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 1

Introduction
1.1 Setting the stage

There are an estimated 500 million smallholder farming households worldwide, with 72% of farms smaller than one hectare (ha) and an average size of 2.2 ha (Grain 2014; Lowder et al. 2016; World Bank 2016). Small-scale farms constitute 92% of farms globally (GRAIN 2014), and those under 2 ha produce 30-34% of the food worldwide (Ricciardi et al. 2018). In Africa, 90% of farms are small-scale, with 80% smaller than 2 ha, producing about 80% of the food grown on the continent (Grain 2014, FAO 2017a). Hence, smallholders play an essential role in safeguarding global food and nutrition security today and in the future (Grain 2014; FAO 2017a; WEF 2022).

Despite their importance in food provision, many of the 250 million smallholders and pastoralists, particularly in sub-Saharan Africa, are poor, food insecure, constrained in their choices, and have limited access to markets and services (Rapsomanikis 2015; FAO 2022a). According to World Bank data¹, 59.5% of the population of sub-Saharan Africa suffered from moderate to severe food insecurity in 2019, and many of these are smallholders (Frelat et al. 2016; Sibhatu & Qaim 2017). With widespread hunger and poverty among smallholders (Meemken & Bellamare 2020; Giller et al. 2021), sub-Saharan Africa lags behind in the prospects of agricultural transformation for development (FAO 2017a; Giller et al. 2021). Although 80% of smallholders worldwide engage in various domestic and global markets (CFS 2016), most smallholders face constraints that limit their ability to participate competitively and gainfully in value chains and are excluded from growth opportunities. They face market barriers due to limited access to inputs and credits, land fragmentation, soil degradation, and inequalities regarding risks and benefits from engaging in global value chains (McMichael 2013; Rapsomanikis 2015; Gereffi & Fernandez-Stark 2016; Woodhill et al. 2020; Ma & Sexton 2021).

In addressing these concerns of marginalization and agricultural production constraints, mainstream interventions favour market-based approaches, focusing on linking smallholders to markets, commercialization of small-scale agriculture, and value chain development (Woodhill et al. 2012; Tobin et al. 2016; Woodhill 2016). Integrating smallholders into markets is viewed largely as a way for agricultural economies to capitalize on remunerative trade opportunities enhanced by growing consumer demand for food thanks to increasing incomes and population growth, urbanization, trade liberalization and modernized markets spurred by globalization (Barrett 2008; Bitzer 2011; Barrett et al. 2017; Woodhill et al. 2020). For smallholder-dominant agricultural economies, market integration includes the commoditization of crops into value chains for both local and international markets and transitioning smallholders from low-productive subsistence farming into high-productive market-oriented agriculture (Ros-

Tonen et al. 2015; Gereffi & Fernandez-Stark 2016), which basically turns them into petty commodity producers (McMichael 2013; Moyo 2016; Olofsson 2020).

As part of these interventions, value chain collaborations (VCCs) are increasingly promoted (Ros-Tonen et al. 2015; Ros-Tonen et al. 2019; van Paassen et al. 2022). VCCs are defined as “voluntary associations between different actors in a chain, including producers and buyers and often, but not necessarily, other societal actors such as non-governmental and (in the case of public-private partnerships) governmental organizations” (Ros-Tonen et al. 2015:524). Hence, VCCs represent collaborations between actors both vertically (within the chain) and horizontally (beyond the chain). They unite the diverging interests of public actors concerned about improving livelihoods, productivity, food and nutrition security and sustainability of the agricultural sector with private sector interests in securing markets and profitability (Barrett 2008; Bolwig et al. 2010; Ros-Tonen et al. 2015). VCCs are typically (but not exclusively) associated with high-value tree crops such as cocoa, oil palm, and avocados (MoFA 2007; 2010; FAO 2013; 2015; NPC 2013). They target mainly smallholders in the global South, who constitute the majority of agricultural commodity producers, and have become a major policy instrument to address smallholders’ production and marketing constraints and achieve agricultural growth and development (Bitzer 2011; Vellema et al. 2013; FAO 2015; IFAD 2016a; Ros-Tonen et al. 2019; German et al. 2020; van der Ven et al. 2021). VCCs with the private sector are promoted to advance smallholders’ access to technology and innovations, input and output markets, and credit. As such, they are considered vital for technological adoption among smallholders (Arias et al. 2013) and needed for sustained increased productivity, food and nutrition security, and poverty reduction (World Bank 2007; Barrett 2008; Arias et al. 2013; IFAD 2014; FAO 2018). VCCs have gained increased attention in sustainable and inclusive development thinking, merging ideas about the economic inclusion of smallholders and an active role of the private sector in addressing production and environmental challenges (Bitzer 2011) and sustainable development more broadly (UN 2015).

The literature reports both positive and adverse effects of VCCs (see 1.2.1). Since these effects differ across smallholders, this thesis analyses them across different institutional contexts (see Chapter 3) and smallholder profiles (see Chapter 4), delving deeper into the implications for smallholders’ livelihood trajectories across time (see Chapter 5) and their food and nutrition security and sovereignty (see Chapter 6). While VCCs exist in different sectors, this thesis focuses on VCCs within tree-crop value chains, explicitly cocoa and oil palm. The study is situated in Ghana, as this country explicitly promotes VCCs in the smallholder-dominated tree-crop sector (see 1.3). The rest of this chapter positions the research in existing debates and identifies knowledge gaps (see 1.2), and provides background on the Ghanaian agricultural sector (see 1.3) as a basis for
Introduction

formulating research objectives and questions (see 1.4). After addressing the scope and limitations (see 1.5), it presents the conceptual framework (see 1.6) and the thesis setup (see 1.7).

1.2 Positioning in the literature and knowledge gaps

This study uses a farmer-centred approach to analyse the effects of smallholder involvement in VCCs. Such an approach foregrounds the needs and aspirations of smallholders, considering their varying opportunities, constraints and contexts (see 1.2.1 for more information). Theoretically, this study is positioned in four academic debates on smallholders in the global South: the debates on smallholder integration into value chains and VCCs (see 1.2.2), the need to acknowledge smallholder heterogeneity (see 1.2.3), smallholder livelihood trajectories (see 1.2.4), and smallholder food and nutrition security and food sovereignty (see 1.2.5). Each of these debates comes with knowledge gaps, selected gaps of which will be addressed in this study.

1.2.1 A farmer-centred approach

There are repeated calls to focus attention on a perspective that takes the smallholder as a starting point (Bolwig et al. 2010; Laven 2010; Laven & Boomsma 2012; Ros-Tonen et al. 2015; Glasbergen 2018; Van Ewijk et al. under review) recognizing the heterogeneity of value chains, smallholders, and their multiple livelihood trajectories (Ros-Tonen et al. 2015; Nelson & Phillips 2018; Ros-Tonen et al. 2019; Woodhill et al. 2022). These calls are in line with the 2030 Agenda for Sustainable Development (UN 2015) to “leave no one behind” and Sustainable Development Goal (SDG) 5 (Gender equality), 10 (Reduce inequality), and 17 (Partnerships for the goals). Since the 2030 Agenda for Sustainable Development was adopted, inclusiveness has been mainstreamed in business, value chains, and development discourse (Ros-Tonen et al. 2019). The idea is to move beyond ‘access to’ and make “partnership outcomes (…) more inclusive and beneficial to all, and generate income and decent jobs, especially for the poor” (Abdulsamad & Mason 2019:551). Smallholders form the majority of commodity producers but are also a majority of the rural poor, characterized by different degrees of marginalization and destitution (Ros-Tonen et al. 2019). To this end, ‘inclusive business’, ‘inclusive development, and ‘inclusive value chains’ aim to facilitate smallholders’ inclusion by considering the most marginalized and poor and including them on profitable terms. However, despite reports of some positive effects of VCCs, evidence proves that VCCs inclusion involves both exclusion and adverse inclusion and that VCCs cannot be for all smallholders due to social differentiation (Tobin et al. 2016; Ros-Tonen et al. 2019). This requires a nuanced

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2 See Section 2.6.1 for the methodology employed for the literature review.
understanding of the diversity of VCCs, smallholder heterogeneity, livelihood strategies and needs, and the outcome of their VCC engagement for household food and nutrition security, autonomy, and environmental sustainability. To gain that understanding, this study embarks on the four approaches and theoretical strands elaborated below.

**Knowledge gap 1: The need for a farmer-centred approach towards analysing VCC**

Attention to participation, inclusion and exclusion in value chain analyses has been unidirectional. They are generally tackled from a value-chain perspective and hardly from the smallholder perspective (see Bolwig et al. 2010). Existing studies only provide partial answers to smallholder inclusiveness. Most studies on VCC focus on the structure, governance, and functioning of VCCs (Laven 2010; Bitzer 2011; Bitzer et al. 2013; Vellema & van Wijk 2015; German et al. 2020; van Paassen et al. 2022), upgrading (Laven 2010; Kilelu et al. 2017; Vicol et al. 2018), and the potentials and effects of inclusion in VCCs (World Bank 2007; Bitzer et al. 2013; DeFries et al. 2017; Ingram et al. 2018; Abdulsamad & Mason 2019). This study takes up the challenge of taking a broader farmer-centred approach by unpacking smallholder inclusiveness in value chain collaboration from a smallholder perspective that recognizes the diversity of actors and contexts that create differences in constraints, opportunities, and ambitions that result in differential effects of VCC engagement on food and nutrition security, autonomy, sustainability, and inclusiveness outcomes (Ros-Tonen et al. 2015). This farmer focus emphasizes smallholders’ engagement in VCCs as a livelihood choice. An analysis from a farmer-centred perspective is important to understand and explain VCC inclusion, exclusion, and benefits. This requires understanding who smallholders are, what drives their inclusion or exclusion from VCCs, and the risks and benefits of VCC engagement.

**1.2.2 Integration of smallholders in value chains and value chain collaborations**

VCCs appear in various partnership arrangements (see Table 1.1), ranging from relatively loose groupings to more formalized arrangements between actors within and beyond the value chain. Value-chain actors include producers, traders, input providers, and processing companies, while actors beyond the chain include government agencies and NGOs. Partners in VCCs bring together resources, benefits, risks and responsibilities and strive for a common goal that actors cannot achieve on their own (Denise 1999; Camarinha-Matos & Afsarmanesh 2006; Bitzer et al. 2009; Dania et al. 2016).
Introduction

Table 1.1 Types of value chain collaboration involving smallholders

<table>
<thead>
<tr>
<th>Governance</th>
<th>Examples</th>
<th>Main actors</th>
</tr>
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<tbody>
<tr>
<td>Vertically coordinated</td>
<td>Contract farming</td>
<td>Private companies, smallholders</td>
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<tr>
<td>Horizontally coordinated</td>
<td>Cooperatives</td>
<td>Smallholders</td>
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<td>Hybrid; both horizontally and vertically coordinated</td>
<td>Public-private partnerships (PPPs); public-private producer partnerships (4Ps); roundtables for sustainable commodities</td>
<td>Private companies, government agencies, civil society, smallholders</td>
</tr>
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*Sources:* Compiled based on Ros-Tonen et al. (2015); Vellema & Van Wijk (2015); Bruni & Santucci (2016); Dani et al. (2016); Kilelu et al. (2017).

The oldest form of VCC is contract farming, which can be traced back to the early twentieth century but became widespread in developing countries in the 1970s and 1980s (Kirsten & Sartorius 2002). As a vertically coordinated arrangement, contract farming offers a contract between an agribusiness or central buying unit and ‘independent’ contract smallholders through which the company agrees to provide information and resources and guarantees market and price (Eaton & Shepherd 2001; Kirsten & Sartorius 2002). As a company-led initiative, contract farming evolves via network and communication, through coordination to cooperation within the vertical chain, enabling companies to strategically position themselves in the supply chain and mitigate risks in the wake of competition and large scales of operation (UNCTAD 2008). Such arrangements ensure that all aspects of the value chain work to secure the company’s supply and profit, and although benefits for smallholders have been reported (e.g. Kirsten & Sartorius 2002; Ton et al. 2018), it is unclear whether these gains can be attributed to contract farming *per se* or result from the selection criteria and entry requirements that exclude resource-constrained smallholders (Barrett et al. 2012; Swinnen & Vandeleers 2012). Several studies confirm greater power and benefits for the lead company (Little & Watts 1994; Cohen et al. 2022), with smallholders often considered beneficiaries rather than partners and bearing greater risks (Bitzer 2011; Bitzer et al. 2013; Bitzer & Glasbergen 2015; Ros-Tonen et al. 2015; IFAD 2016a; Osei-Amponsah et al. 2018).

Other types of VCC emerge if other actors, such as the government, NGOs, parastatal bodies, and international aid and lending agencies, become involved (Kirsten & Sartorius 2002). Such collaborations differ from contract farming, first, in terms of the producers’ role as a key partner in the arrangement as in public-private-producer partnerships (PPPPs or 4Ps) or as co-creators in the collaboration process (Thorpe & Maestre 2015; Vellema & Van Wijk 2015; IFAD 2016b). Second, whereas contract farming is an arrangement between smallholders and a business, emerging collaborations encompass smallholders’ organizations and multipartite arrangements involving actors...
beyond the chain, as outlined above. Third, such collaborations often shift the primary focus on business profit to include societal objectives, such as community development and sustainable development (Porter & Kramer 2011; Kissinger et al. 2013). Within such shifts, one can find horizontally coordinated partnership arrangements such as smallholder cooperatives and producer groups and arrangements where smallholders with compatible goals work together to increase competitiveness. Such types of cooperation enable smallholders’ empowerment, self-organization and collective action, increasing their scale of production and bargaining power and their capacity to negotiate an agreement with traders and buyers. This can facilitate their inclusion, catalyze innovation, enhance upgrading, and increase benefits from their engagement in value chains (Vellema & Van Wijk 2015; Bruni & Santucci 2016; Kilelu et al. 2017).

Hybrid forms of collaboration steered through joint governance – vertical and horizontal – are increasingly common. Such arrangements include the 4Ps mentioned above; partnerships built on the implementation of sustainability standards or certification schemes; creating shared value (CSV)-based partnerships; and various platforms and roundtables for innovation and sustainability that often involve private companies, civil society organizations, governments, donor agencies and smallholders (Ros-Tonen et al. 2015; Vellema & Van Wijk 2015; Bruni & Santucci 2016; Dania et al. 2016; Ingram et al. 2018). These forms shift the exclusive business focus towards addressing the broader economic, social and environmental impacts of the companies’ activities (Dania et al. 2016). When the scope extends ‘beyond the chain’ (Ros-Tonen et al. 2015) to include actors outside the value chain, such as government agencies and civil society organizations (CSOs) introducing alternative livelihoods or promoting food-crop production to enhance food and nutrition security, the term intersectoral partnerships has also been used (Bitzer et al. 2013). In most VCCs, smallholders are often seen more as beneficiaries than partners (Ton et al. 2008; Laven 2010; Bitzer 2011).

Mainstream thinking about inclusion in value chains and VCCs considers the integration of smallholders in markets as wanted by these farmers and beneficial to their well-being, which means that smallholders need to gain access to-value chains and sustain their participation (Riisgaard et al. 2008; Bruni & Santucci 2016). Inclusion also denotes smallholders’ ability to sustain their participation in a given value chain over time (Berdegué et al. 2008). VCCs thus aim to promote the inclusion of smallholders in markets and improve outcomes of value-chain engagement in terms of productivity, income, and food and nutrition security (Bitzer et al. 2013; Ros-Tonen et al. 2015).

Despite increasing VCCs with smallholders, evidence of the effect of VCCs on smallholders’ income, food and nutrition security, and the environment has been mixed. Various studies have indeed shown positive results: VCCs have resulted in increased input use, crop and farm productivity, incomes, innovation capacity, farm workers’ living
and working conditions, and positive effects on nutrition, smallholders’ empowerment and the environment (Michelson 2013; Vellema et al. 2013; IFAD 2014; Ingram et al. 2018; Ruml & Qaim 2020; Ruml et al. 2020; Debela et al. 2022). A study by Rao and Qaim (2011) showed that VCCs with smallholder vegetable farmers could increase their per capita income by as much as 46%, reducing their poverty level by 20% and increasing smallholders’ investments in productive assets. Deans et al. (2018) found that VCCs can positively impact smallholders’ social, human, and natural capital. Similarly, a VCC farmer field school programme targeting smallholder cocoa farmers was found to increase their yield by 32% in Ghana and up to 62% in Cameroon (Tsiboe et al. 2016). The same study also found the programme could result in an annual benefit of USD 109-322 per beneficiary farmer over a long period. Several studies also showed that if VCCs promote certification – issuing an official document stating that something, for instance, producing sustainably, has been done (Cambridge dictionary) – smallholders’ productivity and incomes increase significantly while enabling environmentally sustainable farming practices (Deans et al. 2018; Ingram et al. 2018; Brako et al. 2021a; 2021b).

Despite evidence of the positive effects of VCC engagement, several scholars question the ability of VCCs to effectively address production deficiencies, alleviate poverty and sustain food and nutrition security (Ofosu-Budu & Sarpong 2013; Oxfam 2014; Ruml et al. 2020; Brako et al. 2021b; Debela et al. 2022). Also, their potential for sustainable development remains unproven (Thorpe & Maestre 2015; Ruben 2017; Ingram et al. 2018). Much research has alluded to the negative outcomes that undo the positive effects. Authors have argued that partnerships – a word often used for VCCs, suggesting more equality in the relationship than usually is the case (Ros-Tonen et al. 2007) – legitimize the status quo, strengthen the participation and power of strong actors (Bitzer 2011) and lead to exclusion, adverse inclusion, marginalization and unequal benefits for others, including detrimental environmental effects (Bolwig et al. 2010; Laven 2010; McCarthy 2010; Greenberg 2013; McMichael 2013; Ruben 2017; Lutz & Olthaar 2017; Schelle & Pokorny 2021). In sum, value chain collaborations are neither automatically inclusive nor beneficial (Ros-Tonen et al. 2015) and are neither neutral in who and what they target nor in setting the terms of engagement.

The terms of engagement determine who can participate in the chain and decision-making and how risks and benefits are shared (Vermeulen & Cotula 2010; German et al. 2020). These terms of engagement include having certain assets, access to credit and services, ownership of and minimum size of land, labour requirements, being a member of a farmer group, education level, and minimum quantity and quality levels of production, specific crop varieties, harvesting and marketing specifics; among others (Birthal et al. 2007; Ashraf et al. 2009; Bitzer et al. 2009; Martey et al. 2014; FAO 2015;
Chapter 1

Oduol et al. 2017; Vamuloh et al. 2020; Schelle & Pokorny 2021). Such conditions can constrain and exclude the poor and marginalized smallholders, particularly younger and female farmers and those with fewer assets (Barrientos 2013; IFAD 2013). This implies unequal risks and benefits to participants, resulting in adverse and gender-insensitive inclusion (Laven 2010; Pyburn 2014).

**Box 1.1 When are VCCs inclusive?**

Inclusive VCC typically refers to ensuring beneficial access to value chains and value-chain collaborations for smallholders (Tobin et al. 2016; German et al. 2020). From an inclusive development perspective, “this implies a reiterative scrutinizing of who is included in and who is excluded from the improvement of human well-being and society at large, and on what grounds, and how inequality in society can be reduced by also examining the institutionalized relations between the poor and rich” (Gupta et al. 2015: 553). Thus, inclusive VCCs, first, target poor and marginalized smallholders with “constrained access to technologies, assets, capital markets, education, training, and input and output market” (Ros-Tonen et al. 2019: 12) with particular attention to vulnerable and disadvantaged groups in terms of age, gender, and location (Gupta et al. 2015). Second, inclusive VCC presents a strong case to align value chain integration with the needs, aspirations, contexts, and circumstances of the rural poor (Stoian et al. 2012; Ros-Tonen et al. 2019; van Ewijk et al. under review). This implies paying deliberate attention to the heterogeneity of VCCs, and the actors and networks involved in them. An inclusive and farmer-centred value chain approach recognizes the heterogeneity among smallholders in terms of gender, age, and asset ownership, as well as regarding opportunities, constraints and vulnerabilities (Ros-Tonen et al. 2019). Third, inclusive VCCs have a concern for smallholders’ well-being and a fair sharing of risks and benefits (Devaux et al. 2018; Ros-Tonen et al. 2019). Fourth, inclusive VCC is gender-sensitive and transformative (Ros-Tonen et al. 2019). Fifth, inclusive VCC is based on continual learning, preferably in multi-stakeholder platforms, recognizing farmers’ knowledge and innovation capacity (Devaux et al. 2018; Ros-Tonen et al. 2019; van Ewijk et al. under review). Finally, inclusive VCC considers the resources needed and environmental impacts of the activities (Ros-Tonen et al. 2019). This study aligns with these framing of inclusive VCCs, realizing that inclusive VCC may be elusive for the poorest, considering that engaging in VCCs requires a minimum of assets that the poorest do not have (Devaux et al. 2018).

Several factors contribute to these unequal risks. First, VCCs prioritize the better-off smallholders leading to inequalities in benefit and risk sharing, gender disparities, and the exclusion and further marginalization of many (Laven 2010; Crane et al. 2014;
Introduction

Deppeler et al. 2014; FAO 2015; Tobin et al. 2016; Elmhirst et al. 2017; Bassett et al. 2018; Vicol et al. 2018). Second, VCCs can exacerbate existing social inequalities and power imbalances due to the dominance of powerful lead firms, such as trading and processing companies that dominate price setting in global value chains (Fold 2002) and under-representation of ‘watchdogs’ monitoring contract enforcement, such as CSOs, non-governmental organizations (NGOs), and farmer-based organizations (FBOs) (Barrett et al. 2010; Bitzer 2011; Michelson 2013; Bitzer & Glasbergen 2015; Nelson & Phillips 2018). Third, adverse inclusion or incorporation may occur (Hickey & du Toit 2013), particularly when smallholders face unfavourable contract terms or lose customary land rights, autonomy over production and marketing, and freedom of choice to reallocate land and labour to more profitable or less destructive activities as often occurs under contract farming arrangements in the oil palm sector (McCarthy 2010; Marin-Burgos & Clancy 2017). Such adverse inclusion may eventually result in indebtedness and loss of land and livelihoods (McCarthy 2010; German et al. 2020). Fourth, VCCs may compromise food-crop production (Anderman et al. 2014; FAO 2015; Ruben 2017; Asubonteng et al. 2018) and dietary diversity and food and nutrition security (Ecker et al. 2012; Ofosu-Budu & Sarpong 2013; Jarzebski et al. 2020; Brako et al. 2021b) as VCCs favour cash crops and thus leads to specialization. Finally, VCCs have limited transformative potential due to their limited ability to change existing chain governance structures into ones that allow smallholders to claim more rights, have a greater voice in decision-making, or invest in alternative livelihoods to achieve improved livelihood options (Deans et al. 2018; Nelson & Phillips 2018). Hence, smallholders may face major risks, which have led to a mismatch between the benefits of VCCs and smallholders’ realities, creating a niche for further research into the potential for VCCs that are more inclusive (see Box 1.1) of smallholders and the environment (Ros-Tonen et al. 2015).

Knowledge gap 2: A lack of attention to smallholders’ local institutional and structural contexts

Ensuring inclusiveness and smallholders’ empowerment requires recognition that VCC engagement is closely intertwined with contextual structures and institutions and that value chains are constructed in a context of social, political, economic and cultural processes which shape smallholders’ choices regarding VCC. The concept of territorially embedded value chains and VCCs was put forward to position smallholders’ engagement in VCCs within their local contexts (Bolwig et al. 2010; Helmsing & Vellema 2011; Ros-Tonen et al. 2015). However, VCC analyses such as global commodity chain (GCC) and global value-chain (GVC) analysis seldom recognize this contextual nature of value chains (Bolwig et al. 2010; Rainne et al. 2011). They offer a traditional analysis of VCC, focusing on individual actors, governance, and participation in chain nodes...
aimed at upgrading for better returns (Laven 2010; Gereffi & Fernandez-Stark 2016). Global production network (GNP) analysis recognizes the importance of context and emphasizes the incorporation of both vertical (chain actors) and horizontal (non-chain actors) analysis into value-chain participation and benefit analysis (Coe et al. 2008). It encourages thinking about how various historical patterns of social differentiation, power relations and societal inequalities affect different actors and their role in value chains (Alford et al. 2017). However, few value-chain analyses focus on these contextual issues. Where they do, the emphasis is placed on the chain actors and their roles (Nabhani et al. 2015; Lutz & Olthaar 2017) and the structure, governance, and functions of VCCs (Bitzer 2011; Bitzer et al. 2013; van Paassen et al. 2022), without explicit attention to the needs, interests, and preferences of the smallholder producers in a developing context (Lowitt et al. 2015; Glasbergen 2018). This study partly addresses this gap and aims to generate insights into the nature and dynamics of smallholders’ engagement in VCCs that originate within their context. It thereby conceptualizes smallholders’ engagement in VCCs as a livelihood choice (Burnett & Murphy 2014) conditioned by the formal and informal institutions within and outside the chain that determine smallholders’ VCC engagement and the benefits thereof (see Chapter 3).

1.2.3 Smallholder heterogeneity and value chain collaborations
The term ‘smallholder’ is very generic and obscures high levels of heterogeneity (Cousins 2010; Olofsson 2023). Aggregating smallholders by descriptive indicators into clusters is a recognized hindrance to effectively meeting smallholders’ needs in value-chain collaborations (Barrett 2008; Chamberlin 2008; Arias et al. 2013; Olofsson 2023). As Zimmerer et al. (2018:2) put it, “smallholders are a large, persistent, and internally diverse group that defies overly narrow definition”. The great heterogeneity among smallholders is the major hindrance to effective, beneficial and equitable targeting and value-chain collaborations (MoFA 2007; Barrett 2008; Chamberlin 2008; Cousins 2010; Olofsson 2023). In Ghana, this was also recognized as a bottleneck to meeting the objectives of the first Food and Agricultural Sector Development Policy (FASDEP I, MoFA 2002) (see 1.3). For policymaking, interventions, communication and research purposes, smallholders are often clustered together using indicators such as wealth, farm size, types of labour and technology used, credit sources and investment in farming, and market orientation as descriptive sub-categorizations (Chamberlin 2008; Cousins 2010; Torero 2011; Olofsson 2023). For instance, landholding size is seen as both a constraint and an opportunity for farm investments, household income and market engagement (Chamberlin 2008).

The combination of landholding size, labour and investment in farming technologies also features highly in the pre-conditions for VCCs (Barrett et al. 2010; Michelson 2013). Based on these notions, characterizing and segmentizing smallholders and their farms
has become a recurring theme in recent literature, assuming that insights into farm and farmer profiles allow interventions and policies to be better targeted and therefore be “more efficient, effective, and inclusive” (Bymolt et al. 2018:256; Woodhill et al. 2020). Bymolt et al. (2018) distinguish between concept-driven and data-driven approaches to profiling smallholders. In concept-driven approaches,

“the researcher chooses the categories or characteristics of interest, such as the number of crops grown, usage of specific inputs, land size, farmer age, sex, education, etc. (Bymolt et al. 2018:255).

In data-driven approaches, statistical methods determine relevant distinguishing characteristics (variables). Chapter 4 combines these approaches.

Globally, several characterizations of smallholders are concept-driven (see Dorward et al. 2009; Peck & Anderson 2013; Perea et al. 2014; Woodhill et al. 2020). They are often asset-based, class-based, or departing from an actor perspective (see Olofsson 2023). Data-driven smallholder characterization has also been applied (see Signorelli 2016; Shukla et al. 2019). In the tree-crop sector (specifically the cocoa and oil palm sectors), data-driven profiling using cluster analysis is increasingly being applied (see Rijn et al. 2015; Jelsma et al. 2017; Bymolt et al. 2018; Olofsson 2020).

In Ghana, similar characterizations of smallholders have been made. Chamberlin (2008) classified Ghanaian smallholders into three categories based on landholding sizes, noting that most of them are land-constrained and that this goes together with poor market linkages and greater vulnerability to risk (Chamberlin 2008). He found that 60% of Ghana’s smallholders occupy the lower end of the landholding size spectrum, operating less than 2.27 hectares (Chamberlin 2008). The Ghana Poverty and Social Impact Analysis (PSIA) used wealth and production risk to classify Ghanaian farmers into five categories: (i) large-scale commercial farmers, (ii) small commercial farmers, (iii) semi-commercial farmers, (iv) non-poor, complex, diverse, risk-prone farmers, and (v) poor, complex, diverse, risk-prone farmers, the last three categories representing smallholders (Asumung-Brempong et al. 2004). Other attempts at disaggregating the category ‘smallholders’ are based on farmer contexts and attributes (e.g. Cousins 2010).

However, there is still insufficient recognition of the heterogeneity of smallholder households in Ghana, and current classifications do not properly account for the heterogeneity among tree-crop farming households. Much of the disaggregations still overshadow differences in smallholders’ production, consumption and reproduction strategies constructed in social, economic, cultural and political contexts that affect them differently regarding access to means of production and livelihood trajectories (Barrett 2008; Khalil et al. 2017). For instance, companies neglect smallholder heterogeneity and
instead use geographical location as a key determinant in selecting smallholders for VCC, normally resulting in a neglect of remotely located communities (Barrett et al. 2010). Moreover, smallholders have different asset endowments, production objectives, and ambitions, and many livelihoods depend on diversified production and income sources (Barrett et al. 2010; Bolwig et al. 2010; Cousins 2010; Arias et al. 2013; Woodhill et al. 2022; Olofsson 2023). Thus, smallholders have different levels of access to finance, markets, land, and technical support and differing views and aspirations (Khatun et al. 2020).

**Knowledge gap 3: The need to uncover smallholder heterogeneity**

There is a need to uncover the heterogeneity among smallholder households, the available resources, and the opportunities and constraints for alternative income generation to tailor solutions that can reach poorer households (van Vliet et al. 2021; Woodhill et al. 2022). The outcomes of VCCs vary significantly across smallholders (McCarthy 2010). Smallholders show varying responses to VCC opportunities and risks as they have different capacities to navigate livelihood and production dynamics within and outside value chains (Manley & Van Leynseele 2019; Vicol et al. 2018; van Paassen et al. 2022). Within households, VCCs may influence the gender distribution of production assets and resources (Barrett et al. 2010). Certification and upgrading interventions by VCCs are effective when adapted to smallholder livelihood assets, portfolios and strategies, accounting for their different socio-economic conditions (Schoneveld et al. 2019). However, such differentiated outcomes are rarely given research attention resulting in the inability to determine profile- and gender-specific empowerment and well-being impacts. Several studies have addressed the benefits of smallholder inclusion (Bitzer et al. 2013; Ruben 2017; Ingram et al. 2018), adverse incorporation and risks of inclusion such as loss of autonomy, indebtedness, and local livelihoods and food and nutrition security (Ruben 2017; German et al. 2020). Much less research explicitly recognizes smallholders’ differentiated and gendered realities, knowledge, innovation capacity, and agency, which are key to inclusiveness (Glasbergen 2018; Ros-Tonen et al. 2019; Woodhill et al. 2020; 2022).

Recognizing differences in context, strategies and actions, and smallholders’ capacity to respond to opportunities such as VCCs is needed to target smallholders’ needs effectively. In the words of Woodhill et al. (2022):

“It makes little sense to speak of the ‘rural poor’ or ‘small-scale farmers’ as a homogenous group. Different strategies and policies are needed, tailored to

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3 See the note to Section 4.2 about the ambiguity of classifying either smallholder farmers or their households.
the specific needs of different groups living in different contexts” (Woodhill et al. 2022:2).

This requires holistic profiling of smallholders but studies that undertake such an effort are still scarce⁴. To address this knowledge gap, this study aims to unravel smallholders’ differentiation through an integrative conceptualization of context embeddedness of livelihood activities (see Chapter 3), disentangling heterogeneity among smallholders using data and actor perspectives⁵ (see Chapter 4) and analysing the resultant differentiated livelihood pathways (see Chapter 5) and food and nutrition security and sovereignty outcomes (see Chapter 6). The point of departure is that different types of VCCs, smallholder profiles, and livelihood trajectories are critical for a comprehensive understanding of smallholders’ VCC engagement and its food and nutrition security and inclusiveness outcomes. Although gender is not a major focus in this study, I constantly remain aware of the possible gendered effects of VCC engagement and address them where relevant.

1.2.4 Livelihood trajectories
The sustainable livelihood approach has become a mainstream strand in development thinking. With varied perspectives, approaches, methods and frameworks, sustainable livelihood thinking seeks development for the poor and has become central in understanding rural development, poverty reduction and environmental management (Scoones 1998; de Haan & Zoomers 2005). Sustainable livelihood thinking thus offers a bricolage of development enquiry, policy and practices (Scoones 2009) across different disciplines, issues, sectors, spaces and time. This fluidity has led to the application of sustainable livelihood thinking in areas as broad as agricultural development (Bebbington 1999; Rigg 2006; Zimmerer 2007), migration (Barney 2012, Qin and Flint 2012; Rigg et al. 2014), climate change impacts (Jerneck & Olsson 2008), ecology and conservation (Himley 2009; Diniz 2013; West 2013), energy production (Nyamwena-Mukonza 2013), markets (Stevens et al. 2003), rural and urban development (Scoones 2009), resilience in vulnerable environments (Sallu et al. 2010; Marchetta 2011), developing countries (Ellis 2000; de Haan & Zoomers 2005) and across social differentiations (Tsikata & Amanor-Wilks 2009). However, this flexibility has led to multiple frameworks and definitions, some of which are conceptually sophisticated, but others overly simplified with a narrow focus (Levine 2014).

⁴ The study by Olofsson (2023), carried out in parallel with this study as part of the same project on Inclusive Value Chain Collaboration financed by NWO-WOTRO Science for Global Development is among the exceptions. See also study by Bymolt et al. (2018) that profile Cocoa farmers in Ghana and Côte d’Ivoire.

⁵ Characterization of smallholder farming systems in Northern Ghana by Kuivanen et al. (2016) also uses data and smallholder perspectives.
De Haan and Zoomers (2005) trace sustainable livelihood thinking back to the 1980s when many studies focused on the outcomes of households’ choices (de Haan & Zoomers 2005). The approach was firmly established in the 1990s when the UK-based Institute of Development Studies developed the analytical Sustainable Livelihood Framework (Scoones 1998), and the British Department for International Development (DFID) embraced it as a basis for its development cooperation and poverty reduction programmes (DFID 1999).

The early definition of livelihoods as “adequate stocks and flows of cash to meet basic needs” (Chambers 1989:7) conceptualized livelihoods in the limited sense as a source of income and output flows of means of consumption and reproduction without adequately reflecting on the intricate complexity of activities and interactions involved in making a living. Chambers and Conway (1991:6) later redefined livelihoods as “the capabilities, assets (stores, resources, claims and access) and activities required for means of living”. They considered a livelihood sustainable if it:

“can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation; and which contributes net benefits to other livelihoods at the local and global levels and in the short and long term” (Chambers & Conway 1991:6).

Frank Ellis defined livelihoods more broadly as:

“[the] income, both cash and in kind, as well as the social institutions (kin, family, compound, village and so on), gender relations, and property rights required to support and to sustain a given standard of living. Social and kinship networks are important for facilitating and sustaining diverse income portfolios” (Ellis 1998:4).

He provided a more integrative definition in 1999 as “the activities, the assets, and the access that jointly determine the living gained by an individual or a household” (Ellis 1999:2).

The sustainable livelihood framework centres on five capitals or assets, which are defined as “a stock of financial, human, natural or social resources that can be acquired, developed, improved and transferred across generations, [which] generates flows or consumption, as well as additional stock” (Moser 2007:5):

1. Physical assets (roads, markets, properties, etc.);
2. Human assets (education and skills, knowledge, health, etc.);
3. Financial assets (credit, cash, pensions, remittances, etc.);
4. Social assets (production networks, trust, etc.);
5. Natural assets (forests, agricultural lands, water, etc.).

These capitals are not merely assets and resources with the material value for building livelihoods but also have a social and cognitive value which enables agency (Bebbington 1999).

According to Scoones (1998), the sustainable livelihood concept encompasses three livelihood and two sustainability components. Livelihood components include “capabilities, assets (including both material and social resources) and activities required for a means of living” (Scoones 1998:5), and sustainability components refer to resilience and a sustainable resource base. Together these offer an integrated and holistic guide and focus for interventions and are at best tackled with an entire framework lens that scrutinizes every element laid out in the SLF. However, Scoones (1998) acknowledges the Herculean nature of such an endeavour and the risk that the elements may serve as a simple checklist to be explored:

“If the full range of differentiated and nuanced quantitative and qualitative information is to be amassed for the analysis, even a major field research effort may be insufficient to uncover all aspects of sustainable livelihoods in a given site” (Scoones 1998:13).

Mclean (2015) framed the focus on the five capitals as the “pentagon prison” and argued that it downplayed the importance of how changing livelihood contexts result in livelihood adaptations.

Thinking in terms of livelihood trajectories is a more recent strand in livelihood research, which pays deliberate attention to contexts and institutions and how they affect the dynamics of livelihood patterns (Bagchi et al. 1998; Mclean 2015; Biddulph & Amberntsson 2016). Livelihood trajectories are defined as “a pattern of livelihood activities which emerges from a coordination of process among actors, arising from individual strategic behaviour embedded both in a historical repertoire and in social differentiation, including power relations and institutional processes, both of which play a role in subsequent decision-making” (de Haan & Zoomers 2005:44).

In simpler terms, it is the “consequences of changing ways in which individuals construct a livelihood over time” (Bagchi et al. 1998:457). As an analytical construct, livelihood trajectories illuminate the livelihood context, penetrating the systems of beliefs, needs, aspirations, and limitations different people face and revealing trends of negotiations, bargaining and trade-offs which shape their opportunities and constraints in their interaction with other actors (Bagchi et al. 1998; de Haan & Zoomers 2005).
This unveils the heterogeneity among the poor and differences in their agency, livelihood strategies, and livelihood outcomes. As a key attribute, the livelihood trajectory perspective enables a focus on the individuality of smallholders vis-à-vis other actors, their agency that culminates in actions or inactions, and the role of specific contexts and institutions in their endeavours. The livelihood trajectory perspective acknowledges that people are agents who command a range of capitals to devise a variety of strategies for a range of livelihood outcomes (e.g. household food sovereignty) and that these strategies and activities are subject to individual agency and the context of action (de Haan & Zoomers 2005).

**Knowledge gap 4: Revealing diverging livelihood trajectories**

The sustainable livelihood approach analyses how context and institutions shape smallholders’ agency but often leads to the inability to unearth the complex realities of smallholders’ lives (McLean 2015; Biddulph & Amberntsson 2016). The livelihood trajectories approach enables defining and understanding the dynamics that shape people’s livelihoods and realities (Biddulph & Amberntsson 2016). More importantly, it allows for predicting future livelihood paths based on current actions and past experience (Ansell et al. 2014). Although the livelihood trajectories approach offers a more dynamic perspective, studies applying the idea are still scarce (e.g. Diniz 2013; Biddulph & Amberntsson 2016; Valbuena et al. 2015; Matita et al. 2022). Hence, this study uses livelihood trajectories as a concept that attends fully to the context and institutional dynamics, foregrounds the lived experiences and agency of individual smallholders and their households, identifies the diversified and often multi-sited livelihoods of the smallholders, and analyses the outcomes over 20 years (Bebbington 1999; de Haan & Zoomers 2005; Ansell et al. 2014; Mclean 2015). This analysis is presented in Chapter 5.

**1.2.5 Food and nutrition security versus food sovereignty**

Food and nutrition security (FNS) is defined as the situation in which “all people, at all times, have physical and economic access to sufficient safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life” (FAO 2008:1). It encompasses four dimensions:

- **Food availability** is the presence of enough food through agricultural production, imports, and food aid (WFP 2013).
- **Food access** is the ability to obtain enough food, both economically (having enough resources to buy or grow food) and physically (having physical access to food markets) (FAO 2017b). Economic access is ensured when households have sufficient resources to obtain appropriate foods through production, purchase, or donation (Gross et al. 2000).
- **Food utilization** refers to the safety and quality of food and determines households’ nutritional status (FAO 2008).

- **Food stability** is a temporal determinant of FNS and refers to stable availability, access, and utilization. When stability is compromised, a distinction can be made between chronic food insecurity, which recurs seasonally, and transitory food insecurity, for instance, caused by a disaster (Barrett 2010).

This operationalization of food and nutrition security insufficiently recognizes the cultural and social importance of food and the importance of sustainability of food production. I, therefore, position the analysis in Chapter 6 partly in the food sovereignty debate. Food sovereignty currently directs agrarian discourses (Edelman et al. 2014) and has amassed global support from individuals and global food movements (Akram-Lodhi 2015). From mere political rhetoric in the 1980s in Mexican government programmes (Edelman 2014), food sovereignty has mushroomed into a political action frame offering alternative food and agricultural systems predicated upon the current market-based food and agricultural systems (Akam-Lodhi 2015). With the increased attention, however, are also many varied stands and interpretations of the food sovereignty concept. As Edelman and colleagues depict, food sovereignty is “at once a slogan, a paradigm, a mix of practical policies, a movement and utopian aspiration” (Edelman 2014:960), depending on who is advocating it (Akram-Lodhi 2015).

Akram-Lodhi (2015) identifies three political strands in the current food sovereignty frame: (i) the transformational food sovereignty movement, (ii) the progressive food sovereignty movement, and (iii) the reformist food sovereignty movement (Akram-Lodhi 2015). While the three strands converge on the debilitating inequalities and profit-driven structures of the current market-based food and agricultural system, the transformational food sovereignty movement is notable in its radical stand to destroy and rectify the ramifications of the current food system and provide an alternative food and agricultural system with peoples’ right to food, the autonomy of smallholder producers, and sustainable production at the forefront (Windfuhr & Jonsen 2005; Akram-Lodhi 2015). This framing is largely driven by peasant movements such as La Via Campesina and closely associated with agro-ecology, which emphasizes smallholder production concerning land access, seeds, water, accessibility to markets, local production-consumption cycles, energy and technology, and farmer-to-farmer relations (Altieri 2009). Food sovereignty has emerged to challenge smallholders’ dependence on conventional market approaches and suggests replacing neo-liberal food and agricultural governance with one favouring local production, local markets and local consumption over trade in international value chains (Windfuhr & Jonsen 2005; Altieri 2009; Jarosz 2014). Food sovereignty thus contains approaches that seek to regain smallholders’
autonomy over their livelihoods while establishing smallholders and small farms as the future of agriculture.

Food sovereignty movements also seek to restore and reorganize the food and agricultural system to favour smallholders through pro-poor, gender-responsive and redistributive farming (Akram-Lodhi 2015). Agro-ecological agricultural principles aim to restore and improve local smallholders’ capacity to:

- Self-reliance on local seed and genetic resources, water, land and indigenous knowledge,
- Conserve the environment through diversified production that reduces vulnerability to pests and diseases, droughts and improves genetic and biological diversity, thereby building system resilience, and
- Policies to empower producer organizations focused on local autonomy, local production-consumptions cycles, local markets, energy and technological sovereignty and farmer-to-farmer networks (Altieri 2009).

From an agroecological perspective, food sovereignty and the production of commodities like cocoa or oil palm would be incompatible, as priority is given to local production for local markets and consumption. As worded in the Declaration of Nyéléni (Forum for Food Sovereignty 2007), “[food sovereignty] puts the aspirations and needs of those who produce, distribute and consume food at the heart of food systems and policies rather than the demands of markets and corporations”.

**Knowledge gap 5: Integrating notions of food sovereignty in discussing food and nutrition security of smallholders operating on global markets**

Food and nutrition security is seen as an issue of consumption rather than production, although most food-insecure people work in agriculture (Davis et al. 2016). Food sovereignty aims to facilitate the achievement of food and nutrition security by recognizing and supporting producers, distributors and consumers of food (Edelman et al. 2014). However, despite increasing attention and clarity of its principles, scholars struggle to address food sovereignty in the context of smallholders operating in global value chains (Burnett & Murphy 2014; Alonso-Fradejas et al. 2015). While some academics speak of a complex integration of new governance processes outside the current trading system (Windfuhr & Jonsen 2005; Akram-Lodhi 2015), others challenge food sovereignty proponents to work within the current systems and to explore what changes could secure equity, stability and autonomy within current trade markets for smallholders (Burnett & Murphy 2014). This study positions itself in the latter stream to explore what Burnett and Murphy (2014:11) call “the changing face of international trade”, in which value-chain collaboration (VCC) becomes increasingly important. Burnett and Murphy (2014)
noted that smallholders’ engagement in international value chains is an aspiration and important for livelihoods. A farmer-centred perspective asks for recognition of such ambitions while paying attention to the drawbacks of VCC engagement regarding smallholders’ autonomy over crop choice, marketing channels and the sustainability of their farming systems. Therefore, this study incorporates household food sovereignty as a livelihood outcome combining elements of autonomy over production, marketing and consumption, and sustainability of production and the environment of the food sovereignty concept with food and nutrition security (see Section 1.5).

1.3 Contextualizing tree-crop smallholders in Ghana
The tree-crop sector is key to Ghana’s agriculture and economy, covering 35% of cultivated lands (MoFA 2019). Cocoa and oil palm are the main tree crops in terms of area and production (MoFA 2019; FAO 2022b) and have received consistent policy support over the years (Asante 2021; Teye & Nikoi 2021). The two sectors, however, have distinct institutional contexts. This section situates smallholder tree-crop farmers in the broader agricultural context of Ghana (see 1.3.1) and presents the general characteristics of the cocoa sector (see 1.3.2) and oil palm sector (see 1.3.3).

1.3.1 The importance of agriculture in Ghana’s economy and policy
Ghana has an agriculture-led development agenda in which the agricultural sector is prioritized as an engine for Ghana’s economic growth. Historically, agriculture has been the most important sector in terms of employment, income, food and nutrition security, export, and foreign exchange earnings (MoFA 2010). Though agriculture’s contribution to the country’s GDP has declined since independence, this proportion still amounted to almost 20% in 2021, which is higher than the sector’s average contribution to GDP in the entire sub-Saharan region (17%) and the average for lower middle-income countries (15%) to which Ghana belongs (World Bank 2022). Despite the increasing expansion of the non-farm economy in Ghana, in 2021, agriculture still employed 33% of the labour force – 37% among men versus 29% among females and 63% in rural areas versus 12% in urban areas (GSS 2021) (see Table 1.2).

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6 The remaining cultivated area is planted with other cash crops (2%) and food crops (63%).
7 Women’s role in agriculture is largely invisible in official statistics (Chigbu et al. 2019; Hofmeester 2022).
8 These figures include forestry and fisheries.
Table 1.2 Contribution of agriculture to Ghana's economy in 2021

<table>
<thead>
<tr>
<th>Contribution</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross domestic product (GDP)</td>
<td>USD 77.59 billion</td>
</tr>
<tr>
<td>Value added in agriculture (% GDP)</td>
<td>19.71%</td>
</tr>
<tr>
<td>Total agricultural earnings</td>
<td>USD 476.01 million</td>
</tr>
<tr>
<td>Employment in the agricultural sector (% labour force)</td>
<td>33%</td>
</tr>
<tr>
<td>• Of male population</td>
<td>36.6%</td>
</tr>
<tr>
<td>• Of female population</td>
<td>28.8%</td>
</tr>
<tr>
<td>• Of urban population</td>
<td>12.3%</td>
</tr>
<tr>
<td>• Of rural population</td>
<td>62.9%</td>
</tr>
</tbody>
</table>

Sources: GSS 2021; GEPA 2022; World Bank 2022.

Smallholder farming predominates, with 85% cultivate less than two hectares (GIPC 2021). Most of Ghana's agricultural sector is rainfall-dependent and relies on traditional farming practices using hoe and cutlass (MoFA 2019). There is little mechanized farming, but bullocks are used for ploughing, especially in the Northern Regions (MoFA 2019). Farming systems vary with the agroecological zones in Ghana, determined by the amount of rainfall and the length of the growing seasons. The agricultural zones also determine the dominant land-use system and the crops grown or livestock held in each zone (see Table 1.3). Tree-crop production (classified as tree plantations in Table 1.3) dominates in the forest zones, often intercropped with food crops. Alternatively, a mixture of annual food crops, such as maize, plantain, cocoyam, and cassava, is planted. Mixed or sole cropping of food crops characterizes the transitional zone covering the Bono East, Bono, and Oti administrative regions, while cereals and legumes such as sorghum, millet, maize, groundnut and cowpeas dominate the Guiana savanna in northern Ghana (GIPC 2021).

The nature of Ghana's agricultural sector imposes major production constraints that hinder higher productivity, income and competitiveness for smallholders. Poorly developed value chains and low productivity associated with high costs of production inputs, poor marketing systems, limited investments and application of technology, particularly among smallholders, and poor infrastructure for storage and transportation are currently seen as the major hindrances to agricultural development (GoG/NCDP 2021). Seasonal variability in food supply and prices, and insufficient data to monitor the sector, especially regarding pests and diseases, add to the problems in agriculture (GoG/NCDP 2021).
Table 1.3 Agroecological zones and crop production in Ghana

<table>
<thead>
<tr>
<th>Agroecological zone</th>
<th>Regions in the zone</th>
<th>Mean annual rainfall (mm/yr)</th>
<th>Major growing period (days)</th>
<th>Minor growing period (days)</th>
<th>Dominant land-use system</th>
<th>Main crops grown and animals reared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rain forest</td>
<td>• Western North</td>
<td>2,200</td>
<td>150-160</td>
<td>100</td>
<td>Forest, plantations</td>
<td>Cocoa, oil palm, pineapple, coffee, citrus, rice, soy, cashew, coconut, rubber</td>
</tr>
<tr>
<td></td>
<td>• Western</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deciduous forest</td>
<td>• Ashanti</td>
<td>1,500</td>
<td>150-160</td>
<td>90</td>
<td>Forest, plantations</td>
<td>Avocado, cassava, mango, cashew, poultry, sweet potatoes, rice, chilli, plantain, citrus, oil palm, coffee, cocoa, yam, piggery, cattle, vegetables, passion fruit, coconut</td>
</tr>
<tr>
<td></td>
<td>• Eastern</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Ahafo</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transition zone</td>
<td>• Bono East</td>
<td>1,300</td>
<td>200-220</td>
<td>60</td>
<td>Annual food and cash crops</td>
<td>Poultry, cashew, cocoa, chilli, piggery, mango, cassava, yam, maize, mango, honey, tomato, soy, rice, avocado, cashew, sweet potatoes, oil palm, onion</td>
</tr>
<tr>
<td></td>
<td>• Bono</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Oti</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coastal savanna</td>
<td>• Central</td>
<td>800</td>
<td>100-110</td>
<td>50</td>
<td>Annual food crops</td>
<td>Citrus, pineapple, yam, rice, coconut, vegetables, cassava, watermelon, cashew, soy, avocado, sweet potato, mango, passion fruit, cantaloupe, poultry, piggery, tilapia, mudfish, shrimps</td>
</tr>
<tr>
<td></td>
<td>• Greater Accra</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Volta</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guinea savanna</td>
<td>• Upper West</td>
<td>1,100</td>
<td>180-200</td>
<td>*</td>
<td>Annual food and cash crops, livestock</td>
<td>Rice, sorghum, millet, maize, soybeans, groundnuts, cowpea, cashew, shea, savannah cotton, tomato, sesame, vegetables, goats, poultry, piggery, cattle, sheep, goat</td>
</tr>
<tr>
<td></td>
<td>• Upper East</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• North East</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Northern</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Savannah</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sudan savanna</td>
<td>• Upper East (N)</td>
<td>1,000</td>
<td>150-160</td>
<td>*</td>
<td>Annual food crops, livestock</td>
<td>Cotton, poultry, soy, shea, yam, onions, cowpea cattle, goats, piggery,</td>
</tr>
<tr>
<td></td>
<td>• Upper West (N)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Unimodal rainy season.

Food insecurity is also widespread, with 36.6% of the population being severely or moderately food insecure between 2019 and 2021 (FAO et al. 2022). An ageing farmer population, especially in the cocoa sector, due to limited access to land and credit for youth and the poverty image of farming is also a major policy concern (Teye & Nikoi 2021; FAO et al. 2022). However, Giller et al. (2021) contest that ageing farmers are a major problem, although they acknowledge problems with limited access to land and irrigation and low living incomes from agriculture.

Sectoral policies and strategies for the agricultural sector focus on increasing agricultural growth and productivity by developing value chains. Policy aims include achieving food and nutrition security and income diversification for resource-poor smallholders through a commercial market-driven approach centring on collaboration with the private sector and other actors (see Chapter 3). Several policies consider collaboration with the private sector and other actors fundamental to facilitating effective smallholder integration into high-value markets. Government policies promote commercialization and value-chain integration as routes towards globally competitive agriculture, and VCCs are considered key to achieving this (MoFA 2007; 2010). However, the policy vision on VCCs has seen some modifications in the past decade, with currently a major focus on nucleus farmer-outgrower schemes and working via farmer-based organizations (FBOs) rather than linking individual smallholders to multi-sector arrangements involving civil society organizations (see Chapter 3).

1.3.2 The cocoa sector

Ghana is the world’s second-largest cocoa producer, producing a record 1,046,958 tonnes in the 2020/21 season and has a 1.6 million tonnes target for 2026 (Roth et al. 2017; MoFA 2022). Since the commercial cultivation of cocoa in 1879, cocoa has seen a rise in area under cultivation and production. It is the most important export commodity for the country, constituting 20% of the world’s cocoa (CFI 2019; Teye & Nikoi 2021). The sector has historically been the backbone of the Ghanaian economy, contributing significantly to GDP, foreign exchange, and employment. Cocoa accounts for about 25% of the country’s total foreign exchange earnings and contributes about USD 2 billion annually (World Bank 2018; GCB 2022). The sector contributed USD 533 million (GHS 3.1 billion) to GDP in 2021 and is projected to contribute about USD 454 million (GHS 3.41 billion) in 2022 (GCB 2022; Sasu 2022). Land planted with cocoa, cocoa harvesting area, and output continue to rise despite some downturns (see Table 1.4). The 2010 season

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9 This thesis uses ‘nucleus farmer-outgrower scheme’ and ‘outgrower scheme’ interchangeably, using the full term mainly when discussing government policies (where this term prevails). These schemes refer to arrangements in the oil palm sector between an oil palm company or well-endowed large-scale oil palm farmer and smallholders, whereby smallholders bring in their land, and the company or nucleus farmer provides seedlings, inputs, extension services and guaranteed off-take (see 3.2.3).
was significant as the sector achieved its long-held policy aspiration by recording over 1 million tonnes and achieving a 26.6% growth rate (Teye & Nikoi 2021; COCOBOD 2022a).

Table 1.4 Cocoa production in Ghana

<table>
<thead>
<tr>
<th>Year</th>
<th>Planted area (ha)</th>
<th>Harvested area (ha)</th>
<th>Output (tonnes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>1,600.20</td>
<td>1,600,000</td>
<td>632,037</td>
</tr>
<tr>
<td>2011</td>
<td>1,600.30</td>
<td>1,600,300</td>
<td>1,024,553</td>
</tr>
<tr>
<td>2012</td>
<td>1,600.80</td>
<td>1,600,300</td>
<td>879,349</td>
</tr>
<tr>
<td>2013</td>
<td>1,650.80</td>
<td>1,600,300</td>
<td>835,467</td>
</tr>
<tr>
<td>2014</td>
<td>1,683.77</td>
<td>1,683,765</td>
<td>896,220</td>
</tr>
<tr>
<td>2015</td>
<td>1,717.49</td>
<td>1,683,765</td>
<td>740,224</td>
</tr>
<tr>
<td>2016</td>
<td>1,751.79</td>
<td>1,683,765</td>
<td>778,044</td>
</tr>
<tr>
<td>2017</td>
<td>1,786.83</td>
<td>1,867,648</td>
<td>969,511</td>
</tr>
<tr>
<td>2018</td>
<td>1,826.83</td>
<td>1,707,146</td>
<td>904,739</td>
</tr>
<tr>
<td>2019</td>
<td>n/a</td>
<td>1,495,366</td>
<td>811,747</td>
</tr>
<tr>
<td>2020</td>
<td>n/a</td>
<td>1,450,449</td>
<td>766,977</td>
</tr>
</tbody>
</table>

n/a = Not available.

Sources: MoFA 2018a; 2019; COCOBOD 2022a; FAO 2022b.

Smallholders produce virtually all the cocoa from Ghana, with about 850,000 households involved and benefitting the livelihood of about 6.3 million people (Laven 2010; Brako et al. 2021a; COCOBOD 2022b). The cocoa sector is state-controlled, with the Ghana Cocoa Board (COCOBOD) controlling production, processing, and marketing transactions. Most significantly, the state determines the price and production standard and designates licensed buying companies\(^{10}\) entitled to buy cocoa from the cocoa smallholders and sell it to COCOBOD as the single exporter for further marketing (Laven & Boomsma 2012; Deans et al. 2018).

In addition to determining what price\(^{11}\) farmers receive for their cocoa, COCOBOD also sets the price margin allowed to the licensed buying companies and their purchasing clerks. Their profit margins are based on the purchased volumes, and there is little room to manoeuvre regarding the prices paid to the farmers. COCOBOD also provides extension services and planting materials to rehabilitate old or disease-infested cocoa farms and

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\(^{10}\) Licensed buying companies are designated enterprises allowed to buy cocoa from farmers and sell it to COCOBOD. There were about 48 licensed buying companies in the 2018/19 season (COCOBOD 2019).

\(^{11}\) As of 7 October 2022, cocoa producer price stood at GHS 800 per bag of 64 kg of cocoa (COCOBOD 2022c).
build and repair roads for cocoa farming communities. The distribution of inputs such as chemicals has been privatized, but COCOBOD determines which chemicals are used and seems to be regaining control over their distribution.\textsuperscript{12} The omnipresence of the state in the cocoa sector presents a well-organized sector where farmers are relatively well taken care of (Laven 2010) and limits the entry of private and other actors and the role they can play in the sector (Ton et al. 2008).

Despite the many interventions by COCOBOD, there is a role for the private sector in promoting profitable and sustainable cocoa production (Laven 2010; Laven & Boomsma 2012; Deans et al. 2018). Since the 2000s, the sector has seen a rise in public-private partnerships geared at tackling what has been called the ‘persistent wicked problems’ facing the cocoa sector (Ingram et al. 2018:1; Teye & Nikoi 2021). Aside from an ageing farmer population (see 1.3.1), the cocoa sector is also plagued by pests and diseases, leading to low productivity, low farmer profit and incomes, and poor labour conditions. There is also the use of child and forced labour, and negative impacts from cocoa expansion such as deforestation, soil degradation, water pollution and loss of food croplands, as well as the growing impacts of climate change (Asubonteng et al. 2018; Ingram et al. 2018; COCOBOD 2019). This provides room for collaboration between different actors, focusing on sustainable production and supply as a response to the demand of consumers and NGOs for environmentally friendly and ‘climate smart’ products free of child labour. VCCs in the cocoa sector are, therefore, primarily concerned with sustainable production and supply (Laven & Boomsma 2012). Voluntary sustainability standards, corporate initiatives such as corporate social responsibility, and platforms are the main VCCs in the sector driven by several companies, government agencies, civil society, non-governmental organizations, and service providers. Cocoa certification has emerged as the most important sustainable cocoa production strategy, popular among which are UTZ\textsuperscript{13}, Fairtrade, and organic. These often focus on reducing rural poverty, empowering women and youth in the cocoa sector, protecting children’s rights, and promoting environmentally friendly farming activities (Ingram et al. 2018;

\textsuperscript{12} Interview with the COCOBOD’s Cocoa Health and Extension Division (CHED) indicates that government has re-introduced the cocoa input shops and recommends which inputs from private inputs dealers farmers can buy for their cocoa farms. Through the CODAPEC/Hi-Tech programmes (commonly known as the cocoa mass spraying scheme) government takes half of the spraying regime whilst the farmer must take half. Under the Hi-Tech programme, fertilizers were provided free to farmers even up to 10 ha of farm (Interviews 2016). It must be noted that there have been changes over the years in terms of these input programmes significantly among them being the fact that the fertilizer is now subsidised instead of being free of charge and the fact that farmer now must form community farmer-based cooperatives to access it (https://cocobod.gh/project/subsidized-fertilizer-programme).

\textsuperscript{13} UTZ merged with Rainforest Alliance in 2017 (Ingram et al. 2018).
Teye & Nikoi 2021). More recently, the focus has also been on providing a living income for cocoa households (Van Vliet et al. 2021; Waarts et al. 2022). As of 2018, 1,143,610 ha out of the 1,827,000 ha under cocoa were certified under UTZ, Fairtrade, Rainforest, and organic cocoa (MoFA 2019; Amuzu et al. 2022).

The gains of VCCs in the cocoa sector depend on the type of VCC and farmer (Ingram et al. 2018; Teye & Nikoi 2021; Waarts et al. 2021; Debela et al. 2022). This provides a reason for this thesis to examine the diversity in VCCs and among smallholders and the impact on food and nutrition security, autonomy and sustainable production.

1.3.3 The oil palm sector

Oil palm is Ghana’s second most important commodity crop, following cocoa. Palm oil production and export flourished from the 1820s until 1955 when palm oil export ceased. Between 1957 and 1980, a massive attempt was made to revive the sector by establishing large state-owned plantations (Adjei-Nsiah et al. 2012; Asante 2021). After considerable government support in the 1960s, the sector became privatized in the 1990s and 2000s when the state pulled out following neoliberal policies and structural adjustment programmes imposed by the World Bank and International Monetary Fund (IMF) (Huddleston & Tonts 2007; Swinnen & Martens 2007; Carrere 2010). Since then, the state has been involved in the sector through extension delivery with the Ministry of Food and Agriculture (MoFA), the Oil Palm Research Institute (OPRI) and, more recently, the Ghana Tree Crop Development Authority (GTCDA) (see Chapter 3), playing key roles. OPRI is mainly active in research and the production of commercial planting materials for oil palm farmers (MoFA 2011a). Since the 2000s, the policy aim is again directed towards the sector’s expansion, and it features prominently in the current Planting for Export and Rural Development (PERD) Programme (MoFA 2011a; Asante 2012; MoFA 2020).

The sector is now dominated by private actors who produce, process, and market palm fruits on the local, regional, and international markets. These actors differ according to the size of their farms and processing operations, with a common distinction between small-, medium- and large-scale (Ofosu-Budu & Sarpong 2013). Smallholders produce about 80% of the production, benefiting the livelihood of about 600,000 households (Ofosu-Budu & Sarpong 2013; Brako et al. 2021a). The sector employs about two million people in rural Ghana, and filling the domestic deficit in production could create

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14 A living income is a context-specific benchmark income sufficient for a household to afford a decent living standard for all its members. This includes expenses for essential needs, including food, water, housing, education, healthcare, transport, and clothing, while providing for unexpected events. (Tyszler et al. 2020). In Ghana, a living income is estimated at GHS 17,568 (USD 3,948)/year or GHS 1,464 (USD 339)/month for a typical 5-member household in cocoa communities (Smith & Sarpong 2018) (see Chapter 5).
additional 141,000 direct jobs (MoFA 2011a). Although the oil palm sector mainly targets domestic markets, it contributes about 2% of agricultural export (Angelucci 2013).

Table 1.5 Oil palm production in Ghana

<table>
<thead>
<tr>
<th>Year</th>
<th>Planted areas (ha)</th>
<th>Harvested area (ha)</th>
<th>Output (tonnes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>361.10</td>
<td>360.00</td>
<td>2,004,300</td>
</tr>
<tr>
<td>2011</td>
<td>381.80</td>
<td>354.58</td>
<td>2,125,600</td>
</tr>
<tr>
<td>2012</td>
<td>397.10</td>
<td>387.00</td>
<td>2,196,100</td>
</tr>
<tr>
<td>2013</td>
<td>409.10</td>
<td>318.76</td>
<td>2,326,920</td>
</tr>
<tr>
<td>2014</td>
<td>349.04</td>
<td>349.04</td>
<td>2,443,270</td>
</tr>
<tr>
<td>2015</td>
<td>425.60</td>
<td>349.04</td>
<td>2,443,000</td>
</tr>
<tr>
<td>2016</td>
<td>434.12</td>
<td>349.04</td>
<td>2,443,000</td>
</tr>
<tr>
<td>2017</td>
<td>442.80</td>
<td>363.62</td>
<td>2,491,272</td>
</tr>
<tr>
<td>2018</td>
<td>351.39</td>
<td>353.89</td>
<td>2,459,091</td>
</tr>
<tr>
<td>2019</td>
<td>n/a</td>
<td>355.52</td>
<td>2,464,454</td>
</tr>
<tr>
<td>2020</td>
<td>n/a</td>
<td>357.67</td>
<td>2,471,605</td>
</tr>
</tbody>
</table>

n/a = Not available.

Sources: MoFA 2018a;2019; FAO 2022b.

However, the sector has performed poorly over the years (Asante 2021). There has been a slight rise in the area under production, and productivity has slightly increased, but this has not been without fluctuations (see Table 1.5). Oil palm production in 2021 increased to 2,655,440 tonnes, which is insufficient to meet the domestic demand for palm oil (FAO 2022b).

Small-scale actors include smallholders and artisanal processing units (Kramers – named after the Belgian engineer who first installed such a unit). They form the majority who primarily produce and process oil palm for household consumption and local and regional markets (Osei-Amponsah et al. 2012). Most small-scale processors are women, and many of their households own an oil palm farm. They source from other smallholders if their household does not have an oil palm farm. Small-scale processors produce about 60% of Ghana’s palm oil (Osei-Amponsah et al. 2012). Medium- and large-scale processors are commercial processors with medium to large oil palm plantation estates and mills of varied capacities.15 They may also engage in smallholder and outgrower schemes and source from independent smallholders.16 Outgrowers are an integral part of the estates

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15 Many of the medium and large-scale processors are nucleus estates, which consist of a plantation and a mill.
16 See 3.2.3 for more information on smallholder and outgrower schemes in the oil palm sector.
and supply 53% of oil palm to the mills. The outgrowing model has been a persistent policy instrument for expanding the oil palm sector (MoFA 2011a) (see Chapter 3).

Signs of adverse inclusion (see 1.2.1) in VCCs have particularly been observed in Ghana’s oil palm industry, where outgrower schemes with smallholders are the predominant production model. There is evidence of smallholders losing decision-making authority over their production as a result of arrangements that aim to increase economies of scale by joining participating smallholders’ plots for oil palm production (OPRI staff member, pers. Comment 2016). In such cases, smallholders do not have the choice of what crops to grow on their farms, which technology to use and when, and to whom to sell their produce. Smallholders are to adhere to strict contracts and agreements, and those who renege on these could end up in debt traps and lose their productive assets, especially where inputs and credits are advanced in loans (Ofosu-Budu & Sarpong 2013).

Pre-collaboration agreements and conditions also increase inequalities in allocating opportunities to communities and smallholders with a benign production environment, proper infrastructure, and access to productive assets. This marginalizes vulnerable communities and people without assets (Ashraf et al. 2009; Barrett et al. 2010; Michelson 2013). Chapters 3 and 5 further analyse the nature and implications of these VCCs.

1.4 Research objectives and questions
The central aim of this thesis is to contribute to a better understanding of smallholders’ engagement in VCCs from the perspective of the smallholders who pursue VCC as a livelihood strategy. This is achieved by unravelling the policy and institutional context in which VCCs evolve (see Chapter 3), providing coherent profiles of smallholder cocoa and oil palm farmers (see Chapter 4), and analysing their livelihood trajectories (see Chapter 5). This lays the basis for analysing the differential impacts of VCCs on smallholder inclusion in VCCs, particularly regarding their household food and nutrition security (see Chapter 6).

The central question guiding this study is: How do the context of VCCs, smallholders’ profiles and livelihood trajectories affect their engagement in VCCs, and what are the implications for smallholder household food and nutrition security, autonomy, and sustainability? Four sub-questions help answer this question:

1. How do policies and strategies regarding VCC, VCC institutions, and contextual factors enhance or constrain smallholder cocoa and oil palm farmers’ engagement in VCC?
2. How do smallholder tree-crop farming households in Ghana differ, what socio-economic profiles can be identified, and how do they impact smallholders’ engagement in VCCs?
3. What and how do livelihood profiles and livelihood trajectories evolve for each of the smallholder tree-crop farming household profiles?
4. How does smallholder farm households' engagement in the tree-crop sector affect their food and nutrition security, including dimensions of autonomy and sustainability?

1.5 Scope and limitations
This section details the spatial, temporal, and substantive scope and limitations of this study.

1.5.1 Disciplinary and substantive scope of the study
This thesis analyses value chain collaborations from a social science perspective. Collaborations between public, private, and civil society actors occur in several sectors, including health, education, and infrastructure, but in substantive terms, this thesis focuses on collaborations in value chains.

VCCs operate with various logics and strategies under different institutional, organizational and management contexts and with several impacts (Bitzer 2011; Ros-Tonen et al. 2015; FAO 2016; van Paassen et al. 2022). The analysis in this thesis focuses on the diversity in VCCs, their actor constellations and institutional arrangements, and how formal policies and informal institutions, such as gender norms, influence these (see Chapter 3). In terms of actors, it focuses on smallholders, analysing their heterogeneity and identifying different profiles and how these affect their engagement in VCCs (see Chapter 4). The study also looks into smallholders' livelihood trajectories identifying livelihood pathways from the past to the future (up to 2023) and how these evolved, identifying dynamics in time and space (see Chapter 5). Regarding impacts, the study focuses solely on household food and nutrition security, the autonomy of production and marketing, and the sustainability of production (see Chapter 6).

In line with the farmer-centred approach (see 1.2.1), the study aims to understand the processes of inclusion and exclusion from a smallholder’s perspective and context, thus focusing on the local context and paying much less attention to other actors and institutions at the national and transnational scale. Though policy background to VCCs is provided, the broader multi-scalar context in which VCCs are embedded is largely ignored, given the local-level focus of the farmer-centred perspective. This study does not include an in-depth analysis of policy formulation, problems, and instruments as would be achieved with policy reconstruction (Runhaar et al. 2006).

Although local to national actors receive attention in this study, transnational actors are relatively absent as units of observation and analysis. Issues of politics and power are key challenges in rural livelihoods and VCCs (de Haan 2012; Bitzer 2011; Ros-Tonen et al. 2015; FAO 2016; van Paassen et al. 2022 ). This also applies to this study, as they
partly determine the benefits, risks, and inclusivity of smallholders’ VCC engagement. Yet, these aspects receive limited attention due to the study’s farmer-centred focus.

This study combines the analysis of food and nutrition security with elements of the food sovereignty concept. I acknowledge that the food sovereignty concept encompasses more than the autonomy and sustainability of production dimensions discussed in this thesis. However, a profound understanding of smallholder food sovereignty was beyond the scope of this thesis. Similarly, I am aware that dietary diversity measures for women of reproductive age (15-49 years) differ from those of infants and young children (6-23 months old) (Leroy et al. 2015), but such nuances were beyond the scope of this study, as the total household was my unit of analysis.

Finally, although addressing sustainability issues related to the overuse of agrochemicals in tree-crop production (Chapter 6), this thesis pays limited attention to other sustainability issues. For instance, cocoa farmers are increasingly affected by climate change (e.g. Ruf et al. 2015; Ameyaw et al. 2018; Amfo & Ali 2020), but addressing the effects of climate change or the broader effects of tree-crop production was beyond the scope of this study.

1.5.2 Geographical scope
This thesis contextualizes VCCs and smallholder inclusiveness based on knowledge gaps in literature globally, with specific attention to sub-Saharan Africa and a specific focus on Ghana. Ghana is selected as a case study as one of the countries explicitly promoting VCCs in its high-value commodity production (MoFA 2007), specifically in the tree-crop sector (Deans et al. 2018; Ingram et al. 2018). Given the dominance of smallholders in these sectors, cocoa and oil palm are suited for the study because VCCs often target smallholders. Despite the specificity of the Ghanaian tree-crop sector as being state-controlled (see 1.3.2), the context of commodity production dominated by heterogeneous smallholders who are often involved in diversified livelihoods has similarities with situations elsewhere (Jelsma et al. 2017; Bymolt et al. 2018; Schoneveld et al. 2019; Olofsson 2020). This allows for the generalization of this case to other parts of sub-Saharan Africa and the Global South, where smallholders dominate in tree-crop production.

1.5.3 Temporal scope and limitations
Temporally, the literature review extends from 2012 to 2022 and covers VCCs, smallholders, tree-crop production, livelihood trajectories, household food and nutrition security, and some aspects of food sovereignty (see 2.6.2 for the methodology used for the literature review). The data collection covered three years (2015 to 2018), with each fieldwork period covering different thematic areas: the context of VCCs in 2016; smallholder heterogeneity in 2015 and 2017; livelihood trajectories in 2017, and food and
nutrition security in 2018. The survey (see 2.6.4) was carried out in 2015 (in the Kade and Tepa areas) and 2017 (in the Dunkwa area). The differences in the time of the survey are particularly relevant in analysing food and nutrition security, as seasonality plays a key role in food and nutrition security, which may have led to seasonal biases. This implies that the household food and nutrition security analysis should be interpreted in general terms.

Due to personal and family circumstances, the manuscript was completed almost five years after the end of fieldwork in 2018. The implications of this delay are twofold. First, the policy environment keeps constantly changing, particularly concerning VCCs. New policies since 2016 were incorporated in the policy overview (see Chapter 3) to address these changes and assess shifts in policy directions. The second is that data collection occurred before the COVID-19 pandemic, meaning that the impact of the pandemic on tree-crop farmers has not been captured. The general impact of COVID-19 has been disruptive to rural livelihoods and food and nutrition security (Hodey & Dzanku 2021). With measures to contain COVID-19, there was restricted access to output markets where smallholders sell their produce, implying income losses for smallholders (AFAP 2022). During focus groups held for another project in the Ashanti Region in 2021, several smallholder cocoa farmers reported delayed payments for their produce by licensed buying companies. The latter complained of not receiving money from the government because the closed borders did not allow cocoa exports. This could have had a major impact on most farmers in the analysis, particularly those highly dependent on farming incomes, such as the landless and single tree-crop households and those who aspired to improve their livelihoods for the future (2017-2023). Second, COVID-19, and the Russian invasion of Ukraine, also impacted food and nutrition security due to increased food prices across the country (Afele et al. 2022). With most smallholders dependent on their production and food markets, this could have plunged more smallholders participating in this analysis into food insecurity than reported in this thesis.

Finally, the relevant temporal scope for this research spans the decades within which inclusiveness has been a key issue in the international development debate. Achieving inclusiveness has been expressed in the Millennium Development Goals of the 2000s and the current 2030 Agenda for Sustainable Development to “leave no one behind”, within which partnerships have a great role (goal 17) (Gupta & Vegelin 2016). The scope may extend to 2050 and beyond for two reasons. First, evidence points to a recurring need to focus on achieving inclusiveness as inequalities and marginalization keep increasing every decade (Gupta et al. 2015). Second, the effect of the COVID-19 pandemic and the recovery process could enable or impede achieving the sustainable development goals within the expiration period, possibly requiring reinforcing and sustaining the SDGs to 2050 and beyond (Van Vuuren et al. 2022).
1.6 Conceptual framework
In line with the concept of territorially embedded value-chain collaboration (Ros-Tonen et al. 2015), this study prioritizes the local context at the producer end as most collaborations concentrate on the production stage (Bitzer 2011) and because this is the level where smallholders exert agency (Long 2008). The concept of territorially embedded VCCs recognizes that VCCs function in a conditioning environment and that the heterogeneity of actors, powers, interests and legitimacies cannot be understood from a value-chain perspective alone but only within their socio-economic, cultural, political and institutional contexts (Bolwig et al. 2010; Hospes & Clancy 2011; Ros-Tonen et al. 2015). These structures are the enabling and constraining factors emanating from formal and informal institutions (Wangel 2011; Kleine et al. 2012; Jakimow 2013). Institutions are ‘rules of the game’ that prescribe what may or may not be done (Leftwich & Sen 2010). Institutions are defined variably in literature. According to Hodgson, institutions are “durable systems of established and embedded social rules that structure social interactions” (Hodgson 2006:13) and can be primary, evolved or designed (Bitzer et al. 2009). Institutions are often shaped and reshaped by organizations or the ‘players of the game’ – the actors or agents (in this study, the smallholders and those engaging with them in VCCs) who affect and are affected by the institutions (North 1990). This thesis (see Chapter 3) focuses specifically on institutions that steer and define the terms of VCCs.

Institutional factors, which may be external to the design, structure and governance of VCCs, can be much broader in scope than the internal dynamics of the VCCs and may present constraints to resource-poor smallholders (Bitzer 2011; Ros-Tonen et al. 2015). For smallholders, existing institutions can hinder inclusion (Laven 2010) and undermine benefits, increasing smallholders’ risks (Hounkonnou et al. 2012; Thorpe & Maestre 2015). Thus, the institutional context can render inclusive VCCs ineffective and adverse to smallholders (Laven 2010; Bitzer et al. 2013). This means that the analysis of VCC engagement and its benefits and drawbacks is best situated in its context to reveal institutions, structures and processes that determine who gets what, on what terms and when (Kabeer 2000; Hospes & Clancy 2011; Ros-Tonen et al. 2015; Kilelu et al. 2017).

Based on the factors that emerge from the literature, this study focuses on three institutional dimensions. First, recognizing that policies are the main institutionalized instruments shaping VCCs developed by governments or the donor community (Thorpe & Maestre 2015), I analyse how national policies enable or constrain smallholders’ VCC engagement (see 3.1). Second, I look at formal institutions, i.e. the rules, procedures and practices that define the terms of VCC engagement and contracts and determine who is included or excluded from VCCs based on, for instance, land ownership or size (see 3.2). Third, I focus on what could be termed as the ‘informal’ institutions embedded in cultures, such as norms, values, and social practices (Wangel 2011) (see 3.3). Informal institutions such as cultural and societal norms regarding gender and age determine
who qualifies for what type of VCC as they determine who has access to land and other production factors and market-oriented production (Thorpe & Maestre 2015; Kilelu et al. 2017). The various institutions result in different types of VCCs – basic, extended and advanced – that are further analysed in Chapter 3 and generate different outcomes in terms of inclusion, exclusion and adverse inclusion.

As elaborated in 1.2.2, differences among different smallholders should be considered to determine who engages and benefits from VCCs and how. Smallholders with different profiles have different constraints, opportunities and aspirations and are in different production systems operating at different scales, resulting in heterogeneity. This heterogeneity among smallholders contributes to the lack of a unified definition of who smallholders are and why the generic definitions do not reflect or explain why or how some smallholders win or lose out in VCCs. The lack of clear definition remains a major hindrance to inclusive and equitable policies that aim at smallholder inclusion in value chains (MoFA 2007; Asante 2021). Inclusion in value chains may also produce different outcomes for different smallholders (see 1.2.2); smallholders are affected, amongst others, differently by the structured space in which they operate and their differential access to assets. Smallholders also have different aspirations and production objectives (Barrett et al. 2010; Bolwig et al. 2010). Thus, I will pay explicit attention to differences among smallholders regarding the diversified portfolio of livelihood strategies and market activities they may constructively engage in and disengage over time (van der Ploeg 2014). This implies that holistic profiling of smallholders is needed to recognise differences in their context, aspirations, strategies and actions that determine their responsiveness to opportunities such as VCCs. This study takes this perspective, considering factors that smallholders consider important differences between them and other farmers that affect their engagement in value-chain collaborations (see Chapter 4).

As outlined in 1.2.4, this study combines the FNS concept with food sovereignty theory elements to recognize smallholders’ ambition to engage in global markets as well as the drawbacks thereof. Hence, it incorporates household food sovereignty as a livelihood outcome focusing on (i) the right of smallholders’ households to “good quality, adequate, affordable, healthy and culturally appropriate food”, (ii) autonomy over land, production and marketing, including for women, (iii) recognition and respect of cultural diversity and local knowledge, and (iv) ecologically sound and sustainable management of natural resources and biodiversity (Forum for Food Sovereignty 2007). Taking the pillars of food sovereignty into account, this study operationalizes food sovereignty along the four dimensions of the right to food (merging this with the food and nutrition security concept), autonomy (over resources, production and marketing and consumption), respect for local knowledge, and ecologically sound and sustainable production (see Figure 1.1).
1.7 Thesis outline

After introducing the thesis in this chapter, Chapter 2 outlines this study’s research design and methodology and reflects on the ethics, validity, reliability, and limitations. Chapter 3 delves into the contextual embeddedness of VCCs, looking at how policies, formal institutions, and informal institutions (trust and reciprocity, land tenure, and gender norms) constrain or enable smallholders’ engagement in VCCs. Chapter 4 analyses the heterogeneity amongst smallholders and reconstructs different profiles, combining a qualitative approach of self-identified profiles and statistical cluster analysis, the outcomes of which are synthesized into four meaningful and unique profiles that will be used for further analysis of livelihood trajectories (see Chapter 5), and consequences of growing (engagement in) tree-crop cultivation for smallholders’ access to food and autonomy over production and trade (see Chapter 6). The final Chapter 7 synthesizes the findings, reflects on the theoretical and methodological contribution of this thesis and provides suggestions for further research and recommendations for policy and practice.