

# Land grabbing, conflict and agrarian-environmental transformations: perspectives from East and Southeast Asia

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### How land concessions affect places elsewhere: Teleconnections and large-scale plantations in Southern Laos and Northeastern Cambodia

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## **Abstract**

Over the last decade or so considerable research has been conducted on the development and the impacts of large-scale land concessions for plantations in Laos and Cambodia. These studies have variously illustrated that concessions frequently result in serious negative impacts on local people and the environment, often leading to dramatic transformations of landscapes and livelihoods. As important as this research has been, these studies have largely focused on the immediate impacts of the 'enclosure' process associated with gaining access to land by investors. In this study, however, we take a different approach, investigating the implications of large-scale land concessions in southern Laos and northeastern Cambodia with regard to places outside of actual concession areas, both within the countries where the concessions are located and beyond. These links have been referred to as 'teleconnections', and adopting this approach allows us to focus on particular relations between land-use change in one location and land-use change elsewhere, either nearby or distant, as the result of large-scale plantation development, both during the early plantation development period, and later when plantations are productive. It also provides opportunities for us to engage with Land Change Science (LCS) through Political Ecology (PE). In particular, we look at rubber concessions in Laos and Cambodia. Our preliminary findings demonstrate the value of framing research related to large-scale land concessions in relation to a PE-oriented and thus flexible and less structured variety of teleconnections, and the importance of recognizing the broader implications of these concessions beyond their official boundaries, something that has not yet been sufficiently documented for plantation crops in Southeast Asia.

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## Introduction

Since the mid-2000s there has been a boom in rubber plantations in Southeast Asia (Ziegler et al. 2009), and there has also been a corresponding increase in research regarding the expansion of rubber in the region. Some researchers have investigated small-holder rubber development in northern Laos, about which they have been generally positive (Baird and Vue 2015; Fox and Castella 2013; Lagerqvist 2013; Shi 2008; Manivong and Cramb 2008; Alton et al. 2005). The same has been true for research on small-scale rubber development in southwestern China (Fox and Castella 2013; Sturgeon 2010), and between China and Laos (Sturgeon 2013). However, researchers studying large-scale land concessions for plantations in Laos and Cambodia have variously illustrated that these concessions frequently result in serious negative impacts on local people and the environment, often leading to dramatic transformations of landscapes and livelihoods (NGO Forum on Cambodia 2006; Dwyer 2007; Obein 2007; Schipani 2007; Lao Biodiversity Association 2008; CHRAC 2009; Baird 2010; 2011; 2014; Laungaramsri 2012; Kenney-Lazar 2012; Neef et al. 2013; Global Witness 2013). As important as this research has been, studies of large-scale land concessions have largely focused on the immediate impacts of the ‘enclosure’ process associated with gaining access to land by investors. In this study, however, we take a different approach, investigating the implications of large-scale land concessions in southern Laos and northeastern Cambodia with regard to spaces outside of actual concession areas, both within the countries where the concessions are located and beyond. These links have been referred to within the Land Change Science (LCS) community as ‘teleconnections’ or ‘telecoupling’ (see Eakin et al. 2014; Friis and Nielsen 2014; Liu et al. 2013; 2014; Yu et al. 2013; Seto et al. 2012; Lambin and Meyfroidt 2011) and adopting this approach may be useful for considering the wider implications of large-scale land concessions, both during the early plantation development period, and later when plantations are productive. But we want to engage with this idea in LCS through the lens of Political Ecology (PE), which we believe can help provide a less structured and more productive way of thinking about teleconnections than has been proposed so far.

An exploration of how investments made in one place affect land use in another, and how that land-use change may drive land-use changes at other sites has, we believe, considerable potential. For example, a site in Laos where Vietnamese investors have been given a large-scale land concession by the central Lao government to invest in a boom crop could be studied in terms of both the political economic reasons for why the Lao government may do this, as well as government program and subsidies in Vietnam that may assist Vietnamese companies in their investments. One could use it to think about the flows of capital by companies between base areas and other spaces of operations, or it could be applied to think about the flows of knowledge and technologies between spaces. The concept can be used productively in many different ways. We, however, have chosen to use the idea of teleconnections to explicitly help us focus our attention on connected or coupled shifts in land-use changes. In other words, how does change in land use in one place affect change in land use at places elsewhere?

In this study we seek to identify people who used to farm land that has currently been converted to plantation agriculture and document how they used the land before the transition to the boom crop as well as how their land-use practices have changed since the transition. We will explore if these people became hired labor on their old land? If they opened up new land or intensified land use elsewhere? Or did they move to the city to work in a factory? If workers on the plantation came from elsewhere we will explore how land-use changed in the place from whence they came? In particular, we provide preliminary results of field research conducted in southern Laos and northeastern Cambodia in June and July 2014. In Laos, we investigated rubber plantation development by Vietnamese companies at three different locations, one each in Bachieng District, Champasak Province; Thateng District, Xekong Province; and Phou Vong District, Attapeu Province. In

northeastern Cambodia, we investigated rubber plantations in Sesan District, Stung Treng Province, and Veun Say District, Ratanakiri Province (see Figure 1).

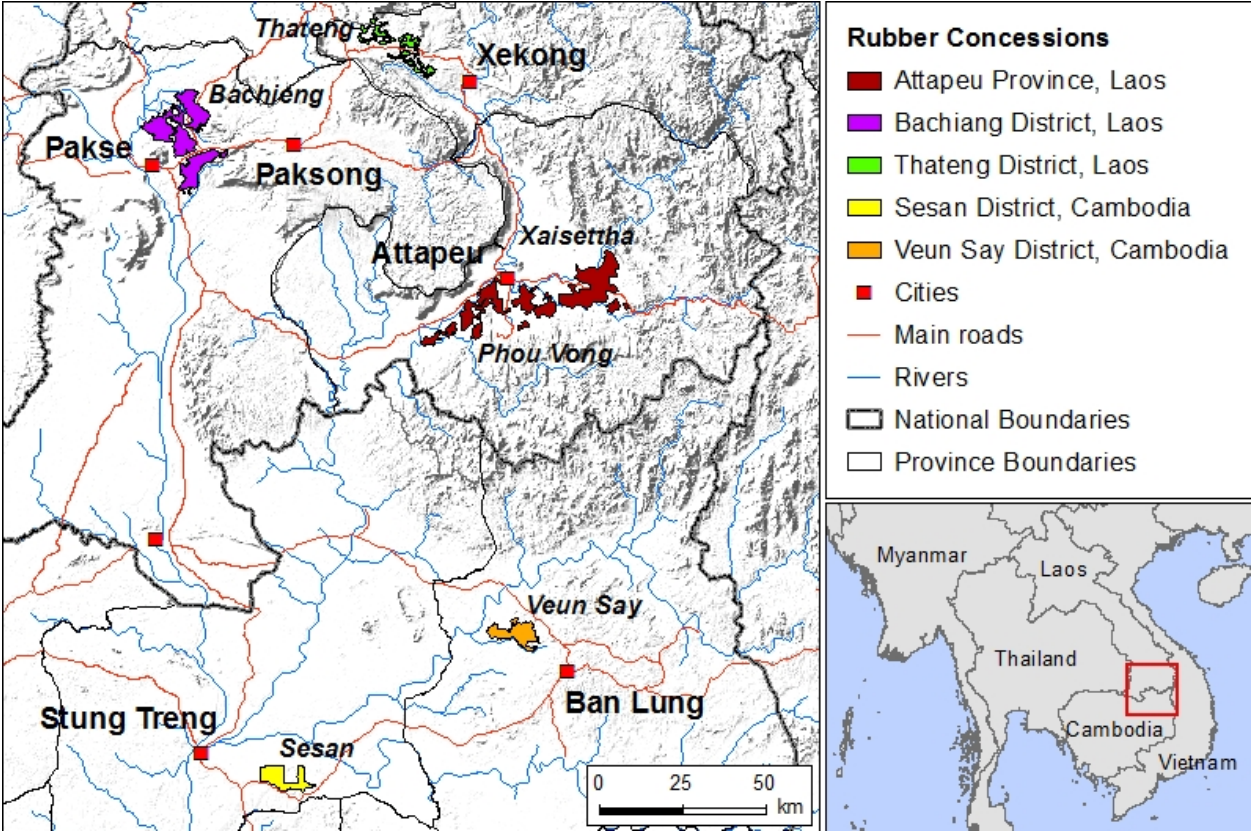


Figure 1. Rubber plantations in southern Laos and northeastern Cambodia investigated for this study.

We begin by reviewing the concept of teleconnections in the LCS literature and suggest ways that the idea could be linked with PE, which also has a history of looking at distal impacts of development projects on other places. This is followed by a short description of our research methodology. We then present three case studies to illustrate a few of the major types of teleconnections that we observed in relation to the development of large-scale rubber plantations; and we begin to make generalizations about the types of teleconnections we encountered. We end with a few suggestions on how future research might expand our understanding of how teleconnections affect land use and livelihoods in our research area and beyond.

### Teleconnections

Globalization has increased the worldwide interconnectedness of places and people through markets, information and capital flows, human migration, and social and political institutions. As a consequence, land-use practices are shaped by local and global forces in ways that require a reexamination of the theories about the drivers and consequences of land-use and land-cover change. Recently, the concept of land teleconnections, or telecoupling, has gained some traction in LCS, reflecting efforts to better understand cause-and-effect linkages between distant and apparently unconnected places, and socioeconomic and land-use dynamics. For example, if planting a bioenergy crop replaces a food crop in one place, the supply of the food crop decreases. This triggers the market price for the food crop to increase and more land in other places is allocated to that crop triggering a cascade of crop by crop substitutions the environmental and social impacts of which are not predictable. Because the

governance of the linked systems is independent, the critical outcomes revealed in the teleconnection process tend to be indirect, emergent, and of a second or third order, such that they are difficult to anticipate or measure (Eakin et al. 2014).

LCS uses terminologies that seek to explain the *drivers* of land-use change and calculates findings through positivist constructions such as IPAT (impact, population, affluence and technology) (Brannstrom and Vadjunec, 2013). IPAT quantifies and calculates explanatory variables and seeks to apply planning strategies or policy solutions to address the equilibrium of its inherent equations. PE scholars criticize broad-scale conclusions of human-environment relations utilizing LCS methods for their opacity in explaining specificity, as well as limitations in articulating decision-making processes that occur at different scales and those that are set in motion by diverse actors.

PE has a long history of examining land-use changes as a result of distant political economic connections (see Blaikie 1985; Blaikie and Brookfield 1987; Turner 1999; Forsyth 2003; Robbins 2004; Rocheleau 2008). Many researchers have looked at connections deriving from commodity chains or global production networks (see Ribot 1998; Henderson et al. 2002; Munroe et al. 2014). Other PE scholars have examined the effect of remittances on land use (see Tiwari and Bhattarai 2011; Rigg et al. 2012). In the context of the Philippines, for example, McKay (2003; 2005) has written of “remittance landscapes”, highlighting the way in which the effects of migration can be seen inscribed in the fields of the Ifugao: “Bean gardens can be read as remittance landscapes—they both anticipate remittances and produce the capital needed to go overseas—and are thus tied to the translocal nature of apparently local places” (McKay 2003: 306). Work in Cambodia has also shown how migration interlocks with farming, reshaping the latter in the process, leading to both a feminization and a geriatrification of farming (Resurreccion et al. 2008).

In contrast to LCS, PE research tends to put more emphasis on the politics, socio-economic determinants and impacts of local and regional land-use dynamics (Rocheleau et al. 2001; Hecht 2012). It generally does so through a grounded approach contextualizing, from the local up to the global scale, land-use and forest-cover changes and interrelations with political-economic dynamics. With this bottom-up critical perspective, PE can provide valuable insights on the heterogeneity and complexity underlying land-use dynamics in various parts of the world (Robbins and Fraser 2003). More recently, PE researchers have started developing network approaches (e.g., Birkenholtz 2012; Rocheleau 2012) that seek to illuminate connections between local and transnational social-ecological change. Lesterlin et al. (2014) concluded that much deforestation in Laos is a manifestation of transnational actor-networks linking capital accumulation and reforestation in Vietnam and China with large-scale land grabbing and targeted investments in Laos. Barney (2012) has also sought to draw connections between a political ecology of global investment in industrial tree plantations and rural out-migration across the border between Laos and Thailand.

In 2008 Turner and Robbins (2008: 308) propose that LCS and PE “may work together in productive hybrid ways” to improve our understanding of human-environment interactions and potentially how places of consumption and production are intertwined. In 2013, these same authors (Turner and Robbins 2013) commended those that have taken up the call to look for areas of research synergy. They conclude, however, with less than sanguine expectations about the potential for collaborative research, stating: “[For LCS] ... to test and model, the problem set must be bounded, making *exogenous* important facets of a full explanation. For the most part, what becomes exogenous in such an approach is often precisely that which captures the attention of political ecologists (Turner and Robbins 2013: 245).” Although this indicates that LCS and PE are fundamentally separate in their respective paradigmatic approaches, it only points to the greater importance of multidisciplinary collaborations to inform each other. Such alliances reinforce the *porous borders* suggested by Turner and Robbins (2013), and allows for new discoveries for approaching timely challenges to pressing human-environment relations.

Eakin et al. (2014: 153), who provide the most flexible and multi-faceted conceptualization of teleconnections/telecoupling so far, one that is likely to fit better with PE than more rigid versions, suggest that analysis demands the integration of different epistemological perspectives on space and spatiality—‘one in which Cartesian space is the primary frame and point of departure, and one in which social space and its contingent aspects of agency and power are critical.’ Teleconnections thus invite multiple points of entry for analysis. For instance, teleconnections can be thought of in terms of a particular place-based problem and use that problem to define system boundaries and linkages to other systems. Alternatively, teleconnections can be understood within a network of actors and their activities associated with a land use and not focused on any particular landscape or parcel. Munroe et al. (2014: 12), for example, integrated LCS with economic geography in order to better understand the distal impacts of ‘land grabs’, including considering the impact of “how the remittances from low-wage migrants are changing the production possibilities of landscapes half a world away.” In El Salvador, Hecht and Saatchi (2007) analyzed satellite imagery to test the relative impact of foreign remittances on forest cover between 1992 and 2001. They found for every percentage point increase in remittances, there was a 0.25 increase in the percentage of land with 30% or more tree cover.

Still, so far, frameworks designed to explicitly capture land-use change over long distances have not been used to think about large-scale concessions for plantations, the focus of this study, and thus we believe that applying this theoretical framework has considerable potential to helping us better understand the impacts of concession plantations, not only in Laos and Cambodia, but also regionally and globally. The project on which this paper is based seeks to document connections between distant drivers and local land uses, and look for evidence of non-path-dependent and non-sequential changes. In this paper we seek to explore the development of specific place-based plantations in southern Laos and northeast Cambodia, to document the impact of these plantations on these specific landscapes, and to trace how these changes propel further land-use changes in places both nearby to where food production may be displaced and to further afield where remittances earned from working on the plantation may be sent by migrating workers.

## **Methods**

The fieldwork that this paper is based upon took place in Champasak, Attapeu, and Xekong Provinces in southern Laos by both authors in June and early July 2014. The fieldwork in Stung Treng and Ratanakiri Provinces in northeastern Cambodia was conducted by the first author in July 2014. The fieldwork consisted in traveling to various large-scale plantations, observing plantation conditions, and interviewing villagers and rubber tappers in the vicinities of these concessions. Lao and Brao were the main languages used during interviews conducted in both countries, along with some Khmer in Cambodia. The first author relied heavily on his familiarity with the area as well as local contacts.

Although this paper is largely designed to introduce the concept of teleconnections to the land grab community, and engage with LCS through PE, another component of our work involves documenting changes in land cover with remotely sensed images. Therefore, during our field interviews we used a camera with a built-in Global Positioning System (GPS) to track our field visits and record land cover.

Field research was supplemented by a literature review, including both published literature, and for northeastern Cambodia, data available on the internet.

## **The case studies**

In order to demonstrate how we conceptualize teleconnections within a broader PE and LCS



framework, one linked to examining the impacts of large-scale economic land concessions for rubber in southern Laos and northeastern Cambodia, we provide examples of teleconnections in our field area. We could provide various other examples, but the purpose of this paper is not to be exhaustive but rather to explore the usefulness of the teleconnections concept for understanding land-use change in the study villages, and we want to see how a PE lens can improve the way teleconnections is conceptualized. One of the key points that we want to make is that just as path-dependent understandings of land use change from the past are no longer considered sufficient, neither should we only privilege long-distance connections. Instead, we need to carefully assess both changes immediately adjacent to plantations and also those occurring farther away, as well as the links between them. We need an approach that considers the complex connections between multiple places, and we need to recognize that there are multiple factors related to political economy, ecology, politics, culture and individual agency that are important but highly variable. We also conceptualize flows related to teleconnections as multi-directional and not just as flowing in a particular direction, such as from plantations to other places. Indeed, there are flows from other places to plantations, often via the movements of labor.

### *Land-use changes adjacent to rubber plantations in Southern Laos*

In Bachieng District, Champasak Province three Vietnamese companies (Lao-Viet Company, Dak Lak Company and Yaotiang Company) have developed the bulk of each of their 10,000 hectare rubber concessions since the mid-2000s. These developments have caused villagers to lose access to significant amounts of agricultural and forest land, as well as dramatic environmental and livelihoods changes. Serious problems associated with these concessions have been widely reported elsewhere (Baird 2010; 2011; 2014; Baird and Le Billon 2012; Obein 2007; Dwyer 2007; Laungaramsri 2012).

More recently the clearance and expansion of the plantations has ended and the rubber in Bachieng is being tapped thus presenting a whole new set of issues. One significant issue is that most of the relatively flat land in the eastern part of the district near the border with Paksong District has been planted with rubber and villagers who want to continue farming have been forced to make small swidden fields in steep ravines such as those now found along Champi Stream. Thus, rubber development has resulted in marginal lands previously rarely cultivated to be cultivated as the last option for local people who want to continue farming. This is what we mean when we refer to “nearby teleconnections”.

In Yeup Mai Village, Thateng District, Xekong Province, we find another example of nearby teleconnections. Yeup Mai is an ethnic Katu community that was moved in 1997 to this location as a result of the Lao government’s program to resettle highland minorities in the lowlands (see Baird and Shoemaker 2007; Evrard and Goudineau 2004; Goudineau 1997). In 2006, the Lao-Viet Company (a subsidiary of the Vietnamese Rubber Group (VRG)), began taking over much of Yeup Mai’s agriculture and forest land. It was later revealed that the village headman had signed a paper giving the company the right to plant rubber seedlings on the land. According to one villager, only 20 to 30 meters of land outside of the village settlement is still owned by the village. The rest of the land surrounding the village has been planted with rubber, leaving villagers with almost no agricultural land. People who were left without land for agriculture told us they “borrowed” land from the adjacent long-established ethnic Souay village of Yokthong, in order to cultivate swidden. People also had to drastically reduce the number of livestock they raise due to a dramatic decline in grazing areas (see Lao Biodiversity Association 2008). Many community members struggled to regain control of their land and this eventually led to short jail terms for those leading the resistance. Even today a group of 55 families remains openly defiant; refusing to officially sign away the land the company has planted with rubber. These villagers either want their land returned, or they want to be relocated someplace

where there is sufficient agricultural land. Another 37 families are also upset with the loss of their land, but they have decided to work for the company rather than demand the return of their land.

Another important consequence of tapping is the implication for labor because tapping rubber is labor intensive compared with the labor required for other crops. Experts generally consider that it takes one person to tap one hectare of rubber. Key informants suggest that in Yeup Mai the Lao Viet Company divides the income it receives from rubber sales into three parts; one part to the tapper, one to the company, and one to the government as a tax or land concession fee. Villagers who work as tappers receive between 500,000 and 1,000,000 kip per month; some villagers also work as weeders at a rate of 1,400,000 kip/hectare. Laborers report that their income is insufficient, and that it has declined with the fall of global rubber prices over the last couple of years (Vientiane Times 2014; Pardomuan and Raghu 2014) resulting in fewer people willing to work as tappers. The Lao-Viet Company has thus resulted to importing laborers from Vietnam. So far we know little about where these Vietnamese come from or what they do with the money that they earn from tapping (see next section). As a consequence of the decline in rubber prices as well as conflicts between village livelihoods and the development of rubber and eucalyptus plantations, the Lao government has placed a moratorium on any new large-scale land concessions for rubber or eucalyptus plantations (Vientiane Times 2012).

The teleconnections stories told in eastern Bachieng and Yeup Mai Village are fairly typical and unsurprising, but are nevertheless important. Villagers left without access to agricultural land are forced to find it elsewhere, and are thus either increasingly farming marginal and steep land, land that they previously rarely cultivated, or “borrowing” land from adjacent villages and thereby placing pressure on other places. The Lao-Viet, Dak Lak, and Yaotiang Company rubber plantations are driving land-use changes in areas adjacent to the plantations.

### *Vietnamese labor on rubber plantations in Southern Laos*

We call the second forum of teleconnection we observed “transnational labor teleconnections”, as it relates to labor from one country migrating to another and then repatriating wages to their home country. In this case, we are referring to Vietnamese rubber tappers working on Vietnamese rubber plantations in southern Laos. As we mentioned above, as the price of rubber declined, so did the wages paid to rubber tappers. In 2013-2014 wages declined by approximately half, and many Lao people stopped tapping, preferring to look for other wage labor opportunities, including traveling to Thailand as illegal laborers (c.f. Barney 2012). As a result, the Vietnamese owned rubber companies turned to importing tappers from Vietnam.

One Lao tapper we met explained why many Lao tappers are being replaced by Vietnamese workers. This farmer originally came from Na Sone village, Sanasomboun District, Champasak Province near the Mekong River. He and other lowland Lao people from villages where paddy land was scarce migrated to Thong Chan, Bachieng District to open up land for cultivating rice. When the Lao-Viet Company acquired their land for a rubber plantation, the population of Thong Chan was displaced. This farmer thought about returning to his original village, but there was no land left so he decided to become a rubber tapper. Some farmers, however, were able to return to their original villages. He reported that there were over 30 households in Thong Chan when rubber development began around the village. Of these, 13 households moved to the area established by Lao-Viet Company for rubber workers to live called Nikhom 1. Of those 13 households only eight were still tapping four years later. A few households were fired for not tapping correctly; some households were able to rent lowland paddy and stopped tapping to become rice farmers again; and a few better-off households had more options to move and took advantage of the circumstances to set-up elsewhere. We plan to investigate these teleconnections further.

Of the four rubber plantations we visited in Champasak, Xekong and Attapeu Provinces, it is evident that the plantations closest to Vietnam, particularly the Lao-Viet Company plantation in Xekong and the Hoang Anh (HAGL) plantation in Attapeu, have more Vietnamese tappers than do the plantations in Champasak Province, when Lao labor is more available. These Vietnamese tappers represent an important teleconnections story, as they are generating income as tappers in Laos and sending at least part of that income back to Vietnam.

The law in Laos stipulates that not more than 10% of a company's employees are supposed to be foreigners (Baird 2010). But Vietnamese companies have been able to petition the Lao government to increase the percentage of Vietnamese laborers working on their plantations by claiming that they are unable to find enough Lao labor to meet their requirements. Some of these Vietnamese tappers have come as single men; others have come with their wives. One Lao tapper we spoke with reported that the Vietnamese tappers are hard workers. Some may be looking for opportunities to resettle in Laos (see below for an example in Cambodia), although this has not yet been confirmed. In any case, we will soon investigate further the teleconnections between these laborers and land-use change in Vietnam. We are interested in where they come from in Vietnam, how much they earn, and what they do with their income, particularly back in Vietnam. Are they using their work on plantations in Laos to stake out new economic opportunities in Laos, and if so, how are these new opportunities being negotiated?

### *Laborers from southern Cambodia and rubber plantations in northeastern Cambodia*

We call the third type of teleconnections discussed here “opportunistic teleconnections”, as it involves laborers from distant parts of southern Cambodia making use of employment on large-scale rubber plantations in northeastern Cambodia to investigate opportunities to either grab land in the area where they are working or to buy it from villagers living near the plantations.

Over the last few years a large number of rubber saplings have been planted in northeastern Cambodia by large foreign and Cambodian investors who received economic land concessions from the Cambodian government, and also by smaller and middle-level Cambodian investors from various parts of the country. Despite the decline in rubber prices, investors are continuing to expand their rubber plantings.

Two of the largest rubber companies operating in Sesan District, Stung Treng Province are Sopheak Nika and Sopheak Pheenik (also known as Sal Sophea, see Figure 2 below). The two companies that are believed to be owned by the same person,<sup>1</sup> an important Cambodian businessman named Okhna Sopheak Nika Molika. The company also has a rubber processing factory in Sesan District, adjacent to the road from Stung Treng to Ban Lung. Baird (2008) discussed the Sopheak Nika and Sopheak Pheenik concessions and the enclosure of important agricultural and forest areas of ethnic Brao villagers living nearby the plantations. Much of the 20,000 ha concession has now been planted with rubber. However, due to the involvement of an NGO, Development and Partnership in Action (DPA), 3,000 ha was reportedly removed from each of the two concessions and turned into community forests. Some of the land was also reported to have been given to villagers for swidden cultivation. Half the land went to the Brao village of Katot and half went to the ethnic Khmer and Brao village of Jarawp. According to the village headman of Katot Village, DPA started working in the village just a few months after the concessions started developing their rubber plantations. However, 2,000 ha of the rubber planted near Katot village died due to flooding, and were not replanted with rubber. Instead, about 1,000 ha were replanted with teak trees.

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<sup>1</sup> The Cambodian government officially only allows a single company to obtain 10,000 ha as an economic land concession for plantation agriculture. Therefore, in order to receive 20,000 ha concession, the company needed to be divided into two so that each company could have a 10,000 ha concession (Figure 2).

The Sopheak Nika and Sopheak Pheenik companies want a consistent labor force available to work for them all the time. Local people want time off for harvesting rice and will only work when they want to. The companies consequently decided to hire laborers from southern parts of Cambodia where there are large number of land-less villagers. It is politically much more sensitive to hire Vietnamese laborers in Cambodia as compared to Laos, due to past conflict between Khmer and Kinh people, so Vietnamese laborers have not been brought in to work on the plantations like in Laos (see above). Only local people who do not cultivate rice and can work all year round are working for the companies now. We were told that some local ethnic Lao people are doing that.

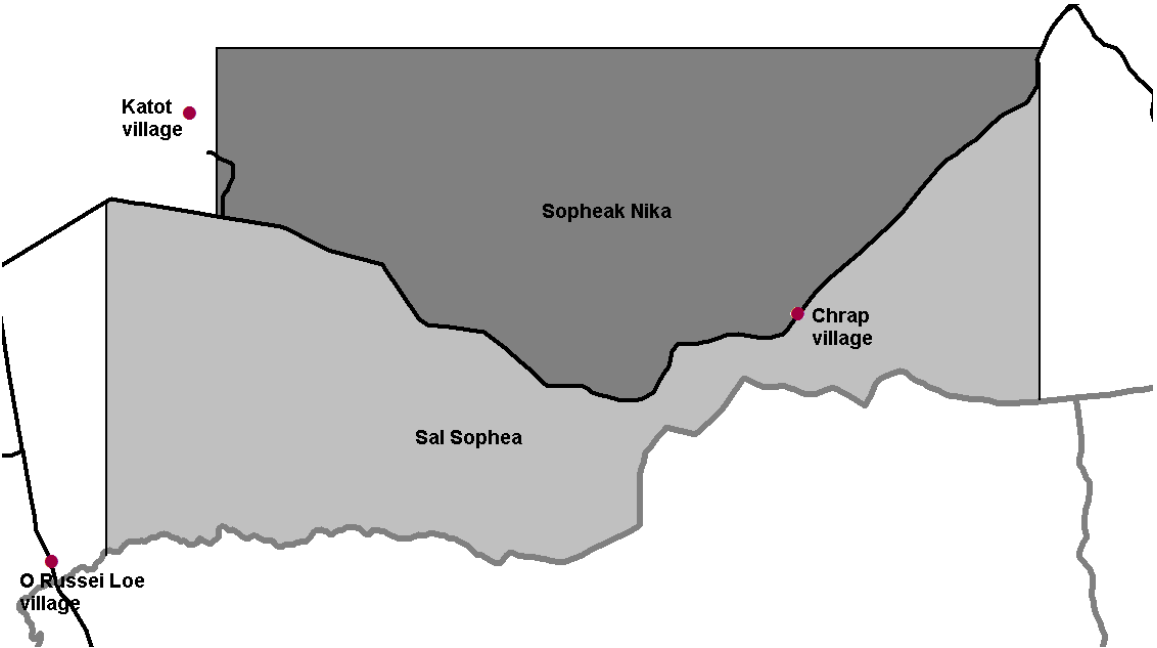


Figure 2. Land concessions in Sesan District, Stung Treng Province (Baird 2008), prior to some parts being removed later.

The companies have been hiring Khmers from the south to work on their plantations in northeast Cambodia since 2006; and many families have moved to the Northeast to work for the companies. One group of laborers moved just outside of Katot Village, an ethnic Brao community with 68 families. Forty-nine of these migrant families have taken advantage of their employment to buy land from Brao villagers with many gaining as much as 10 ha each. According to one Brao villager, the Khmers often sold much more expensive land in the south and then used the money to buy cheaper land near the village. The village headman reported that sometimes the profit from selling one hectare of land in the south could be used to buy 10 hectares of land near the village. Initially, the cost for land near the village was \$800/hectare but it has now risen to \$3,000/hectare. These Khmers have since quit their jobs with the rubber companies and have become farmers living just outside of Katot Village. Some Khmer have even hired the people from whom they bought their land to be laborers for them in the dry season, paying them 20-25,000 riel (\$5-6.25)/day (laborers bring their own rice/food). The money that Brao villagers received from selling their land was usually spent quickly. Fortunately, however, villagers did not sell their lowland rice paddy land.

This does not appear to an isolated strategy, as we heard about and observed similar circumstances when we visited Ratanakiri Province. Ethnic Kreung villagers told us that Khmers from the south initially came to work for the Yang Mang Rubber Corporation, a large-scale rubber plantation being developed in Veun Say District. However, later some of those laborers explored the area and starting obtaining their own small plots of land in the area, after which they quit working for

the rubber company. As one Kreung villager put it, “The good ones buy land from the villagers, but the bad ones just take it.” In any case, many poor southerners have used employment with rubber plantation companies as a way to find land for themselves, thus resulting in land-use change nearby but outside of the plantations, but also changing land-use patterns in the areas from where they originally came. We hope to further explore these connections.

## Discussion

Through our initial investigations, the idea of teleconnections has proven useful for focusing our attention on land-use changes associated with but outside of the plantations themselves, especially if a flexible and nuanced framework informed by the PE tradition is applied. From the research conducted so far we have broadly characterized these connections as: “nearby teleconnections”, “transnational labor teleconnections” and “opportunistic teleconnections.” We do not believe that these are the only types of teleconnections related to these land concessions, but they do demonstrate the potential usefulness of applying the idea of teleconnections through drawing upon ideas from LCS and PE, and of considering both nearby and distant affects.

“Nearby teleconnections” occur when a large-scale rubber plantation encloses village agriculture land and common forest lands, forcing villagers to redirect their agricultural or forest foraging activities to other lands and forests adjacent to or in relatively close proximity to the rubber concession and changing the land use of those areas. This is clearly the case for the steep marginal lands adjacent to plantations in Bachieng District, Champasak Province, areas previously not cultivated. It is also the case for areas adjacent to the rubber plantation in Thateng District, Xekong Province, which has enclosed the agriculture and forest lands of people from Yeup Village and forced them to “borrow” land from a neighboring village, thus causing land-use change in areas adjacent to the plantation.

One point that is emerging as a result of this research is that ethnic minorities<sup>2</sup> appear to be much less likely to move far from their original lands than the majority Lao and Khmer people in Laos and Cambodia respectively. The propensity of these minorities to not move long distances might suggest: 1) that many of these peoples have limited experience outside of a relatively narrow geographical areas, and this lack of experience makes it less likely and more difficult for them to move farther away; and 2) that these minorities lack the kinship ties and other social relations beyond their relatively narrow geographical area to facilitate moving further afield. In Laos, for example, upland ethnic minorities are much less likely to become illegal laborers in Thailand than the Lao people living closer to the border; while in Cambodia ethnic minorities are less likely to seek wage labor work far away from their homes than the Khmers. This has resulted in areas nearby or adjacent to land concessions in areas inhabited by ethnic minorities experiencing extensive land-use changes, especially in areas where ethnic minorities are displaced by large rubber plantations.

“Transnational labor teleconnections” involve Vietnamese laborers tapping rubber on Vietnamese owned rubber plantations in southern Laos and sending at least some of their income home as remittances. We hypothesize that this is affecting land-use in the places where they originally came from. We will conduct research on this topic in the near future.

Finally, “opportunistic teleconnections” involve Khmer people from southern Cambodia going to work for large-scale rubber plantation companies operating in northeast Cambodia. These laborers frequently use their positions as an explicit strategy to explore new areas and acquire land for

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<sup>2</sup> In Cambodia, the legal designation for upland ethnic minorities is “indigenous peoples”, a concept that is not officially recognized in Laos (Baird 2015), but has important legal ramifications in Cambodia in terms of land tenure, since only those defined as “indigenous peoples” are legally entitled to communal land tenure (Baird 2013)

themselves, either through purchasing it from villagers or through squatting on it. These laborers often initially send remittances back to relatives in southern Cambodia, thus potentially impacting land-use change there (much like the “transnational labor teleconnections”). Over time, however, “opportunistic teleconnections” becomes increasingly important as the laborers use their familiarity with the geography of the new area to gain access to land. They then quitting their tapping jobs and becoming migrant farmers from southern Cambodia, thus leading to new types of land-use change that are indirectly but definitely linked to the rubber plantations developed nearby.

## Conclusions

Although we have so far conducted only preliminary fieldwork regarding the impacts of large-scale rubber development on land-use change outside of concession areas, our investigations in southern Laos and northeast Cambodia have so far indicated that applying the concept of teleconnections can be fruitful for learning more about the types of changes that large-scale economic land concessions are causing, apart from the impacts in the actual concession areas, which have already been well documented. Although there are undoubtedly many other kinds of teleconnections worth considering, “nearby teleconnections”, “transnational labor teleconnections” and “opportunistic teleconnections” are three important types of teleconnections that we have identified during our research.

As a next step, we plan to follow up on what we have learned about teleconnections to assess the types of land-use changes that are occurring due to large-scale rubber concessions, but which are occurring outside of actual concession areas. We will investigate Vietnamese rubber tappers in Laos and teleconnections linking them to landscapes in Vietnam. In Cambodia we plan to learn more about how Khmer laborers affect land use outside of rubber concessions. In addition, we will explore other kinds of teleconnections linked to large-scale rubber development in southern Laos and northeast Cambodia, ones that we do not have sufficient space to elaborate on here, but nevertheless have the potential for further expanding the ways we think about land-use changes associated with large-scale rubber plantations.

For many political ecologists, the idea of teleconnections is unlikely to seem as useful as it has for those working in LCS, as PE has a long tradition of linking land-use changes to political economic processes far away. But despite this, we believe that applying the concept of teleconnections can be beneficial to both those in PE and LCS, as the concept can, at least as we have chosen to apply it, help to focus our attention on particular types of nearby and distant changes, ones with particular spatial connections and linked to land-use changes.

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