Journal of Land Use Science

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/tlus20

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**To cite this article:** Alice Beban & Christophe Gironde (2023) Surviving cassava: smallholder farmer strategies for coping with market volatility in Cambodia, Journal of Land Use Science, 18:1, 109-127, DOI: 10.1080/1747423X.2023.2190744

**To link to this article:** https://doi.org/10.1080/1747423X.2023.2190744



Published online: 15 Mar 2023.

JOURNAL OF LAND USE SCIENCE
2023, VOL. 18, NO. 1, 109–127
https://doi.org/10.1080/1747423X.2023.2190744

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# Surviving cassava: smallholder farmer strategies for coping with market volatility in Cambodia

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**ABSTRACT**

Cassava has become a 'must have' crop for many Cambodian smallholders; yet, the market is volatile and yields are uneven. Drawing on long-term fieldwork in Kampong Thom and Ratanakiri provinces, we analyse how farmers cope with volatility. We argue that multiple pathways have emerged: some farmers have ceased producing cassava; some have expanded production; while most farmers engage in 'ambivalent repeasantisation', striving to gain autonomy from market fluctuations through the survival work of everyday gendered labour, including investing family and community labour into cassava, shifting back to food crops, managing debt, and creating relationships with traders, while also imagining a life beyond cassava. Uneven fortunes with cassava contribute to land redistribution, deepening class, gender and ethnic divides. The case of smallholder cassava pathways in Cambodia shows us that agrarian transition is neither linear nor unidimensional, and dynamics of 'depeasantisation', 'repeasantisation', and 'intensification' through crop booms cannot be assumed a priori.

**ARTICLE HISTORY**
Received 10 October 2022
Accepted 9 March 2023

**KEYWORDS**
Agrarian transition; Crop booms; Cambodia; Cassava; Smallholder farmers

## 1. Introduction

Commercial agriculture in Cambodia is rapidly expanding. As cassava boomed across Southeast Asia over the past two decades (De Koninck & Rousseau, 2012), Cambodia's cassava production increased from 150'000 tons to over 12 millions tons between 2000 and 2020 (ODC, 2021). This increase is driven primarily by external demand for industrial starch production, animal feed and biofuel, from China and neighbouring Thailand and Vietnam (Johnston, 2010; Mahanty & Milne, 2016). The Cambodian government has set ambitious plans for production and processing with the aim of developing exports (RGC, 2020). With this expansion, cassava has become core to the cropping systems of many small producers and even a pillar of rural livelihoods (Gironde & Torrico Ramirez, 2019; Kem, 2017; Mahanty & Milne, 2016). In our research areas in Kampong Thom and Ratanakiri provinces, cassava is produced by small landholders who unanimously explain that 'It was very easy to start growing cassava'. The ease with which farmers began producing cassava relates to the rapidly developed value-chain, in particular Khmer and Vietnamese traders who not only buy fresh or dried cassava from farmers in their village, but also provide them with farming knowledge, cash and in-kind credit of inputs (Kem, 2017; Mahanty & Milne, 2016). New roads and increased access to motorized cultivators and trucks have facilitated trade of fresh cassava tubers to Vietnam for processing into starch and processed foods, while in more remote areas, traders purchase dried

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cassava chips from farmers and on-sell to factories in Vietnam for processing into animal feed and export to Thailand and China (Mahanty, 2018). This market connectivity, facilitative governance conditions, and abundance of land and labour made cassava an 'easy' crop to begin growing.

Yet, this does not mean that cassava has remained an easy crop. Cassava is a 'flex crop' with diverse uses that competes in global markets with other starchy flex crops prices (S.M. Borras et al., 2015), and therefore international developments in other major flex crops such as maize and sugarcane can affect the cassava price (Mahanty, 2019). While cassava is undeniably a key source of income for many small landholders, return on cassava has been uneven, as prices fluctuate considerably, while yields and output have become problematic (ODC, 2021). Because cassava has become crucial to meet smallholders' increasing needs for cash, its growing importance is also synonymous with increased vulnerability (Hak et al., 2018). Furthermore, cassava has developed in the broader context of enclosure of forest commons and reduction of accessible land for farming, with the consequent impossibility to return to swidden farming in many areas (Ironside et al., 2013). And although the Cambodian government has made cassava a strategic crop, most small producers do not receive any government support. Thus, smallholders must find their own solutions to deal with the ups and downs of the cassava market.

In this paper, we analyse how Cambodian farmers have engaged their land, labour and financial capital into cassava, and the strategies they use to cope with the fluctuations in markets and uneven yields. Drawing on extensive fieldwork conducted over six years in Kampong Thom and Ratanakiri provinces,[1] we analyse the dilemmas and trade-offs between the need to make cash, the efforts to reduce input and labour expenses, and the difficulties finding alternatives to cassava. We argue that as cassava has become a 'must have' crop that provides little profit for the majority of producers, farmers have responded by reducing cassava area as well as the productive resources allocated to it, while at the same time seeking to continue cassava production through accumulation of debt and deepening personal relationships with traders. In contrast, a minority of producers have managed to expand their cassava area and production. We pay particular attention to understanding which coping strategies are available to whom, across social cleavages of class, ethnicity, and gender, and show how uneven fortunes with cassava contribute to a redistribution of land, deepening class divides.

The article is organized as follows: in the following section (1) we review the relevant literature and theoretical tools for analysing agricultural producers' capabilities to cope with commercial agriculture. Then, (2) we present the research methods and (3) study areas. Next (4) we depict the rise of cassava and the challenges associated with the importance it has taken in livelihood systems, and (5) analyse producers' strategies to cope and (6) how these emerge from and reproduce social divides, before (7) a discussion and conclusion.

## 2. Commercial agriculture, choice, force and the struggle for autonomy

A key debate in agrarian studies concerns the way in which capital enters peasant farm production, and whether commercialisation is experienced as a choice or a force for farmers (Brenner, 1976; Byres, 1996; Kautsky, 1899; Marx, 1867; Oya, 2013). The agrarian transition framework that analyses how 'capitalism becomes the dominant mode of production in agriculture' (Byres, 1996, p. 258) has been criticized as being too Eurocentric, too focused on political economy (to the exclusion of ecology) and too mechanistic in its assumption of a linear transition pathway away from peasant production (Beban & Gorman, 2017; Belton & Fang, 2022; De Koninck & Rousseau, 2012). Research on agrarian transition in Southeast Asia stresses that paths of agrarian change in agriculture are multiple, and compelled by complex, conjunctural forces (De Koninck, 2004; Hall et al., 2011; Rigg & Vandergeest, 2012). Agrarian change research in the region over the past decade has focused primarily on large-scale land concessions (or 'land grabbing') for commodity crops. This focus provides important insights into how booms in crops such as rubber and oil palm displace rural people and facilitate the commodification of land and labor (Hall, 2013; S. Borras & Franco, 2011), but the framing of 'grabbers' versus 'smallholders' obscures understanding of how crop booms are reshaping social relations along cleavages of class,

ethnicity, gender, age (and other categories) within communities (Oya, 2013; Vicol et al., 2018), and how farmers are active in deepening market relations (Hall, 2011). Contingent on context, commodity crop expansion may lead to rapid differentiation and dispossession (Mahanty & Milne, 2016) or to broadly inclusive patterns of development (Cramb et al., 2017), and is often associated with both rising living standards *and* increased precarity (Belton & Fang, 2022). Farmers may deal with this precarity by diversifying livelihoods while also retaining agricultural land as a risk management strategy (Rigg et al., 2020). This raises the question of producers' room for manoeuvre for reducing or withdrawing their land, labour, and financial resources from cassava.

Through a neoclassical economic lens, commercial crops are synonymous with more choice for farmers to diversify their cropping systems and new opportunities to value their lands and labor (Griffin et al., 2004). More broadly, this scholarship argues that development of commercial crops and strengthening value chains enable small producers to access markets that otherwise would remain out of reach (Luan, 2019). Commercial agriculture is thus seen as a pathway to productive modernization, capital accumulation, job creation and enhanced rural development. In contrast, critical agrarian studies scholars argue that agricultural commercialization processes leave farmers with little choice but to engage in commercial production (McMichael, 2013). Mahanty and Milne (2016) support this argument in the case of cassava in Cambodia, which they find synonymous with 'more intense competition and reduced choice' (2016, p. 191) as, once producers are engaged, they have no choice but to continue growing to meet their need for cash. Hak et al. (2018) further argue that there are 'limited exit strategies' from the created dependence on cash crops. Their article does not elaborate much on these strategies and who may engage in them, although clearly those who have more land/labour/financial capital to hire labour could engage more into cassava, generating more earnings (Hak et al., 2018). Cole (2022) similarly argues for the case of maize in Laos that there are few exit strategies, as the dependence on the Vietnamese market is too high and the financial cost of switching crops or livelihoods is too great for most farmers to bear.

Crop booms are also considered detrimental to ecosystems as intensified agriculture can exhaust soil fertility and deplete water resources, as exemplified by the cases of maize (Cole, 2022) and cassava (Mahanty & Milne, 2016) in Southeast Asia uplands. Despite the financial and ecological risks that commercial farming entails, however, small producers are prone to engage in cash crops in Southeast Asia (Hall, 2011), and farmers in some contexts have been able to choose whether to engage and also to withdraw (Sikor and Pham, 2005).

Against the argument that farmers have very limited exit strategies, van der Ploeg (2018, p. 11) argues more optimistically that 'there are many different mechanisms that farmers can use to govern, adapt, and change the balance of commodity and non-commodity relations'. This raises the question of producers' room for manoeuvre for reducing or withdrawing their land, labour, financial resources and loans from cassava. It is useful to understand the cassava boom as multidimensional, with pathways through the boom shaped by farmers' initial assets such as land and labour and how farmers are positioned in terms of relations with traders and political power within the community, and the timings of price fluctuations and weather events beyond farmers' control. While some farmers do appear trapped further and further in debt, they also have agency to navigate this situation in different ways, including 'repeasantisation' via the distanciation of production from the market and the re-emergence of food crops (van der Ploeg, 2018), forging relationships with others in the commodity chain, and the 'survival work' of managing debt and land sales, and even moving away from farming (Natarajan & Brickell, 2022). Thus, the dynamics of 'depeasantisation', 'repeasantisation', and 'intensification' through crop booms such as cassava cannot be assumed a priori. We see in this case what we term an ambivalent repeasantisation, with farmers seeking autonomy from market fluctuations by investing more family/community labour into cassava and striving to create relationships with upstream actors in the cassava commodity chain, while also imagining a life beyond cassava.

In this article, we analyse the strategies farmers deploy to deal with the uncertainties of cassava, especially market volatility and ecological limitations, drawing on frameworks of gendered sustainable livelihoods and farmer struggles for autonomy. Broadly referring to the means of making

a living, we utilize Oberhauser's (2016, p. 491) definition of livelihoods as 'the culturally and historically embedded means for households and communities to produce and reproduce themselves.' This emphasises the multidimensional ways in which rural people earn a living and their agency in doing so, including not just on-farm activities but also livelihood diversification (Gautam & Andersen, 2016; Scoones, 2009). Slack (2020) identifies three types of livelihood diversification in the literature: distress diversification (such as during economic necessity), progressive diversification (such as actively seeking out additional income streams), and selective diversification (temporary, flexible diversification) (Ellis 2000; Bouahom, Douangsavanh, and Rigg 2004; Turner 2007).

Livelihoods are closely linked with the household division of labour and social identity, fundamentally shaped by age, class position and gender of household members (Oberhauser, 2016; Wolf, 1992). This notion of livelihoods as gendered is key to a 'lived feminist political ecology' approach (Harcourt & Nelson, 2015, p. 13) that looks at how gender and environmental relations are experienced and felt. Our question is how farmers adapt their livelihoods as they navigate the volatile global markets and ecological conditions of cassava production. Bringing a gendered attention to this question means recognising that women and men of different ages, ethnicities and social positions will have different choices available to them. Furthermore, the very notion of 'choice' and of farmer strategies for autonomy in the capitalist market needs to be rethought from a feminist lens. Natarajan and Brickell (2022) highlight that a gendered analysis of livelihoods recognises the gendered labour that underpins everyday survival for rural households across the Global South (Ossome & Naidu, 2021). This reconfigures the concept of farmer struggles for autonomy that tends to centre on peasant farmers' (often assumed male) enduring ability to remain insulated from market integration (van der Ploeg, 2018), or on collective projects to build alternatives to capitalist production (Wolford, 2010), to instead recognise the incremental, everyday acts that ensure survival and form the basis for larger projects of autonomy. They argue specifically that Cambodian women's distress sales of land and reuse of land as collateral for microfinance borrowing constitute forms of 'survival work' that have ambiguous implications, resulting in deeper market integration into finance markets and thus simultaneously rendering women more dependent on markets whilst also constituting a temporary path towards an aspirational autonomy. We draw on this analytical perspective as we understand farmers' coping mechanisms as not necessarily 'good' or 'bad' but instead implicated in everyday processes of survival, while having ambivalent long-term outcomes.

## 3. Methodology

Our analysis builds on field research in four communes (Kraya and Boeung Lvea in Kampong Thom province, and Loum Choar and Malik in Ratanakiri province) between 2015 and 2020. Our research sites in Ratanakiri include Indigenous families from Charay and Tampuan ethnic groups, as well as Khmer (ethnic majority) who have migrated from lowland areas in search of land, while the Kampong Thom communities are predominantly Khmer.

Our methodology included quantitative and qualitative methods. A first questionnaire-based survey was carried out in 2016, including 400 households from the four communes. The survey was repeated in 2019, extended to 700 households in Kampong Thom (one commune was added) and 460 households in Ratanakiri. The sampling was multi-staged. First, we selected two provinces that differ with regards to (i) agrarian transition, the rural economy being more diversified in Kampong Thom, and (ii) the ethnic composition of the population (almost exclusively Khmer in Kampong Thom). We then selected communes in which ELCs and other large-scale landholdings had induced land loss for small landholders. Finally, households were selected through random sampling, from lists of households provided by village authorities. For Ratanakiri, the sample is representative of the proportion of Indigenous and Khmer households, as the latter represent one third of the communes' population. A series of 430 semi-structured interviews with household members were conducted over the same period. The survey questionnaire and interview guidelines were designed according

to the livelihoods approach, including households' productive resources, resource allocation strategies, outcomes, shocks and vulnerabilities.

All interviews were conducted in Khmer, Tampuan or Charay languages, and then transcribed into English. We conducted the survey on Android tablets and smartphones using the KoboCollect app. We then processed the data and undertook descriptive analysis using Stata for descriptive statistics. The research team analysed the semi-structured interview transcripts using inductive coding, using a collaborative, cross-checking methodology with NVivo qualitative analysis software. Interviewees' statements and quotes were anonymized.

We recognise that there are limitations in taking the nuclear household as the unit of analysis. Migration for wage labour may disassemble households and lead to individuation (Rigg & Vandergeest, 2012). However, in our cases, most wage work consists of occasional farm labour for households living nearby, and migration is predominantly local; 64.5% of household members reported as migrants in our 2019 survey were living in the same district and tightly connected to the nuclear household. Therefore, the household remains the crucial unit of analysis for analyzing access to productive resources and livelihood outcomes. Surveys may also assume that all household members share the same views, and women's voices are often under-represented in household surveys (O'Laughlin, 2007). As gender relations were core to our research project, we ensured women made up at least half of respondents in each site, and our data collection tools were designed to address gender-related issues and included questions to be answered specifically by women. We included a range of genders (167 male respondents, 210 female respondents and 37 couples), ages, wealth levels, and ethnicities. While we focused primarily on households, we also conducted 50 interviews with local political representatives, management staff of ELCs and other large-scale landholdings and the various actors in value-chains (traders and intermediaries).

## 4. Background to study areas

Before the 2000s, all four of our study communes were largely covered with forest. Local people relied primarily on rain-fed rice with vegetables for subsistence, with paddy rice grown in the lowlands. In Ratanakiri, land tenure before the influx of lowlanders in the 1990s was based primarily on oral recognition of farming use rights for rotational cropping systems, with governance of communal land by village elders (usually men) (Bourdier, 2013). In the predominantly Khmer communities in Kampong Thom, norms of private property are long established but rice fields are used communally as fodder for grazing cattle in the dry season with the manure providing fertiliser, and rural Khmer often describe the forest as a communal resource (Swift & Cock, 2015; Work & Beban, 2016). In both provinces, rural people complemented farming with fishing, hunting, buffalo raising and the collection of food and non-food items from forests, and many also engaged in logging in the wake of large-size forestry concessions.

Cash crops spread during the 1990s, including cassava in Kraya and Boeung Lvea, and soybeans and cashew nuts in Loum Choar and Malik. However, these cash crops did not radically change farming systems until the mid-2000s; swidden farming with food crops remained dominant, while cash crops were additional. From the mid-2000s, the expansion of large (several thousand hectares) Economic Land Concessions leased by the state and medium-size landholdings (several hundred hectares) acquired by political elite and businessmen spurred rapid agrarian change. As forests, water resources, and lands for farming and grazing were enclosed, access deteriorated for most rural people. The development of large-scale commercial agriculture also attracted numerous in-migrants in search of land and jobs, contributing to a strong increase in population (Table 1).

Consequently, farmers' landholdings significantly reduced, an ongoing process in which we see an increasing proportion of households becoming near-landless (Table 2).

The reduction of availability and access to land, as well as the risk of fallow land being grabbed, rendered swidden farming unsustainable (Fox et al., 2008). Subsistence farming became devalued as permanent cash crops (cassava) and tree plantations (cashew nut, rubber) provided cash that rural

**Table 1.** Population in 1998, 2008 and 2019.

| Communes | 1998 | 2008 | 2019 |
|---|---|---|---|
| Bong Lvea | 2'408 | 7'573 | 16'021 |
| Kraya | 6'012 | 9'636 | 17'484 |
| Loum Choar | 1'385 | 2'758 | 2'790 |
| Malik | 1'440 | 2'678 | 4'831 |

Source: Royal Government of Cambodia, General Population Census 1998; 2008; 2019. https://www.citypopulation.de/en/cambodia/admin/.

**Table 2.** Change in farming land area 2016–2019.

| | Kampong Thom | | Ratanakiri | |
|---|---|---|---|---|
| | 2016 | 2019 | 2016 | 2019 |
| % of households with less than 2 ha | 44 | 56 | 23 | 27 |
| % of households with less than 1 ha | 27 | 38 | 12 | 13 |
| Average farming land size area (in ha) | 2,9 | 2,5 | 4,4 | 4,2 |

Source: Demeter survey 2016 and 2019.

**Table 3.** Distribution of households' farmed land area by crop (2016).

| | Kampong Thom | Ratanakiri |
|---|---|---|
| Cassava | 56,6% | 47,7% |
| Cashew | 30% | 31,7% |
| Rice | 11,3% | 10,4% |
| Rubber | 0,4% | 6,6% |
| Other | 1,7% | 3,6% |

Source: Demeter survey 2016.

**Table 4.** Sources of cash income and percentage share of total income in 2019.

| | Province | | Household's farming land area (whole sample) | | |
|---|---|---|---|---|---|
| | Kampong Thom | Ratanakiri | < 2 ha | 2 to 5 ha | 5 ha+ |
| Wages | 34 | 12 | 37 | 21 | 10 |
| Self-employment income | 27 | 15 | 31 | 15 | 13 |
| Crop sales | 24 | 66 | 18 | 54 | 68 |
| Livestock sales | 3,9 | 1,5 | 3 | 2,7 | 2,9 |
| Forest products sales | 3,5 | 1,4 | 3 | 2,8 | 1,7 |
| Remittances and Other | 7,6 | 4,1 | 8 | 4,5 | 4,4 |

Source: Demeter survey, 2019.

populations increasingly desired. Cassava became by far the most important crop in terms of farmed area, followed by cashew (Table 3).

People have increasingly engaged in off-farm and non-farm activities as they lost access to land and commons resources (Table 4). The process of economic diversification is far more obvious in Kampong Thom communes where salary work and non-farm petty business represent 34% and 27% of the total income respectively, compared to 12% and 15% in Ratanakiri. The diversification of income includes remittances. In Kampong Thom, 22% of our sample reported receiving remittances in 2019. This percentage is three times lower (7%) for Ratanakiri where Indigenous people reported they did not have the social connections to move out beyond neighbouring districts in the province. Figures also show that this diversification of livelihoods is uneven across class, in this case the size of farming land. Farming, including both crops and livestock sales, represents 21% of the total income

**Table 5.** Gender differences in labour activities (2019).

| | Men | Women |
|---|---|---|
| Engagement in wage labour (over the last 12 months) | | |
| • All households | 50% | 40% |
| • Households with less than 2 ha of land | 66% | 47% |
| Daily time spent for caring tasks | 2 h 25 min. | 4 h. 57 min. |
| Daily time spent for productive tasks | 7 h. 22 min. | 5 h. 44 min. |

Source: Demeter survey, 2019.

**Table 6.** Share of various crops in the total farmed area according to household landholding size in 2016.

| | < 2 ha | 2–5 ha | 5–7 ha | > 7 ha |
|---|---|---|---|---|
| Cassava | 56% | 54% | 44% | 45% |
| Cashew | 15% | 23% | 31% | 37% |
| Rice | 21% | 17% | 16% | 9% |
| Rubber | 1% | 3% | 7% | 6% |
| Other crops | 6% | 3% | 2% | 2% |

Demeter survey 2016.

of the near-landless (less than 2 ha of land), compared with 71% of total income for households with more than 5 hectares land.

Change in gender relations is another major feature of livelihoods transformation in this area. Although much of the farm work is still done together by men and women (husband and wife), division of labour has become more segregated with the reduction of access to forests, decline of swidden farming and rise of wage labour. As forest areas that remain freely accessible are further away from villages, it is considered less secure for women to go there. Also, the collection of forest products takes more time as forests have become depleted, which competes with women's other productive and reproductive responsibilities (Beban & Bourke-Martignoni, 2021, p. 6). Women are also at a disadvantage in terms of access to wage labour opportunities; our interviewees noted that employers prefer men who are considered stronger physically, and women generally earn a lower wage. While women's productive labour in wage work and farming has increased, men haven't taken on more of the care labour, resulting in women labouring almost an hour more per day than men in our 2019 survey (Table 5).

## 5. The ups and downs of cassava

The rapid development of cassava in Kampong Thom and Ratanakiri is the result of numerous factors, including demand and market development, populations' needs for cash, and the rush for land. Cashew became the primary source of cash for farmers from the late 1990s (Padwe, 2011), but in the early 2010s, cashew demand slowed while demand for rubber and cassava increased. As most farmers did not have the necessary financial resources nor skills to invest in rubber (Yem et al., 2011), cassava was the alternative. Farmers found many advantages in cassava: it grows well in the uplands, it requires lower inputs than rubber, they could take on debt to cover production costs, and it provided better income than rice. Cassava was also attractive due to the presence of small traders who frequented villagers, road infrastructure development, and the accessibility of motorized tools such as brush-cutters for weeding that reduced workload.

Cassava has become particularly crucial for less well-off households. By 2016, cassava represented 55% of total land area for households with less than 5 ha of land, compared with 45% for those with more than 5 ha of land (Table 6). The share of cashew follows the opposite pattern, comprising 15% of total land area for households with less than 2 ha, up to 37% for those with more than 7 ha. Cropping systems also differ depending on farm size: cassava tends to be monocropped for the less well-off, while farmers with more land tend to grow cassava between

**Table 7.** Hardships experienced by households within the previous 12 months in 2016 and 2019.

| | Kampong Thom | | Ratanakiri | |
|---|---|---|---|---|
| | 2016 | 2019 | 2016 | 2019 |
| Fall in the price of output | 44% | 34% | 58% | 56% |
| Increase in the price of major food items consumed | 39% | 54% | 44% | 58% |
| Increase in price of inputs | 21% | 31% | 22% | 53% |
| Harvest failure due to draught, flooding, pests | 28% | 36% | 33% | 40% |
| Illness of income earning member | 33% | 35% | 32% | 16% |
| Conflict related to land | 14% | 6% | 14% | 7% |

Source: Demeter survey 2016 and 2019.

cashew tree rows. These differences indicate that the cassava boom is far from being uniform and a crop for the less well-offs.

During our research period, cassava prices fluctuated widely. Farmers recalled receiving around 300 riel/kg farmgate price for fresh cassava in 2016, falling to 150–200 riel/kg in 2017, then fluctuating back up to 300–400 riel/kg in 2018, and plummeting again to as low as 140 riel in 2019. Fluctuating prices are also seen in national statistics on export prices (Wamucii, 2022).

This fluctuating price trend during our study caused stress for farmers. Many interviewees were pessimistic, noting that 'our livelihood becomes harder . . . because the price of cassava is lower and lower from year to year.' (woman, Ratanakiri, 2019, 101). While farmers reported slightly higher prices in the 2019 season than in 2016 this was absorbed by rising labour costs. One man noted: 'now, if we have cassava, we almost share equal harvest with the labourers who come to harvest the crop . . . Everyone is disappointed' (man, Ratanakiri, 2019, 111).

Alongside fluctuating output prices, farming input prices also rose. This decline in farming terms of trade was aggravated by rising food prices. Hardship due to falling output prices was the most common hardship experienced by survey respondents in 2016, while hardship due to increasing food costs was the most common hardship in 2019 (See Table 7).

Our survey also shows that households with more reliance on cassava are more prone to experiencing price crisis: among households for whom cassava was their main crop in 2016 (in terms of share of total farmed land), 56% experienced falling output prices, whereas this percentage is 20% for households whose main crop was cashew (Demeter survey 2016). Falling output prices is also reported by a higher percentage of households in Ratanakiri (58%) when compared to Kampong Thom (44.5%), primarily because crop sales represent a higher share of household income in Ratanakiri than in Kampong Thom, where wage labor and non-farm petty business are more developed. While low output prices remained a major hardship in Ratanakiri in our second survey, this reduced in Kampong Thom, explained by a shift back to subsistence crops amongst some producers (see section 5).

Besides the annual fluctuating price trend during our research, seasonal and short-term price volatility is a huge challenge for cassava farmers. Farmers generally bring their harvest to cassava collectors, with the price offered by the collector depending on the quality (starch content) of the cassava root, and on supply/demand, with prices falling through the season (higher in October/November when less supply is available, then falling over the harvest months). Traders' prices vary greatly, with those in bigger district and provincial towns often offering more competitive prices. Farmers keep an eye on daily prices, but prices can change quickly:

> We can phone in the late afternoon to ask about the price, [and they say] "the price is 230 riel per kg", but in the morning when we uproot and bring to the station, "the price is 210 riel per kg". The price is quickly up and down like this, it is hard for farmers. (Man, Khmer, 2016, 24)

Alongside price issues, producers encounter uneven and declining yields. We found that harvest failure shocks are significantly less important than price-related shocks, but that they are on the rise and that they concern mainly cassava, as we noted from our semi-structured interviews, with extreme cases where output reduced to 10% of expected harvest. Most producers had little

explanation as to why their crops failed, though they mention three possible causes, namely insufficient inputs, diseases, and repeated cultivation of cassava in the same plots for too many years. Government technical support was limited (only two farmers in our study had received support for cassava), and staff from the provincial Departments of Agriculture said they did not have the budget even to visit areas under their administration to properly inform people. With little state support and as climate change-induced droughts worsen, farmers must find their own responses to deal with the volatility of the cassava market, as we explore below.

## 6. Responses and their limitations

We identified three main ways in which farmers are responding to the volatility of the cassava market. First, farmers have responded to price and yield challenges by *reducing land and financial capital allocated to cassava*. Some farmers have moved away from farming completely and have managed to engage sufficiently in non-farm wage labour and small businesses. Most producers, however, have few decent alternatives to farming in rural areas, and lack the resources to move into other crops; thus, cassava remains crucial to meet their increasing needs for cash. A second response therefore consists in *managing continuation of cassava farming* through market-based strategies, including taking on debt, forging trusting relationships with traders, and delaying harvest until prices rise. In contrast, farmers with more land and/or capital have pursued *intensification and expansion of commercialised cassava*, through debt-enabled production to expand cropping area and greater dependence on inputs and hired labour. These uneven responses resonate with Marxian political economy framing of agrarian transition and the fate of petty commodity production, in this case in line with the pathways of depeasantization-dispossession-proletarianization, repeasantization attempts, and proto capitalist agriculture development. They also have implications for class relations and the reproduction of gender relations, as we discuss below.

### 6.1. Reduction of land and financial capital allocated to cassava

Farmers reduced the share of cassava in total farmed land between 2016 and 2019 (Table 8). In Kampong Thom, farmers found more options to diversify, including rice and other crops. In Kampong Thom, cassava was replaced primarily by rice as well as various other crops, while in Ratanakiri we noted a renewed interest for cashew as well as rice. Apart from sales price difference with cassava, the renewed interest for cashew in Ratanakiri is largely explained by the dissemination of new fast-growing cashew varieties.

The reduction of cassava is found in all categories of households but is uneven among them (Table 9); there are also marked differences between the two provinces. In Kampong Thom, the reduction of cassava areas is stronger (proportional to total land area) among households with the least land (a mean decrease of 0,3 ha, or 60% of land area) when compared to those with the most land (a decrease of 1,3 ha, or 27% of land area).

**Table 8.** Percentage of each crop in total farmed area in 2016 and 2019.

| | Kampong Thom | | Ratanakiri | |
|---|---|---|---|---|
| | 2016 | 2019 | 2016 | 2019 |
| Cassava | 56,6 | 23,5 | 47,7 | 34,2 |
| Cashew | 29,9 | 27,7 | 31,7 | 40,3 |
| Rice | 11,3 | 37,8 | 10,4 | 17,1 |
| Rubber | 0,4 | 0,9 | 6,6 | 4,6 |
| Other | 1,8 | 10,1 | 3,6 | 3,8 |
| Total | 100 | 100 | 100 | 100 |

Source: Demeter surveys, 2016, 2019.

**Table 9.** Mean area of cassava (in ha) by household land-size in 2016 and 2019.

| | Household total land size | | | |
|---|---|---|---|---|
| | <2 ha | 2 to 5 ha | 5 to 7 ha | >7 ha |
| Kampong Thom | | | | |
| 2016 | 0.5 | 2 | 2.4 | 4.7 |
| 2019 | 0.2 | 0.9 | 1.7 | 3.4 |
| Ratanakiri | | | | |
| 2016 | 0.9 | 1.9 | 2.9 | 5.1 |
| 2019 | 0.8 | 1.1 | 2.1 | 2.7 |

Source: Demeter surveys, 2016, 2019.

It is the opposite in Ratanakiri: the reduction of cassava area is limited among households with the least land (a decrease of 0,1 ha, or 11% of land area), while it is substantial for the better-off (a decrease of 2,4 ha, or 47% of land area). The renewed interest for cashew is actually found among households who have more financial capital, as cashew remains more costly to cultivate. Similarly, we found a renewed interest for rice, and here too it is found among households who are relatively well-off, i.e. who have enough land so that the fraction of land they allocate to rice for family consumption does not compromise cash crops and the procurement of cash.

Farmers who diversified away from cassava often articulated this as a strategy to shore up food security as well as deal with price volatility: 'If cassava sale price decreases, but cashew price increases, then we have cashew for the future' (woman, Charay, Ratanakiri, 2016, 131). However, in contrast to other studies in Cambodia finding that people diversify into multiple crops besides cashew (such as green bean and vegetables) (Mahanty & Milne, 2016), we did not see a pattern of diversification to crops other than cashew and rice. Lack of markets for other crops, as well as unsuitable soil conditions, limit options:

> Soil condition in this village is suitable only for cassava and cashew… So we grow cassava. Even if we cannot make a good living, we can feed the family from cassava production, but we only get 30% [of the sale price] and traders get 70%. (man, Khmer, Kampong Thom, 2019, 24)

Second, we found an effort to reduce expenses for cassava, including a reduction in both the purchase of inputs and the use of salaried workers. Farmers compensated for rising input and labour prices by engaging more family labour and using exchange labour. This aspect of farming could be seen as a classic example of 'petty commodity production', with peasant farmers engaging in non-commodified labour to enable the continuation of their farms. Analysing these practices more deeply, however, reveals their class and gender dimensions. Non-market labour is particularly important for poorer households, who cannot afford to hire people:

> If we do not exchange labour and we hire external labour we will get nothing from our farm, meaning all the income we earn from cassava is just to pay the costs (woman, Charay, Ratanakiri, 2016, 135)

In some communities, though, farmers with larger land sizes also engaged more in family labour and exchange labour circles. This was largely explained as the result of labour shortages; as one Charay farmer said, 'people don't want to look for labourers, we are busy, so we do exchange labour' (woman, Ratanakiri, 2020, 147). Strong social norms govern the operation of exchange labour, particularly in ethnic Charay and Tampuan communities. Interviewees explained that even though repaying exchange labour took more time and reduced the time people could dedicate to wage labour, they could secure a workforce by engaging in exchange labour circles because people were morally obliged to repay. Some farmers who had previously sold their cassava to traders pre-harvest also said that as they developed relationships with traders and skills to negotiate crop prices, they engaged more family labour to harvest the crop themselves, thus receiving a higher farmgate price.

Strategies to reduce labour and input costs also have gendered implications. Much of the cassava labour (of planting roots, weeding, peeling, drying) is considered delicate, 'women's work', while

work considered masculine was limited to digging holes for planting, uprooting and, spraying inputs. Efforts to reduce input costs through hand weeding rather than spraying herbicide, and the use of family and exchange labour, more often falls to women. Our survey found that 77% of people involved in cassava exchange labour circles are women, with the practice most common in households with less capital, and amongst Indigenous households. Exchange labour is a thriving practice amongst the Charay communities in our study, and people of all ages take part, with young mothers bringing their babies, older women doing lighter tasks, and children joining in when not at school. This labour adds to women's labour burden, as we found that women also take on the bulk of reproductive labour, including care work and household management, but interviewees also noted that they enjoyed the sociality of communal exchange labour more than wage labour.

Third, some households have ceased cassava production altogether. This figure is much higher in Kampong Thom, where people have moved into other income sources. In Kampong Thom, 61% of our sample reported they did not grow cassava in 2019; whereas 20% of our Ratanakiri sample did not grow cassava. Some interviewees explained they came to prefer renting out their land to others or left it fallow, as the price of cassava was considered too low to make it profitable. Others sold their land and engaged in non-farm livelihoods they saw as less risky than farming. One man explained he sold his land and now collects firewood and produces charcoal as he 'couldn't stand growing cassava because it is very tiring and I don't have the capital to farm' (Khmer, Kampong Thom, 2019, 39).

For some families in Ratanakiri with plentiful land, renting out their land to landless migrant workers to produce cassava was not a strategy to exit farming, but rather to springboard their way from cassava to cashew production. One man who rented his land out on a 4-year term to a Khmer migrant farmer explained:

> My land is three hectares and I have a contract to rent to Khmer people to use my land. And the contract is that that on the three hectares of land I ask him to plant cashew trees and take care of them for four years. During that time, he can grow cassava in-between the young trees. (Charay, Ratanakiri, 2019, 195)

This quote underlines the complex processes of ethnic and class-based social differentiation evident in Ratanakiri. While there is a narrative of Indigenous marginalisation in the province, we found that a minority of Indigenous cassava growers are in the process of accumulating land and resources, in part through the employment of cheap migrant Khmer labour from the lowlands, while other Indigenous cassava farmers were renting out, or selling their land, as a survival strategy. The growth in the land rental market in this area is thus indicative of, and also reproduces the growing class divide, with landless farmers who rented in land for cassava production often in deep debt and with little buffer to withstand cassava price fluctuations.

### *6.2. Managing continuation of cassava*

In parallel to their efforts to reduce the resources allocated to cassava, farmers strategically sought to continue production through market-based strategies, including debt-enabled production, forming and negotiating relationships with traders, contract farming, or delaying harvest until prices rise.

When we asked interviewees about who they sell their cassava to, we noted two main strategies. Those with resources to purchase or hire transport and with greater social capital to negotiate generally transported their cassava crop to district buying stations, where they could receive a higher price. Those with fewer financial resources or less time and labour available sought to forge relationships with local traders who came to villages. Many farmers said they deal with the same traders every year. Farmers placed great importance on these relationships. Even in cases where people said they sometimes received a lower price, they preferred to sell to traders with whom they had an established relationship because: 'they come to the farm', 'we know them', 'we trust them', and, very important, 'we can borrow money and buy things on credit from them'.

These strategies to build relationships with traders and to gain some power in the cassava value chain are inflected by gender and class dynamics. The farmers we interviewed considered trading to

be a male occupation, and it was also generally (but not always) seen as men's job to negotiate with middlemen on price and conditions. Interviewees articulated a belief that women had difficulty dealing with middlemen, and that they might be cheated by them. This was particularly the case for Indigenous women, who were seen to have less Khmer language ability. In some cases, both husband and wife met with the trader to build trust, but it was still the man who talked with the trader, as one male Charay farmer noted: 'We go together so that the middleman trusts us but I talk with the middleman' (Ratanakiri, 2016, 103). We note here women's instrumental role as a bearer of family harmony and virtue (Ledgerwood 1996); here, women are valued as a symbol of trustworthiness but not afforded the agency to have a voice in negotiations.

Informal contract arrangements with cassava traders became more common over the period of our study. Farmers made contracts to sell at an agreed rate to hedge against price falls during the season. Those with greater land resources entered pre-harvest sales contacts (where traders organised the labour force to harvest cassava), primarily because they did not have the labour available in their family and they could not find labourers themselves. They noted that larger families had greater flexibility to cope with cassava price volatility: 'For those with enough labour, they will harvest and sell quickly when they see harvest price go up, but for us, by the time we mobilise labourers, the selling price has already gone down!' (Charay woman, Ratanakiri, 2019, 106).

For precarious farmers, contracts enabled them to receive cash and inputs early in the season. Forging strong relationships with traders over several years enabled farmers to secure a loan quickly, while a Micro Finance (MFI) loan would take far longer. While the accessibility of finance allows farmers to cope effectively with seasonal volatility, problems emerged as farming terms of trade continued to worsen over the research period, and farmers became increasingly indebted with little ability to repay. By 2019, most farmers held multiple loans, often from traders as well as different MFIs, and some farmers expressed their concern that they were falling deeper and deeper into debt with little way out, evidenced in both Ratanakiri and Kampong Thom:

> The money that I earn from cassava is just enough to plant next season, but when the price decreases I have nothing to invest, so I have to take a loan. As a result, I have become indebted. How can I say my livelihood will improve in the future? If the price is still low, I will leave the village or sell my land. (woman, Khmer, Kampong Thom, 2016, 42)

> Doing cassava does not give a good profit. People access loans from banks or MFI, and when they sell the harvest and repay back loans, they have almost nothing left. Some people even made a loss, then sold their land to repay loans. From what I see, the majority of people here made a loss from doing cassava (man, Charay, Ratanakiri, 2016, 157).

Alongside taking on more loans, farmers also dealt with price fluctuation by leaving cassava in the ground until the price increased. This could be done for up to two years. However, farmers warned that this option was risky as tubers may be too big, and vulnerable to disease if left in the ground. Also, some farmers with less capital simply could not afford to wait, so they sold no matter what the price was to repay debts.

### *6.3. Expansion and intensification of cassava*

Contrary to most farmers' efforts to reduce dependence on cassava, a small group of farmers have expanded their cassava crops through accumulating land from others, claiming forest land through planting cassava and claiming private title, or through renting land. This expansion is often enabled by debt as well as access to financial resources from family members working off-farm.

These resource-rich farmers were able to deploy strategies to manage price fluctuations and reduce input costs over the long term through labour-intensive and resource-intensive strategies. For example, by retaining more seedlings for planting the following season than small farmers who needed to sell all seedlings in order to repay loans and finance household costs, but then required purchasing more inputs the following season. One farmer explained clearly how this process of differentiation worked:

> For the rich, they become richer because they have money to invest on their farm . . . they could plough, raise beds and have external labours work on their farm, doing fertilizer, herbicide or regular weeding. Within six months, they could harvest cassava. For the poor, they can't work fully on their farm because they need to work for others to survive and only have a few days to take care of their own farms. (man, Khmer, Kampong Thom, 2016, 25)

As this farmer notes, small farmers are increasingly labourers first, who farm when they have the time, and therefore are not able to invest the time or resources into producing a quality crop, while wealthier farmers do not have to work off-farm as much and can spend more time and resource on crop production. This has implications for yields and long-term soil fertility.

This expansion of cassava among some producers, while most farmers engage in strategies to survive cassava, with little possibility for accumulation, results in increasing differences in yield, selling price and interest paid to creditors. This process of differentiation also contributes to a redistribution of resources, in this case land, which the better-off can buy from those who in some cases have no other way of continuing to farm.

## 7. Cassava precipitating new social divisions in rural communities

In the previous section, we examined farmers' responses to the uncertainty of the cassava market. These responses have class, ethnic and gender implications. Ex-ante socio-economic differentiation was increased by large-scale land acquisitions: the households with the smallest landholdings were the ones who lost proportionally more land. They were the ones for whom cassava became the most crucial. The differences in responses among producers reveal that cassava is precipitating new social divisions in rural communities, as explained by this Khmer migrant:

> Q: Why do people here face such economic difficulty?
>
> A: It is due to the price fall of cassava.
>
> Q: But the price of cashew is increasing, so could it be a substitution?
>
> A: Even if the price of cashew is good, only a small percentage of people grow cashew. There is only a small percentage of people in this village who are better-off. Most Indigenous people here have sold their farmland. Now they don't have farmland and become labourers. Before, the Indigenous people didn't work as labourers, but now they do. If they do not work for Khmer people, then they would not have money for daily living. Most villagers are now short of money. They work for Khmer and they also get loans. (woman, Khmer, Ratanakiri, 2016, 172)

As evidenced in the quote above, these dynamics have ethnic dimensions, with a growing class of wealthy land-owning Khmer in Ratanakiri province: we found ethnic Khmer households purchased 59.7% of the farmland in the two study communes in Ratanakiri between 2011 and 2016 (Demeter, 2016). The rise in inequality we see in the study area is reminiscent of many studies in land grabbing (S.M. Borras et al., 2015; White et al., 2012), although we note that many land grab papers focus on growing divides between land grabbers and communities, or local elite versus farmers. The dynamics of accumulation here are more complex than differentiation along ethnic and assumed class lines. There is also a distinct divide between wealthy Khmer migrant farmers and traders, and poor landless Khmer migrants who come to Ratanakiri in search of land, but whose investment in cassava pre-harvest trading has resulted in heavy losses, due to the price decreases during the period of study. Amongst Indigenous communities too, there is an increasing divide between those who have been able to accumulate land and those who have de-capitalized through sold land. And while we found that households who managed to accumulate land were generally doing better than households who became land poor and landless and were forced to engage in low-wage work to survive, the combination of reduced cassava prices and high labour prices in 2019 meant that conditions temporarily shifted in favour of labourers.

We found that these pathways do not depend only on class position and ethnicity, but also intersect with gender. We see these strategies in the context of the 'survival work', the everyday gendered labour that rural people do to maintain some autonomy and survive (Natarajan & Brickell et al. 2022). While Natarajan & Brickell et al. (2022) focus on the work of managing debt and land sales, we find it useful to

extend this analysis to include the work to forge trusting relationships with others in the commodity chain, through informal and more formalised relationships with traders. These relationships paradoxically both deepen dependency relations of patronage with particular traders that can limit room for manoeuvre, while also enabling farmers more autonomy from the volatility of the market, as they may access financial and in-kind loans at short-notice, have some assurance of crop prices, and retain flexibility over when they harvest. This strategy can reproduce gendered relations of power, as both men and women engage in the labour necessary to forge relationships with traders, with women's presence seen as enabling greater trust, while traders themselves were almost always male, and the work of negotiating and making decisions over price and loan conditions was seen to be a male task. The power relations in the commodity chain are also differentiated by ethnicity; the traders frequenting villages in our study, including in Indigenous-majority areas, were all Khmer males, and Indigenous women were seen to be marginalised both due to their ethnicity and their gender.

Gendered practices of survival work are also evident in efforts to reduce dependence on cassava markets through engaging family and exchange labour, shifting back to food crops, and reducing inputs. These strategies enable farmers to regain some autonomy from volatile markets. The re-emergence of rice farming may be a short-term phenomenon, given that farmers could re-engage in cassava as has been found in other contexts. But the farmers who had moved back to growing rice noted that they preferred to continue rice production, not only due to the high cost of food, but also due to distrust of purchased rice, which is often imported from neighbouring countries, and was considered less healthy (due to a perceived higher use of chemicals) and less delicious. The engagement of more family and exchange labour has gendered implications, as this extra labour is performed mostly by women. Although our feminist analytical lens would view this strategy as a double burden for women, who also remained primarily responsible for care work in the household and had limited options for wage work that could grant them some financial independence, most women we interviewed said the exchange labour circles were a more equitable, enjoyable form of labour compared with wage labour opportunities. Indeed, our survey found that in local wage employment at plantations, farm work, and non-farm service work, women earned only two-thirds of the male wage and had fewer job opportunities. In contrast, in exchange labour, people noted, women's labour was valued equally with men's.

## 8. Discussion: ambivalent repeasantisation

Our findings show that the structural constraints of a global, demand driven system with volatile prices and the imbalance of power between producers and those higher in the market chain are severe. The recent phase of conversion to cash crops in our research areas must be analysed in the context of large-scale acquisitions of smallholders' farming lands, and forest, pastures and waters, that were core to their livelihoods. This reduction of natural resources, coupled with deteriorating tenure security and rising land prices (Beban, 2021), occurred at 'unprecedented' scale and pace (Neef et al., 2013; White et al. 2012). In this context, farmers' engagement with cassava must be understood as a response to the precarity of livelihoods produced by land grabs and state policies that disrupted swidden agriculture (Cotula, 2013; Rigg et al., 2016). Cassava happened to be the best and only option at a specific moment of agrarian transformation in Kampong Thom and Ratanakiri, when, first, cash had already become crucial to meeting farmers' needs; second, commons areas that previously offered food and livelihood opportunities were shrinking more severely than ever; and, third, neither non-farm petty business nor wage labour opportunities had developed enough to envisage exiting farming. A fourth component of this stage of agrarian transition, in the case of Ratanakiri, is that Indigenous populations did not have the capacity to migrate to the city or other rural areas due to their lack of connections outside the area. Cassava was attractive as it was easy to grow, financially affordable, and could provide an income in a relatively short timeframe, quite the opposite of rubber, which has remained an option for only about 15% of households in our study (Gironde, Reysoo, Torrico Ramirez, Suon, 2021). Most small landholders in our study engaged in

cassava to meet their ever-growing needs for cash and to maintain a hold on the land. Once engaged, and because cassava has become a pillar of household economy, they have limited exit strategies. This was particularly the case in Ratanakiri, where non-farm and wage labour remain limited, and farmers considered soils unsuitable for diversified crops. Thus they could not see other option than continuing growing cassava to pay debts and maintain family livelihoods. This conclusion resonates with Mahanty and Milne's, (2016) findings that farmers become trapped in debt-fuelled, low-return cassava production, and the 'limited exit strategies' argument of Hak et al. (2018).

However, rather than any linear trend of agrarian transition toward a move away from farming for struggling smallholders and a concomitant accumulation amongst a minority of farmers, we found that alongside these dynamics, most farmers in Ratanakiri continued to engage in cassava. This crop offers some flexibility, which also explain its persistence. The ecology of cassava is suited to exchange labour circles, because, as with rice, farmers prefer to have their full crop planted quickly to ensure that the harvest reaches maturity at the same time, and once the crop is planted, there is minimal labour involved until harvest time, so it is suited to a large group going from field to field. The ability to retain the cassava root in the ground for up to two years also enables some flexibility for farmers to delay harvest time, although this is only available for those who can stand postponing cash-inflow.

Farmers engaged in diverse strategies, through the reduction of purchased inputs and hired labour, de-commodified family and exchange labour, a move back from cassava to food crops, and managing relationships with buyers and credit providers in the commodity chain. In this sense, we agree with van der Ploeg (2018) that 'there are many different mechanisms that farmers can use to govern, adapt' (van der Ploeg, 2018: 11). However, in our research sites, these do not allow to sufficiently 'change the balance of commodity and non-commodity relations' (idem). For most households, the room for manoeuvre for distanciating from the market and re-peasantisation is not large enough to loosen the structural constraints, as testified by increasing levels of indebtedness and the fact that people use a growing fraction of their debts to buy food and repay multiple loans.

Our empirical data that brings together survey and interviews over five years shows the implications of farmers' strategies for social relations in rural communities. Here, we contribute to feminist agrarian studies research that recognises how gender and race are imbricated within the commercialisation of agriculture and privatisation of formerly communal natural resources (Mollett and Faria, 2012). Recent studies of agrarian transition in Southeast Asia find that the commodification of labour and land relations may reinforce patriarchal power relations while simultaneously opening up spaces for women to assert control over land and labour beyond the restrictions imposed by gendered customary land tenure systems and reproductive labour expectations (Jacobs, 2009; Beban & Bourke-Martignoni, 2021; FAO, 2019). Our study builds on this work, showing that farmer strategies to gain autonomy from market fluctuations were inflected with gendered power in ways that both enabled women's agency and also marginalised women. The increase in exchange labour over the course of our study, for example, was dependent upon the labour of Indigenous women, who both valued the sociality and autonomy exchange labour offered, while also lamenting their heavy labour burden.

Overall, continuing commercialised cassava was an ambivalent decision for farmers. Many farmers expressed a sense of being trapped, which needs to be understood in the context of limited options for other livelihoods, particularly in Ratanakiri. With the enclosure of common forest land, the ability to freely access natural resources rapidly came to an end. These enclosures have accelerated the shift to cash crops and in-migration of people from lowlands. In some contexts, as Cramb et al. (2017) report, large agribusiness firms may enable market and knowledge linkages with smallholders, creating a more inclusive cassava model. This is not the case in our study areas: Economic Land Concessions (ELCs) did not have any positive linkages with smallholder cassava, as cassava markets function very differently from rubber and cashew production.

While some farmers saw cassava as a way to climb the social ladder, hoping cash from cassava would serve as funding for (more) cashew trees, the majority continued because they were not sure what else to do, even if they were not covering expenses. One farmer who has grown cassava for twelve years said: 'The earning from planting cassava is not so good because with what we earn we

can only cover the expense on planting. But we do not know what to do, so we keep doing it' (14, 2019). This feeling of inevitability is deeply connected to the growing cassava-fuelled debt amongst farmers. As Mahanty and Milne (2016) discuss, cassava can be seen as a 'gateway crop', both potentially to more lucrative cash crops, and also to greater levels of indebtedness. Many farmers deal with price volatility by taking loans out to purchase inputs, seeds, labour, and even food and family provisions, and then pay traders and loan institutions back upon harvest.

Therefore, alongside the feeling of entrapment articulated by many farmers was a simultaneous articulation of the promise of moving up the chain of cash crops – from cassava, to cashew, and then to the more lucrative, but more costly, rubber and pepper. This contradiction was resolved in farmers' dialogue through an appeal to temporality; cassava was a temporary strategy, and even if it was not currently providing a return, the ups and downs of the market showed that it could bounce back and launch them into a good profit and the basis for a better livelihood. Thus, the price volatility of cassava created both a sense of lack of control and frustration, and also the hope for a better future for those who could wait out the price trough. This finding resonates with the work of feminist geographers examining rural Cambodian labourers' desires to maintain a tie to farming due to its fixedness and potential for mobility, even if the possibility of success is remote (Natarajan & Brickell 2022). We see in this case what we term an ambivalent repeasantisation, with farmers seeking autonomy from market fluctuations by investing more family/community labour into cassava and striving to create relationships with upstream actors in the cassava commodity chain, thus deepening their engagement while also imagining a life beyond cassava.

## 9. Conclusion

The case of smallholder cassava pathways in Cambodia shows us that agrarian transition is neither linear nor unidimensional. This case illustrates the development of capitalist relations, monetized exchange, and commodification of land and labour, which replace 'traditional' social relations, but at the same time shows how the challenges associated with this crop contributes to the persistence of non-capitalist relations and even to their revival. Farmers' responses to cassava ups and downs have insofar enabled most of them to survive this no-choice crop, but this has come at the price of rising indebtedness, which they may not be able to survive in the middle- to long-term. Their financial situation may worsen in the context of rising price of food items in rural areas. Another major issue is the likely long-term detrimental impact of cassava farming on ecosystems, exhausting soil fertility and depleting water resources as exemplified by the cases of maize and cassava in Southeast Asia uplands (Cole, 2022).

This uncertainty suggests that temporality matters in the way researchers approach our research and conceptualisation of 'coping strategies'. Agrarian transition is contingent, shaped by shifting global market trends, climate shocks and crop diseases, off-farm livelihood options, state politics and population change (Beban and Gorman, 2017; Belton & Fang, 2022). Indeed, the context continues to change. During our final round of fieldwork, many farmers' crops were hit severely with cassava mosaic disease. With limited information and no insurance or state safety nets to depend upon, most farmers left the crops in the ground despite advice from the Ministry of Agriculture to destroy them, causing the disease to continue spreading. Short-term snapshot studies (which have dominated the agrarian change literature in recent years (Oya, 2013)), cannot grasp the dynamism of global commodity markets, socio-ecological risks, nor the ways that short-term survival strategies may make farmers more vulnerable in the long-term. We were not expecting the direction of trends in our five-year study, such as the increase in non-commodified family and community labour and food crop production, or the change in power balance between wage labourers and smallholders, which revealed that farmer engagement with markets is dynamic, and must be analysed with reference to interactions with food and input price fluctuation, and broader socio-ecological changes. Longer term studies that trace price volatility rather than a snapshot of price decline (as we saw in our first round of data), also enable us to understand how farmers may continue to find hope for mobility through farming despite its hardships, because volatility allows farmers to imagine that things may improve in the future.

This study raises the question of how corporate, state and development actors can provide support to farmers, so that they can move from surviving to thriving. First, there is great potential for the Cambodian government and upstream corporate actors in the cassava commodity chain to support farmers with both technical advice and resources, and broader social programmes. We found that most farmers received no technical support from government agencies or private actors in the cassava chain. The little support received from under-funded extension programmes was often limited to farmers with political connections or financial resources to risk running demonstration plots and experimenting with new techniques. For both cassava and rubber, support was limited to a few well-informed farmers with connections outside their commune of residence who, typically, attended a single-day training organised by the department of agriculture in district or capital-town, with men typically benefitting from these trainings due to their greater connections and mobility, and assumptions that men were the primary cash-crop farmers. For the majority of households, who were excluded from any technical advice and support, managing ecological risks and improving productivity was a process of discovery through observing, experimenting and talking with neighbours. In this domain too, producers have to find solutions their own solutions to cope with the lack of government action.

Therefore, resources to help farmers engage in coping strategies that might enable autonomy without deepening their long-term vulnerability, such as resources for dealing with weather and pest/disease events, low-interest financing, and crop insurance, could help to reduce farmer risk. Beyond this technical assistance for cassava, farmers who are seeking to gain autonomy through deepening food crop production alongside cassava could be further enabled to diversify into other crops with financial and technical support. Obviously, such support cannot be expected to be provided by the private sector alone, nor by NGOs which can only reach a limited number of villages and producers. This would require a re-engagement of the State to support farmers to diversify and revalue food crops, which seems highly improbable as it is contrary to the promoted model of economic land concessions and the objective to make Cambodia an agro-exporter. Moreover, the agricultural sector cannot be looked at in isolation. Broader social programmes are also important, including broad-based social security, and gender-responsive programmes including state-sponsored childcare and remuneration for care-givers, to recognise the labour of women who remain responsible for the bulk of reproductive care work, and the increased burdens of cash crop production and wage labour.

## Note

1. Field research was carried out through the Demeter project funded by the Swiss National Science Foundation's R4D Grant.

## Acknowledgments

The authors would like to thank the communities in our study sites in Cambodia for their generosity in sharing their experiences with the research team. We would also like to extend our deep gratitude to our research partners—in particular, Thida Kim and Suon Seng—for their vital contributions to the project. We would further like to acknowledge the contributions of Andres Torrico Ramirez for his work on the survey analysis. Finally, thank you to the reviewers and editors for their insightful and constructive comments.

## Disclosure statement

No potential conflict of interest was reported by the authors.

## Funding

The work was supported by the Swiss National Science Foundation Research 4 Development Grant .

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