Uncovering smallholder heterogeneity

An analysis of diverging livelihood trajectories and outcomes of engagement in tree-crop value chains in Ghana

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Chapter 7

Conclusions and reflections
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7.1 Introduction

VCCs are becoming major policy routes for addressing smallholders’ production and marketing constraints, especially in high-potential commodity crops such as cocoa and oil palm. While providing advantages for some (Bitzer 2011; Kilelu et al. 2017; Ros-Tonen et al. 2015, 2019), VCCs involve risks for others (Hickey & du Toit 2011; Said-Allsopp & Tallontire 2015; Tobin et al. 2016; Donovan et al. 2016; Kilelu et al. 2017) (see Chapters 1, 3, 6). A key factor contributing to adverse inclusion is the lack of a farmer-centred approach and deficient insight into smallholder heterogeneity, different contexts of VCCs, diverging livelihood trajectories and consequences of VCCs for food and nutrition security and dimensions of food sovereignty. These knowledge gaps led to the following central research question: How do the context of VCCs, smallholders’ profiles, and livelihood trajectories affect farmers’ engagement in value chain collaborations (VCCs), and what are the implications for smallholder households’ food and nutrition security (FNS)? The analysis is based on a farmer-centred livelihood perspective emphasizing VCCs as livelihood opportunities and farmers’ engagement in cocoa and oil palm farming, VCCs, and other non-farm activities as a livelihood choice (see Chapter 1). Thus, the context of production and VCCs, farmers’ profiles, livelihood trajectories, and livelihood outcomes (focused in this thesis on food and nutrition security) are considered critical for understanding the engagement and inclusivity of VCCs for smallholders.

In this chapter, I synthesize the findings of this study (see 7.2), reflect on the theoretical contributions (see 7.3), address the methodological limitations (see 7.3), and formulate suggestions for further research (see 7.4) and policy recommendations (see 7.5).

7.2 Synthesis of the findings

The following subsections answer the sub-questions (see 7.2.1-7.2.4) and the overall research question (see 7.4.5).

7.2.1 The institutional environment

Chapter 3 unravelled the policy environment within which VCCs and farmer engagement occur, addressing the research question: (i) How do Ghana’s agricultural, smallholder, and tree-crop policies promote smallholder engagement in VCCs?

I found that tree-crop policies are harmonized with Ghana’s national policies that seek economic development through a modernized smallholder agriculture sector. These policies emphasize collaborative development through public-private-producer partnerships as key strategies to make markets and value chains work for smallholders. Since 2017, the policy environment has gradually shifted from explicitly promoting VCCs with individual smallholders to employment creation for youth, partnerships
with farmer-based organizations (FBOs), and smallholder engagement in contract farming and outgrower schemes. This has led to some government facilitation of value chain collaborations in both the cocoa and oil palm sectors. However, the government’s role in VCCs is limited to promoting VCCs and facilitating smallholders’ involvement and benefits. The promotion of PPPs is shifting towards infrastructural development and public service delivery, which leaves agricultural PPPs without proper facilitation, monitoring, and evaluation from the government and other brokers of farmer interests. This is detrimental to the inclusion of vulnerable farmers, as confirmed in Chapters 5 and 6 (synthesized in 7.2.3 and 7.2.4). The analysis showed that particularly landless and single tree-crop households bear a risk of being excluded from VCCs because of a lack of land or tenure security (see Chapters 3 and 4) or becoming adversely included because their productivity is too low to pay back advanced inputs or loans (see Chapters 3 and 4). Hence, the focus on FBOs, contract farming and outgrower schemes mainly benefits a small group of better-off farmers with the assets and productive capacity to meet the conditions for engagement in extended and advanced VCCs (see 3.6.1 and Chapter 4). This leaves vulnerable farmers with limited prospects to engage in VCCs that offer greater benefits, including innovations and sustainable practices for modernized farming. Moreover, the passive role of government in VCCs results in a lack of alignment of input provision by the public and private sectors to cocoa farmers specifically. This frustrates VCCs as farmers do not want to pay for inputs they receive free from the government, even though this provision is unreliable and deficient (see 3.6.1). In summary, the policy shift neither favours the promotion of VCCs nor the inclusivity of VCC engagement for most smallholders.

The second part of Chapter 3 addressed the following research questions: (i) Which types of value chain collaborations can be found in Ghana’s cocoa and oil palm sectors, and what are their scope and actor constellations? (ii) How do formal and informal institutions mediate farmers’ inclusion in the different forms of VCC? (iii) How do these institutions interact in creating opportunities and constraints for smallholders’ inclusion in or exclusion from VCCs?

I found three variants of VCCs with smallholders in the cocoa and oil palm sectors, differing in actor constellations and scope of operation (see 3.6.2). The broader the scope, the more complex the institutional configuration that determines inclusion, risks, and benefits. Their diversity offers different entry points for VCC engagement among smallholders, creating opportunities for selective engagement and even simultaneous engagement in multiple VCCs in the cocoa sector. However, the risks and benefits of engagement are unevenly spread across VCCs and farming household types. Basic VCCs appear open to all farming households, and there is widespread engagement in this form of VCC across all profiles (see 4.5.5). Farmers mainly depend on basic VCCs for
credit, especially in the cocoa off-season. Generally, the more beneficial VCCs target better-off farming households with sufficient land and assets. These are extended VCCs providing inputs and credits and advanced VCCs that additionally provide capacity building, livelihood programmes, sustainability practices, and certification premiums. As shown in Chapter 5, the diversity, size and quality of a household's livelihood portfolio determine whether they are adversely or positively included in a VCC. The better-off smallholder households can opt out if they consider the risks of engagement too high or the benefits too limited (see 3.4.3). In the oil palm sector, VCCs demand exclusivity, preventing engagement in multiple VCCs (see 3.6.2).

However, some households were able to navigate the system by taking advantage of processing the loose palm fruits rejected by VCC buyers, leading to the creation of small-scale palm oil processing units (Kramers) for value addition by some smallholders (see 5.4.3). These Kramers can potentially increase farmers' incomes substantially, leading them to growth-oriented livelihood trajectories and accumulation (see Chapter 6). Here again, it is the better-off farmers who are able to take advantage of processing palm fruits from their own farms and those of others.

Regarding differences in actor constellations, I found that VCCs are more private-led than public-led (see 3.6.2). Although the Ghanaian government plays a vital role in the cocoa sector, it is hardly involved in VCCs. In both sectors, the government could support vulnerable smallholders more proactively through free instead of credited inputs (see 7.6.3), as these groups do not meet the requirements for engagement in extended and advanced VCCs (see 4.5.5). Presently, even the policy-facilitated VCCs such as the Buabin Oil Palm Project (BOPOP) target the ‘low-hanging fruit’ given their 2-acre (0.8 ha) land and own labour requirements (see 3.4.3).

Institutions are key mediators conditioning farmers’ engagement in the three types of VCCs in both sectors and the associated socioeconomic benefits and risks. Formal and informal institutions steer smallholders’ VCC engagement and determine the terms of this engagement. In basic VCCs, informal institutions – trust, reciprocity, and gender norms – tend to prevail. With the increasing complexity of VCCs, institutions become more formal, such as the requirement of farm or land ownership of a specific size, land titles, and contractual arrangements that define the parties’ responsibilities. However, the effect of institutions on farmers’ engagement in VCCs is best understood as the interplay between formal and informal institutions, which creates opportunities for some farmers and may lead to adverse inclusion for others. For instance, while gender was not a condition for engagement in any of the VCCs, access to land is gendered, particularly affecting women’s households’ opportunity for engagement. Targeting farm- and landowners and productive farms in the cocoa sector also excludes the landless farmers who are caretakers or sharecroppers under abunu/abusa arrangements.
It can be concluded that the varied VCCs affect farmers differently, as mediating institutions may interact to create exclusion, inclusion, adverse inclusion, selective, and even multiple engagements.

7.2.2 Farmer heterogeneity and household profiles

Chapter 5 answered the research question: **How do smallholder tree-crop farming households in Ghana differ, what socioeconomic profiles can be identified, and how do they impact smallholders’ engagement in VCCs?** This question was based on the assumption that smallholders’ inclusion in VCCs can be enhanced if their heterogeneity in terms of constraints, opportunities, and aspirations is better understood.

By integrating farmers’ self-profiling and statistical cluster analysis, Chapter 5 revealed that smallholder cocoa and oil palm farmers differ based on several socioeconomic characteristics. The primary distinguishing variables are land ownership and the diversity of the tree crops they grow. This reflects the socioeconomic context of tree-crop farming in which access to fertile land and the relatively high incomes tree crops provide compared to food-crop farming and most local economic activities pull farmers into the sector. Using farm characteristics like land ownership and crop diversity in the statistical analysis offered a clearer distinction among farming households than basing the analysis on individual farmer characteristics such as gender or time dedicated to farming. Taking farming households as the unit of analysis rather than individual farmers also fits the family nature of farming in Ghana better than an individual approach and provides a better and more relevant understanding of differences across households and corresponding needs for support.

I identified four distinct household profiles among tree-crop farmers: landless, single tree-crop, multiple tree-crop, and absentee farming households. Each profile is socio-economically different, with the landless households appearing as poor workers for other farming households. The single-tree crop households are farm owners but mostly constrained, especially in (re)investing in their farms (see Chapter 6), while the multiple tree-crop households are farm owners and generally better off. The absentee households appear as non-functional owners of farms worked by landless households, although some were also still actively involved in especially food-crop farming in a Mmaafuo (women’s farm) (see Chapter 6). I found a household can transition from one profile to another (see Chapter 4), so belonging to a particular profile may be transient. As demonstrated in Chapter 5, some landless households had moved to the single-tree crop and even multiple tree-crop profile or had prospects of doing so with time. Some households showed variegated profiles as they combined single tree-crop farming with caretaking or sharecropping. Chapter 6 revealed this as an expansion or growth-oriented
strategy for most households. This finding supports the notion that profiles are not just a static snapshot of the smallholder farming sector but reveal patterns in time and space.

Lastly, the findings show that a household’s profile greatly affects their engagement in VCCs and that engagement in VCCs differs across profiles. Without their own land, they cannot meet the land/farm ownership requirement for extended and advanced VCCs, and the landless are therefore constrained to basic VCCs. Being much more open to farmers of all sorts (see Chapter 4), not only landless households but all households showed widespread engagement in basic VCCs. This underlines the importance of the benefits they provide to tree-crop farmers, especially loans in the off-season (see Chapter 6).

I observed limited participation in extended and advanced VCCs, particularly among the landless and single tree-crop households, owing to a lack of land or farm ownership and the inability to meet strict terms and conditions in these VCCs (see Chapter 4). Only some multiple tree-crop and absentee farming households meet the terms of the more beneficial VCCs (see Chapter 6) and could be termed the ‘low-hanging fruits’, who are often the target of VCCs and can selectively engage as they wish.

Hence, I conclude that the differences across farming households translate into profiles defined primarily by land and farm ownership and tree-crop diversity. These profiles and associated socioeconomic differences significantly impact farmers’ ability and motivation to engage in VCC. Companies favour multiple tree-crop households, and for most landless and single tree-crop households, engagement in any VCC may lead to adverse inclusion.

7.2.3 Farmers’ livelihood trajectories
Chapter 5 unravelled farmers’ livelihoods over time, revealing the dynamics across profiles, their engagement in farming, VCCs, and non-farm activities and the implications for their current and future livelihoods. It addressed the questions: (i) How do smallholder household profiles and livelihood trajectories evolve for each smallholder tree-crop farming household profile? and (ii) What factors (opportunities, constraints, and aspirations) determine these livelihood trajectories?

The findings explain the dynamics of household profiles and show that these profiles originate from similar backgrounds but diverge due to differences in access to land and livelihood portfolios, which are the primary determinants of accumulation. The dynamics in the household profiles point to the unequal access to land for tree-crop farming and the opportunities created by the changing trends in customary land acquisition. Though some had acquired their farms from family or through purchase or inheritance, caretaking and share arrangements (abunu and abusa) were an unexpected source of farm ownership in the past and present. Land and farm acquisition through
abunu and abusa is a critical route into tree-crop farming and expansion for landless and land-constrained farmers— even households with abundant land use sharecroppers as labourers to expand and diversify their farms. Land-sharing arrangements are thus shaping household profiles now and in the future.

Beyond access to land and tree-crop farming, the nature of livelihood diversification into other farming and non-farming activities differentiates and explains the dynamics in household profiles. I categorized livelihood diversification into a low, medium, and high profile, the relative importance of each depending on the income and capacity to pursue survival- or growth-oriented trajectories. Survival-oriented households have a low-income capacity, limited land access, opportunities for expansion, and no prospects for accumulation compared to growth-oriented households. They often prioritize household needs over farm investment.

Based on these survival and growth trajectories, I categorize the farming households by merging the previous categorizations by Doward et al. (2009) and Olofsson (2020) as 'hanging in', 'inching up', 'stepping up', and 'stepping out' trajectories. I demonstrate that the landless households, a large section of single tree-crop households, and (very) few multiple tree-crop households are in the survival trajectory and ‘hanging in’, merely maintaining their farms and combining this with low-to medium-profile activities. These represented 21% of the sample. Their trajectory can be described as static, with very limited prospects for growth and accumulation.

With a limited number of landless households and few single tree-crop households, 25% could be placed in a growth-oriented ‘inching up’ trajectory as they aspire for expansion and diversification. These households appear to have a better income capacity than those in the 'hanging in' trajectory, but this is likely to remain an aspiration given that their dream depends on VCC engagement or sharecropping. Some households managed to ‘step up’ to the multiple tree-crop household profile in the past or recently. However, ‘stepping up’ in the future is likely limited to about 8% of the households consisting of a few expansion-oriented single and multiple tree-crop households with the land, labour, and income for expansion and diversification into more rewarding livelihood activities. Finally, a large section of households, 46% from the different profiles have recently ‘stepped out’ of tree-crop farming, and many aspire to step out in the near future. These constitute the absentee farming households and households that have shifted their focus from tree-crop farming to high-profile livelihood activities like managing a provision store that they consider better than tree-crop farming.

The various trajectories create different opportunities and constraints regarding farmers’ access to government and VCC support. Constraints are the largest for the ‘hanging in’ category, as they are not recognized as ‘real’ farmers, or their farms are not yet at productive stages or yielding well. These households often lack access to the inputs,
credits, and adequate extension services necessary for ‘stepping up’ and face uncertainty over their tenure rights. For the ‘stepping up’ category, consisting of some single and multiple tree-crop households with access to land, labour, credit, high-income capacity, and social networks, access to VCCs was a major opportunity that allowed them to step up. However, VCCs do not meet the needs of multiple tree-crop farm households that generally also want to invest in small businesses (see Chapter 5).

Many landless and single-crop households aspire to engage in extended and advanced VCCs as a stepping stone to a more solid profile in the future (see Chapter 5). However, only a few will likely be able to do so without losing autonomy or becoming indebted. Many of these households depend on government support, but this support excludes landless farmers for the reasons mentioned in the previous paragraph.

Thus, among households aspiring to ‘step up,’ only a few have the prospect of becoming ‘real’ entrepreneurial households. Among households ‘stepping out,’ age, gender, and health are the biggest constraints to beneficial VCCs as they are often older, females, or in poor health. However, they employ caretakers, engage in sharecropping arrangements, and have the time to undertake high-profile non-farm activities, thus creating opportunities to expand their farm with or without VCC support.

Though all households initially aspire to engage in tree-crop farming as a relatively good livelihood opportunity, the livelihood trajectories eventually end in a non-farming livelihood source, with tree-crop farming as a stepping stone to invest in more profitable non-farm activities. Tree-crop farming in itself offers poor prospects for a better life, and for most households, especially in the cocoa sector, the aspiration remains to keep the farm as an inheritance for their children, whom they aspire to educate for better jobs outside farming. This aspiration is a constraint in itself, as the costs for children’s education impede farm (re)investments and thus higher returns.

In summary, specific livelihood opportunities, constraints, and aspirations keep most profiles in a survival-oriented modus, except for a few growth-oriented households. The majority of growth-oriented households are in the multiple tree-crop profile. Again, the distinguishing factor between survival-oriented and growth-oriented households appears to be access to land and the income capacity to (re)invest in the farm and expand or diversify. However, other factors also influence the trajectories followed, including access to VCCs and government support, availability of family labour, age, gender, and health. The analysis also revealed that owning a cocoa farm rather than farming itself is part of smallholders’ lifestyle and identity. Eventually, the accumulated capital is used to invest in more profitable non-farm businesses. Though farmers anticipate higher income and better livelihoods from tree-crop farming, its ability to offer better livelihoods remains very limited.
7.2.4 Food and nutrition security from a food and nutrition security and sovereignty perspective

Finally, Chapter 6 addressed the implications of tree-crop farming and engagement in VCCs on household food and nutrition security (FNS). I analysed this from a food and nutrition security and food sovereignty perspective. The chapter addressed the questions: (i) How does the food and nutrition security (FNS) of smallholder tree-crop farm households differ across profiles, and how can these differences be explained? (ii) How does FNS differ between cocoa and oil palm farmers, and how can these differences be explained? (iii) What changes in food production and FNS have farmers experienced over the past decades, and how can these changes be explained? And (iv) What are farmers’ perspectives regarding autonomy and the sustainability of food and agricultural production?

I found that all households produce and largely depend on their own production for their household FNS. Food production primarily occurs through intercropping in tree-crop farms, which occurred more among landless households than in other households. Although landless households do not own land, most of them are sharecroppers making new tree-crop farms, allowing them to interplant food crops (see Chapters 5 and 6). Intercropping food is less of an option for single tree-crop households whose tree crops are in full production. Food-crop production in designated food-crop farms (Mmaafuo or women’s farms) appears to be decreasing but remains high among absentee households and occurs to a lesser extent among the landless. For the landless, food-crop production arrangements are often available under sharecropping arrangements with the land or farm owner, as also seen by Olofsson (2023) in South Africa. Production of primary food crops such as plantain, cassava, cocoyam, and peppers, and the rearing of small stock and poultry are high among all households and generate some income from surplus for some, with no significant differences across profiles. Caretakers often keep small stock through 'keep & share' arrangements with the landowner (see 5.2.1).

Farmers’ food production and income from tree crops ensured sufficient FNS and dietary diversity during most of the year (see Tables 6.7 and 6.10), but seasonal food insecurity was widespread during the survey period. During June and July, the months before the cocoa harvest, when income from tree crops is lower and fewer food crops are available, 58% of the households in all profiles except the multiple tree-crop households experienced food insecurity. Of those, 26% were mildly food insecure, 42% moderately food insecure, and 32%, notably single tree-crop households, severely food insecure (see 6.2). Multiple tree-crop households had sufficient income capacity (see Chapters 4-6) to supplement their own production with food from markets. However, their dietary diversity did not significantly differ from other profiles, as they spent incomes on ‘luxury’ food (e.g. perfumed rice or instant noodles) or household expenses other than food, such as school fees (see Chapter 6).
Due to the low number of households in the survey growing oil palm only, no firm statements can be made about differences in FNS between oil palm- and cocoa-farming households. However, findings in Chapter 7 cautiously suggest that growing oil palm only, particularly in outgrower schemes, may have detrimental effects on a household’s FNS. Reasons include that these farmers have no autonomy or permission to intercrop food crops in oil palm farms and face long-term indebtedness owing to their engagement in outgrower schemes (see Chapter 6).

Geographical differences in FNS were observed, too. Notably, the Dunkwa and Kade areas have seen significant shifts in land use in the past decades, with expanding tree crops and mining activities and a substantial reduction in fallow lands that used to be reserved for food-crop production. Intercropping farming systems appear to be the only way to sustain food production now and in the future, as farmers anticipate that fallow lands and *Mmaafiwo* food-crop farms will gradually disappear. Similarly, deforestation and the reduction of fallow land reduced food from the wild such as fruits (e.g. mangoes), mushrooms, and crabs, which helped many households to endure the severe seasonal food insecurity from January until the peak in June-July.

Three research findings hint at the importance of considering dimensions of food sovereignty. The first refers to the availability of culturally appropriate food. In this regard, I found a generational shift in food preferences, with older people recognizing the traditional *fufu* as the only proper food, whereas their children prefer rice, which they have to buy from the food market as rice hardly forms part of households’ own production (see Chapter 7).

Second, autonomy over production, marketing, and consumption is an important point to consider. Cocoa farmers in the Tepa area were generally autonomous in their crops, sales, and expenditure decisions. In this context, decisions are generally taken by the household head or jointly by the head and spouse. However, households lose their autonomy when they become dependent on hybrid seeds and seedlings. This affects households’ income capacity to supplement their food needs as more money is needed to buy hybrid seeds and keep the farm productive. As mentioned above regarding households engaged in outgrower schemes, smallholder households’ autonomy also decreases to varying degrees when engaging in VCCs.

Third, sustainability dimensions receive attention mainly in advanced VCCs to meet certification standards. However, many farmers are excluded from this type of VCC (see Chapters 4 and 5). Chapter 7 showed that farmers are currently more concerned about their food safety than the sustainability of their practices due to the widespread use of agrochemicals.

In summary, I conclude that FNS depends on households’ own food production and income capacity to buy food from markets and that multiple tree-crop farmers
were the most food secure and single-crop households the least. Except for the multiple tree-crop households, all other profiles faced seasonal food insecurity despite their own production. Differences between cocoa and oil palm farmers were hard to establish, but the limited evidence suggests that oil palm households in outgrower schemes lose autonomy over production, adversely affecting their FNS. Perceived changes in the past decades indicate trade-offs between tree-crop expansion and food production, access to wild foods, and fallow lands, with possible negative effects on household FNS. Whereas intercropping may sustain some level of food-crop production, losses of provisioning ecosystem services (such as mushrooms that complement food and nutrition security) and threats to food safety are major risks to household FNS and long-term sustainability.

7.2.5 Uncovering smallholder heterogeneity: An analysis of diverging livelihood trajectories and outcomes of engagement in tree-crop value chains in Ghana

The central question guiding this thesis was, *How do various forms of value chain collaborations (VCCs) interact with heterogeneous smallholder profiles and livelihood trajectories, and what does this imply for the inclusivity of farmers’ VCC engagement and household food and nutrition security (FNS)?*

The study showed that various types of VCCs evolved in response to Ghana’s policies to modernize agriculture by integrating smallholders into high-value commodity value chains. Whereas basic VCCs already existed, extended and advanced forms with increasing scope and institutional complexity emerged. Recent policy shifts from focusing on smallholders to focusing on FBOs and PPPs for infrastructural development and public service delivery signify a lack of synergy between the policy environment and existing VCCs. Considering the lack of autonomy of most FBOs and smallholders’ dependence on public and VCC support, deficient government backing will further marginalize the most vulnerable tree-crop farming households due to their exclusion or adverse inclusion in VCCs (see Chapters 3 and 5). These processes are exacerbated by the interplay between formal institutions and context-specific informal institutions defining the terms of VCC engagement (see Chapter 3).

The emerging conditions for engagement in the more beneficial extended and advanced VCCs favour multiple tree-crop households with more land and financial means and growth aspirations than landless farmers and women and youth with less access to land and means of production (see Chapters 4 and 5). The landless and single tree-crop households are the most susceptible to adverse inclusion given their lack of or limited land access, tenure security, low-profile livelihood portfolio and low-income capacity (see Chapters 4 and 5). Basic VCCs are the most open and inclusive form of VCC (see Chapter 3), explaining the widespread engagement across all household profiles (see Chapter 4). However, even engagement in basic VCCs can lead to adverse inclusion
if households become indebted to other actors in the VCCs and lose their autonomy (see Chapters 3 and 5). This implies that many landless and constrained single tree-crop households are not able to fulfil their farm and livelihood needs and that they are ‘hanging in’ in a survival-oriented trajectory. However, despite the evidence of exclusion and adverse inclusion, most smallholders desire to engage in VCCs as they consider these a way to obtain credit and an opportunity for growth and expansion (see Chapters 4 and 5).

The stronger position of multiple tree-crop households allows them to strategically and selectively engage in multiple value chains without becoming indebted or losing autonomy over their farms (see Chapter 5). This places them in the growth-oriented trajectory of households that have ‘stepped up’ or are likely to ‘step up’ in the future (see Chapter 5). Most landless and single tree-crop households are unable to meet the stringent entry requirements and production and investment guidelines of VCCs and hence unable to meet the expected yields (see Chapters 4 and 5). Such households are primarily survival-oriented, with the majority ‘hanging in’ or ending up in the ‘inching up’ trajectory (see Chapter 5). With this, engagement in tree-crop value chains has become a disappointing opportunity for many smallholder households but rather a good stepping stone into more profitable off-farm activities that increase accumulation prospects, resulting in a growing group of absentee tree-crop farming households (see Chapter 5).

The implications for household FNS are ambiguous. Overall, tree-crop farmers are food secure by combining their own production with food from the market but face seasonal food insecurity in the months before harvesting tree and food crops. They thus experience widespread seasonal food insecurity in June and July. Total household food and nutrition security thus requires own food production and the income capacity to access food from markets. Due to increasing pressure on fallow and food-crop land from expanding tree-crop farms and plantations, households increasingly produce food through intercropping in young cocoa farms. Where a household is prohibited from interplanting food crops in tree-crop farms, as in outgrower schemes, or becomes indebted to VCC actors and loses income capacity to buy food from markets, VCCs may compromise household FNS. High incomes do not necessarily lead to better nutrition as incomes could be spent on ‘luxury foods’ (see Chapter 6) or other household expenses such as school fees (see Chapter 5), resulting in similar dietary diversity across all household profiles.

7.3 Theoretical reflection

Inclusive value chains provide several lenses through which inclusiveness for smallholders can be analysed (Ros-Tonen et al. 2019). Several studies focus on increasing the reach
and gains of value chains and partnerships (World Bank 2007; Barrett, 2008; Bitzer 2011; Arias et al., 2013, IFAD 2016b), upgrading and value chain governance (Laven 2010; Bitzer et al. 2009; Bitzer 2011; Vorley et al. 2012). However, many of these studies project inclusiveness as a one-way defined outcome and fail to align with farmers’ diverse livelihood needs, strategies, and vulnerability contexts (Bolwig et al., 2010; Laven 2010; Ros-Tonen et al. 2019). In so doing, they fail to accommodate heterogeneity among smallholders, VCCs, contexts, opportunities, constraints, and aspirations. Thus, they provide a limited understanding of the processes of smallholders’ inclusion, adverse inclusion, and exclusion. In this study, I applied a farmer-centred livelihood perspective that takes the farmer instead of the value chain as a starting point drawing on three theoretical stands (see 7.1). In this section, I reflect on the contributions made to each debate.

First, the livelihood perspective from a farmer-oriented approach allowed for refining the smallholder target group and detailing their realities, their agency in making livelihood choices leading to differentiated livelihood trajectories, and the environment of opportunities, constraints, and aspirations within which they exercise such agencies (de Haan 2012). In doing so, this thesis moved beyond the numbers of smallholders participating in VCCs to analyse what VCCs exist, who is involved and excluded, and who benefits and loses from VCCs. The approach offered a comprehensive insight into how smallholder households’ profiles and trajectories have emerged, what factors have accounted for their stagnation or growth and their plausible futures. I found three prototypes of VCCs (see Chapter 3) and four unique smallholder farming household profiles (see Chapter 4). I uncovered that smallholders’ inclusion is particularly linked to the importance of farm and non-farm livelihood diversification, their assets, and their vulnerability context. Local institutions guiding the different VCCs, particularly those at the local level determining access to land, interact with cultural norms related to trust, reciprocity and gender to exclude women and youth from VCCs as a livelihood opportunity (see Chapters 3 and 5). Access to assets such as land, labour, and social networks play important roles in farmers’ farm diversification and expansion. Household livelihood portfolio, access to VCCs, and government support particularly defined inclusion, growth, and accumulation and changes over time for different households (see Chapter 5). Although the farmer profiles presented in Chapter 4 appear to be relatively clearly delineated and static, the livelihood trajectories demonstrated this is not the case. Farmers’ livelihood trajectories are fluid, and farmers often transition between profiles. Considering the differences in assets and vulnerabilities, I argue that including all households in VCCs and doing so in an inclusive manner is illusive.

Second, the debate on value-chain collaboration, particularly public-private (-producer) partnerships (3Ps/4Ps), is promoted largely with tree-crop farmers to
increase their access to technology, inputs, credits, and markets, and several studies have been devoted to their implications (e.g. Bitzer 2011; Bitzer et al. 2013; Ros-Tonen et al. 2015; Ingram et al. 2018; Olofsson 2023). Positive VCC outcomes, such as improvement in farming households’ livelihood, food and nutrition security, and the environment, are emphasized (World Bank 2007; IFAD 2013; IFAD 2014; IFAD 2016a; FAO 2018). However, negative outcomes such as adverse and insensitive inclusion, loss of autonomy, and dietary diversity are also reported (Laven 2010; Ecker et al., 2012; Ofosu-Budu & Sarpong 2013; Greenberg, 2013). By identifying different VCCs and smallholder farming households, this study moved beyond the generalization of positive or negative impacts to specify who engages in what type of VCC, what risks they face, and what benefits they derive from VCC engagement. I found that each of the three VCC types has formal or informal institutions that determine farmers’ engagement in VCCs, which are reinforced by informal institutions such as gendered access to land. I found that the interplay between the terms and conditions of VCCs and local institutions limits inclusion for certain farmers, leading to exclusion and adverse inclusion (see Chapter 3). Smallholders recognize that different VCCs offer different benefits and risks. Many limit their engagement to basic VCCs due to their open inclusion and offering much-needed credit in the tree-crop off-seasons (see Chapter 4). However, multiple VCC types also offer smallholders alternatives and room to manoeuvre such that some can engage in multiple VCCs in the cocoa sector (see Chapter 3). I found inherent risks of loss of autonomy over production, marketing, consumption, and indebtedness in all VCCs (see Chapter 3), but how these risks play out depends very much on the quality of the livelihood portfolio of smallholder farming households engaging in the VCC (see Chapter 5). Chapter 5 reveals the importance of the smallholder tree-crop value chain and VCCs to households’ livelihood trajectories and that these farmers want to engage in VCCs as an opportunity for growth and accumulation. While this does not materialize for all, it becomes a stepping stone into what they consider profitable livelihoods, such as adding a provision store. Similar to the livelihood perspective, this farmer-centred approach towards analysing VCCs enriches the debate on smallholder inclusion in VCCs by providing a more holistic picture that considers the heterogeneity in VCCs and the roles they play for different farmer profiles, the institutional context, and the implications of value chain engagement.

Lastly, the debate on food and nutrition security is particularly relevant in understanding the outcome of households’ engagement in the tree-crop value chains and VCCs. However, the debate on food and nutrition security focuses mainly on consumption with little regard to production (Davis et al. 2016)\textsuperscript{84}, which is important

\begin{table}
\centering
\begin{tabular}{|c|c|}
\hline
\textbf{Table 1: VCC Types} & Description \\
\hline
Basic VCCs & Open inclusion, offering credit in the tree-crop off-seasons \\
\hline
Intermediate VCCs & Formally or informally determined engagement, offering credit and support during the tree-crop on-seasons \\
\hline
Advanced VCCs & Formal or informal institutions that determine engagement, offering credit and support throughout the tree-crop cycle \\
\hline
\end{tabular}
\end{table}

\textsuperscript{84} The growing literature on food systems is an exception (e.g. Posthumus et al. 2018; Fanzo et al. 2020; Brouwer et al. 2020; Guijt et al. 2021; Ruben et al. 2021; Ribero-Barros et al. 2022).

\textsuperscript{84}
for our complete understanding of household FNS and its environmental dimensions. Combining the food and nutrition security and food sovereignty concepts, household FNS, autonomy, and sustainability enabled me to assess FNS integrally and paint a more nuanced picture of the importance of smallholders’ tree-crop farming and VCCs to household food and nutrition security. However, I divert from the stand within the food sovereignty paradigm that condemns smallholder engagement in global value chains (Giménez & Altieri 2013), as the analysis made clear that smallholders aspire to engage in these value chains to ensure their FNS, which cannot be assured based on their own food production alone.

The three strands helped me gain insight into smallholders’ inclusion, exclusion and adverse inclusion in VCCs. It has particularly generated insights into what VCCs work for which farmers, how and why farmers are included, excluded, or adversely included in VCCs and the implication for household FNS. The overarching farmer-centred perspective enabled me to unravel the heterogeneity among smallholders and the varied processes of VCC inclusion, adverse inclusion, and exclusion. The revelation that many smallholder households are being excluded by VCCs’ terms and conditions or are being adversely included leads to questions on the connotation of the word ‘collaboration’ as the narrative appears to be more of a top-down intervention within which smallholders are beneficiaries.

7.4 Methodological reflection and limitations of the research
This study consistently used a mixed-method approach combining quantitative data with farmers’ lived experiences, perceptions, and aspirations. Such an approach enriched the narrative and proved useful in validating the data through triangulation. The annual learning platform presentations (see 2.3.3) with largely the same research participants and other key stakeholders also provided an opportunity for respondent validation and triangulation, ensuring overall data quality (see 2.9).

More specific methodological reflections refer to the four main components of this study. The first refers to the lack of rigorous policy analysis. In Chapter 4, I analysed whether and how Ghana’s main agricultural policies provided an enabling policy context for VCCs. I focused on the overall aim, specific aims regarding smallholders, and the visions of partnerships reflected in the policy documents. However, in doing so, I presented a simplified policy analysis, presenting only aspects relevant to the study and ignoring the underlying assumptions and the reasons why the government had changed its policy. Nor did I extensively analyse the policy instruments used in agricultural and smallholder policies.
Second, in the analysis of smallholder heterogeneity, I combined a cluster analysis with farmers’ self-identified profiles to unravel smallholder heterogeneity (see Chapter 5). This combination added value to existing typologies as self-profiling reveals a range of broader contextual, historical, and socio-economic factors that are largely obscured when using data-driven or conceptual approaches that underpin existing farmer profiles. The self-identified profiles revealed that existing profiles using access to land or wealth rankings (Chapter 3) might oversimplify the category of smallholders. For instance, the categories of caretakers, absentee farmers, and part-time farmers would be subsumed within the same category according to existing policy classifications despite the varied social, historical, and livelihood contexts that differentiate these groups. Moreover, focus group discussions on the self-identified profiles revealed that households could simultaneously belong to multiple profiles. These and other insights are important variations masked in data-driven approaches. Overlooking such nuances when targeting smallholder tree-crop farmers for VCCs can lead to exclusion, adverse inclusion and insensitive inclusion, thereby rendering VCCs and government support ineffective.

However, a key issue in using cluster analysis is finding the optimal number of clusters to be derived from the data. Whereas this issue is addressed in the two-step cluster analysis (Mooi & Sarstedt 2011), a lot is still left to the researcher’s discretion to determine a satisfactory solution. Categorical variables appeared to have been prioritized in the final cluster solution, and this is typical of cluster analysis as categorical variables are given higher weightings. The two-step cluster analysis, which handles mixed data, prevented this to some extent (Mooi & Sarstedt 2011).

Third, in the analysis of livelihood trajectories, historical timelines added value to our understanding of how the profiles, growth, and accumulation actually evolve. Moreover, it showed how different paths of growth and accumulation could emerge among households with similar starting points. This historical perspective offered the opportunity to detail households’ life and economic activities in a way that explained the dynamics of static, transient, and variegated profiles across time.

Fourth, regarding the food and nutrition security analysis, it should be argued that the survey in the three study sites was carried out during different months of the year and that seasonal biases may occur. Seasonality plays a key role in the experience of food insecurity as it affects food availability and access to both farmers’ production and non-farm products (Ataa-Asantewaa & Ros-Tonen 2015; Bymolt et al. 2018). However, the three months all fell within the minor cocoa and oil palm seasons with similar effects on food access, and the results confirmed this. Food insecurity is most severe during June-July, just before the main food and tree-crop seasons, which are not recommended for

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85 In Kade in January 2015; in Tepa in December 2015; and in Dunkwa in March 2017.
food insecurity studies as the results will overestimate the number of farmers who face regular food insecurity (Coates et al. 2007). Aside from this, the FNS data is based on farmers’ experienced FNS, whereby the HFIAS was reduced to four domain questions instead of the nine questions developed by FAO (Coates et al. 2007). Although this was justified and found to be consistent and reliable (see Chapter 2), this must be recognized by anybody wishing to apply the method. However, the mixed-method approach ensured that additional qualitative data on FNS and sovereignty dimensions was collected from focus group discussions. The findings regarding the FNS of oil-palm farming households need further research because of the low number of households in the sample that grow oil palm only. Lastly, the food sovereignty concept involves more dimensions than autonomy and sustainability addressed in this thesis. These deliberations lead to several suggestions for further research in the next section.

7.5 Suggestions for further research

My suggestions for future research revolve around seven themes. First, to complement my limited analysis of the policy context of VCCs (see Chapter 4), further research could delve deeper into the assumptions underlying public policies, for instance, by using the public policy reconstruction method developed by Hoogerwerf (1990) and Runhaar et al. (2006). This policy content analysis focuses on the causal, normative, and final relations in policies that define how policymakers perceive the problem, the ideal situation, and how to achieve it (Runhaar et al. 2006). This method was used by Moncoquet (2018) to analyse the corporate strategies of two oil palm companies in the study area and the drivers behind these strategies as a basis for assessing the companies’ contribution to sustainable and inclusive development (see also Moncoquet & Ros-Tonen 2019). Such a more profound analysis puts farmers’ perspectives of deficient government support in a broader perspective and provides insights needed to create a more enabling policy environment for inclusive VCCs.

Second, further research is needed to understand how smallholders’ capacities and aspirations to engage in VCCs differ and what incentives drive them to engage in VCCs. Chapter 4 showed that the effects of institutions on smallholders’ entry into VCC are diverse, creating opportunities for some farmers and constraints for others, resulting in adverse inclusion when farmers become indebted or lose their autonomy over land. Whereas this study generated a better understanding of who is included, excluded, or adversely included, a more in-depth understanding is needed of why farmers still aspire to engage in VCCs as a key growth and accumulation strategy, despite evidence of adverse inclusion.

Third, regarding farmer profiles and livelihood trajectories, more research is needed on the links between profiles and growth-oriented trajectories. Dynamics in livelihood
trajectories leading to static, transient or variegated profiles appeared to be linked to households’ pursuit of growth and accumulation by expansion or diversification. Insights from in-depth research into how smallholders’ aspirations and capacity to engage in VCCs facilitate or hamper realizing a household’s aspirations in this regard can help reduce risks and counteract adverse inclusion.

Fourth, the research findings in Chapter 5 raise a pertinent question for future research on who tomorrow’s farmers will be, especially in the cocoa sector. Ghana’s tree-crop policy (MoFA 2012) and the more recent (2019) Planting for Export and Rural Development (PERD) Programme (aka “the tree-crop module” of the government’s Planting for Food and Jobs flagship campaign) picture the tree-crop sector as an opportunity for agricultural growth, rural development, employment, and food and nutrition security (see Chapter 4). However, the results of this research show limited prospects for most households. Though farmers continually aspire to maintain cocoa farms for the next generation, there is little or no farm (re)investment due to the focus on expenditure for children’s education for jobs outside farming (see Chapters 5 and 6). This suggests that cocoa farming is more of a lifestyle than a profitable venture (see Chapter 6), leading youths to aspire to other livelihood options (Laven 2010; Laven & Boomsma 2012). Hence, more insight is needed into who the future cocoa farmers will be.

Fifth, as noted in the previous section, the food and nutrition security of oil-palm farming households also needs further research. The scarce evidence in this study due to the low number of farmers growing only oil palm suggests that they do not gain much from VCC or will even be worse off due to diminished food production and indebtedness when engaging in outgrower schemes. Further research is needed among a larger, more diversified group of oil palm farmers to gain more robust evidence and insights.

Sixth, in the wake of diminishing food-crop land to sustain households’ own food production, intercropping food crops in cocoa farms or oil palm plantations becomes increasingly important. It seems vital that crop and livelihood diversification are integral to household well-being and FNS. However, the effectiveness of intercropping requires a critical enquiry into the gendered effects of such a strategy, seeing that subsistence farming of food crops is traditionally a women’s task, while tree-crop farming is considered a male activity or a household venture at bests (see 4.4.3). Moreover, the prospects of intercropping among oil palm-growing households require further research, especially where autonomy to intercrop food crops is lost in outgrower schemes.

Seventh, the food sovereignty concept involves other dimensions than autonomy and sustainability addressed in this thesis. A more profound analysis of tree-crop farmers’ food sovereignty should go beyond this selective application of the food sovereignty concept and pay attention to food quality, safety, affordability, and recognition and respect of cultural diversity and local knowledge. Although the international peasants’
movement advocating food sovereignty, *La Via Campesina* (https://viacampesina.org/en/), finds little resonance in Ghana, insights from such a study may create awareness of alternative ways towards a sustainable and inclusive agricultural sector.

Lastly, this thesis did not address the effects of climate change on tree-crop farmers (see 1.5). However, there is growing evidence of a shifting and shrinking cocoa belt resulting in declining yields (Laderach et al. 2013; Schroth et al. 2016; Abdulai et al. 2020), with important implications for households’ livelihood trajectories and the prospects of cocoa farming. More research is needed on how tree-crop smallholders incorporate climate change effects into their livelihood choices and what this implies for their future trajectories. Such research should not only focus on the cocoa sector, as currently is the case but also look at smallholder oil palm farmers.

## 7.6 Recommendations for policy and practice

### 7.6.1 The need for concerted efforts

Institutionally, cocoa and oil palm appear as two different sectors supported and regulated by different government agencies, resulting in fragmented support to particularly multiple tree-crop households (see Chapter 3). Moreover, the lack of collaboration between state institutions (COCOBOD, MoFA, the Department of Agriculture, and the new Ghana Tree Crop Development Authority, GTCDA) leads to a neglect of smallholder oil palm farmers (see Chapter 3). Also problematic is the free input provision to smallholder cocoa farmers by COCOBOD, which frustrates extended and advanced VCCs (see Chapter 3) because tree-crop farmers need to pay companies for inputs they get for free from the government. However, government provision is insufficient and unreliable (see Chapter 5), so the farmers depend on companies in the VCC to complement the inputs. Therefore, I recommend government agencies collaborate more intensively with each other and with the private sector to provide inputs and services to all smallholder tree-crop farmers, including oil palm farmers, to ensure that smallholder support through public programmes and VCCs complements rather than frustrates each other and smallholders can benefit from pluralistic support from both the public and private sector.

### 7.6.2 The need for genuine farmer-based organizations and watchdogs

Recent policy favours VCCs between farm-based organizations and outgrower schemes. This prejudices farmers without land, as land ownership is an entry requirement for VCCs (see Chapters 3 and 5). Moreover, farmer-based cooperatives in the cocoa sector are not widespread and, where they exist, have no organizational strength or collective voice, while they are virtually non-existent in the oil palm sector or formed only after mobilizing farmers for a VCC (see 3.6.1). For more inclusive VCCs, government agencies
at the district level (Department of Agriculture, CHED), NGOs, and companies could stimulate and formalize community farmer-based cooperatives by building on existing labour groups in the communities (see Chapters 3-5) and through group-based capacity building, extension, and training. In addition, active engagement of government agencies (Dept. of Agriculture, GTCDA) and civil society organizations in VCCs is recommended as watchdogs to advance and safeguard smallholders’ interests in VCCs (see Chapter 3). This is particularly needed in the oil-palm sector and in basic VCCs in the cocoa sector, where smallholders become indebted and risk losing their autonomy over land and crop choice (see Chapters 3, 5, and 6).

7.6.3 The need for profile-specific support

Smallholders desire to engage in basic VCCs as an opportunity for credit and advance payment, extended VCCs for credit and inputs, and advanced VCCs for access to services such as training aside credited inputs and seeing it as an opportunity for growth and accumulation (see 4.5.5). The findings showed that landless households do not meet the terms and conditions for VCC engagement due to a lack of land, tenure insecurity, low productivity and income capacity, and interacting cultural norms that constrain access to land based on gender and age (see Chapters 3-5). Landless households, establishing new farms on the land of others, or managing someone else’s farm, are invisible to government and private sector support (see Chapter 5). Reaching these smallholders requires a shift from targeting farm owners to targeting the actual producers. Second, government and CSOs must address tenure insecurity, considering its adverse effects on production and food and nutrition security (see Chapters 5 and 6). Farmers find accessing official land titles expensive and time-consuming (see Chapter 5). Those working with landless farm households need to make them aware of the importance of documentation and using the Commissioners for Oaths, which gives cheap and quick access to legal services (Hammond 2013; Warungu 2017), while CSOs could promote greater gender sensitivity in assigning land rights. In addition, government agencies and CSOs can support landless households by diversifying their livelihoods.

Based on the findings, it is plausible to argue that single tree-crop smallholder households – particularly the constrained group of smallholder cocoa farmers – should not be stimulated to engage in VCCs, as it may lead to adverse inclusion (see Chapters 3-6). However, they aspire to be part of VCCs and see cocoa farming as a relatively good livelihood option and a heritage for their children (see Chapters 4 and 5). Therefore, COCOBOD/CHED should improve the provision of inputs, credit, extension, and training

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86 A Commissioner for Oaths is authorized to administer oaths or affidavits, i.e. witness the signing of important legal documents (Oaths Act 1972). They play a key role in formalizing share contracts (Amanor & Diderutuah 2001).
to this group, while other actors (private sector, CSOs) working with these smallholders could enhance their income capacity by stimulating livelihood diversification so they become less vulnerable to indebtedness. Free input provision for the most constrained and vulnerable smallholders is recommendable. Who qualifies as such can be determined based on the passbook in which all cocoa farmers record production and sales (see 4.2.3). This would target a group of smallholders who do not qualify for extended and advanced VCCs, hence will not frustrate VCCs with better-off farmers. Additionally, this research has shown that non-farm income facilitates farm investments, enabling smallholders to meet the requirements for more profitable forms of VCCs without becoming adversely included.

This study showed that expansion-oriented single tree-crop households and the better-off multiple tree-crop households are the ‘low-hanging fruit’ for VCCs. They benefit from both government and VCC support, have access to land, credit and inputs, have a high-income capacity from farm and off-farm activities, and can rely on family labour (see Chapter 5). However, the support often does not meet their realities and ambitions (see Chapter 5). Supporting these groups to reach an entrepreneurial state where they actively invest in the farm as a business – generally considered the desirable policy aim for the cocoa sector – requires incentives and interventions matching their needs. Government and private sector should collaborate to support particularly households ‘ inching up’ by offering subsidized inputs throughout the production period that help sustain or realize potential yields. Moreover, support to these households should focus on investments in their medium- to high-profile non-farm activities (see Chapter 5), which provide revenues to (re)invest in the farm. For instance, existing farmer business school curricula could include an introduction to small-scale businesses.

When they become older, smallholders aim to focus more on non-farm income (for instance, from a provision store) and often leave their farm management to a caretaker (cocoa sector) or sharecropper (oil palm sector). These absentee households are best targeted through small-scale business enterprise development, with support and services for their farms being channelled through the caretakers who manage their farms. This will increase the productivity of the farms, benefitting both the caretakers and the farm owners.

7.6.4 The need to safeguard smallholders’ food and nutrition security and sovereignty
Due to growing pressure on food-crop land from expanding tree crops (see Chapter 6; Asubonteng et al. 2018), new ways must be found to ensure people’s food and nutrition security in tree-farm areas. The future of household food production depends on a diversified farming system (see Chapter 6) to ensure households’ continued food
production or improve their financial capacity to buy food on markets. Recommendations in this regard are threefold. First, with the disappearance of food-crop-only farms and the decrease of fallow lands, the interplanting of tree crops and food crops becomes more important as a source of subsistence production. Intercropping during farm establishment is widespread in the cocoa sector but is not permitted in oil palm outgrower schemes. To ensure and sustain intercropping in oil palm farms, OPRI and oil palm companies could investigate new planting configurations and various crop combinations to be promoted to smallholders.

Second, smallholder policies need to embark on livelihood diversification and promote diversification across all smallholder groups to generate income for accessing food markets. This is particularly important among smallholder cocoa farmers, who face widespread seasonal food insecurity during the months preceding the harvest (see Chapter 6).

Third, food quality, safety, and affordability emerged as points of concern among smallholder tree-crop farmers (see Chapter 6). As noted in Section 6.5, the food sovereignty movement finds little resonance in Ghana, but CSOs can play a role in awareness-raising on alternative, more inclusive and sustainable ways of farming, with a greater role assigned to farmers’ local knowledge and ‘innovations from below’ (Laven et al. 2017; Ros-Tonen et al. 2019).