

# Droughts and debts: The domestic tea value chain and vulnerable livelihoods in Girimukti village, West Java, Indonesia

Widyawati Sumadio<sup>a</sup>, Edo Andriesse<sup>b,\*</sup>,  
Frimanisa Aprilianti<sup>a</sup>, Andika Sulyat<sup>a</sup>

<sup>a</sup>Department of Geography, Faculty of Mathematics and Natural Sciences, Universitas Indonesia

<sup>b</sup>Department of Geography, College of Social Sciences, Seoul National University, Republic of Korea

---

## Abstract

This article is concerned with the linkages between the livelihoods of tea smallholders and domestic value chains in Indonesia. Theoretically, our empirical inquiry is informed by an integration of the sustainable livelihoods approach and value chain analyses. This enables a better investigation of micro (livelihoods) — meso (industry) — macro (national and international trends and political economy) interdependencies and interactions. In addition to value chains and socioeconomic challenges, tea smallholders in Indonesia are also confronted with droughts due to climate change and the 2015–2016 El Niño. The empirical work consisted of 36 semi-structured interviews in Girimukti village in West Java; a remote village relatively far from urban markets. Overall, our analysis demonstrates that tea smallholders are not poor, but are in a vulnerable position and remain far below the level of a stable lower-middle class. The smallholders lack human and financial capital and growing tea is not supported by horizontal coordination/social capital. In contrast, a few wealthy tea agripreneurs have established themselves as providers of inputs, intermediaries, tea drying factories, informal rural banks and village philanthropists. In other words, Girimukti is host to a process of increasing rural inequality driven by endogenous actors who are able to accumulate and concentrate tea assets and position themselves as essential nodes within the domestic tea value chain. The adaptive strategy of rural-urban migration from Girimukti to escape rural marginalisation is unattractive because of relatively low human capital levels.

**Keywords:** drought, climate change extremities, tea smallholders, domestic value chain, rural livelihoods, Indonesia

---

## 1 Introduction

At the end of 2013 the Indonesian government initiated a “national tea dialogue” to “revitalise the tea industry” (Indonesia-Investments, 2013). The government and key industry players worried about declines in productivity and exports. Indonesia used to be the fifth largest exporter after Kenya, China, Sri Lanka, and India, but Vietnam overtook Indonesia in 2007. Although production remained stable between 2006 and 2013, export volumes shrank from 91.7 thousand tonnes in 2008

to 70.8 thousand tonnes in 2013; and this within an expanding global tea market (Suprihatini, 2015; FAO, 2014, p. 18; Global News Wire, 2016). Consequently, production for domestic markets has become more important.

This article is concerned with the linkages between the livelihoods of tea smallholders and domestic value chains (DVCs). Many publications have scrutinised the insertion of smallholders in global value chains, for instance Indonesian oil palm smallholders, yet many peasants continue to produce for national markets (see, for example, Guarín (2013) for fruits, vegetables and beef in Colombia). Theoretically, our empirical inquiry is informed by an integration of the sustainable livelihoods

---

\* Corresponding author

Email: edoandriesse@snu.ac.kr

Phone: +82 2 8804014; Fax: +82 2 8769498

approach (SLA) and value chain analyses (Neilson & Pritchard, 2009; Challies & Murray, 2011; Mitchell & Coles, 2011; Ingram *et al.*, 2012; Neilson & Shonk, 2014; Andriesse, 2014; Andriesse & Lee, 2017). In addition to value chain and socioeconomic challenges, tea smallholders in Indonesia are also confronted with droughts due to climate change and the 2015–2016 El Niño (Jakarta Post, 2015; Jakarta Globe, 2015), a recurrent climatological phenomenon that causes droughts in Southeast Asia while there are higher precipitation levels on the Pacific coast of the Americas. This has not only significantly intensified the vulnerability context of tea smallholders in Indonesia, but has also affected overall agricultural production in Southeast Asia (Channel News Asia, 2015; Bangkok Post, 2016a,b).

We conducted semi-structured interviews in Girimukti village, in Bojongsambir sub-district of Tasikmalaya regency, West Java province in September 2015. Dutch planters successfully introduced tea into West Java in the early nineteenth century. At present the province accounts for 77% of Indonesian tea plantations (Ministry of Agriculture and Indonesian Tea Board, 2014). The problem statement is as follows:

How are smallholders in Girimukti inserted into the domestic tea value chain, what is the impact of droughts, and how do they adapt their livelihood strategies to the heightened challenges and threats?

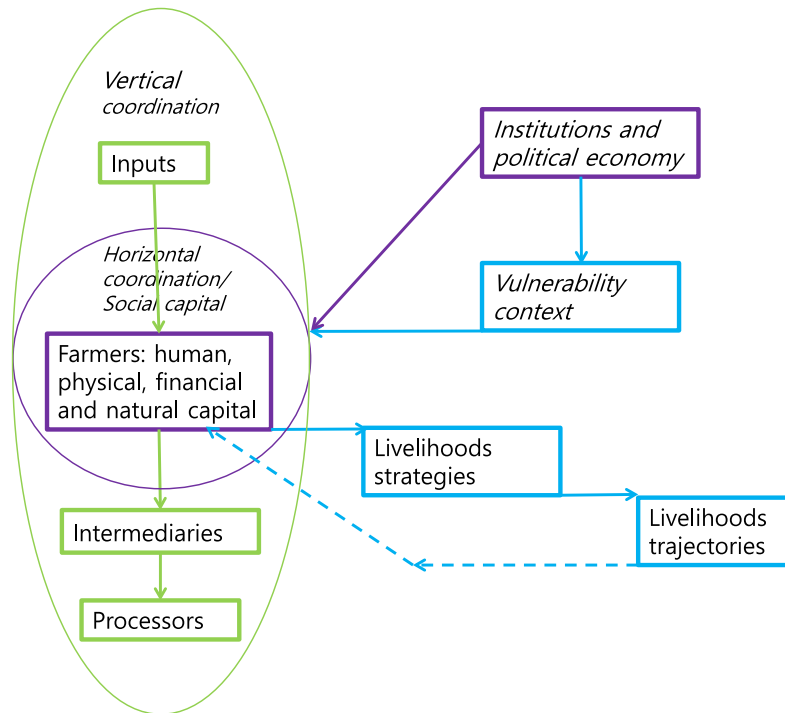
For purposes of comparison, and to highlight regional variety, we also investigated a large tea plantation in Taraju sub-district, located in Tasikmalaya regency as well, employing 600 villagers. This plantation is owned by one of the largest tea firms in Indonesia, catering to both the domestic and global markets. The next section explains the advantages of integrating the SLA and value chain approaches. This is followed by an overview of the research methodology. Section four forms the backbone of the article and presents the empirical results. The final section sums up the main arguments and presents the theoretical implications and policy recommendations.

## 2 Integrating the SLA and value chain approaches

Although the relative contribution of agriculture to Indonesia's total employment and economic output has declined, 39 million people are still engaged in farming as part of their livelihood (ADB, 2015). The absolute

number of people working (at least partly) in agriculture is reducing very slowly. Therefore, analysing rural development challenges continues to be highly relevant. The SLA provides an appropriate way of organising the complex issues around poverty by investigating the following three factors: the capitals pentagon (human, natural, financial, physical, and social), the vulnerability context, and the institutional and political economy (IFAD, n.d.). These three factors culminate in livelihood strategies that, in turn, determine livelihood trajectories. In addition, these trajectories then provide feedback for subsequent ideas, changes, and improvements with respect to the capitals pentagon (the dashed line in Figure 1). A major outcome of livelihoods studies in Southeast Asia has been the observation that farming families have increasingly relied on non-farm income, including remittances (Rigg & Vandergeest, 2012; Rigg *et al.*, 2016). On the one hand, democratisation and decentralisation in many countries has led to a resurgence of local communities determining their own fate. The Philippines embarked on a decentralisation scheme in 1991 and Indonesia experienced a big bang scheme in 1999, shortly after the Asian financial crisis and the collapse of the Suharto regime (Rola, 2011, pp. 167–198; Tomsa, 2015, pp. 155–157). On the other hand, Scoones (2009) contends that the SLA suffered from declining interest among academic and policy circles after 2000 due to the lack of engagement with four macro trends: economic globalisation, power and politics, climate change, and agrarian change. In other words the academics and policy-makers were preoccupied with the local level, the micro level. Nevertheless, in recent years the investigation of livelihoods has resurfaced. Academics and practitioners, such as non-governmental organisations, increasingly address some of the limitations identified by Scoones.

As noted in the introduction, several publications have integrated the SLA with agricultural value chain analyses. This has enabled a better investigation of micro (livelihoods) — meso (industry) — macro (national and international trends and political economy) interdependencies and interactions (Andriesse & Lee, 2017). Value chains studies seek to follow material, financial, and ideational flows from the point of origin, inputs via farmers, intermediaries (middlemen is not an appropriate term anymore), processors, wholesalers, and retailers, through to the end consumers. An important topic that has often been studied is chain governance, which can be divided into vertical and horizontal coordination. Vertical coordination refers to the process of forming closer relationships between actors at different



**Fig. 1:** Integrating the sustainable livelihoods approach (SLA) and the upstream domestic value chains (DVC) approach. Green: DVC approach; Blue: SLA; Purple: included in both approaches; dashed blue line refers to feedback mechanisms.

functional nodes of a value chain. Horizontal coordination refers to the process of forming closer relationships, formal or informal, among actors within the same functional node of a value chain, in fact very similar to social capital (Mitchell & Coles, 2011). Value chain governance and the extent of government intervention determine the specific configuration. Four types can be distinguished:

- chains regulated by the invisible hand of the market. One example is fruits, vegetables, and beef in Colombia (Guarín, 2013)
- chains in which dominant lead firms manage many of the activities, for example, through the contract farming of tobacco and corn in various countries, and rubber in Laos (Andriess, 2014)
- vertically integrated chains. In this case firms own plantations, processing facilities and marketing channels. A good example is Chiquita owning banana plantations in Costa Rica, Guatemala, Honduras and Panama.
- chains regulated by the visible hand of the state. The government of Thailand for example, sets both upstream and downstream prices and sets the production levels for smallholders and sugar mills (Choi & Andriess, 2014).

Furthermore, it is worthwhile to note that our research is mainly concerned with the domestic tea value chain. This implies that it is useful to pay greater attention to domestic trends than to the demands of foreign customers and transnational retailers, as well as international quality and ethical standards (with respect to environmental pollution and child labour); factors that are usually investigated in the global value chain literature. Nevertheless, the international tea market is still relevant since Indonesia imports tea from Vietnam to meet its domestic demands. Global value chains and DVCs often interact (Godfrey, 2015). Figure 1 presents an analytical framework that integrates the SLA approach with the upstream DVC approach. The blue section in the figure represents SLA elements, the green section represents DVC elements, and the purple represents elements that both approaches usually take into account. Integrating these two bodies of knowledge is theoretically sound for three reasons. First, there are two important similarities: social capital/horizontal coordination, and institutions and political economy.

As a result of earlier critiques of the local, rather isolationist, perspective of the livelihoods studies, conducted by protagonists of the SLA approach, the impact of institutional arrangements have been increasingly scru-

tinised at the national and international levels, as has the impact of unequal power relations. This is highly relevant since smallholders frequently occupy a marginal position within value chains and, indeed, in the wider society. For example, due to limited educational attainment in the peripheral regions of many developing countries, smallholders are not aware of midstream and downstream businesses, objectives, and interests.

Second, orthodox value chain analyses assume a continuous flow of intermediate products from upstream to midstream and downstream levels. However, natural disasters such as climatological extremes can completely disrupt a value chain. The vulnerability context takes this possibility into account (Andriessse & Lee, 2017). The natural environment as a cause of value chain disruptions and livelihoods' struggles should receive more attention, particularly given the forecasts of more frequent weather extremes as a result of climate change (IPCC, 2014; Noy, 2014). Third, the integration, as presented in Figure 1, enables analysis of the scalar dynamics with respect to process and product upgrading: in the case of agricultural value chains, adding value *in situ* in order to achieve higher income levels for farmers and rural communities. Intermediaries and domestic processors are often reluctant to engage in vertical coordination and upgrading efforts because these usually lead to lower profit margins. In theory, the government could play a meaningful role here (Challies & Murray, 2011), for example, by promoting rural cooperatives that could eventually circumvent intermediaries, transforming social capital into economic/financial capital. To benefit from economies of scale and scope, and to have a more powerful negotiating position, it is imperative for rural cooperatives to have members from several villages (Castella & Bouahom, 2014). In a study of coffee production in southern Sulawesi, Indonesia, Neilson & Shonk (2014, p. 286) integrated livelihoods and value chains as well and concluded the following:

We, however, have emphasised the centrality of cultural norms and social expectations in delineating realistic investments in different livelihood strategies and the possibility that different value chains may contribute highly specific needs within a broader livelihood portfolio. A key finding from this particular coffee-informed case study is that distinct livelihood strategies affect both the willingness of farmers to participate in value-chain upgrading as well as their potential to gain tangible benefits from enhanced value-chain integration.

In sum, there is a large variety of chain configurations and livelihoods' strategies and a considerable extent of interdependency. Section four of this article will demonstrate how several of these relevant interactions play out in the case of tea smallholders in West Java, Indonesia.

### 3 Methodology

Large scale tea plantations account for 54 % of landholdings in Indonesia; tea smallholders for 46 % of landholdings. Large scale plantations are either owned by private firms or by the state. There are approximately 100,000 tea smallholders in Indonesia. On average their landholdings are small: 0.6 hectares. We deliberately chose a rural research area that is located relatively peripherally in order to be able to investigate a marginalised community. Girimukti village (*desa*), part of Bojongsuganda sub-district (*kecamatan*), in the Tasikmalaya regency (*kabupaten*), is 70 km from Tasikmalaya city (see appendix noting that we mainly followed the translation of Statistics Indonesia BPS; *kabupaten* is sometimes translated as a district, such as in Tomsa (2015)). That is not far, yet due to the hilly terrain and poor roads it takes 1.5 hours by motorcycle and 3 hours by public transport. Tasikmalaya regency is divided into 39 sub-districts and it is the third most important tea regency of West Java province after Cianjur and Sukabumi provinces (Ministry of Agriculture and Indonesian Tea Board, 2014). Girimukti village is 700 m asl and has 4,000 registered inhabitants (approximately 1,000 households) of which a quarter is below the age of 17 (Interview with the Girimukti's village secretary, referred to as Secdes, multiple dates).

We employed a qualitative approach in order to obtain information about tea growing trajectories, current problems and opinions on challenges and government support. Semi-structured interviews and field notes were the two main methods to collect data. The interviewees were selected based on their position in the local tea industry. We also sought to find a balance between wealthy, average and poorer tea smallholders. An initial trip to the district was made in August 2015 to prepare the fieldwork, meet several key informants, and obtain permission from the head of the village. In September 2015 we conducted 36 semi-structured interviews: 23 with tea smallholders, the majority of which were in the hamlets of Cicalangan and Cikawung, and 13 with key informants such as the village head (*Kepala Desa*) who has a 1-hectare tea plantation, the Secdes, intermediaries (*bandar*), the most dominant tea entrepreneur, and people involved in crops and regional value chains other

than tea. We also visited the district of Taraju to interview PT Sinar Inesco: one of the largest tea firms in Indonesia and part of PT Agropangan Putra Mandiri that sells tea in both the domestic and international markets. Taraju district is a 1.5 hours drive by public transport from Tasikmalaya city. The district has a long tea history. The first planter in Taraju was the Dutchmen Willem Bouwens who lived from 1879 to 1941.

The semi-structured interviews with tea farmers were conducted in Sunda language; spoken by 39 million people in West Java. The questions covered basic information, insertion in upstream DVCs (most notably the relationships with intermediaries), the impact of the current drought, and livelihood strategies. Most interviewees were not willing to disclose precise income and financial data. The questions for key informants were wider in scope and were designed to obtain greater insights at village level, the prospects of the tea industry, and potential livelihood alternatives. During the fieldwork we were fortunate to stay at the house of the village head. Therefore, it was relatively easy to make appointments with key informants as well as to gain valuable insights into the history and socio-economic conditions of the village. Finally, we have maintained close contact with the Secdes and have regularly asked follow up questions.

## 4 Results

Many households have a diversified agricultural livelihood, growing rice for their own consumption, growing tea for sale, and keeping goats both for their own consumptions and for sale. Out of the 1,000 households 884 grow rice, 736 grow tea, and 485 households keep goats (data obtained from the village office). Individuals started to grow tea in the 1980s. This was soon followed by government programmes, most notably the PIR programme to improve rural livelihoods which, in the case of Girimukti, was sponsored by the central government and Asian Development Bank. Consequently, Bojong-gambir experienced deforestation, villages grew rapidly and became more modern. The connection of Girimukti to the electricity grid in 1995 illustrates the integration of rural West Java into modernity.

The average tea landholding is 0.8 hectares, similar to the Indonesian average of 0.6 (Ministry of Agriculture and Indonesian Tea Board, 2014). The exception is one wealthy rural agripreneur (see next section). Human capital among the interviewees is rather limited and most have not enjoyed secondary education. Nevertheless, their children attend high school in the main village of the district. The few wealthy parents send their

children to better schools in Taraju district. Most children dream of white-collar jobs, but few have the skills to land one. This implies that there is sufficient labour available in the village.

### 4.1 *Fragile and unequal insertion in the domestic tea value chain*

Small tea plants need two to three years to grow to full maturity. The leaves can then be plucked once a month provided the tea plants are healthy and weather conditions are fine. The green tea leaf price in Girimukti in September 2015 was 1,600 Indonesia Rupiah (IDR) per kilo (€ 0.1). Fertiliser costs 400 IDR per kilo (and is often bought from the intermediary), and transportation of tea is 200 IDR per kilo (interviews with smallholders). Despite the drought the upstream tea price is slightly lower than five years ago, mainly due to greater freedom in agricultural trade as part of the ASEAN Economic Community that allows for relatively cheap imports from Vietnam to meet domestic demand. Smallholders usually sell their produce to intermediaries who, in turn, sell it to tea-leaf drying factories for 1,750 IDR per kilo. Suprihatini (2015) found that farm gate prices on average are equivalent to 15.8% of the consumer price. There are six factories in the sub-district that dry and pack the tea and sell it to large traders and processors in Sukabumi, a major central tea market, for 12,000 IDR per kilo (€ 0.75). Two of the drying factories in Bojonggambir are owned by Pak Atis and his family.

The family of Pak Atis is by far the dominant tea agripreneur in Girimukti and it is a prime example of rural capital accumulation in Indonesia (see also Rutten (2003) for a comparative study of Indonesia, Malaysia, and India). At present this family owns 50 hectares and rents a further 100 hectares from the village. Pak Atis described his dramatic ascendancy as follows:

I started very small. At first I inherited from my parents. During the Asian Development Bank programme many farmers planted tea but there was only one small tea [drying] factory. Farmers got upset because they could not sell their tea leaves, so they started to sell their land to me in the 1990s. Besides buying from farmers I also cut down the forest and transformed it into tea plantations (Interview with Pak Atis, 18 September 2015).

Pak Atis also established two drying facilities each of which employ 20 people. Furthermore, he hires 150 villagers to pluck tea leaves, he owns a tea seed business, he acts as the *de facto* bank in the village (see next

section), several of his family members are tea intermediaries, he has recently established a road construction firm, and he sponsors many village activities such as financing the building of a new mosque. Other influential families that own drying factories are Pak Nana Rohana and family and Pak Hasan who built the first tea factory in Girimukti. At the subdistrict level, the government appointed Agriculture, Fishery and Forestry Counseling Office (*Balai Penyuluhan Pertanian, Perikanan dan Kehutanan* – BP3K) is in theory responsible for assisting farmers. Their main responsibility is to support prospective farmers develop their fields and to ensure that cultivated lands are not in dispute. Occasionally they also provide counselling for farmers to overcome pest problems or introduce new types of fertilisers. However, their mandate is not to provide farmers with a wide range of agricultural needs (interview with the Head of BP3K in Taraju sub-district, 17 September 2015). In sum, although the Indonesian government and the Asian Development Bank had good intentions three decades ago, triggering a process of inclusive insertion has been difficult.

#### 4.2 Droughts and debts

The majority of interviewees argued that two factors greatly affect their livelihoods: droughts and debts. The former pertains to the vulnerability context and causes disruptions in the value chain and in securing smallholders' incomes. The latter pertains to financial capital (Figure 1). Normally the dry season is between May and September. Yet, in recent years the dry season has lasted until November. Many smallholders complained that they used to pluck tea leaves once a month but nowadays it is only possible to do so once every two months, in smaller amounts and lower quality. This has affected tea yields and revenues. Furthermore, the 2015–2016 El Niño has intensified the prolonged drought. An Op-Ed piece in the Jakarta Post (2016) stated the following regarding the impact of El Niño on Indonesia's economy:

El Niño is estimated to decrease Indonesia's growth by 0.31 percent quarterly and as its effects are expected to persist for the next two quarters, the cumulative effect on growth will be about –0.91 percent. The agriculture sector will be hit hardest since the decrease in growth will mainly come from there.

Indonesian rice farmers are postponing planting due to the delayed rainy season and El Niño has also caused problems for farmers in Thailand and the Philippines. This strengthens the argument that academics and rural

development practitioners need to pay more attention to natural hazards as a cause of value chain supply disruptions (Andriess & Lee, 2017).

Since the price of inputs, mostly fertilisers, is increasing the overwhelming majority of tea smallholders resort to incurring debts. Access to formal credit is hampered by the lack of collateral. The smallholders' land titles have an intermediate status. Acquiring fully official and complete land titles is too costly since only notaries are allowed to process the documents. Consequently, many smallholders borrow money from the informal credit market. Pak Atis and his family, again, is the dominant family here. The interviews with key informants revealed that approximately 400 out of the 736 tea smallholders have borrowed money from this family. For example, one close relative of Pak Atis manages a portfolio of 100 debtors with a total outstanding credit of 400 million IDR (€25,000). That implies an average debt of 4 million IDR per household (€250). In addition to acting as a bank she is also a tea intermediary (interview with a close relative of Pak Atis, 17 September 2015). Therefore, while this family does not charge interest (conforming to Islamic tradition) it is not only highly influential in terms of the material upstream value chain, but also in respect of the financial flows that are associated with it. This is reminiscent of the literature on agricultural debt-fare, rather than welfare capitalism (Soederberg, 2012), and debt driven value chains (McMichael, 2013), yet there is one crucial difference. In contrast to contract farming where multinational agribusiness conglomerates squeeze out farmers, benefiting from agriculture is embedded in a domestic value chain through a localised process of capital accumulation:

#### 4.3 Adaptive livelihood strategies

How do smallholders adapt to their fragile and unequal insertion in the tea chain? First of all it needs to be pointed out that smallholders are essentially left to fend for themselves. There is a lack of upstream horizontal coordination/social capital (Figure 1) and there is no visible intervening hand of the state. Institutional and political support is missing. The government retreated a few years after introducing tea into the village. We found no evidence of skills training, formal micro finance, and micro insurance. Upgrading has also been non-existent due to limited access to upgrading initiatives by the government or other (non-governmental) actors). Virtually all interviewed smallholders were not aware of the existence of BP3K in Taraju sub-district (introduced in section 4.1). The Indonesian Tea Board supports tea cooperatives but it is not in a position to reach out to all

tea-based villages in West Java; especially the most remote ones.

In light of these shortcomings, in recent years villagers have sought to diversify their income generating activities. In addition to growing rice and keeping goats they have started to sell cardamom, palm sugar, bananas, and chillies. In fact, they are seeking to insert themselves into new regional value chains. A major obstacle to this is the travel time to urban markets. Therefore, similar to the tea business, they are highly dependent on intermediaries who have the means and networks to bring rural products to urban markets such as Tasikmalaya city. Pak Endang, for example, is an intermediary who collects bananas and sugar palm from farmers in Girimukti and sells produce in three different urban markets. He buys bananas for 2,000 IDR/kg (€0.13) and sells them for 3,500 IDR/kg (€0.22); and buys palm sugar for 12,000 IDR/kg (€0.81) and sells it for 14,500 IDR/kg (€1.0) (interview with Pak Endang, 20 September 2015). Tea remains the main source of monetary income but other crops are set to gain in importance. However, the smallholders are not planning to give up growing tea since tea farming is perceived as a respectable activity. Therefore, most smallholders still think growing and selling tea should be part of their lives.

There is no evidence of increasing rural-urban migration of younger people. The interviewees were also from a mixed age range: from a newly married woman of 20 to someone aged 76 years. At present only 80 villagers live elsewhere; they have either migrated to another village, to Tasikmalaya city or to Jakarta (interview with the Secdes, multiple dates).

Unfortunately, tea smallholders were very reluctant to estimate their monthly income. However, our observations and interviews with key informants suggest an overall living standard that is above the poverty line. People in Girimukti do not need to buy rice, children go to school, young people do not leave the village, mobile phones are widespread, but most families cannot afford motorcycles, cars, and pilgrimages to Mecca. The Secdes estimates the average tea revenues at 400,000 IDR (€25) a month. The rural poverty line for West Java province in 2014 was 285,076 IDR (€17.8) per capita per month (BPS, 2015, p. 51). Given the fieldwork findings of increasing agricultural diversification, a safe estimate is a monthly income somewhere between 400,000 and 600,000 IDR (€37.5). According to the World Bank (2015) “approximately 40% of all [Indonesian] people remain clustered around the national poverty line set at 330,776 IDR (€21) per cap-

ita per month”. The wealthier smallholders are in danger of falling into this category given that debts and climate extremities are predicted to increase, tea revenues are volatile, and agricultural diversification is challenging.

#### 4.4 A brief comparison with plantation workers in Taraju district

Approximately 30 km North of Bojonggambir district, tea dynamics are markedly different. In Taraju district the 728 hectares PT Sinar Inesco plantation dominates rural life. Rather than the atomistic activities of smallholders and intermediaries described above, this plantation forms part of a vertically integrated tea chain. It is part of PT Agropangan Putra Mandiri that owns seven large tea plantations in West and East Java. This firm in turn, is part of the PT Rekso conglomerate whose trading activities includes exporting tea to wholesalers in the Middle East and Russia (interview with PT Agropangan Putra Mandiri Sentul office manager, 28 September 2015). PT Sinar Inesco employs around 600 people in Taraju; 350 tea pluckers and 250 factory workers.

Similar to the situation in Girimukti, growing tea is heavily affected by longer and more extreme droughts. In 2010 production was 60 tonnes a day; during the time of fieldwork in 2015 it was a mere 3 tonnes a day. The management is facing financial losses and is considering replacing tea with other cash crops such as rubber and timber (interview with PT Sinar Inesco manager, 19 September 2015). According to key informants, plantation workers can earn 1,456,000 IDR (€91) each month during the rainy season, but only 312,000 IDR (€20) per month during dry spells. Meanwhile, tea factory workers are paid only two days a week during dry spells. Consequently, longer and deepening droughts since 2010 have led to increasing temporary and permanent migration from Taraju district to urban areas, most notably to Tasikmalaya city. As Sinar Inesco owns most land in Taraju, agricultural diversification among villagers is impossible.

Prior to 2011, PT Sinar Inesco’s employees enjoyed a higher standard of living than smallholders. Oxfam (2013, p. 4) also concluded that the wages of tea pluckers in West Java were above international benchmarks and families lived above the rural provincial poverty line. The current changing vulnerability context is causing a convergence of rural welfare and wellbeing within the Tasikmalaya regency. Furthermore, the farmers’ cooperatives in Taraju are not powerful enough to influence PT Sinar Inesco’s behaviour, let alone the corporate leadership of PT Rekso. In the event that agricultural

diversification in Bojongsambir turns out to be successful, landless families in Taraju will be relatively worse off and will only be able to rely on migration to urban areas. Replacing tea with other cash crops is likely to lead to further job losses since tea is one of the most labour intensive crops. A vertically integrated tea chain could contribute to the alleviation of rural poverty during periods with a stable vulnerability context such as in the 1990s and early 2000s, yet the increasing environmental pressures pose great challenges for continued inclusive development.

## 5 Discussion and conclusions

With respect to questions about future prospects, the smallholders either answered, “we do not know what we can expect” or “we need more government support”. Both of these answers are sensible since the deepening droughts are leading to declining and uncertain tea yields whilst relevant agricultural government agencies have been absent in Girimukti for more than 15 years. There is a trend towards agricultural diversification but success in the medium and long term is not guaranteed.

Overall, our analysis demonstrates that tea smallholders are not poor but they are in a vulnerable position and remain far below the level of a stable lower-middle class. The smallholders lack human capital and financial capital, and growing tea is not supported by horizontal coordination/social capital (Figure 1). The adaptive strategy of rural-urban migration from Girimukti to escape rural marginalisation is unattractive because of relatively low human capital levels. For example, many villagers do not feel comfortable speaking or writing Bahasa Indonesia which is a prerequisite to finding formal employment and earning at least the official minimum wage of 1,131,862 IDR (€71) per month (BPS, 2015, p.30). This is a major difference with the tea pluckers and tea factory workers in Taraju where out-migration currently appears to be the only meaningful adaptive strategy.

We conclude our article with three theoretical implications and two policy considerations. First, the integration of the DVC and livelihoods approaches is very useful (Figure 1). We agree with (Neilson & Shonk, 2014) that such an integration enables us to lay bare how, and to what extent, intensified vulnerability (in this case recurring droughts) plays out in rural areas as well as the interdependencies and interactions between value chain dynamics and the relative advantages and disadvantages of livelihood options. Second, theorising value chain governance and upgrading strategies should more explicitly address the role of powerful intermediaries who are

able to function as value chain gatekeepers and act as informal rural banks. In such cases one cannot expect a swift and meaningful transition towards improved horizontal and vertical coordination, particularly if the institutional and political support mechanisms are weak. In other words, the evolution of upstream agribusiness value chains tends to culminate in the concentration of wealth in the hands of a few agripreneurs and rural debt-fare (Soederberg, 2012) rather than in shared benefits for tea smallholdings households. Third, there is great deal of regional variety with respect to livelihoods options. Tea smallholdings households have markedly different challenges compared to tea plantation workers. Hence, given the forecasts of more frequent weather extremes (IPCC, 2014; Noy, 2014) there is a need for rural development theories to spell out the range of livelihood strategies dependent on the nature of agribusiness value chains.

In terms of policy considerations in the Indonesian and, indeed, in the Southeast Asian context, it is worthwhile to point out the continuing salience of partial self-sufficiency. In a special issue on Indonesian agri-food systems and the relative benefits of moving away from rice cultivation, Reardon *et al.* (2015, p.372) conclude that “for Indonesian farmers to have a chance to compete, the government needs to implement policies that actively support agricultural diversification — especially away from rice — as well as to invest in the public infrastructure needed for efficient supply chains for perishable goods”. Although generally sound, our analysis necessitates four qualifications: (1) Rice could remain as a useful back up crop in the context of heightened market and environmental pressures and threats; (2) due to the immense size of Indonesia, the government is not in a position to be able to support all rural communities (it would, for instance, be a huge task to successfully reach out to the hundreds of villages in the 39 sub-districts (*kecamatan*s) in the Tasikmalaya regency); (3) several higher value crops, such as vegetables, can be more prone to erosion especially in hilly areas (Ministry of Agriculture and Indonesian Tea Board, 2014); and (4) without improved horizontal coordination, market information, and agricultural extension services initiated by the government, it will be difficult for individual farmers to successfully reach urban markets in an inclusive manner (Borah & Das, 2015; Sita, 2015; Food Navigator-Asia, 2016). Policymakers should also consider support schemes related to new drought-resistant tea varieties, providing trainings at village level and adaptive technologies such as intercropping tea with other high value cash crops such as Japanese persimmon, chestnuts, coffee, and ginger, obviously depending to soil conditions



to increase incomes (Santosa *et al.*, 2005). In a study on tea smallholders in remote areas of Sri Lanka, Perera (2014) concludes that the government and the Federation of Tea Smallholders “should offer alternative or modify the existing strategies to address the capacity building needs of tea smallholders, especially those who reside in difficult regions. Such training may lead to vast improvement in crop quality and maintenance, minimize leaf rejection, increase volumes, escalate profitability of these tea smallholdings and develop the overall supply chain.”

Finally, there is an obvious need to initiate schemes in villages that are mired in structural debts. This also pertains to other countries, such as Thailand, where so-called informal loan sharks operate across large swathes of the countryside. Debt driven value chains stymie efforts to found successful agricultural diversification, improve vertical coordination, and, eventually, foster more inclusive trajectories of rural development. One way of improving upstream value chains is by promoting standardisation and certification. Loconto (2015) shows that smart tea governance in Tanzania may ultimately lead to arrangements that not only improve the situation by formal rules, but also through additional voluntary collaboration, vertical coordination, that goes “beyond compliance.” However, one needs to be wary of “immiserizing upgrading”, a process whereby improved chain-linked activities enhance livelihoods, but livelihoods are simultaneously affected in negative ways in other dimensions with a negative net result, as was observed among tea smallholders in Nepal (Mohan, 2016). Thus achieving sustained improvements in tea based livelihoods remains challenging, particularly in remote and peripheral areas where dominant chain actors are the driving force behind vicious cycles of rural inequality.

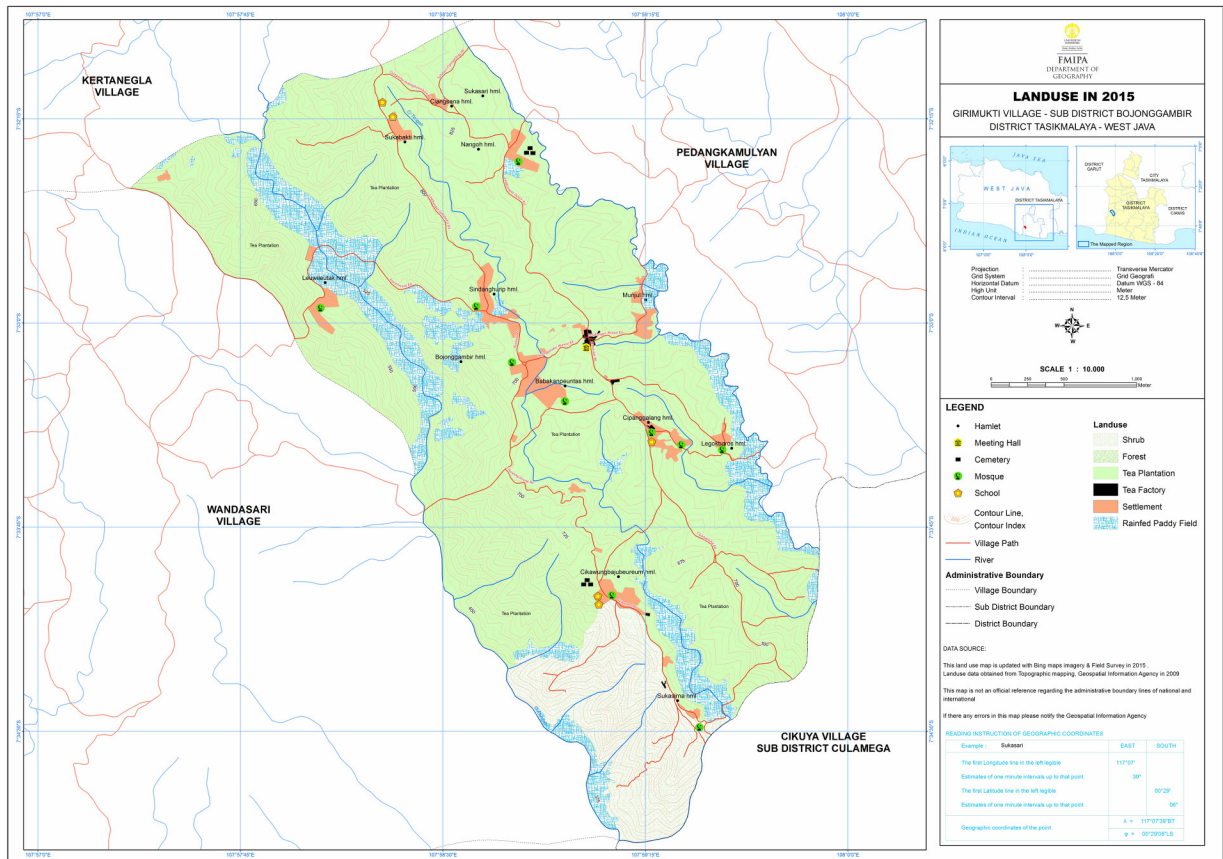
## References

- ADB (2015). *Key Indicators for Asia and the Pacific*. ADB, Mandaluyong City.
- Andriessse, E. (2014). A comparison of rubber smallholder livelihoods in Cambodia and Laos. *The Southeast Asian Review*, 24 (2), 167–206.
- Andriessse, E. & Lee, Z. (2017). Viable insertion in agribusiness value chains? Seaweed farming after typhoon Yolanda (Haiyan) in Iloilo, Philippines. *Singapore Journal of Tropical Geography*, 38, 25–40.
- Bangkok Post (2016a). Drought may result in 62Bn in damages. Bangkok Post, 3 February 2016.
- Bangkok Post (2016b). El Nino begins decline after ‘powerful impact’: UN. Bangkok Post, 18 February 2016.
- Borah, K. & Das, A. (2015). Growth of small tea cultivation and economic independence of the indigenous people of Assam. *International Journal of Research in Social Sciences and Humanities*, 5 (1), 82–93.
- BPS (2015). *Perkembangan beberapa indikator utama sosial ekonomi Indonesia (Trends of the selected socio-economic indicators of Indonesia)*. BPS, Jakarta.
- Castella, J. & Bouahom, B. (2014). Farmer cooperatives are the missing link to meet market demands in Laos. *Development in Practice*, 24 (2), 185–198. doi: 10.1080/09614524.2014.885495.
- Challies, E. & Murray, W. (2011). The interaction of global value chains and smallholder raspberry growers in Chile. *Journal of Agrarian Change*, 11 (1), 29–59. doi:10.1111/j.1471-0366.2010.00282.x.
- Channel News Asia (2015). Seaweed farmers in the Philippines face battle with El Nino. Available at: <http://www.channelnewsasia.com/news/asiapacific/seaweed-farmers-in/1915838.html> (last accessed: 02.08.2015).
- Choi, W. & Andriessse, E. (2014). Value chains and regional middle income traps: The case of the upstream sugar industry in Northeastern Thailand. *Journal of the Economic Geographical Society of Korea*, 17 (4), 817–831.
- FAO (2014). Current market situation and medium term outlook. Presentation during the intergovernmental group on tea, twenty-first session. Bandung, 5–7 November 2014.
- Food Navigator-Asia (2016). Sri Lankan tea and rubber smallholders to gain from IFAD loan. Available at: <http://www.globenewswire.com/news-release/2016/09/28/875229/0/en/Global-Tea-Market-is-expected-to-reach-USD-47-20-billion-by-2020-Owing-to-Increasing-Popularity-of-Green-Tea-Worldwide-TMR.html> (last accessed: 02.10.2016).
- Global News Wire (2016). Global tea market is expected to reach USD 47.20 by 2020. <http://www.globenewswire.com/news-release/2016/09/28/875229/0/en/Global-Tea-Market-is-expected-to-reach-USD-47-20-billion-by-2020-Owing-to-Increasing-Popularity-of-Green-Tea-Worldwide-TMR.html>. (last accessed: 02.10.2016).

- Godfrey, S. (2015). Global, regional and domestic apparel value chains in Southern Africa: Social upgrading for some and downgrading for others. *Cambridge Journal of Regions, Economy and Society*, 8 (3), 491–504. doi:10.1093/cjres/rsv018.
- Guarín, A. (2013). The value of domestic supply chains: Producers, wholesalers, and urban consumers in Colombia. *Development Policy Review*, 31 (5), 511–530. doi:10.1111/dpr.12023.
- IFAD (n.d.). The sustainable livelihoods approach. Available at: <http://www.ifad.org/sla/> (last accessed: 09.12.2015).
- Indonesia-Investments (2013). Falling production & growing imports: Revitalizing the Indonesian tea sector. Available at: <http://www.indonesia-investments.com/nl/tag/item31?tag=2418> (last accessed: 15.01.2016).
- Ingram, V., Ndumbe, L. & Ewane, M. (2012). Small scale, high volume: *Gnetum africanum* and *buchholzianum* value chains in Cameroon. *Small-Scale Forestry*, 11 (4), 539–556. doi:10.1007/s11842-012-9200-8.
- IPCC (2014). Summary for policymakers. In: IPCC Climate Change 2014: Impacts, adaptation, and vulnerability. Part A: global and sectoral aspects. Contribution of working group II to the fifth assessment report of the intergovernmental panel on climate change. pp. 1–32, Cambridge University Press, Cambridge.
- Jakarta Globe (2015). Indonesia's tea exports hit hard by drought: Tea Council. Jakarta Globe, 5 December 2015.
- Jakarta Post (2015). El Niño inches toward monster level of 1997. Jakarta Post, 19 August 2015.
- Jakarta Post (2016). Mitigating El Niño effect on poverty in Indonesia. Jakarta Post, 2 February 2016.
- Loconto, A. (2015). Assembling governance: the role of standards in the Tanzanian tea industry. *Journal of Cleaner Production*, 107, 64–73.
- McMichael, P. (2013). Value chain agriculture and debt relations. *Third World Quarterly*, 34 (4), 671–690. doi:10.1080/01436597.2013.786290.
- Ministry of Agriculture and Indonesian Tea Board (2014). Indonesia tea smallholders. Presentation during the intergovernmental group on tea, twenty-first session. Bandung, 5–7 November 2014.
- Mitchell, J. & Coles, C. (eds.) (2011). *Markets and Rural Poverty. Upgrading in Value Chains*. Earthscan, Abingdon and New York.
- Mohan, S. (2016). Institutional change in value chains: Evidence from tea in Nepal. *World Development*, 78, 52–65.
- Neilson, J. & Pritchard, B. (2009). *Value chain struggles: Institutions and governance in the plantation districts of South India*. Wiley-Blackwell.
- Neilson, J. & Shonk, F. (2014). Chained to development? Livelihoods and global value chains in the coffee-producing Toraja region of Indonesia. *Australian Geographer*, 45 (3), 269–288. doi: 10.1080/00049182.2014.929998.
- Noy, I. (2014). Natural disasters and economic policy for the Pacific Rim. In: Kaur, I. & Singh, N. (eds.), *Oxford Handbook of the Economics of the Pacific Rim*. pp. 82–103, Oxford University Press.
- Oxfam (2013). Understanding wage issues in the tea industry. Available at: [https://www.oxfam.org/sites/www.oxfam.org/files/file\\_attachments/oxfam\\_etp\\_understanding\\_wage\\_issues\\_in\\_the\\_tea\\_industry\\_1.pdf](https://www.oxfam.org/sites/www.oxfam.org/files/file_attachments/oxfam_etp_understanding_wage_issues_in_the_tea_industry_1.pdf) (last accessed: 03.02.2016).
- Perera, P. (2014). Tea smallholders in Sri Lanka: Issues and challenges in remote areas. *International Journal of Business and Social Science*, 5 (12), 107–117.
- Reardon, T., Stringer, R., Timmer, P., Minot, N. & Daryanto, A. (2015). Transformation of Indonesian agrifood system and the future beyond rice: A special issue. *Bulletin of Indonesian Economic Studies*, 51 (3), 369–373. doi: 10.1080/00074918.2015.1111827.
- Rigg, J., Salamanca, A. & Thompson, E. (2016). The puzzle of East and Southeast Asia's persistent smallholder. *Journal of Rural Studies*, 43, 118–133. doi: 10.1016/j.jrurstud.2015.11.003.
- Rigg, J. & Vandergeest, P. (2012). *Revisiting Rural Places: Pathways to Poverty and Prosperity*. University of Hawai'i Press, Honolulu.
- Rola, A. (2011). *An Upland Community in Transition: Institutional Innovations for Sustainable Development in rural Philippines*. SEARCA, Los Baños and ISEAS, Singapore.
- Rutten, M. (2003). *Rural Capitalists in Asia: A Comparative Analysis of India, Indonesia and Malaysia*. Routledge Curzon.

- Santosa, E., Sugiyama, N., Nakata, M., Kawabata, S. & Kubota, N. (2005). Cultivation of the Japanese permission in West Java, Indonesia. *Japanese Journal of Tropical Agriculture*, 49, 220–226.
- Scoones, I. (2009). Livelihoods perspectives and rural development. *Journal of Peasant Studies*, 36(1), 171–196. doi:10.1080/03066150902820503.
- Sita, K. (2015). Socio economic characteristics and its effect to tea farming management behavior of tea smallholders in West Java Province. *Indonesian Journal of Tea and Cinchona Research*, 18(2), 169–180.
- Soederberg, S. (2012). The Mexican debtfare state: Micro-lending, dispossession and the surplus population. *Globalizations*, 9(4), 561–575. doi: 10.1080/14747731.2012.699932.
- Suprihatini, R. (2015). Supply chain analysis of Indonesian tea. *Journal of Tea and Cinchona Research*, 18(2), 107–118.
- Tomsa, D. (2015). Toning down the ‘big bang’: The politics of decentralisation during the Yudhoyono years. In: Aspinall, E., Mietzner, M. & Tomsa, D. (eds.), *The Yudhoyono Presidency: Indonesia’s Decade of Stability and Stagnation*. pp. 155–174, ISEAS, Singapore.
- World Bank (2015). Indonesia context. Available at: <http://www.worldbank.org/en/country/indonesia/overview> (last accessed: 06.02.2016).

Appendix: Girimukti Village in West Java, Indonesia



Source: Department of Geography, Universitas Indonesia