Rubber plantations, promoted by the governments of Cambodia, Myanmar, and Laos to improve rural livelihoods, have reduced people’s access to forests. As a result, villagers have to buy food from markets, forcing women to look for higher cash incomes, which is more time-consuming (Julia & White, 2013). Whitehead and Kabeer (2001) noted that small landholders use diversification as a strategy for survival or for accumulation, but women often pursue livelihood strategies that are less lucrative than those adopted by men (Agarwal, 2003; Kandiyoti, 2003). Despite earning a lower income than men, women continue to bear the responsibility of feeding the family, and hence have to manage food security and nutritional deprivation (Schneider, 2011). Feminist political ecology scholars have examined such gender-differentiated impacts, from a conjunctural and intersectionality perspective, taking into account other subjectivities like ethnicity and age (Elmhirst, 2011; Elmhirst et al., 2017; Nightingale, 2011). They examine how changes in the material environment create normative gender roles (Sultana, 2009) and highlight the importance of the gendered nature of everyday experiences (Terry, 2011). An approach that explores everyday experiences helps us understand local and contextual diversities in gender outcomes (Angeles & Hill, 2009; Arun, 2012; Hall et al., 2017). This article analyzes the gendered impact of change to rubber plantation in Northern Lao PDR in the context of gender norms and gender roles practiced by different ethnic groups.

Research into the impact of rubber plantations has revealed both positive and negative impacts. Khamphone and Sato (2011) maintained that the impact is positive for smallholder rubber producers, whereas negative impact is usually noted among farmers who undertake contract farming and are employed in investors’ rubber plantations. Despite the numerous studies conducted on the impact of rubber plantations in northern Lao PDR (Dwyer, 2013, 2014; Friis et al., 2016; Kenney-Lazar et al., 2018; Lagerqvist, 2013; Lindeborg, 2012; McAllister, 2015; Shi, 2008; Sturgeon, 2012; Thongmanivong et al., 2009), gender analysis is limited (Park & Daley, 2015 is an exception), and research at the intersection of gender, location, and ethnicity is indeed rare.

Highlighting diversity does not mean that we simply demonstrate variations under different circumstances. It is important to highlight the factors and subjectivities that create disparities. Analyzing diversities gives us a nuanced understanding of the disadvantages that poor women and other
marginalized people experience. We study the impact of rubber plantations in different sociocultural contexts.

Following Turner et al. (2015), this analysis of livelihoods focuses on locational contexts. Turner et al. (2015) critiqued the livelihood approach for its focus on material access and capital and “disregard [for] local particularities” (p. 6) in their study of the Hmong community at the Vietnam border. They argued that the particular situation created by the borderland shaped the responses of individuals and households such that it was unique and “not fully coherent with the market economy” (p. 11). They call this “everyday covert resistance” (p. 11). The effect of borders on the way people make livelihood decisions has been identified by different scholars (Horstmann & Wadley, 2006; Sturgeon, 2005). Borderlands create a special space where State control can be diluted because of the distance from the center. What Long (2001, p. 65) calls “social interface,” where different values and conflicts meet and negotiate, is often seen in borderlands because of the different market and governance systems/forces are at play. New social interfaces are created when infrastructure, market, and governance structures change and interact, as evidenced in Northern Laos through the relocation schemes and the introduction of rubber plantations. The gendered impact can be captured through feminist political ecologist perspective that takes into consideration conjunctions and intersectionalities—analyzing the different experiences of women under different circumstances, under different timelines (Elmhirst et al., 2017). Feminist political ecologists analyze the gendered access to resources as well as agencies that women exercise under changing circumstances. For example, Lutz-Ley and Buechler (2020) studied the effects of women’s positionalities in their relationship to mining in Northern Mexico, analyzing the different benefits and trade-offs that different women experience. In Laos, the social interface that is created changes women’s positionality and produces changing power axes with the government, with other family members, and with the Chinese companies that come to invest in Laos. There is an urgent need to investigate and analyze not only how Chinese companies’ investment strategies are incorporated into Lao governance’s land governance systems but also how such systems of land governance impact women and men. Carte et al. (2019) call such changes as “slow violence”—the changes in political and economic conditions that slowly create a situation of displacement and deprivation. Elmhirst et al. (2017) have analyzed in the case of Indonesia “how landscape history and modes of incorporation into oil palm systems feed into multiple dimensions of subordination (and privilege) that form gendered and generational experiences in this context” (p. 1154). In this article, we take the case of northern Lao PDR to demonstrate how the Lao government’s land governance and economic development policies as well as the Chinese companies’ investment policies have shaped and transformed the economic and social lives of women and men from different ethnic groups. Furthermore, we analyze how their experiences and the space to exercise their agency have changed depending on the space and context.

Kusakabe et al. (2015) argued that government resettlement program and rubber promotion program in Northern Laos have set in place a division of labor where men lead the rubber production, while women are in food production trying to make ends meet until rubber starts generating an income. Such arrangements made women’s economic contribution to the household larger, but did not lead to an increase in household income. Kusakabe and Myae (2019) compared rubber plantation introduction in Northern Shan State in Myanmar and in Northern Laos, and pointed out how women’s agency to avoid precarity can lead to long-term vulnerability. Following earlier research, this article further analyzes how women’s agency in the face of rubber investment is shaped by location and ethnicity, specifically ethnic gender norms, which in turn leads to different experiences with the state and rubber plantations and subsequently different outcomes for women and men.

The article is structured as follows: the next section chronicles the history of rubber plantations in northern Lao PDR. The study site is categorized by location and timing of the introduction of rubber production. An analysis of the changes in gender-based division of labor is followed by an analysis of women’s decision-making power and investments for women. Following the gender analysis, we conclude with a discussion of how the previously discussed location and timing shape people’s coping strategies and its implications within the wider context of the sustainability of local livelihoods.

**Rubber Plantations in Northern Lao PDR**

Luang Namtha is home to various ethnic groups with differing exposure to the outside economy and rubber production. The area has a history of forced resettlement, and the struggle to control forest land continues (Evrard & Goudineau, 2004; Kusakabe & Vongphakdy, 2014).

Rubber was introduced in Luang Namtha in the early 1990s, and the government of Laos started to promote rubber to supplement farmers’ income. In 1997, a Memorandum of Understanding (MoU) was signed between the governments of China and Laos to enhance trade and increase investment in Laos. The government started awarding land concessions to Chinese companies for expansion of rubber plantations. Luang Namtha saw increase in cross-border investments in rubber plantations after around 2002. In 2016, 33,000 ha of rubber plantation was reported (Buaphan Namnavong, Department of Agriculture and Forestry, presentation on October 31, 2016). Twenty-two of the 33 investment projects approved in 2016 were of rubber plantations. The province has six rubber-processing factories.

Simultaneously, villagers started developing rubber plantations themselves. As the global rubber price increased, so
The rubber boom reached its peak between 2008 and 2011. The price peaked around 13–14 RMB (US$2.05–2.2) per kilogram in 2011/2012 at farm-gate in Luang Namtha (Vongvisouk & Dwyer, 2016). However, the global price of rubber dropped, and by 2013/2014, the farm-gate price decreased to 4 RMB (US$0.65) per kilogram (Vongvisouk & Dwyer, 2016). Concerned about the uncon-rolled expansion of rubber plantations through land conces-sions and the drop in rubber prices, the Prime Minister’s Order No. 13 (PM13), issued in June 2012, declared a mora-torium on new concessions for rubber (as well as mines and eucalyptus plantations) until the end of 2015, which was later extended for another year (Lu, 2015).

The provincial government offered guidelines on various land arrangements between companies and villagers. Classifying land arrangements into 1+4 (land given by vil-lagers and managed by companies) and 2+3 (land and labor provided by villagers), the government encouraged the latter. Land officially belongs to the state, and the government gave concession to the company to develop rubber plantation. However, the land is already used by the villagers for their swidden cultivation, so companies need to make an agree-ment with the villagers. In Luang Namtha, companies made an agreement with many villages to follow the 1+4 system. Companies hired villagers to plant rubber to all the land, and after planting, a portion of the land with rubber trees was returned to villagers. Villagers then are hired for daily wages by companies to take care of the company’s portion of the rubber, while they also take care of their own portion of plantation where they can get an income once rubber starts pro-ducing sap. Villagers do not have enough capital to develop and maintain rubber fields for 7 years without any income, so they had little choice but to go for 1+4 arrangements. In some villages near town, urban dwellers rented land and planted rubber. Landowners were often hired to take care of the rubber, thus earning land rental and daily wages. However, it should be noted that villagers do not have a say whether they want to have rubber plantation or not in the first place.

There are different views on the impact of rubber planta-tions in northern Laos. Friis et al. (2016), in their study in Luang Prabang province, noted a negative impact. Chinese rubber plantations had changed land-management systems and denied farmers access to their upland fields. Rubber plantations made it impossible to raise cattle, which lowered paddy yields because of the lack of manure. People with fewer resources in the village were affected because they could not access land, leading to increased outmigration and disparity among villagers.

On the contrary, Lagerqvist (2013), in her study in Sing District of Luang Namtha province, found that farmers used rubber plantations to legitimize their claims to land at the borders. Villagers utilized the capital from their cross-border connection to invest in rubber and lay claim to land before it was taken over by larger external investors. Rubber planting thus helped secure their lands and livelihoods. However, she also noted that not everyone could negotiate with the company and State in this way. People who were dependent only on meager wage work rather than subsistence upland farming faced increasing vulnerability.

The location of the villages (border vs. non-border area) was a key differentiating factor between the two studies. Farmers in both studies needed to secure their land, but the border villages had the advantage of mobilizing information and connections in China to lay claim to land through their own rubber production, whereas farmers in Luang Prabang lacked access to information. By exercising agency, local farmers are adapting to the market economy. The impact of rubber plantations is thus complex and context-specific.

Method

The article draws from field research conducted in Luang Namtha province, Lao PDR. Eight villages in the province were selected for the study: two (Villages A and B) in Luang Namtha district, three in Vieng Phouka district (Villages C, D, and E), and three in Sing district (Villages F, G, and H). Villages and respondents are being kept anonymous. Three are Akha villages, two Khmu villages, one Hmong village, one Leu village, and one mixed village (Lao Huai, Pu Noi, Hmong) (see Figure 1 for location of study area districts). The villages were purposively selected to cover the various ways in which rubber was introduced in the area (see Image 1 for rubber plantation). In one village, farmers planted rubber themselves. Four villages entered into contract farming arrangements with a company (they received seedlings and will sell rubber to the company, or the company gets land from the village and villagers get a share of the rubber harvested; the exact form and share of economic benefit vary widely). Three villages are under full concession (a company totally controls the land and operation of the rubber plantation).

As most rubber planting, both by farmers and through concessions, started in 2006–2007, many plantations were able to start tapping in 2013–2014. However, because of the drop in global rubber prices, companies are not tapping rubber now. Some farmers cut down rubber trees and planted banana or watermelon (Village A) (see Image 2 for rubber plantation adjacent to a banana plantation). The transition to rubber has been a challenge for many farmers, mainly because of (a) the gap of 7 years before rubber yields an income and (b) the lack of labor in the area.

Of the 530 households in the study villages, a question-naire survey was conducted with 225 men and 137 women from different households. Semi-structured questionnaires were used to get basic information on livelihood changes before, during, and after rubber plantation. The questionnaire collected data about livelihood changes and household division of labor during each of these three periods, intra-household decision-making on what to plant, how to sell the produce, and education of their children. As many house-holds were staying at the upland field, all respondents were
selected from among those who were in the village on the day of the interview. A biased sample is an inherent risk due to this method of selection of respondents, and this risk was addressed during key informant interview with village leaders who confirmed that the differences between those who were in the village and those who were in upland farms were not significant, specifically in terms of household composition or wealth standard. We wanted to interview as many women as possible and an equal number of men to have a balanced view from women and men, and have sufficient data to analyze the complex ways in which location and gender norms shape the outcome of. However, it was difficult to get women respondents. This was because many women did not speak Lao language or because they wanted us to talk to their husbands instead. Information collected through questionnaire was coded and entered into SPSS and analyzed with descriptive statistical analysis. To get more nuanced perceptions from women and men, questionnaire survey was
followed by further interviews with 30 men and 31 women and two focus group discussions (FGDs) with women’s groups to capture how they felt about the changes. The follow-up interview notes were coded and analyzed to understand the patterns identified from the questionnaire. Interviews were conducted between December 2014 and December 2015 (see Table 1 for selection of respondents and Table 2 for profile of respondents).

### The Villages Studied

The eight villages are classified into four clusters according to the location (border/access to roads), timeline of planting rubber (early, middle or late adopter), and land arrangement (own plantation or concession).

Cluster 1: Villages bordering China where small rubber plantations started in the early 2000s
Cluster 2: Villages where rubber was planted without company intervention in the mid-2000s
Cluster 3: Roadside villages where rubber planting started on a 1+4 arrangement with companies in the mid-2000s
Cluster 4: Remote villages where rubber planting started in the late 2000s and dependence on wage work in rubber plantations is high

| Village | Sex of respondents | Number of respondents | Average age | Married | Never married | Divorced/widowed |
|---------|-------------------|-----------------------|-------------|---------|---------------|-----------------|
| Village A | Men | 35 | 44.2 | 33 | 1 | 1 |
| Village A | Women | 22 | 39.7 | 15 | 1 | 6 |
| Village B | Men | 61 | 35.6 | 61 | 0 | 0 |
| Village B | Women | 5 | 45.0 | 4 | 0 | 1 |
| Village C | Men | 15 | 40.0 | 14 | 0 | 1 |
| Village C | Women | 9 | 36.9 | 5 | 0 | 4 |
| Village D | Men | 27 | 43.6 | 27 | 0 | 0 |
| Village D | Women | 18 | 44.9 | 12 | 2 | 4 |
| Village E | Men | 26 | 50.2 | 23 | 1 | 2 |
| Village E | Women | 22 | 39.2 | 12 | 4 | 6 |
| Village F | Men | 25 | 38.3 | 24 | 1 | 0 |
| Village F | Women | 34 | 37.9 | 29 | 0 | 5 |
| Village G | Men | 23 | 35.4 | 22 | 1 | 0 |
| Village G | Women | 22 | 38.7 | 16 | 1 | 5 |
| Village H | Men | 13 | 38.0 | 10 | 1 | 2 |
| Village H | Women | 5 | 48.8 | 3 | 0 | 2 |
China and started planting in the early 2000s. They started harvesting in 2008–2009 when rubber prices were rather high and benefited as a result. Their location and their ability to go to China as wage laborers also proved beneficial when rubber was growing. Wages in China were higher than in Laos, but these have recently evened out, so the movement to China for work has decreased. Agricultural wage, in general, has increased after rubber plantations were introduced because of the shortage of labor. Before rubber plantations, daily wage was only 20 yuan per day; now, it is 50 yuan.

From 2010, Chinese merchants started renting villagers’ paddy fields to cultivate banana. Many families in these villages have rented out their paddy land to the Chinese, and some women work on these banana plantations as wage workers.

The villagers continue marginal upland rice production, but they now depend more on cash income to feed their families. On average, their cash income sources are rubber (50%), land rental (30%), wage labor (20% for Village F and 5% for Village G), and livestock (10% for Village G). Villages G and F have the highest cash income among all those studied, at 3 million kip (US$360) and 1.5 million kip (US$180) per month, respectively. This is double the income in Cluster 3 and 4–8 times higher than the income in Cluster 4.

Before rubber, their income came from various sources: wage work, non-timber forest product (NTFP) collection, livestock, and sale of paddy and upland rice. A few people earned considerable income from sugarcane production. Their proximity to China meant that they planted cash crops and rubber much earlier than others in Laos, making them economically better off than other villages. As Sturgeon et al. (2013) noted, the Akha villages on the border with China have successfully adopted commercial agriculture without government assistance.

**Cluster 2: Villages Where Rubber Was Planted Without Company Intervention in the Mid-2000s**

In the two villages in this category (Village H and Village A), farmers planted rubber on their own. Village H is a Leu village that borders Myanmar. It is difficult to access by road. In 1998, GTZ built a road to connect the village to the highway, but this is impassable during the rainy season. It is easier to access the Chinese market by boat. Mobile phones were introduced in 2008 through a Chinese network. Because of the village’s location, subsistence livelihood was the norm, and 90% of cash income came from selling livestock.

The villagers in Village H planted rubber in 2000. A rubber concession was started nearby in 2007, but it became inactive after an accidental forest fire destroyed parts of it. More rubber plantations (around 13 ha) are owned by individual smallholders than by this concession (around 10 ha, of which 1 ha burnt down). At present, the village’s cash income sources are rubber (55%), wage labor (mainly from concessions, 20%), and livestock (25%). They also undertake paddy production for home consumption. Their remote location gives them access to forests and NTFP. They transport rubber to China by boat and get a slightly better price than inland farmers.

Village A has a mix of Lanten, Pu Noi, and Hmong and is located in Luang Namtha district. It lies along a small road. No company has ventured a rubber plantation in Village A. Before rubber, the villagers earned cash income from upland rice (25%), NTFP (25%), and wage work (50%). The village is near a protected national forest and has its own forest as well, so most people have no trouble collecting NTFP. However, taking advantage of the road, they have also taken up wage labor and contract farming of corn and *mak naman* (oil tree or *sacha inchi*). Ever since the rubber plantations reached maturity, the sale of rubber has contributed to 40% of the village’s cash income; 50% comes from wage labor. Their location along the road gives them access to the market, and their cash income has improved. This additional cash income is being used for better nutrition. They also market their rubber collectively and get a slightly better price.

**Cluster 3: Roadside Villages Where Rubber Planting Started With 1 + 4 Arrangement With Companies in Mid-2000s**

Two Khmu villages (Villages E and D) and one Hmong village (Village C) were studied in this cluster. These are located along the main road and were thus involved in the market economy even before rubber was introduced. Before rubber, their cash income sources were diverse. They used seedlings provided by companies to start planting rubber. Their cash income from rubber is not large, and they maintain diverse cash income sources. Chinese companies obtain concessions to develop rubber plantations from the government. Most of the land that the company has obtained is the fallow portion of the villagers’ upland cultivation. The companies are supposed to have an open house with the community people before they start their operation, but such meetings have not taken place in our study area. According to respondents, Chinese companies came with their own conditions and benefit-sharing schemes.

Village E is a Khmu village established in 1997. It saw several development projects as well as a land-distribution project that provided each household a vegetable field. Villagers started planting rubber in 2005, when a Chinese company came to set up a rubber plantation. In exchange for land, the company gave 144 seedlings to each household: a 1 + 4 arrangement. Before rubber plantation, the villagers earned cash from paddy (10%), livestock (45%), corn (10%), wage labor (15%), and NTFP (10%). As this is an aggregate of the respondents in this village, percentages do not necessarily add up to 100%. It also excludes various other small income sources. Now, their income sources are rubber (16%), livestock (60%), paddy (4%), NTFP (8%), corn (5%), and wage labor (5%). Their cash income has increased substantially in real terms. However, economic improvement came from corn and rice, not rubber.
Village D is also a Khmu village and has had several poverty-alleviation projects. It started cultivating rubber in 2005–2006 when a Chinese company gave each household 300 seedlings in exchange for village land: a 1+4 arrangement. In this village, none of the respondents had their land taken away by the concession. Their cash income before rubber came from paddy (15%), upland rice (20%), NTFP (25%), and wage work (30%). Now, it comes from paddy (15%), rubber (30%), wage work (27%), NTFP (16%), upland rice (6%), and livestock (5%).

Village C, a Hmong village, started planting rubber in 2004, when a company came. The villagers used to plant opium, but after the 2003 ban, they switched to corn. Before rubber, they used to earn cash income from paddy (20%), NTFP (40%), corn (10%), and wage work (15%). Now, this has changed to cash crops like sugarcane (30%), paddy (10%), rubber (10%), wage work (20%), and livestock (20%). It has become increasingly difficult to raise livestock because of increasing rubber plantations, so the income from livestock is actually from the distress sale of cattle and is unsustainable. In this village, individual farmers have negotiated different arrangements with the company. Some bought seedlings from the company, others took seedlings with a promise to pay later, and some got seedlings in exchange for a promise of mature rubber trees. However, so far, the company has not returned to collect the money or trees. They did not have a written contract, and it is not clear whether the company has been deterred by low rubber prices or the farmers misunderstood the contract and are supposed to give up a share of the harvest.

Cluster 4: Remote Villages Where Rubber Planting Started in Late 2000s and Dependence on Wage Work in Rubber Plantations Is High

Unlike in the above three clusters, where rubber producers with small holdings dominate (although they do undertake wage labor in the rubber concessions from time to time), villagers in this cluster are wage laborers at rubber concessions. Village B is an Akha village relocated in 2006. As it was relocated, Village B does not have any paddy land. The villagers started rubber in 2008 after a company gave them some trees. Before rubber, almost all its cash income came from NTFP. It also had the largest upland cultivation area among all the villages studied. These upland fields were taken over by the rubber company and have since shrunk by 30%. Plots of rubber were provided as compensation, but the trees did not grow well and have not been harvested. Currently, Village B’s cash income comes from NTFP collection (55%) and wage labor (30%), both of which are undertaken by women.

Each household received 300 rubber trees from the company, although the amount of upland lost was not equal. Some households lost 2 of the 3 ha they were cultivating, whereas some lost only 0.5 ha. The relocation and rubber concessions have affected their livelihood, especially those of the women:

If we do not have enough to eat, women will eat less. (Mr. YH, 30 years old)

Effect of Livelihood Change on Gender Division of Labor

As seen in Table 3, for Clusters 1 to 3, men are working more on rubber than women. Once the villages started harvesting rubber, women’s workload decreased while that of men increased. This was due to the decrease in NTFP collection and upland rice production and increased reliance on income from rubber production. For example, in Cluster 1, before rubber was planted, men grew paddy while women undertook upland rice cultivation, NTFP collection, and, usually, more wage work than men. Women would go in groups to China for wage work. A similar division of labor existed in Clusters 2 and 3.

Women’s workload was high because they were responsible for family subsistence. As Sturgeon (2005) mentioned in her study of Akha in China at the Lao border, when faced with food shortage on state-allocated land, women undertook swidden to feed the family. Women defy existing rules to cope with change, which Sturgeon called their “plasticity.”

Rubber became more of a man’s crop (Table 3) because it was introduced by outsiders and through the government, groups that women rarely interacted with. It yielded a relatively large cash income, especially during the rubber boom, thus attracting greater interest from men. It required an initial investment, and such decisions were largely (more than 90% according to respondents) made by men. At the same time, rubber did not yield an immediate income and often could be harvested only after 7 years. Women, who are responsible for food security, took up a secondary role in rubber management and supported their families by intercropping rice and corn in rubber fields and through wage work and NTFP collection.

As seen in Table 3, more men in Clusters 1 and 2 say they are busier than women after rubber was planted. These clusters have benefited the most from rubber because the plantations were started earlier. It was not only the introduction of rubber but also technology that changed the gender division of labor. Earlier, weeding was done by women. With the introduction of herbicide, this work has shifted to men. With the introduction of motorbikes, farmers now ride to their fields, and women refuse to go to the field if the men do not take them, as one of the women in FGD expressed and many women also agreed. Hence, men go to the fields more often than before:

When we ride the motorbike to the field, both women and men have to go together. If men do not go, women refuse as well, so men have to accompany women to the field. (FGD with women in Village G, Cluster 1)
However, many women still find that they work more than men:

- Both women and men are busier than before. Husbands are taking up more work, but women still work more than men. (Ms. NY, 38 years old in Cluster 3)

Women also expressed that the intensity of work has increased.

- Earlier, we suffered more, since we did not have much income. Now, it is busier, because one needs to go and tap rubber every day, and we cannot rest. For hai (upland field), if we did not feel like going, we could skip a day. We cannot do that with rubber. We need to wake up early in the morning, which is tiring. Work is not heavy, but it is tiring. But it is OK, since we have more money. (Ms PM, 30 years old in Cluster 1)

In Cluster 4, the division of labor has not changed and women continue to collect NTFP and engage in wage work. The rubber concession nearby provides women with wage work. Men’s work did not increase because they did not take up rubber production themselves.

**Investments for Women and Women’s Decision-Making Powers**

A World Bank (2017) report pointed out that among ethnic minorities, dropout rates were higher for girls. Schenk-Sandbergen (2012) described how most ethnic groups except Tai-Kadai such as Leu and Phu-Thai follow more patriarchal kinship patterns. Many ethnic groups included in this study, such as Akha, Hmong, Khmu, and Lenten, are patrilocal, that is, “male dominance through the ownership of the means of production, patrilocal residence patterns and patrilinear descent, and inheritance patterns. . . . Women of these group have less access to economic resources but have to do almost all the production and household labor” (Schenk-Sandbergen, 2012, p. 76). Lyttleton et al. (2004) maintained that young Akha men controlled women’s sexuality and served as gatekeepers for outsiders to access their women, and cultural norms did not allow women to object.

The villages studied are all patriarchal but to different degrees. Land inheritance is through men, who are also heads of households and the main decision-makers. However, even in the most patriarchal Akha villages, as in Clusters 1 and 4, land can be inherited by women. In Village F, in Cluster 1, half of the respondents with inherited land said they had got it from their wife’s parents. In Village G, in Cluster 1, the proportion of such inheritance was lower but still existed. As Schenk-Sandbergen (2012) pointed out, categorizing ethnic groups by their patrilineal/matrilineral practices is getting more complex with resettlement policies, better roads, and greater exposure to mainstream lowland Lao practices. However, in all communities, women’s position remains lower than that of men.

The increase in cash income from rubber and greater exposure to outsiders as a result of being involved in markets have brought about some changes in the position of women in the community. In Cluster 1, exposure to outsiders has changed the way villagers eat at home. The head of Village G and his wife eat together with guests, which is not normal practice in Akha households. They said that they had heard

| Table 3. Profile of Respondents by Cluster. |
|------------------------------------------|
| **Profile** | **Cluster 1** | **Cluster 2** | **Cluster 3** | **Cluster 4** | **Total** |
|-----------------|---------------|---------------|---------------|---------------|----------|
| Average start to planting rubber (year) | 2004.5 | 2006.3 | 2006.4 | 2009.9 | 2006.4 |
| Main person working on rubber (%) |  |  |  |  |  |
| Men | 29.3 | 40.0 | 44.3 | 18.5 | 34.3 |
| Women | 19.2 | 20.0 | 22.7 | 70.4 | 29.2 |
| Both equally | 51.5 | 40.0 | 33.0 | 11.1 | 36.5 |
| Main person working on upland rice (%) |  |  |  |  |  |
| Men | 12.2 | 9.5 | 9.8 | 9.4 | 10.2 |
| Women | 37.8 | 36.5 | 70.7 | 78.1 | 56.2 |
| Both equally | 50.0 | 54.0 | 19.5 | 12.5 | 33.6 |
| Busier after adoption of rubber (%) |  |  |  |  |  |
| Men | 54.2 | 68.8 | 77.9 | 88.5 | 73.8 |
| Women | 33.9 | 51.9 | 95.9 | 100 | 62.0 |
| Increased investment in son’s education (%) |  |  |  |  |  |
| Men | 76.9 | 58.7 | 65.8 | 62.1 | 66.9 |
| Women | 60.6 | 56.0 | 65.0 | 25.8 | 54.7 |
| Total number of respondents |  |  |  |  |  |
| Men | 48 | 48 | 68 | 61 | 225 |
| Women | 56 | 27 | 49 | 5 | 137 |
| Total | 104 | 75 | 117 | 66 | 362 |

Source. Questionnaire survey.
from the Women’s Union that it was better to eat together. Unlike other Akha villages in the province, women here are more comfortable interacting with outsiders. The changing position of women in Akha households could be noted in many different ways, including eating practices, interactions with outsiders, increased mobility, decision-making, and control over finances in the family.

Although household decision-making is still dominated by men, women’s voices are gaining strength in decisions regarding the purchase of household goods. Several villagers in Cluster 1 started buying refrigerators on the request of women because it reduces their work in preparing food:

I wanted to have a refrigerator, so my husband took me to the market to buy one. (Ms. YP, 36 years old in Cluster 1)

It was repeatedly mentioned in FGDs that women are also asserting greater control over household finances as seen in the quote below. Village G is an Akha village, and in comparison with other Akha villages that the authors have conducted research in Akha, women in Village G are much more vocal and assertive:

Earlier, men used to keep the money. Now, we earn more, but we cannot keep it with men, since they would spend it all on drink. So, women keep the money, but if our husbands ask, we have to hand it over. We need to agree on what to buy together. (FGD in Village G, Cluster 1)

Women also have greater say in household decision-making. As they have more money, women can buy what they want and increase their mobility. Ms. AM pointed out the many ways in which increased income has impacted her life positively:

If we want to eat something, we can go and buy it. We can go to the market as often as we want. Now, when we are sick, we can go to the health centre. Earlier, even if we wanted to go to the hospital, we could not. It was too far to walk and too expensive to hire a car. (Ms. AM, 36 years old in Cluster 1)

Villages invested in rice mills and water supply, at both the household and the community level, thus drastically reducing women’s workload. In Cluster 1, increased income has spurred villagers to invest in improving the village water supply and electricity. Households contributed to collectively construct a water supply system that ensures that all homes have running water. The village decided to use the money paid by Chinese companies for rubber concessions to get electricity to the village. This has greatly reduced women’s workload, as was discussed by a group of women in Village G:

Now, it is easier and faster to cook because there is electricity and running water at home. Earlier, water was far away and had to be carried home. (FGD in Village G, Cluster 1)

In Cluster 3, 47% in Village D, 19% in Village E, and 71% in Village C said that they now buy cooked food from the market. This is because women have become far busier with rubber and other cash-income-generating occupations and do not have time to cook. Market proximity also makes it easier to buy cooked food:

After rubber production, we have become much busier. Much, much busier. There is no one in the village anymore. You can see that all doors are shut. (Head of Village E, Cluster 3)

The change in livelihood has led to older people staying in the village; thus, older women are available to care for grandchildren. During the FGDs, such changes in child care patterns were noted:

Now, it is easier to leave the child in the village, since older women stay at home. Earlier, older women also went to the dai, but they do not work on the rubber plantation and stay at home longer. So, it is easier to find someone to look after the children. (FGD women, Village E, Cluster 3)

Earlier, women had to stay at the upland fields during the farming period and spent extended time in the forest collecting NTFP. But with changes in livelihood, women now have more time to stay in the village and interact with outsiders. The decrease in upland farming and NTFP collection leaves women with more free time, part of which is used to go to the market. Most women respondents said their trips to the market had increased. In some villages, women’s interactions with outsiders are greater than those of men because women are in the village while men are out in the field or on wage work.

In Cluster 3, women now attend village meetings more frequently:

Our village is more well-known, so there is more cooperation among the villagers. We have more money and we do not have to always worry about food, so we can spare more time for festivals and community activities. During festivals, people come from outside, so we are busier. (FGD women, Village E, Cluster 3)

Because women spend more time in the village, they are better informed about what is going on, and hence more active in household decision-making. For example, in Cluster 1, women were aware of the rents that Chinese companies were paying to convert paddy to banana and offered opinions on the decision to rent and the amount to charge. Ms. MP, for instance, is conversant with current rents:

I now regret that I rented out my paddy land. The rent is too low. (Ms. MP, 28 years old in Cluster 1)

Cluster 1 women said that they now take a greater part in decision-making, but Cluster 3 women said that they have always had some say at home:

When planning what to plant, women and men decide together. Since most of the work will be done by women, sometimes,
women can say that they do not want to plant this or that. (FGD women, Village E, Cluster 3)

However, some things have not changed. For example, education is still prioritized for sons (Table 3). Only the Leu village (Village H, Cluster 2) has given more priority to daughters’ education.

Only in Cluster 4 have gender roles and relations remained unchanged. Akha men still have greater decision-making power than women in the household. This was the village where it was more difficult to interview women, and men’s attitude toward women’s knowledge can be seen in quotes such as the following:

Women do not understand anything. They do not even know how to ride a motorbike. (Mr. AK when asked whether his wife had a say in his decision to buy a motorbike, Cluster 4)

Although villagers in Cluster 4 have increased their investment in children’s education, it is more for sons rather than daughters as seen in Table 3 as well as in the quote below:

Let the boy study, because girls will get married after they turn 10 or so. (Mr. SP, 24 years old in Cluster 4)

Livelihoods and cash income in Cluster 4 also remain largely unchanged. In a sense, their income has actually decreased because of relocation. Hence, this cluster showed very different patterns from the others.

**Further Changes in Livelihoods and Self-Management of Their Lives**

Women and men in most of these clusters are pinning their hopes on rubber, and we have seen some positive changes, but the changes in market prices of rubber and Chinese investment are further changing the livelihoods of the women and men, shaking the ability of women and men farmers to manage and control their own resources and livelihoods. Since the completion of our fieldwork, the price of rubber has dropped further and the sustainability of rubber production remains doubtful (Kenney-Lazar et al., 2018). Despite the reduction in unpaid household work for women and their increasing influence on decisions in the household and community, some of these decisions are leading to new problems.

In 2010, Cluster 1 villages started renting out their land to Chinese companies for banana plantations. Women and men were involved in the decision. Women favored this choice because it saved them labor. From their perspective, the largest constraint in agricultural production was a lack of labor. They considered earning rent on their land easier than planting paddy. However, banana plantations make heavy use of chemicals, which might make it impossible for villagers to return to paddy. Some villagers, both women and men but especially women, experienced these negative effects of chemicals when they rented out their land to Chinese investors:

I rented out my paddy land to a Chinese company to plant watermelons. But after that, when I planted rice, although it grew well, the seeds were empty. They put too much fertilizer and the soil became too fertile. If we put chemicals, then the soil cannot be used after three years. If we just plant naturally, we can use the soil for a long time. (Ms. NA, in her 40s in Cluster 3)

The changes in these villages have brought better income, but still some women expressed concern over the heavy reliance on rubber:

Earlier, cash income came from cattle. We raised buffaloes and sold them. Now, we have less cash income, especially with the low rubber prices. The price of rubber is too low. It is better to do other things. We earned better when we were raising buffaloes, but we cannot go back to that time. (Ms. KM, 80 years old in Cluster 3)

Some villages have completely changed their livelihood to rubber. In such cases, the impact of low rubber prices has been severe. Women tend to be more worried about the precarious status of their household economy because they are the ones who are responsible to make ends meet:

We invested all the money we had on rubber. We hired others and bought machines. Now, rubber is our sole income [so even though the price is low, we cannot quit]. (Ms. CS, 37 years old in Cluster 3)

Rubber plantations were marketed as a route out of poverty and into wealth; hence, there was an expectation that the income from rubber would be high. Some households invested all their property and savings into rubber, and the drop in rubber prices hit them hard. The family of Ms. SP, in Cluster 3, sacrificed not only her land but also her education for rubber. Her father was a village head and decided to plant rubber. But since he was too busy to attend to it, Ms. SP had to quit school to work with her mother on the trees:

We had more money earlier. We have invested all the money we had on rubber. But now the price of rubber has dropped. (Ms. SP, 23 years old)

Due to the low rubber prices, Chinese companies have not yet come to collect their share of the latex. Once they come, villagers might face a further decrease in income for the same labor. It is not clear whether Cluster 4 villagers will ever be able to benefit as much as villagers in other clusters have done, because they have lost the opportunity to earn during the boom. The overdependence on rubber is making villagers vulnerable. Rigg et al. (2016) called such a situation, created by the changing market, “precarious,” differentiating it from vulnerability, which was the original condition
of the villagers. Both women and men in the study villages are in a more precarious condition, and any gains that women made in the transition could get lost under such conditions.

**Discussion**

In this article, we have discussed how the introduction of rubber plantations had different impact on gender roles, responsibilities, and relations and how the history and contexts have shaped the experience. In seven of the eight study villages, respondents were smallholder producers who also undertook wage labor in rubber plantations. Variations in individual contract arrangements with rubber companies did not produce large differences among producers with small holdings. In line with Khamphone and Sato (2011), we note that such producers experienced a positive impact, whereas villagers who were only employed by rubber plantations experienced a negative impact from rubber production. Those who started rubber plantations earlier (Cluster 1) benefited from the rubber boom and enjoyed a higher income.

As Agarwal (2003) and Kandiyoiti (2003) noted, the household livelihood strategy was gender-specific, with women taking up less lucrative options such as daily wage labor and men taking up rubber, which was more lucrative. The gender differential was because women were primarily responsible for managing food security for the family (Schneider, 2011). Such division of responsibility has led to men doing more farm work than before, although women still put in more hours of wage work than men.

Following the increase in income, some resources are being used for the benefit of women. While men continue to control the increased incomes, women have been able to purchase time-saving devices such as refrigerators, and the community has invested in electricity and water supply to reduce women’s workloads. However, such changes were not seen in all communities. Cluster 1 had a higher cash income and saw more women-friendly changes at the household and community level. Cluster 2 villages are far from the market and hence the changes were more gradual, as income came from multiple sources: NTFP collections, wage labor, and rubber. Cluster 3 villages are near the market and road, and hence purchased food from the market. However, as their income was not as high as Cluster 1, not much income was invested in supporting women. Cluster 4 had the least change because they have not yet been able to monetize rubber and are coping with multiple transitions, including recent relocation. Although Cluster 1 experienced the most change for women, this has not been institutionalized through progressive gender norms, and daughters’ education is still a lower priority.

The study has demonstrated how the government’s land governance policy in the context of rubber plantations shaped the experiences of women and men and their agencies to cope with the changes in their livelihood and access to resources. The changes in governance and land use as well as market access have shaped the social interface for women and men, and affected the way they interact with the government, with Chinese companies, and within their communities and families. Cluster 1 where they were exposed to Chinese companies much earlier than other parts of Luang Namtha because of its location at the border with China was able to start rubber plantation earlier and take advantage of the high price of rubber. The economic benefit that these villagers enjoyed through being incorporated into the Chinese economy as well as the roles that women played in creating such wealth have made women able to be part of the decision on household investment such as acquiring running water supply and purchasing household appliances such as refrigerators. However, such exposure has eroded their land resources by having their land be converted to banana plantations of the Chinese companies.

People in Cluster 2 were also exposed to Chinese market and took up rubber production earlier on, and the cluster had a different development because of its remote location. Cluster 3 did not experience much influence from Chinese companies until quite later than Clusters 1 and 2 because of its location near to the provincial center, but were able to retain their land and production because they were also not targeted for relocation. Cluster 4 was relocated from their original village and lost access to land, and that has made it more difficult for villagers to adjust their livelihood. Women had to work harder to make ends meet by engaging in wage labor in the company’s rubber plantation.

Women and men’s interactions with Chinese companies have created a new social interface that shaped the way villagers made decisions regarding their livelihoods as well as gender relations (seen in Cluster 1). The social interface experienced in Cluster 1 has pushed the villagers toward cash economy, but that has allowed women to gain some control over financial resources. The government policy has shaped the social interface of Clusters 3 and 4, but in different ways. Due to Cluster 3’s location near the provincial center, they are more influenced by the government’s rubber promotion policy. However, as this social interface has not changed, the increase in income due to rubber has not shaped gender relations or other practices. This cluster has always been under the government’s control even before rubber production. On the contrary, Cluster 4’s experience in land relocation has created another type of social interaction that shaped the livelihood as well as women’s disproportionate workload. The social interface is created through changes in their relations with government, external companies and market, and the mixture of these forces and leads to different conjunctures and experiences for women and men. Experiencing new and increased social interfaces, as seen in Clusters 1 and 4, leads to greater changes in gender relations.

**Conclusion**

The study has demonstrated the importance of feminist political ecologist approach in analyzing the conjuncture and
intersectionality, as well as the location that shapes these conditions to better understand the gendered impact of the introduction of rubber production in northern Laos. The concept of social interface has allowed us to identify the shock that women and men face and the changes in access to resources as a result of the shock and the agencies that they introduce. The changes and the impact of such agriculture investment are different depending on the context and history of the area, and a nuanced and conjunctural understanding of gender roles and relations can support an in-depth analyses of agrarian change. Rubber price has remained low since the time of the fieldwork of this study, and it is important to monitor the alternatives that women and men in this area have developed and how they cope. As this study has demonstrated, even within one district or province, villagers can experience changes differently due to location, gender norms, or other factors, leading to drastic differences in outcome.

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