processes. One type we refer to as 'Marginal Investments', in which investors struggle to obtain land. Accepting that available land—as defined by local land users—is very scarce, and lacking government support, investors in this category face the very real prospect of total failure. Investors also face possible failure in the final archetype we identified, 'Marginal Land'. This category comprises rubber companies that arrived late to the region and were forced to follow a more bottom-up approach in their search to find suitable land—by now exceedingly scarce. Their negotiations with local land users resulted in the most inclusive form of LSLA implementation we observed. After reaching an agreement about available land, villagers and investors jointly sought the support of district and provincial land governance institutions, which in turn lent their support to the investment domain.

48 Our analysis of LSLA implementation processes reveals various policy-relevant insights. First, we found that authoritarian forms of implementation dominate, as was suggested by the spatial patterns identified earlier. However, in contrast to our initial spatial observations, we found that investors from other countries besides Vietnam and China were also involved in top-down modes of implementation. In general, authoritarian implementation processes appear to be associated with powerful companies who arrived on the scene early, just after foreign direct investment had received policy approval, and had access to political elites within the government. These sorts of implementation processes occur very quickly, leaving little space for policy intervention. In these

cases, openings for local people to voice their interests only appear to occur when they are granted by the investors themselves, whether for strategic reasons or because of commitments to corporate social responsibility.

49 Second, we found that new, more inclusive models of implementation emerge as land concessions begin to proliferate. Notably, these emerging models of implementation may provide spaces for policy intervention, whether at the national, provincial, or local level. Yet, it should be noted that they have not emerged due to regulatory measures, but rather due to the increasing scarcity of available land, competition between investors, and the learning processes of actors at different policy levels. One archetype emerging in this advanced stage of land acquisitions is that of failing land investments. This trend also appears to be reflected globally, as evidenced by the high rates of abandoned deals found in the Land Matrix (Land Matrix Partnership, 2014). Notably, failed deals could also provide space for a policy reboot in favour of more inclusive forms of land investment and agricultural development. Finally, the last archetype we identified—‘Marginal Land’—points to alternative modes of agricultural investment that are actually beginning to occur. They appear to materialise once socio-ecological constraints—for example, demographic and environmental realities—begin to outweigh economic and political power. This newly emerging archetype has not received a lot of attention so far, but may come to play an increasingly important role worldwide.

50 We believe that such archetypes of implementation processes could contribute to a better, more differentiated and policy relevant understanding of LSLAs as driving forces of agrarian transitions. But this requires us to validate and generalise such archetypes to inform policies at higher spatial levels. Ideally, this could be done by linking our process-based archetypes with observable place-based (spatially referenced) patterns of LSLAs. In other words, we wish to identify whether these archetypes display spatial signatures that can be extrapolated using spatio-temporal data sets spanning larger geographic areas. Table 6.4 lists the key factors of our process-based archetypes and highlights the key factors for which spatio-temporal data sets are readily available.

**TABLE 6.4.1: Synthesising implementation processes and spatial patterns of land acquisitions (part 1).**

	Key factors	Marginal people	Marginal governance	Marginal investment	Marginal land
Domain of land investment	Origin of investor	1			
	Type of crop	2			
	Time of investment	3	Early arrivals	Early arrivals	Late arrivals
	Access to political power	4	High level ties, diplomatic		
	Access to cheap labor force	5			
	Size of company	6	Large size	Large size	Large as well as small
	CSR commitment	7		Generally high	
	Size of concession	8	Large, connected plots	Large, connected plots	Small, flexible
Domain of land governance	Economic growth strategies	9			
	Policies related to land	10			
	Top-down granting of concessions	11			
	Power of district/province officials	12	High, influencing land surveys	Weak, influenced by investment	High
	Experience with LSLAs	13			Strong, drawing on soc.-ecol. context
	Patronage and corruption	14			
	Land tenure insecurity	15			
	Land surveys	16	Not or partly implemented	Implemented	Carefully implemented
Domain of socio-ecological context	Available and suitable land	17	Defined by investment and governance	Defined by investment and soc.-ecol. context	Defined by investment and soc.-ecol. context
	Land cover and land use	18		Reflected in land survey	Reflected in land survey
	Logging	19			
	Biophysical factors and topography	20			Reflected in land survey
	Historical ties	21			

**TABLE 6.4.2: Synthesising implementation processes and spatial patterns of land acquisitions (part 2).**



Key factors	Marginal people	Marginal governance	Marginal investment	Marginal land
Capability and assets of villagers	22	Indications of needs expressed	Strong negotiation power	Strong negotiation power
Accessibility	23			
Land allocation	24	Fast, majority of concession allocated	Parts of concession, slow, change of location	Slow, fragmented

Note: The table lists the key factors of our four archetypes and existing spatio-temporal data sets that capture these key factors. Shaded rows indicate key factors for which statistical and spatial data are readily available.

Source: Authors.

- 51 As seen in Table 6.4, the key factors for which data from inventories and spatial layers are available (shaded rows in Table 6.4) only marginally overlap with the most important indicators of the different archetypes of LSLA implementation processes. With the exception of the Size of Concessions, it seems that no other key factor differentiating the four archetypes can be quantified with currently available spatio-temporal data sets. Conversely, many of the indicators that are decisive to LSLA implementation processes are difficult or impossible to capture fully using spatially explicit, country-level data; the most prominent example being Available and Suitable Land (KF 17). No statistics or map can adequately capture the characteristics of this factor. Correspondingly, spatial signatures differentiating these four archetypes can scarcely be extrapolated in time and space. However, a closer look at the indicators shows that expanding the information collected by existing inventories could make a big difference. If factors such as Time of Investment (KF 3) and characteristics of Land Allocation (KF 24) were made publicly accessible and were more exhaustive, they could serve as excellent proxies for the type of implementation process. Furthermore, existing LSLA monitoring systems could additionally incorporate indicators such as the role of provincial or district authorities in the implementation process, the way Land Surveys (KF 16) were implemented, and the Capabilities and Assets of Villagers (KF 22). Finally, refining methods to understand who and what define the availability of land would represent a breakthrough for understanding the processes of land allocation.

## 5. Conclusions

- 52 The research we have described is intended to help overcome certain persistent difficulties of providing adequate, robust evidence on LSLAs for the purpose of decision-making and policymaking, specifically in Laos and Cambodia. Much of this difficulty stems from the existing gap between case study research—which typically provides qualitative and process-based insights—and national or global inventories that typically provide place-based (spatially referenced) and quantitative analyses of broader patterns. Using a meta-analysis of case studies that focuses on recurrent interactions between selected key factors, we defined four archetypes of implementation processes. We argue that this type of generalisation not only provides insights for land-related policies, but also represents a precondition for linking process-based insights with spatial patterns emerging from place-based studies.
- 53 Methodologically, we conclude that both approaches generate valuable yet incomplete evidence for policymaking. Spatial patterns mask important differentiations and do not enable causal understanding. At the same time, a working typology of LSLA implementation processes such as ours is difficult to assess in terms of its validity for higher levels of policymaking and scaling up to different contexts. Finding ways of linking these two perspectives remains a crucial task. At present, there is a dearth of available indicators serving both perspectives, making it difficult to properly link them. Yet, the solution is clearly within reach: inventories of land acquisitions could make these kinds of indicators available with little extra effort. They would need to document how the size and contiguity of a land deal changes over time from the granting of concessions to the final allocation of land. Additionally, information on the use and form of land surveys as well as the time and type of involvement of different actors represents an important proxy for implementation processes.
- 54 We believe that this type of combined approach is capable of generating important evidence to inform policy. It enables a better understanding of the overall dimensions and relevance of LSLAs in agrarian transitions. Our own quantitative results point to a highly advanced stage of LSLA proliferation in South-East Asia, necessitating new policies capable of addressing conflicts, impacts on pre-existing land use and natural resources, threatened livelihoods, and outmigration, which could all drive new waves of poverty. At the same time, our analysis of implementation processes

clearly shows that there is little space for participatory forms of agricultural investment when large and powerful companies initially arrive on the scene in a new region and are essentially given a pass by senior government authorities. For a long time, the prevailing processes of land allocation in Laos and Cambodia were top-down and authoritarian, further marginalising vulnerable populations. Only now, as land has become scarcer and competition between investors has increased, are new, more inclusive implementation processes emerging. These implementation processes enable various stakeholders to agree on what land is truly underused or 'marginal', and thus ripe for investment. In terms of future land policies, this suggests a role for spatially differentiated moratoria on land concessions. In other words, policymakers could ban concessions in certain areas and allow them in others, encouraging competition between investors and negotiation with local land areas in certain places, while keeping other places free of land concessions to protect vulnerable smallholders.

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## List of illustrations



Title **FIGURE 6.1: Trends of land concessions granted in Cambodia and Laos.**

Caption *Note:* Figures for Cambodia do not include mining concessions, as no information about the granting date of mining concessions was available.

Credits Source: Authors.

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File image/png, 58k



Title **FIGURE 6.2: Investment project locations in Laos (above) and Cambodia (below) by investors' countries of origin and by subsectors.**

Credits Source: compiled based on Schönweger et al. (2012), ODC (2013), LICADHO (2013), NGO Forum (2012), and our own data collection.

URL <http://poldev.revues.org/docannexe/image/2037/img-2.jpg>

File image/jpeg, 5.4M



Title **TABLE 6.1: Origin of investors, former land-cover status, and accessibility of land investments in Cambodia and Laos.**

Caption \*Regional refers to countries neighbouring Cambodia and Laos—namely, Vietnam, Thailand, and China.

Credits Source: Authors.

URL <http://poldev.revues.org/docannexe/image/2037/img-3.png>

File image/png, 129k



Title **TABLE 6.2: Case studies used for the meta-analysis of LSLA implementation processes.**

Credits Source: Authors.

URL <http://poldev.revues.org/docannexe/image/2037/img-4.png>

File image/png, 115k



Title **TABLE 6.3.1: Key factors in LSLA implementation processes (part 1)**



URL <http://poldev.revues.org/docannexe/image/2037/img-5.png>

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Title **TABLE 6.3.2: Key factors in LSLA implementation processes (part 2)**

Credits Source: Authors.

URL <http://poldev.revues.org/docannexe/image/2037/img-6.png>

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Title **FIGURE 6.3: Meta-analysis of case studies using the sensitivity model**

Caption *Note:* The matrix shows the average ratings of interactions between any of the 24 key factors in our 15 case studies. The ratings ranged from strong (2.0), through moderate (1.0) and weak (0.5), to absent (0.0). The active sum (AS) and passive sum (PS) of each factor were calculated in order to assess the factor's activity ratio (AS/PS) and its total strengths of interaction (IR).

Credits Source: Authors.

URL <http://poldev.revues.org/docannexe/image/2037/img-7.png>

File image/png, 231k



Title **FIGURE 6.4: Archetypes of LSLA implementation processes.**

Caption *Note:* Archetypes were identified based on patterns in the way factors from one domain cumulatively influenced or were influenced by the factors in another domain: land governance, land investment, and socio-ecological context (see diagram). For every case study, the balance of influence (net cumulative effect of factors) was calculated between domain pairs. This resulted in four distinct types of archetypes (see table to the right of the figure).

Credits Source: Authors.

URL <http://poldev.revues.org/docannexe/image/2037/img-8.png>

File image/png, 168k



Title **FIGURE 6.5: Archetype 'Marginal People'.**

Caption *Note:* Recurrent interactions among key factors in LSLA implementation processes (displaying an average rating  $\geq 1.25$ ). The outer arrows indicate the net balance of mutual influence between domains.

Credits Source: Authors.

URL <http://poldev.revues.org/docannexe/image/2037/img-9.png>

File image/png, 138k



Title **FIGURE 6.6: Archetype 'Marginal Governance'.**

Caption *Note:* Recurrent interactions among key factors in LSLA implementation processes (displaying an average rating  $\geq 1.25$ ). The outer arrows indicate the net balance of mutual influence between domains.

Credits Source: Authors.

URL <http://poldev.revues.org/docannexe/image/2037/img-10.png>

File image/png, 223k

Title **FIGURE 6.7: Archetype 'Marginal Investment'.**

Caption *Note:* Recurrent interactions among key factors in LSLA implementation processes (displaying an average rating  $\geq 1.25$ ). The outer arrows indicate the net balance of mutual influence between domains.

Credits Source: Authors.

URL <http://poldev.revues.org/docannexe/image/2037/img-11.png>

File image/png, 143k



Title **FIGURE 6.8: Archetype 'Marginal Land'.**

Caption *Note:* Recurrent interactions among key factors in implementation processes of large-scale land acquisition (manifesting an average rating  $\geq 1.25$ ). Outer arrows refer to the net balance of mutual influences between domains.



Credits Source: Authors.

URL <http://poldev.revues.org/docannexe/image/2037/img-12.png>

File image/png, 220k

Title **TABLE 6.4.1: Synthesising implementation processes and spatial patterns of land acquisitions (part 1).**URL <http://poldev.revues.org/docannexe/image/2037/img-13.png>

File image/png, 206k

Title **TABLE 6.4.2: Synthesising implementation processes and spatial patterns of land acquisitions (part 2).**

Caption Note: The table lists the key factors of our four archetypes and existing spatio-temporal data sets that capture these key factors. Shaded rows indicate key factors for which statistical and spatial data are readily available.

Credits Source: Authors.

URL <http://poldev.revues.org/docannexe/image/2037/img-14.png>

File image/png, 59k

## References

### Electronic reference

Peter Messerli, Amaury Peeters, Oliver Schoenweger, Vong Nanthavong and Andreas Heinimann, « Marginal Lands or Marginal People? Analysing Key Processes Determining the Outcomes of Large-Scale Land Acquisitions in Lao PDR and Cambodia », *International Development Policy | Revue internationale de politique de développement* [Online], 6.1 | 2015, Online since 28 September 2015, connection on 18 November 2015. URL : <http://poldev.revues.org/2037> ; DOI : 10.4000/poldev.2037

## About the authors

### Peter Messerli

Peter Messerli is director of the Centre for Development and Environment (CDE), at the University of Bern. He is a human geographer who focuses on human–environmental systems in developing countries. He has long-standing experience in managing large-scale inter- and transdisciplinary research projects and in designing and implementing policy dialogue and supporting evidence-based decision-making processes.

### Amaury Peeters

Amaury Peeters is a bioengineer specialised in land use planning. He has extensive field work experience in both rural Cambodia and Vietnam. Based in Cambodia, his recent research activities at the Graduate Institute of Geneva include the spatial analysis of large-scale land acquisitions and the socioeconomic consequences of the related agrarian transformations on farmers.

### Oliver Schoenweger

Oliver Schoenweger is PhD candidate at the Centre for Development and Environment (CDE). During this research, he also was responsible for the implementation of a nationwide land concession inventory—now considered an example of collecting and processing data on such issues. Prior to his PhD studies he has worked as a Land Management Adviser for a mining company in Laos, and for GIZ and UNDP in the fields of sustainable development and responsible investment in land.

### Vong Nanthavong

Vong Nanthavong is a research fellow at Centre for Development and Environment (CDE) office in Laos. His current work focuses on rural development and governance in the framework of Foreign Direct Investment in natural resources in Laos. Concretely he is contributing to the updating of an existing national land concessions inventory and co-development of a methodology to assess quality of land investments. He has worked in these fields in Laos more than eight years.

### Andreas Heinimann

Andreas Heinimann is a senior research scientist and lecture Centre for Development and Environment (CDE) and the Institute of Geography of the University of Bern. He holds a PhD in Geography from the University of Bern and an MSc in Environmental Science from the Swiss Federal Institute of Technology (ETHZ). He is also a member of the Scientific Steering Committee of the Global Land Project (GLP) of International Geosphere Biosphere Programme (IGBP) and Future Earth.

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