Smallholders and contract farming at crossroads: the case of the oil palm sector of Ghana

by

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Abstract

There is a general consensus among development experts that developing economies can achieve key development goals such as poverty reduction, agrobiodiversity conservation and improved food security through supporting smallholder agricultural systems including their enhanced participation in contract farming. But, engaging smallholders in contract farming has been a major limitation of contract farming programs globally. This dissertation seeks to enhance our understanding about the factors that influence smallholder participation in contract farming.

The extant literature on smallholder participation in contract farming is disparate and gives conflicting findings within and across different parts of the world. To address this issue, this research systematically reviews extant research on the factors behind smallholder participation in farming programs. Smallholder demographics, farm structure, smallholder assets and attitudes are identified as the main factors for smallholder participation in contract farming. The review also finds that smallholders with more assets and formal land tenures are likely to participate in contract farming.

Furthermore, deploying the Theory of Planned Behaviour as an overarching analytical framework, this research examines the role of attitudes, subjective norm and perceived behavioural control in smallholder non-participation (abstaining from and quitting contract farming) and participation decisions in contract farming in the context of the Ghanaian oil palm sector. Three focus group discussions and a total of thirty-nine semi-structured interviews were conducted of which fourteen were with non-participants (nine with farmers who abstain from it altogether and five with those
who quitted over time) and twenty-five participants (current contracting farmers). The results suggest unfavorable contract requirements lead to smallholders abstaining from contract farming while perceived lack of equity lead to smallholders quitting from contract farming. The research also finds that access to input and output markets is an important determinant of smallholder participation in contract farming. In addition, observed benefits and government policies also enhance smallholder participation in contract farming. Overall, the TPB partially explains the non-participation and participation decisions of farmers.

These results suggest important differences exist between non-participants and participants in terms of their underlying motivations. Such differences must be considered for successfully designing contract farming programs that could more effectively improve smallholder livelihoods.
Lay Summary

Contract farming is generally considered by development experts as an effective ‘win-win’ partnership between smallholders who need access to agricultural production inputs and contracting firms that need arable land for sustaining their supply sources. While numerous studies document positive changes in smallholder productivity and/or income levels, empirical evidence suggest numerous smallholders are excluded from participating in contract farming. The primary motivation for this dissertation is to examine smallholder decision making in contract farming by consolidating the factors that have thus far been identified for smallholder participation in contract farming. Through thirty-nine semi-structured interviews and three focus group discussions with Ghanaian smallholder producers of oil palm, the research examines and identifies the factors for smallholder non-participation and participation.
Preface

This dissertation is my original work. I identified the research objectives, designed the methodologies, collected and analyzed primary and secondary data. It was carried out with guidance from Drs. Christopher Gaston (co-supervisor), Rajat Panwar (co-supervisor), Robert Kozak (committee member), and Shannon Hagerman (committee member).

A version of chapter 2 has been published by the journal, *Business Strategy and Development*. This chapter is recently published as “Achieving Sustainable Development Goals in the global food sector: A systematic literature review to examine small farmers engagement in contract farming” (Vabi Vamuloh et al., 2019). I designed and conducted the systematic literature review while the other authors provided guidance on the content and formatting of the chapter.

The research that formed the basis for chapters three and four was approved by the University of British Columbia’s Behavioural Research Ethics Board Certificate number H17-02230.
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List of Abbreviations

ADC – Agricultural Development Corporation
AUC – African Union Commission
CAD – Canadian dollar
COVE – Corporate Village Enterprise
BOPP – Benso Oil Palm Plantation
FAO – Food and Agricultural Organization
FPA – Farmer Producer Association
GHS – Ghanaian Cedi
GOPDC – Ghana Oil Palm Development Corporation
IFAD – International Fund for Agricultural Development
MoFA – Ministry of Food and Agriculture
NOPL – National Oil Palm Limited
OPRI – Oil Palm Research Institute
PBC – Perceived Behavioural Control
PSI – President’s Special Initiative
RSPO – Roundtable for Sustainable Palm Oil
TPB – Theory of Planned Behaviour
TOPP – Twifo Oil Palm Plantation
UNCTAD – United Nations Conference on Trade and Development
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Dedication

To the Almighty God and the entire Vabi’s family
Chapter 1: Introduction

There is a general consensus among development experts that developing countries can achieve key development goals such as poverty reduction, agrobiodiversity conservation and improved food security through supporting smallholder agricultural systems including their enhanced participation in contract farming (Bellemare and Novak, 2016; Ros-Tonen et al., 2015). At the same time, smallholder agricultural systems are riddled with enormous interrelated challenges such as lack of infrastructure, lack of agricultural production inputs and labour, poor quality produce, and tenure insecurity (Barrett, 2008; Jayne et al., 2014; Jayne et al., 2010). The variety of options available for improving smallholder agricultural systems are therefore limited and complex (Jayne et al., 2014).

The opportunities and challenges surrounding smallholder agricultural systems have led to conflicting perspectives about managing farm lands (Vicol, 2017). On one hand, proponents of large-scale agricultural investments argue that such investments are more productive and smallholder production systems are inefficient (Collier and Dercon, 2014). They often cite the high levels of capital and knowledge offered by large-scale investors, their capacity to easily take-up new innovations and low levels of risk aversion. They also criticize smallholder agriculture for being labour-intensive thereby leaving farmers with little or no time to pursue off-farm income-generating activities (Hazell et al., 2007; Poulton et al., 2010). Consequently, this group of scholars posit that smallholders would be better-off as waged labourers on large farms. Historically, this has been an explanation for the continuous existence of large plantations for crops such as cacao, oil palm, bananas and sugar cane (Byerlee et al., 2016). In contrast, the critical agrarian literature highlights the disposesssory nature of such large-scale agricultural investments and the negative
effects on smallholder livelihoods (Cramb and Curry, 2012; Deininger and Byerlee, 2012). They argue that large-scale agriculture is yet another means for agribusinesses to accumulate capital through smallholder exploitation (Baglioni, 2015). Furthermore, these scholars also argue that the rights of local communities are often violated and affected communities are not adequately compensated (Adams et al., 2018; Borras and Franco, 2012; McCarthy, 2010). These scholars also argue that large-scale agricultural investments pose substantial negative ecological impacts to smallholders and local communities (Borras and Franco, 2012; Kansanga et al., 2018).

Such conflicting views on smallholder agriculture apart, there is extensive evidence that developing smallholder agriculture plays a critical role in economic transformation of many developing countries (Birner and Resnick, 2010; IFAD, 2011). As a result, research institutions, development organizations and national governments have been advancing many inclusive farming models to support smallholder agriculture systems (FAO, 2014a; Thomson, 2011). One model that has garnered much attention is contract farming (Otsuka et al., 2016). Proponents of contract farming view it as a strategy through which smallholders can retain control over their land while agribusinesses can coordinate the activities of smallholder farmers and facilitate their participation in supply chains (Bourque, 2011). Thus, contract farming is viewed as a “win-win” strategy for smallholder farmers and contracting firms.

The agricultural development literature documents diverse benefits of contract farming (Bellemare, 2012; Cahyadi and Waibel, 2016; Ito et al., 2012; Miyata et al., 2009; Prowse and Moyer-Lee, 2014). For example, contract farming increased the net income levels for papaya growing smallholders in India by 37 per cent (Narayanan, 2014), and average household income
level of coffee farmers in Uganda by 12 percent (Bolwig et al., 2009). Other studies document positive spillover effects related to improved farm management and production techniques from contract farming (Setboonsarng and Leung, 2014). A recent review on the impact of contract farming finds that smallholders participating in contract farming generally realize higher income and productivity levels compared to non-participants (Nguyen et al., 2015).

But, contract farming can also be a problematic practice. The literature on critical agrarian studies rejects its benefits to smallholders and describes how contract farming can subject smallholders to exploitation by large agribusinesses (Briones, 2015; Freguin-Gresh et al., 2012; Little and Watts, 1994; Wang et al., 2014). It enables agribusinesses, i.e., contracting firms to avail unduly cheap labour, transfer their own production risks to smallholders, and take control of the land that smallholders own. McCarthy (2010) describes the process of incorporating smallholders into supply chains under such conditions as “adverse incorporation”. Moreover, there is evidence that contract farming tends to favor only the better-off small farmers while excluding the poorer ones that are in dire need of support (Anseeuw et al., 2012; Barrett et al., 2012). In addition, contract farming is criticized for what is dubbed as disguised land grabbing that ultimately exacerbates inequalities between farmers who are able to participate in contract farming and those who are not (Collins, 2014; McKeon, 2013). Development practitioners therefore caution against contract farming when it may lead to increased social differentiation and exclusion of poor smallholders; and therefore call for well-designed contract farming programs that are inclusive (Abebe et al., 2013; Bijman, 2008). The fundamental motivation of this dissertation is to address the topic of smallholder participation in contract farming. The dissertation first consolidates the existing literature on smallholder participation in contract farming before addressing it empirically,
specifically in the context of oil palm production in Ghana. However, because smallholders are not a homogenous group, this dissertation uses two farmer typologies – non-participating and participating smallholders as a classifying framework to examine smallholder decisions for non-participation and participation. Non-participation is examined separately for farmers that quit from contract farming and for those who never participated in it. Theory of Planned Behaviour (TPB) is used as an analytical framework. These two farmer typologies, that is, participating and non-participating farmers, differ mainly in their perceptions towards contract farming. The development of farmer typologies has been suggested as one way of understanding the heterogeneity amongst smallholder decisions and a means of understanding how different smallholders react to agricultural interventions (Daloğlu et al., 2014; Hammond et al., 2017). Furthermore, this approach is useful in the design of separate interventions for non-participating and participating farmers.

1.1 Conceptual framework

In order to understand smallholder decisions for non-participation (chapter 3) and participation (chapter 4) in contract farming, the Theory of Planned Behaviour or TPB (Ajzen, 1991) is used. Compared to alternative decision-making theories, the TPB has a higher predictive validity in explaining individual behaviour (Kaiser et al., 2005). The TPB has been extensively used in the literature to study farmer decisions to adopt novel agricultural interventions. For example, understanding farmer motivations for adopting conservation agriculture (Lalani et al., 2016), farmer decisions for business diversification or specialization (Hansson et al., 2012; Senger et al., 2017), farmer intentions towards water conservation practices (Yazdanpanah et al., 2014). Furthermore, the TPB has proven to be a useful theory in explaining smallholders’ decisions to
engage with new agricultural interventions (Burton, 2004). The TPB posits that individual intentions to perform a particular behaviour are determined by three constructs - attitudes, subjective norms and perceived behavioural control (PBC) that form the basis of conceptually analyzing farmers non-part and participation in contract farming in this research.

The TPB assumes that smallholder behaviour is a weighted outcome of both volitional and non-volitional constructs. In other words, behaviour is dependent on what can, and cannot be voluntarily controlled by smallholders. Attitudes and subjective norms are considered to be the volitional constructs of the theory as these are under the voluntarily control of smallholders while PBC is viewed as the non-volitional construct in that even if smallholders want to perform a behaviour, they may not be able to do so as a result of external constraints beyond their control. The TPB is therefore appropriate for examining smallholder motivations to participate in contract farming as the volitional construct of the theory captures smallholder motivations to participate in contract farming while smallholder capacity to participate in contract farming is captured by the non-volitional construct of the TPB (Ajzen, 1988). Thus, by using the TPB, it is possible to examine how smallholder decisions are facilitated or constrained by the context in which they are embedded.

Intention is an antecedent to behaviour and is believed to capture the factors that influence behaviour (attitudes, subjective norms and PBC). Intentions are defined as an indication of the extent to which an individual makes an effort to perform a behaviour (Ajzen, 1988). Therefore, intentions capture the factors that an individual considers before engaging in a behaviour.
Beck and Ajzen (1991) and (Ajzen, 1991) identify three determinants of intention – attitude, subjective norm, PBC. Attitude towards behaviour refers to the perceptions individuals have about the behaviour and the perceived compatibility of the behaviour with motivations. Therefore, each unique behaviour is related to a particular attitude (Grube et al., 1994).

The subjective norm refers to social pressure on smallholders to execute (or not execute) a particular behaviour in a socially acceptable manner (Ajzen, 1991). For example, if individuals think ‘significant others’ can accept the behaviour, then the likelihood is high and they tend to perform the behaviour and vice versa.

Finally, PBC refers to the perceived easiness or difficulty in performing a specific behaviour and how confidently an individual can accomplish the behaviour based on their resources (Ajzen, 2005). In this context, this may include past experience with contract farming, availability of farming resources and required knowledge and skills. That said, individuals that perceive they lack the necessary resources are less likely to participate in contract farming. Thus, using the TPB, farmers’ decisions are influenced by their perceptions of contract farming, social pressure exerted by other members of the community, whether or not farmers have the necessary resources to successfully participate in contract farming, as well as the socio-cultural context in which farmers are embedded. However, given the inductive approach of this dissertation, this is only a guiding framework as it may not capture an exhaustive list of the possible reasons why farmers decide to abstain from, quit from or participate in contract farming. Figure 1 is a schematic representation of the TPB.
Applying the TPB to the current study necessitates some modifications. Intentions in this study will refer to smallholder motivations for non-participation (abstaining and quitting) and participation in contract farming. Behaviour will refer to the actual behaviours of smallholder farmers. That is, abstaining, opting out and participating in contract farming will be considered as actual behaviours.

1.2 Research sites

The Kwaebibrem District of the Eastern Region and the Ahanta West District of the Western Region of Ghana were chosen as the research sites for this study due to the important role played by oil palm in the livelihoods of these communities. Both research sites have a long history of oil
palm production and are host to oil palm producers of different scales ranging from small independent farmers to large agro-processing firms. Oil palm production is a dominant livelihood strategy pursued by many farmers in Ghana. Smallholders account for an estimated 75 per cent of total oil palm production in Ghana (Byerlee et al., 2016). Despite the important role of smallholder farmers, they are considered to be the most marginalized group amongst rural societies. They are affected by critical forms of poverty and suffer from extremely high levels of food insecurity (IFAD and UNEP, 2013). This is particularly true in Ghana where the agricultural landscape is dominated by subsistence oriented smallholder farmers. Furthermore, about 75 per cent of Ghanaian smallholders operate farms less than three hectares (Chamberlin, 2008). Thus, Ghana presents as a suitable case to examine smallholder decisions.

In the Kwaebibrem District of the Eastern Region, the Ghana Oil Palm Development Corporation (GOPDC) is the main oil palm contracting firm, which is the biggest in Ghana. GOPDC owns about 21,500 hectares of land. About 6000 outgrowers located within 30km of the oil palm processing mill cultivate 13,000 hectares of oil palm while about 350 hectares under the smallholder program, and about 8,000 hectares under the concession of GOPDC. GOPDC, founded in 1975 as a government owned corporation was completely privatized to Société d’Investissement pour l’Agriculture Tropicale (SIAT), a Belgian investor in 1994 (Ofosu-Budu and Sarprong, 2013). The Oil Palm Research Institute (OPRI) is located at Kusi which is about 30km from GOPDC’s location. OPRI provides extension services and sells agricultural inputs to farmers at a subsidized cost.
The outgrower program continues to supply the majority of GOPDC’s oil palm. Three main reasons could account for this. First, outgrowers achieved substantial gains in productivity due to the use of high yielding seedlings. Second, at the time of privatization in 1994, the plantation estates and smallholder programs were already producing oil palm at optimal levels. Third, additional contracts were offered to outgrowers in order to meet the mill’s processing capacity of 60 tons per hour (Huddleston and Tonts, 2007).

In the Ahanta West District of the Western Region, Norplam is the main plantation estate that engages in contract farming. Norpalm was initially established and managed by the government in 1962 as the National Oil Palms Plantation and privatized to the Norwegian investor - Norpalm in 1998. Norpalm owns and manages 4500 hectares of land, all of which is under the scheme program (Adeho, 2015). In addition to its scheme program, Norpalm only sources oil palm from outgrowers and farmer producer association. In order to be an outgrower for Norpalm, farmers must own and manage at least 10 acres of land and must be located within 20km of the processing firm (Norpalm, 2018). Thus, while GOPDC and Norpalm obtain oil palm from the scheme and outgrower programs, Norpalm also sources from independent farmers with less than two hectares of land through farmer producer associations.

1.3 Methodology

1.3.1 Research Approach

To understand smallholders’ reasons for abstaining, quitting from or participating in contract farming, this dissertation adopts a phenomenological approach. This approach is useful as phenomenological studies enable individuals or groups of individuals describe the common
meaning of a lived experience (Creswell, 2013). A central assumption underpinning the phenomenological approach is the essence to a lived experience shared with others that have similar experiences and/or those that have lived the same experience. Thus, the phenomenological approach focuses on life as lived.

1.3.2 Interpretive Framework

The researcher approaches the study with a social constructivist interpretive framework. The goal of a social constructivist is to obtain as much variation as possible in order to understand interviewees’ view of a phenomenon (Creswell (2013) – in this case, smallholder decisions to not participate or participate in contract. The social constructivist framework requires asking open-ended questions that pertain to personal experiences related to the specific objectives of the inquiry (Schensul et al., 1999). These guidelines were used in the development of study protocol (appendix 1).

1.3.3 Sampling Strategy

A mix of purposeful and snowball sampling approaches were used for this research. Purposeful sampling allowed me to select groups of respondents that are well informed on the subject of smallholder non-participation and participation in contract farming. Smallholders constituted the primary respondents for this study. A snowball sampling strategy is based on interpersonal relations between individuals (Browne, 2005). Snowball sampling is important as it provides access to respondents that are otherwise difficult to identify and access (Noy, 2008). Because, smallholders were busy on their farms and reluctant to speak to a stranger, the researcher had contacted Solidaridad Network, a non-governmental organization focused on smallholder capacity
development. They introduced me to one farmer in each site who then introduced me to multiple other farmers. Subgroups of respondents included non-participating independent smallholder producers, former contracting smallholders who had opted out from contract farming and contracting smallholder producers of oil palm. These subgroups were selected to explore the differences in their decisions to abstain from, quit from or participate in contract farming (Tobin and Begley, 2004).

1.3.4 Data Collection

Data was collected between May and August 2018. Data was collected using semi-structured interviews and focus group discussions. These methods were chosen to gain an in-depth understanding of smallholder decisions to not participate, quit from or participate in contract farming (Charmaz, 2006). Semi-structured interviews are particularly important in that they capture a range of opinions and experiences lived by the respondents on daily basis (Maxwell, 2012). In addition, they allow for in-depth exploration of a phenomenon and enable the researcher to understand the values, and attitudes and to co-create meaning with their respondents (Marshall and Rossman, 2011). Semi-structured interviews constitute a free-flow of exchange between two people, or among multiple people in case of a focus group discussion (Saunders, Lewis and Thornhill, 2016). Focus group discussions were also used to collect data. Focus group discussions can be considered a variation of interviews in which several individuals can simultaneously participate. A core advantage of focus groups is that they are usually conducted in a more social and natural setting which tends to be more relaxed when compared to a one-to-one interview (Marshall and Rossman, 2011).
The majority of interviews with farmers were conducted in Twi\(^1\) language with the help of a translator. However, in cases where interviewees could comfortably express themselves in English or pidgin English (a creole widely used across West Africa), interviews were conducted in English. While I am from Africa, I do not speak or understand Twi. The translator ensured that the research was conducted in a culturally appropriate manner. Together with the translator, we agreed on communication methods which involved directly translating from oral Twi to both oral and written accounts in English and discussing the meaning associated with particular interviewee responses. An additional translator was then used to minimize the loss in meaning associated with translation and to ensure recordings were correctly converted to transcripts. The use of multiple translators to minimize loss of meaning has been recommended by multiple qualitative research scholars (Regmi et al., 2010; Roth, 2018; Temple and Young, 2004). All interviews were audio recorded, translated, transcribed and analyzed using the qualitative data analysis software Nvivo 12.

### 1.3.5 Data Analysis

Data analysis consisted of line-by-line coding in an iterative process which permitted themes to emerge from the data (Charmaz, 2006). Line-by-line coding permits the development of initial codes. Subsequently, a more focused coding was done to sort, analyze and synthesize codes identified in the initial coding step. Similar codes were then grouped into categories and then to themes. According to Saldaña (2013), the iterative process of coding enables the researcher to constantly reflect upon the coding process while drawing linkages to the theory proposition that guided the study. Based on the contract farming and agricultural development literature review,\(^\text{1}\)

\(^1\) A local language widely used across Ghana.
factors that may influence smallholder non-participation in contract farming served as a basic reference point for data analysis. Through open coding, additional themes defined by smallholders emerged from the data. Similar codes were then categorized into a single file. Categories were developed based on similarities and differences between codes. This analytic strategy makes use of cross-respondent synthesis and explanation building in order to understand the process of smallholder decision making.

1.3.6 Validity

In line with protocols for validating and establishing credibility in qualitative research, multiple strategies were used to arrive at a confluence of evidence in this research (Creswell, 2013). The main strategies used to establish validity in this research were (i) continuous reflection on my biases as a researcher (ii) prolonged field engagement and (iii) data triangulation through focus group discussions (Maxwell, 2012). First, as Maxwell (2012) suggests, researcher bias can only be minimized and never completely eliminated. While conducting interviews and analyzing data, I remained cognizant of how I may have interpreted interviewee responses. My biases, especially owing to my passion for improving smallholder livelihoods, may have influenced the way I listened to and interpreted data. This implies, I may have been quick to conclude that smallholders are being exploited by contracting firms. I therefore, constantly reflected on my biases so as to minimize my own projection of how things should be rather than understanding them how they are. I minimized the influence of my biases by restraining from giving my opinion and prompting interviewees to share their opinions as much as they could. During semi-structured interviews, validity was enhanced by reframing questions in multiple ways order to ensure that interviewees understood the questions and provided consistent answers. Second, my prolonged engagement in
the field (3 months) also led to the establishment of trustworthy relationships between farmers, translators and I which is important for achieving creditability in qualitative research (Creswell, 2013). Third, triangulation was also used to validate the findings of this study. Creswell (2013) defines triangulation as a process where the researcher uses multiple methods of data collection to arrive at a convergence of evidence. Triangulation was done using semi-structured interviews and focus group discussions. Findings from individual semi-structured interviews were anonymously discussed during focus group discussions in an attempt to validate the findings at this stage. Moreover, at the end of each focus group discussion, findings were presented to farmers. This also ensured that ‘thick data’ is obtained by gathering information from a variety of perspectives so that a more complete picture of the phenomenon emerged (Casey and Murphy, 2009).

This research was approved by the University of British Columbia’s Behavioural Research Ethics Board. Consent forms are included in Appendix 3 and 4 for individual interviews and focus group participation, respectively.
2.1 Introduction

Contract farming is a common strategy among multinational companies in the global food sector. It allows food sector companies to enter into formal agreements with farmers for production of specified agricultural commodities that companies can then market (Prowse, 2012). Contract farming is touted as a triple-win proposition because it helps food sector companies economically by providing them access to valuable land resources (Fayet and Vermeulen, 2014; Kirsten and Sartorius, 2002); it helps small landowners - especially in the poorest parts of the world - in generating stable income by providing them access to mainstream markets (Nguyen et al., 2015); and, it helps mitigate some of the negative environmental impacts of agriculture production (Montefrio et al., 2015). Thus, contract farming is a promising mechanism to achieve multiple sustainable development goals related to food security, poverty alleviation, and biodiversity conservation (Bolwig et al., 2010; Deans et al., 2018).

While contract farming is a growing trend (Otsuka et al., 2016), full realization of its triple-win promise hinges upon effective and widespread smallholder participation (Mitten et al., 2009; Oya, 2012). Smallholders are resource scarce farmers that operate on less than 2 hectares of land. They are the most abundant, yet marginalized, actors in global food production chains who collectively cultivate approximately 75% of the world’s farmland (Lowder et al., 2016) and produce approximately 70% of global food output (IFAD and UNEP, 2013). However, only about 1-5% of
smallholders in developing countries participate in contract farming and this limited smallholder participation in contract farming is a central concern in global food sector sustainability (Minot and Sawyer, 2016). But, why is smallholder participation in contract farming so low? Scholars tend to attribute farmer exclusion from contract farming to “faulty” production systems of smallholders (Ito et al., 2012; Tobin et al., 2016; Vink and Van der Heijden, 2013). Previous research (Abebe et al., 2013; Anseeuw et al., 2012; Bijman, 2008) has examined this question but the results are mixed and remain largely scattered. As a result, a consolidated understanding of exclusion of smallholder farmers from contract farming is missing. In the absence of a thorough understanding of the factors that contribute to smallholders’ participation in contract farming, appropriate interventions are implausible. This chapter attempts to bridge this gap by conducting a systematic literature review (SLR). My aim is to enhance our understanding about the factors that lead to smallholder participation in contract farming, which, global food sector companies will find useful as they strive to pursue sustainable food production systems globally.

The chapter is organized as follows. First, I provide an overview of contract farming and how it creates win-win-win outcomes. Subsequently, I discuss the methodology used for my SLR. This is closely followed by a discussion on the factors that account for smallholder participation in contract farming. Finally, I derive several research gaps identified in the literature and conclude the chapter.
2.2 A primer on contract farming

Contract farming is essentially a form of agricultural production guided by an agreement between a buyer (usually a food sector company or its intermediary) and farmers. It helps both contracting companies and smallholders in reducing their cost of production (Maertens and Swinnen, 2009). Smallholders gain from contract farming because it provides them access to lucrative markets. Companies gain from it because it helps them overcome land constraints (Amanor, 2012). Spurred by changes in consumer demands for quality standards and food safety, contract farming is viewed as a means of vertical coordination along agri-food supply chains (Saenger et al., 2013). Globally, contract farming is practiced under five different models (Bijman, 2008; Eaton and Shepherd, 2000).

These models are distinguished based on the level of vertical coordination and stakeholders’ involvement. The first is the centralized contract farming model, in which the contracting company buys a commodity from several independent smallholders under highly regulated production conditions (Eaton and Shepherd, 2000). This model generally favors large-scale farmers due to large quantities that contracting companies require (Prowse, 2012). The second is the nucleus-estate contract farming model. In this model, a contracting company buys crops from independent smallholders but at the same time also owns farmland. This arrangement provides contracting companies a buffer against any fluctuation in external supplies as company farmlands are used to ensure a baseline supply of inputs (Bijman, 2008). The third is the multipartite contract farming model. This model usually involves governments, non-governmental organizations, farmer producer associations, and smallholders. It may also consist of joint ventures between national and/or local governments and a contracting firm. Melese (2012) contends that the multipartite
model is best suited for poor smallholders as there is a shared responsibility among several stakeholders. The fourth is the informal contract farming model. This model consists of small-scale contracting companies that engage in informal contracts with several smallholder farmers usually on seasonal basis (Minot, 2007). The fifth, the intermediary contract farming model, usually involves three contracting parties- a contracting company, a middle man or a cooperative (also known as farmer producer organization), and smallholders (Bijman, 2008). This model is generally considered as a hybrid between the informal and the centralized models. Generally, production under such contracts are not highly coordinated and may lead to significant variation in quality of commodities produced (Prowse, 2012). Although these five models represent key distinguishing features of different contract farming practices, it is not uncommon to notice overlaps such that different features of the various contracting models are found in a single contract arrangement.

A wide variety of crops are grown globally under contract farming arrangements (Bijman, 2008; Eaton and Shepherd, 2000). Typically, contract farming is considered suitable for crops that are perishable, require a high degree of processing, and when buyers demand uniform quality produce (Bijman, 2008). Consequently, it is observed that contract farming is dominantly employed in the production of coffee, fresh fruits and perishable vegetables (UNCTAD, 2009b), as well as crops such as oil palm, tea, and cacao that require processing immediately after harvesting (Byerlee et al., 2016). In addition, depending on the types of markets served, the same commodity may be sold through several channels (Bijman, 2008). For example, in the Shandong Province of China, apples produced under contract farming are sold to local supermarkets while apples produced at company owned farms are sold in international markets (Miyata et al., 2009). However, with the
increasing popularity of contract farming, contract farming has been applied to staple crops such as rice and maize that do not require immediate processing after harvest and are not highly perishable (Maertens and Vande-Velde, 2017). Overall, contract farming can be described as an outcome of a complex interaction between crop characteristics and types of markets. In the next section, I review how contract farming brings multifaceted benefits to companies, smallholders, and the society at large.

### 2.3 Contract farming as a triple-win mechanism

Contract farming offers numerous economic benefits to food sector companies. Foremost, it helps them reduce production costs (Swinnen and Maertens, 2007; Winters et al., 2005) primarily through better coordination in production and marketing. Relatedly, it can help contracting companies in maintaining a stable supply of desired quality products. By engaging small farmers in contract farming, companies can also garner positive reputation (Setboonsarng and Leung, 2014).

In reciprocation, contract farming tremendously benefits small farmers too. Through contract farming, smallholders can access farm inputs such as credit, information, technology and extension services which are essential for integrating smallholders into globalizing and consolidating markets that small farmers otherwise find unaffordable (FAO, 2017; Ploeg, 2012; Poulton et al., 2010). The outcome of accessing markets through contract farming is increased farm productivity and increased income (Birner and Resnick, 2010; Brandi et al., 2015). For example, contract farming increased net income levels for papaya growing smallholders in India by 37 per cent (Narayanan, 2014). Other spillover effects of contract farming are infrastructural development,
employment opportunities and the development of local markets within small farmer communities (Setboonsarng and Leung, 2014). Moreover, contract farming can expose small farmers to new technologies and business management skills such as the efficient use of agricultural inputs, record keeping skills and improved knowledge of product grades and quality (Da Silva, 2005).

In addition, smallholder participation in contract farming is considered a vital pathway to food security among smallholder households (Bellemare and Novak, 2016; Chege et al., 2015; Herrmann et al., 2018; Kissoly et al., 2017). For example, Bellemare and Novak (2016) found that households participating in contract farming in Madagascar experienced a decreased hunger season by an average of 10 days. Chege et al. (2015) found that smallholder participation in contract farming improved micronutrient and calorie consumption among Kenyan farmers. Food security through contract farming is a key benefit as smallholders constitute the majority of the world’s undernourished population (IFAD and UNEP, 2013). More broadly, contract farming is considered an imperative in meeting global food demand (Setboonsarng and Leung, 2014) because it can help close yield gaps on smallholder farms. For instance, Nathaniel et al., (2012) argue that fully closing yield gaps could result in an approximate 47 per cent increase in rice, 71 per cent increase in wheat, and 64 per cent increase in maize production globally.

From an environmental perspective, with the demand for food, fuel and fiber expected to double by 2050 (Tilman et al., 2011) agricultural innovation on smallholder production systems are necessary in order to prevent encroachment into forests and other protected areas (Sayer and Cassman, 2013). Small farmers’ engagement in contract farming may relieve some pressure on forests as contracting companies will likely emphasize technological innovations for improved
productivity than expansion into new areas, especially in wake of increased concerns for corporate responsibility toward deforestation (Lambin et al., 2018). Smallholders, who are highly dependent on forest resources for their livelihoods\(^2\) are also extremely vulnerable to the threats posed by climate change (IFAD and UNEP, 2013). It is also argued that by participating in contract farming, the capacities of smallholders may be enhanced thereby increasing their ability to cope with climate change (Azumah et al., 2017).

These numerous benefits and the promises of contract farming notwithstanding, there is a growing evidence across Asia, Eastern and Central Europe, South America and Africa to show that the exclusion of poor farmers is widespread in areas where farmer capacities are insufficient (Barrett et al., 2012; Narayanan, 2014; Swain, 2012). This is a key issue of concern as marginal farmers’ exclusion from contract farming can severely restrict the reach of its triple-win promise. It is against this backdrop that I conduct a systematic literature review to better understand which factors are driving this exclusion.

2.4 Methodology

Qualitative systematic literature reviews aid in developing a structured understanding of a phenomenon based on previous data or studies (Paterson and Core, 2001). Data used in this paper is a set of empirical literature on contract farming that explore smallholder participation. The

\(^2\) The term livelihood as used in this dissertation refers to subsistence and income generating activities (Scoones, 2009).
researcher performs this systematic literature review using the protocol developed by Tranfield et al. (2004). The SLR methodology ensures a comprehensive exploration of the literature for collecting, analyzing, and synthesizing a large number of studies on a topic of interest based on pre-defined criteria. This methodology consists of a five-pronged approach: (i) identification of studies, (ii) selection of studies, (iii) study quality assessment, (iv) data extraction, and (v) data synthesis. Each of these approaches are described in detail.

### 2.4.1 Identification of Studies

The literature on contract framing is scattered over a variety of disciplines including rural sociology, geography, management, rural development, economics, and psychology. As a first step, the researcher identified keywords following Thomé et al. (2016) who suggests that keywords should be sufficiently broad yet specific to identify studies related to the phenomenon of interest. Based on a survey of literature, the researcher identified the following keywords: contract farming, cooperative, producer association, nucleus estate, smallholder, small scale, small-scale, small farmer and participation. A search string was generated using these keywords with the Boolean connectors OR and AND. The search string below was then used to search for articles in the Web of Science database on July 18th 2017. The Web of Science database was chosen because it is a global leading database for peer-reviewed journals. Also, its Social Science Citation Index is amongst the most comprehensive repositories of peer-reviewed journals in social sciences.³

Furthermore, Web of Science as singular database choice is consistent with previous SLRs in agriculture, forestry and sustainability fields. The search string used for the SLR was:

\[\text{TS=} (\text{"Contract farming" OR "nucleus estate*" OR cooperative* OR "producer* association*" OR "agricultural cooperative*"}) \text{ AND TS=} (\text{"farm*" OR "smallhold*" OR "smallhold*" OR "small-scale" OR "small scale" OR "small farmer*"}) \text{ AND TS=} (\text{Participation})\]

The search resulted in a total of 217 peer-reviewed papers published over a span of 40 years (1977-2017).

### 2.4.2 Selection of Studies

The researcher then reviewed abstracts of these 217 articles to eliminate any irrelevant articles that did not address smallholder participation in a contract farming program. After reviewing the abstracts, 81 studies were excluded and 136 were retained. The researcher further securitized these 136 studies after reading the introductions to include only those studies that exclusively examined smallholder participation in voluntary contract farming. This step filtered out 39 additional studies, leaving me with a final sample of 97 studies included in this SLR. Table 2 below summarizes the inclusion criteria of studies selected during this phase.
Table 1: Inclusion criteria for selected studies

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Decision</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sector</td>
<td>All sectors that are related to smallholder participation in contract farming programs.</td>
<td>Contract farming exists in several sectors and the participation challenges across these different sectors are similar.</td>
</tr>
<tr>
<td>Geographic location</td>
<td>Global</td>
<td>Challenges associated with contract farming are predominant in developing countries. However, contract farming in developed countries can shed some light on what strategies can be employed to overcome or minimize smallholder participation challenges in developing countries.</td>
</tr>
<tr>
<td>Nature of study</td>
<td>Empirical</td>
<td>Empirical cases are selected because they provide evidence of smallholder participation or non-participation in contract farming.</td>
</tr>
<tr>
<td>Time limit</td>
<td>No limit</td>
<td>Gasson (1977b) document smallholder participation challenges as far back as the 1970s so there is no reason to restrict studies to a particular time period.</td>
</tr>
</tbody>
</table>
Method | Quantitative and qualitative | Both quantitative and qualitative studies that provide empirical evidence to smallholder participation.

2.4.3 Data Extraction

The data extraction phase recorded the authors, the journal, year of publication, location, objectives of the study, factors underlying farmer participation, and identified research gaps. Once a particular study met the inclusion criteria elucidated in Table 2, it was imported into Nvivo 11. This process was applied to all articles included in the study for the purpose of coherency.

2.4.4 Data Synthesis

Data synthesis refers to the process of making sense of the data. Coding or qualitative content analysis was done in three steps – open coding, selective coding and axial coding. Open coding refers to a process where the researcher applied content analysis to textual data (Hsieh and Shannon, 2005) to identify the factors that influence smallholder participation in contract farming from each article. In the second step, the researcher performs a selective coding. The second step consisted of a more focused coding process which aimed at identifying similarities and differences between codes. Similar codes were then grouped into categories and themes were developed based on similarities and differences between categories. In the third step of coding, the researcher conducts axial coding which consist of understanding the context within which contract farming was being operationalized. Such an understanding is important as the context within which
contract farming is being promoted may have potential implications on which farmers may be able to participate in contract farming.

2.5 Results and Discussion

2.5.1 Descriptive Statistics

This section characterizes the 97 journal articles reviewed for this chapter. Figure 2 shows the increasing number of articles published between 1977 and 2017 that met the inclusion criteria.

![Figure 2: Number of articles meeting the inclusion criteria by year of publication](image)

The 97 articles appeared in 35 different journals covering a range of disciplines. These journals include research focusing on development studies, agricultural economics, sociology, environmental management, forestry, geography, aquaculture and land use policy. More than half (66 articles) of the articles reviewed were published in 8 journals (See table 3). These journals
include: World Development (17 articles), Agricultural Economics (10 articles), Food Policy (8 articles), Development Studies (8 articles), International Food and Agribusiness Management Review (7 articles), Rural Studies (6 articles), American Journal of Agricultural Economics (6 articles) and Agricultural Economic Research, Policy and Practice in Southern Africa (5 articles).

Table 2: Leading journals publishing articles that meet the inclusion criteria

<table>
<thead>
<tr>
<th>Journal Title</th>
<th>Number of articles</th>
<th>Proportion of sample (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>World Development</td>
<td>17</td>
<td>17.7</td>
</tr>
<tr>
<td>Agricultural Economics</td>
<td>10</td>
<td>10.4</td>
</tr>
<tr>
<td>Food Policy</td>
<td>8</td>
<td>8.3</td>
</tr>
<tr>
<td>Development Studies</td>
<td>8</td>
<td>8.3</td>
</tr>
<tr>
<td>International Food and Agribusiness Management Review</td>
<td>7</td>
<td>7.3</td>
</tr>
<tr>
<td>Rural Studies</td>
<td>6</td>
<td>6.3</td>
</tr>
<tr>
<td>American Journal of Agricultural Economics</td>
<td>6</td>
<td>6.3</td>
</tr>
<tr>
<td>Agricultural Economic Research, Policy and Practice in Southern Africa</td>
<td>5</td>
<td>5.2</td>
</tr>
<tr>
<td>Others</td>
<td>30</td>
<td>31.2</td>
</tr>
</tbody>
</table>

The majority of the articles reviewed focused on Africa (40%), Asia (31%) and South America focused (25%). Europe (2%), North America (1%) and Australia (1%) recorded the lowest number of reviewed articles. The articles in developing countries focused on the role of contract farming in poverty alleviation while those in developed countries focused on contract farming as an
environmental management initiative. Figure 3 summarizes the geographic distributions of the articles reviewed. The sum of the number of articles from each geographic location is greater than the sample size because some articles are comparative studies that focused on more than one geographic location.

Figure 3: Geographic distribution of reviewed articles

2.5.2 Key themes on smallholder participation in contract farming

Based on the review, the researcher found that the extant literature on small farmer participation in contact farming converges around two grand themes. The first grand theme relates to the
dynamics of smallholder participation in contract farming programs. Herein, studies examine barriers and motivations for smallholder participation in contract farming (Lozano and Heinen, 2016; Selhausen, 2016) factors influencing the intensity of smallholder participation in contract farming (Selhausen, 2016) and factors influencing smallholder choice of contracts (Ma and Abdulai, 2016; Saenger et al., 2013). The second grand theme relates to the impacts of contract farming as a poverty reduction initiative. Herein, studies examine the benefits associated with income and/or productivity levels of smallholders participating in contract farming (Briones, 2015; Dedehouanou et al., 2013; Ruben and Fort, 2012), the gendered implications of contract farming (Maertens and Swinnen, 2012; Selhausen, 2016) and the effect of contract farming on food security (Bellemare and Novak, 2016). Table 4 summarizes the two main themes and the associated research questions on smallholder participation in contract farming programs.

Table 3: Overview of grand themes and related research question on smallholder participation in contract farming

<table>
<thead>
<tr>
<th>Research theme</th>
<th>Associated research questions</th>
<th>Examples of studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation dynamics in contract farming: determinants, barriers and strategies to overcome barriers to participation</td>
<td>What are the barriers to farmer participation in contract farming?</td>
<td>Anim (2010); Lozano and Heinen (2016); Verhofstadt and Maertens (2014)</td>
</tr>
<tr>
<td></td>
<td>What motivates smallholders to participate in contract farming?</td>
<td>(Asante-Addo et al., 2017); Mojo et al. (2017); Zheng et al. (2012)</td>
</tr>
</tbody>
</table>
What influences the intensity of farmer participation in contract farming? | Stattman and Mol (2014); Selhausen (2016)
---|---
What influences a smallholder’s choice of contract? | Wendimu et al. (2016); Holloway et al. (2000)
What is the role of intermediary institutions in facilitating smallholder participation in contract farming? | Jamilu et al. (2015); Francesconi and Wouterse (2015a)

---|---|---
What are the spillover effects of contract farming to smallholders | Verhofstadt and Maertens (2015)
What are the gender implications of households participating in contract farming? | Maertens and Swinnen (2012); Okoye et al. (2016); Francesconi and Wouterse (2015a)

The question of benefits to smallholders from participating in contract farming has emerged as critical over the last decade (Andersson et al., 2015; Bellemare, 2012; Michelson, 2013). Should
contract farming effectively deliver much of its expected benefits to smallholders, it can significantly alleviate poverty. A recent meta-analysis by Ton et al. (2018) found that contracting farming resulted in a 23% to 55% increase in income levels of contracting smallholder. This study, however, also highlights the need for contracting firms to maintain and enhance the direct flow of benefits to smallholders.

2.5.3 Factors affecting smallholder participation in contract farming

An identification of the factors that account for smallholder participation in contract farming programs is imperative for designing appropriate policies that could enhance smallholder participation. Although the review identifies numerous factors that account for smallholder participation in contract farming programs, the importance of these factors varies across and within countries. My literature review of the contract farming literature identifies three main categories of factors that account for farmer participation in contract farming programs: demographic characteristics, farm structure and production characteristics and farmer attitudes towards contract farming. Each of these categories are discussed in detail below.

a) Demographic Characteristics

Demographic characteristics such as farmers’ age, farming experience, level of education, and household size are some of the factors that explain smallholder participation in contract farming (Andersson et al., 2015; Glover and Kusterer, 1990; Simmons et al., 2005; Wuepper and Sauer, 2016).
Humphrey et al. (2004) in Kenya, Herrmann and Grote (2015) in Malawi, and Jaime and Salazar (2011) in Chile find that the average age of contracting farmers was higher than that of non-contracting farmers. Shankar et al. (2010) obtain similar results for watermelon farmers in Thailand and argue that participating in contract farming is directly linked to farming experience and resulting disparities in risk aversion. They find that older farmers have a tendency to participate in contract farming because they think they have enough farming experience to successfully participate in contract farming. Mojo et al. (2017) obtained similar results for coffee farmers in Ethiopia and argues that younger farmers may not be interested in contract farming or may lack the resources needed to participate in contract farming. These results are in line with findings from other studies such as Elder et al. (2012) for Rwandan coffee producers and Francesconi and Wouterse (2015a) for Ghanaian cacao farmers. In contrast, Jaime and Salazar (2011) find that contracting smallholder wheat farmers in Chile were younger than non-contracting farmers. They conclude that younger farmers are more open to participating in contract farming due to their willingness to learn new and efficient technologies.

For farming experience, measured as the number of years a smallholder has been engaged in farming, is a major determinant of smallholder participation in contract farming programs. The easier it is to implement an agricultural innovation; the more likely farmers are to adopt such innovations (Howley et al., 2012; Mannan et al., 2017; Senyolo et al., 2018). Andersson et al. (2015) in Kenya, Michelson (2013) in Nicaragua, and Bellemare (2012) in Madagascar note that smallholders with previous experience of contracting were more likely to participate in contract farming programs. Trifkovic (2016) in Vietnam and Freguin-Gresh et al. (2012) in South Africa find that previous farming experience on its own is not sufficient to facilitate smallholder
participation in contract farming. However, farmer specialization measured as the number of years a smallholder has been engaged in the production of a specific crop, facilitates smallholder participation in contract farming. This finding is supported by the study of Kleemann et al. (2014) in Ghana who find that the manner in which farming experience was acquired is important. Farmers that acquired farming experience through agricultural cooperatives were more likely to participate as opposed to smallholders that acquired farming experience by independently learning from other family members. In contrast, Shankar et al. (2010) in Thailand find that more farming experience had a negative effect on smallholder participation in contract farming. This can be explained by the fact that after prolonged engagement with a particular farming activity, farmers think they are better-off as non-contractual farmers. However, such farmers may rather prefer long term marketing contracts rather than production contracts (Raes et al., 2017; Schipmann and Qaim, 2011).

Educational level of farmers is another main determinant of smallholder participation in contract farming (Bellemare, 2012; Francesconi and Wouterse, 2015a). Briones (2015) in the Philippines, Mmbando et al. (2015) in Tanzania and Asante-Addo et al. (2017) in Ghana find that it is unlikely for less educated farmers to participate in contract farming. Rao and Qaim (2011) with insights from Kenya suggest that more educated farmers can easily adapt to more innovative production and marketing technologies compared to less educated farmers. Mojo et al. (2017) for Ethiopia find that higher levels of education increase the probability of participating in an agricultural cooperative by 7.8%. Mwambi et al. (2016) obtain similar results for avocado farmers in Kenya and suggest that higher levels of education enhance a farmer’s managerial capacity and their ability to make informed decisions. Several studies across Europe equally demonstrate a positive
relationship between farmer’s level of education and adoption of agri-environmental programs (Lastra-Bravo et al., 2015). Sahara et al. (2015) report a positive association between more educated smallholders, farm experience and participation in supermarket channels for chili producers in Indonesia.

The effect of household and smallholder participation in contract farming has been examined in numerous studies. Andersson et al. (2015) in Kenya, Bowen and Gerritsen (2007) in Mexico and Mmbando et al. (2015) in Tanzania find that larger households tend to participate in contract farming. Fischer and Qaim (2014) argues that a possible explanation for this observation is that contract farming is labour intensive and larger households with limited capacity to meet these labour requirements tend to rely on family labour. Contrary to this view, Dedehouanou et al. (2013) find that wealthier farmers in Senegal were not motivated to participate in contract farming programs.

b) Farm structure and farm characteristics

Farm structure and farm characteristics are also equated with smallholder participation in contract farming programs. In particular, farm size, farmer productive assets, land tenure and farm location (Andersson et al., 2015; Ito et al., 2012; Kutawa, 2016; Maertens and Vandevelden, 2017; Mwambi et al., 2016) are examined more frequently than others.

With regards to farm size, studies in China e.g., Wang et al. (2011) and Senegal (e.g., Dedehouanou et al. (2013), and Maertens and Swinnen (2009) find that contracting farmers possess larger farms than their counterparts. Similarly, Defrancesco et al. (2008) in Italy and Bosselmann and Lund
(2013) in Costa Rica find that smallholders with farms bigger than the regional average had higher chances of participating in agri-environmental programs. A plausible explanation for the participation of larger farms in contract farming is because it is cheaper for the contracting firms to deal with few large farmers than multiple smallholders. These smallholders with bigger farms generally have a preference for long term formal contracts as they have the capacity to meet the requirements of contracting firms (Bijman, 2008).

At the same time, few studies such as those of Masakure and Henson (2005) in Zimbabwe and Miyata et al. (2009) in China find that contracting smallholders generally own smaller farms. Briones (2015) in the Philippines too obtain similar results for tobacco producing smallholders. The study in the Philippines suggests that tobacco producing cooperatives prefer to deal with smallholders because of existing agrarian reforms that cap farm sizes at a maximum of 5 hectares. Thus, by default, though tobacco producing cooperatives deal with smallholders with smaller farm sizes, there are no significant differences in terms of farm size between contracting and non-contracting farmers. Vink and Van der Heijden (2013) for South Africa find that whether or not smallholders participate in supermarket procurement channels depends on what options are available to supermarkets or contracting firms. In landscapes dominated by smallholder farmers, contracting firms have no choice other than to contract with existing farmers irrespective of farm size.

Farm location also has an important effect on smallholder participation in contract farming programs (Barrett et al., 2012; Michelson, 2013; Narayanan, 2014). Barrett et al. (2012) in their comparative study find that gherkin producers in India had to be located between 60-100km from
the processing plant while Kleemann et al. (2014) note that pineapple producers in Ghana located close to the seaport or a major road had higher chances of participating in contract farming. Similarly, Michelson (2013) observed that farmers in Nicaragua located close to water facilities - which positively affected produce quality sold- were more likely to participate in contract farming. In contrast, Narayanan (2014) finds that contracting companies in India may, at times, choose very remote locations with no roads and communication facilities to limit small farmers’ options of accessing alternative markets. Soil quality is another important factor in determining smallholder participation in contract farming (Barrett et al., 2012; Herrmann and Grote, 2015; Oelofse et al., 2010). Donovan and Poole (2014) in Nicaragua find that coffee farmers with infertile soils were more likely to adopt contract farming programs as opposed to farmers with fertile soils. If soils and other biophysical conditions favor the production of coffee, there was little motivation for farmers to join contract farming programs. Other scholars have found contrasting results. For example, Herrmann and Grote (2015) for sugarcane production in Malawi and Oelofse et al. (2010) for vegetable production in China find that soil quality is an important determinant of smallholder participation in contract farming. Smallholders with farms with fertile soils were targeted by contracting firms. This has important implications for spatial inequalities as farms with suitable biophysical conditions generally tend to be selected over those deemed not suitable for production thereby re-enforcing existing inequalities.

Many studies equally consider the effect of smallholder productive assets on smallholder participation in contract farming programs. Smallholder productive asset is generally measured in terms of owning agricultural equipment. The majority of these studies find a positive relationship between smallholder endowments and smallholder participation in contract farming (Andersson et
A plausible explanation for this observation is that farmers with more productive assets are generally favored by contracting companies as they can easily meet the requirements of contract farming. However, a limited number of studies find a negative relationship between smallholder endowment and participation in contract farming (Bellemare, 2012; Wang et al., 2011). For example, Bellemare (2012) finds that entrepreneurial farmers in Madagascar were not willing to participate in contract farming programs.

The effect of land tenure on smallholder participation in contract farming programs has also been examined by several studies (Bremer et al., 2014; Leeuwen, 2017; Min et al., 2017). Land tenure systems depict the use of, control of, and access to land. Consequently, land tenure systems have an important role in the complex and diverse ways in which land is used (Riggs et al., 2016). Available evidence on smallholder ownership of formal land tenures suggests that possessing formal land tenures enhances smallholder participation in contract farming (Bosselmann and Lund, 2013; Herrmann, 2017). Herrmann (2017) finds that smallholders with formal land tenures were more likely to participate in sugarcane production through contract farming in Malawi. Similar results are obtained by Verhofstadt and Maertens (2014) for vegetable production in Senegal and Boulay and Tacconi (2012) for eucalypt plantation development in Thailand. They argue that formal land tenures have a positive effect on smallholder participation in contract farming because it gives small landholders an opportunity to use land as collateral in order to access loans from contracting firms. This may also explain why Donovan and Poole (2014) and Defrancesco et al. (2008) find that despite having formal land tenures, smallholders with higher portions of rented land are less likely to participate in contract farming programs. Verhofstadt and Maertens (2014)
find that lack of formal land tenures in Senegal has an accentuated negative effect on female participation in contract farming since women are not permitted to own land in Senegal.

c) Smallholder Attitudes towards contract farming

The effect of smallholder attitudes on smallholder participation in contract farming, often studied as perceived compatibility with farmer objectives and farmer perceptions of contract farming risks has also been studied by many researchers (Howley et al., 2015; Van Hulst and Posthumus, 2016; Willock et al., 1999). With regards to perceived compatibility, economic incentives is the primary driver for farmers to participate in contract farming. For example, Bowen and Gerritsen (2007) find that financial gains was the main motivation for agave producers in Mexico to participate in contract farming. Similar results have been obtained for oil palm farmers in Indonesia Cranfield et al. (2009), for vegetable producers in Honduras (Gatto et al. (2017), and for sugarcane farmers in Malawi (Herrmann and Grote, 2015).

The effect of risk aversion on participation in contract farming influences smallholder attitudes towards contract farming (Bellemare (2012). Smallholder participation in contract farming is an indication of the extent to which smallholders are willing to undertake risk (Bellemare, 2012). Bellemare (2012) in Madagascar, Cahyadi and Waibel (2016) in Indonesia and Saenger et al. (2013) in Vietnam find that smallholder risk aversion positively influences participation in contract farming. In this sense, contract farming is considered a risk management tool through which farmers can secure access to credit, farm inputs, information, technology and extension services. However, in contrast to these findings, Wang et al. (2011) and Guo and Jolly (2008) in China find
that smallholder risk aversion negatively influences smallholder participation in contract farming. A possible explanation here could be the lack of prior experience with contract farming.

Contract farming and trust are highly interlinked and trust has been shown to influence smallholder attitudes. For example, Elder et al. (2012) for coffee producers in Rwanda and Cranfield et al. (2009) for fresh fruits and vegetables in Honduras find that trust is an important determinant of smallholders’ willingness to participate in contract farming. In addition, Cranfield et al. (2009) find that a positive previous experience with contract farming had the potential of generating a ripple effect.

In summary, this review of the contract farming literature examines how a variety of factors influence smallholder participation in contract farming. Despite the heterogeneity in the findings, the researcher is able to identify and synthesize critical factors that influence smallholder participation in contract farming programs. This review finds that smallholders’ participation depends on (i) farmer’s age and experience, (ii) an overall positive attitude towards contract farming and its effectiveness as a means to achieving farmers’ objectives, (iii) formal land titles (iv) larger farms size, and (iii) land location and characteristics.

Stimulating increased participation in contract farming programs, and thus increased farm productivity and income levels will probably necessitate interventions that address participation barriers faced by smallholders. The consistent and strong positive relationship between factors such as land ownership, availability of labour and other agricultural production equipment highlights the importance of understanding smallholder participation in contract farming. This
pattern is in line with the semi-subsistence poverty trap postulation, wherein poor farming households lack the necessary endowments to generate a marketable surplus (Markelova and Mwangi, 2010). Breaking out of such cycles of poverty requires intervention oriented at enhancing the capacity of farmers to accumulate assets, breakdown barriers to accessing credit and/or introducing markets that do not require the accumulation of assets or encourage farmers to seek off-farm income earning activities. Moreover, smallholders often have low levels of incentives to incur increased cost that may not be compensated for, this is particularly true for farmers in remote areas (Ploeg, 2012). Thus, the absence of basic infrastructural requirements to facilitate production limits smallholder incentives to participate in contract farming programs. The findings of this review therefore provide important insights for policy makers. Moreover, educational programs, especially through demonstration projects, may help in framing positive perceptions about contract farming. It is evident that the problem is multi-faceted in nature and require a multi-pronged, long term strategy.

2.6 Research Gaps

The review of the literature identifies several avenues for future research. First, contract farming programs are diverse. The majority of studies in the extant literature consider the benefits of a specific contract farming model; that is, existing studies exclusively employ a case study approach (Oya, 2012). Comparative analysis on the benefits of different contract farming models on smallholders may shed light on the question of contract farming as an effective market-linking initiative. Abebe et al. (2013) argues that in as much as contract farming typologies are not homogenous, it is important to acknowledge that smallholders are not also a homogenous group of actors either. Consequently, different categories of farmers have different capacities to
participate in different types of contract farming typologies. Studies that examine different contract farming models that may be best suited for different typologies of farmers are lacking (Saenger et al., 2013). While the focus on making contract farming work for smallholders is justified, it is important to bear in mind that, irrespective of the level of support, not all smallholders may be capable of benefiting from contract farming (Barrett, 2008; Biénabe and Vermeulen, 2011).

Second, the literature review identifies land ownership structures as being important for smallholder participation in agricultural interventions. However, in the context of contract farming, the question of how different land tenure arrangements may favor or impede smallholder participation in contract farming remains unexplored particularly in the context of private versus communal land ownership, formal versus customary land ownership, fixed term land leasing and in cases where land transfer is based on matrilineal rules versus patrilineal rules (Matchaya, 2010). In other words, an examination of how the politics of land influences the performance of contract farming programs is of critical necessity.

Third, the literature underscores the potential for farmer cooperatives in improving smallholder access to markets (Vasquez-Leon, 2010; Wani et al., 2016; Zhang et al., 2010). However, there is a dearth of studies with regards to an examination of the governance systems of these cooperatives particularly in developing countries (Whaley and Weatherhead, 2015). Questions such as what governance methods are particularly suited to address the challenges faced by farmers remain unexplored. Closely linked to the question of governance, is the importance of social networks within farmer cooperatives. Understanding social networks in the context of farmer cooperatives is important as Valentinov (2004, p. 5) posits, “cooperatives are special types of social capital-
Based network organizations”. Despite the importance of social networks, empirical evidence on the governance of farmer cooperatives remains scant (Liang et al., 2015).

Fourth, there is a mainstream point of view in the literature that the exclusion of farmers from contract farming programs is the farmers’ ‘fault’. There is an underlying assumption that smallholder production and marketing systems are ‘faulty’. Logically, an improvement in farmer production and marketing systems would directly translate to increased farmer inclusion in contract farming programs. However, there is limited research on how markets can serve as a barrier to smallholders (Vink and Van der Heijden, 2013).

Finally, there are several studies that suggest the contract farming literature could benefit from comparative studies (Barrett et al., 2012; Elder et al., 2012; Narayanan, 2014). Comparative cases are important if we are to develop a better understanding of why and how we observe certain outcomes and not others in a similar context. These comparative studies may shed light on the evolution of contract farming and the conditions under which contract farming can be a silver-bullet solution to achieving some of the SDGs such as poverty reduction, improved food security and when contract farming does not work.

2.7 Conclusion and policy implications

Over the last decades, there has been considerable policy attention on incorporating smallholders into inclusive business models (Shalendra et al., 2014). This has been closely followed by an impressive body of empirical research that seeks to explore the factors that influence smallholder participation in contract farming and the benefits of contract farming to smallholders. This
literature review has synthesized the main factors that influence smallholder participation in contract farming programs. In cases where smallholders dominate the agrarian context, there is evidence of smallholder participation in contract farming. In other cases where the agrarian context contains both large and poor smallholders, the latter remain excluded from participating in contract programs. In addition, the review finds that smallholders with more assets and formal land tenures are likely to participate in contract farming.

The results point to a two-pronged strategy for improving smallholder participation in contract farming programs. First, for poor farmers who are already participating in contract farming, there is a need to examine the patterns of smallholder integration in contract farming in order to understand the conditions under which smallholder participation in contract farming leads to decreased poverty levels and increased societal benefits. An example of an appropriate policy response here would entail improving smallholder access to credit, insurance and asset accumulation programs. Second, there is a need to examine when asset endowment is important for smallholder participation in contract farming. For instance, policies that improve land ownership structures, communication, roads could be an appropriate policy response. Overall, a better understanding of how changes in the design of contract farming can incentivize or disincentive smallholders from participating in contract farming is timely. The researcher suggests global food sector companies integrate these considerations as they seek to pursue sustainable development goals to deepen the reach of their programs to benefit millions of marginalized farmers worldwide.
Chapter 3: Contract farming in the Ghanaian oil palm sector and smallholder non-participation

3.1 Introduction

Over the last decade, national governments have promoted industrial estate plantations, particularly biofuels, as a means of achieving economic growth and mitigating the impacts of climate change. This has led to a surge in investments from multinational corporations seeking to acquire large scale arable land in many developing countries (Byerlee et al., 2016) including Ghana (Herrmann, 2017).

Several scholars have examined the various reasons for increased demand for arable land (Cotula et al., 2014; Deininger and Byerlee, 2012; Deininger et al., 2011). Changes in land use patterns to meet growing global demands for food, fuel, and fiber have prompted governments in developing countries to tap into this promising opportunity for rural development and economic growth (Adjei-Nsiah and Klerkx, 2016; FAO, 2014a). The African Union’s Agenda 2063 further advanced this aspiration of national governments to achieve a modern, intensive and inclusive agricultural transformation in Africa (AUC, 2015). For instance, Ghana, through a World Bank credit implemented this vision of the African Union with its “Ghana Commercial Agriculture Project” with the objective of fostering foreign direct investment in the agricultural sector. It is envisioned that this project would lead to a transition from primarily subsistence to commercial farming and
thus reduce poverty, ensure food security and generate wealth among smallholder farmers\(^4\) (MoFA, 2015). One of the primary ways in which these goals are being promoted in Ghana is through the development and implementation of contract farming programs most notably in oil palm production (Adeho, 2015; Väth et al., 2018).

Whether contract farming projects help in economic development remains debated (McCarthy, 2010; Schoneveld and German, 2014). While proponents tout for their success, critics argue that it leads to land appropriation from local communities and hence adversely affects smallholders economically and socially (Collins, 2014; McKeon, 2013). Aha and Ayitey (2017) find that contract farming transactions are often not transparent and are negotiated on unequal terms. They further note that the negative outcomes of such unequal transactions are particularly pronounced in areas that are dominated by customary land tenure systems such as Ghana where land under customary rights represents about 80% of national land while public or state land represents only 20% (Anaafo, 2015).

Despite numerous initiatives to promote contract farming initiatives, Huddleston and Huddleston (2012) find that smallholder producers of oil palm abstain from contract farming. Several studies also find that resource poor smallholders that are in dire need of support are often unable to participate in contract farming programs (Anseeuw et al., 2012; Miyata et al., 2009; Oya, 2012) or smallholders often quit from contract farming for reasons that are unknown (Ragasa et al., 2017).

\(^4\) http://gcap.org.gh accessed on September 29\(^{th}\), 2018.
This chapter seeks to examine the reasons behind smallholder non-participation. Specifically, this chapter examines the role of attitudes, subjective norms and perceived behavioural control in smallholder decisions to not participate (abstaining and quitting from contract farming) in contract farming. By examining smallholder decisions to abstain or quit from contract farming using the TPB, the chapter contributes to the literature on smallholder non-participation in contract farming. Furthermore, examining the reasons for this non-participation is critical as it may help national governments and international development agencies to better align their program priorities with the needs and expectations of smallholders and find ways in which any smallholder vulnerabilities can be addressed.

The chapter is organized as follows. First, I characterize the oil palm sector of Ghana by providing a narrative on the historical evolution of the oil palm industry. This is followed by a brief discussion on the importance of the oil palm sector to the Ghanaian economy, a discussion on land tenure structures and an overview of prevailing smallholder typologies and business models\(^5\) in the oil palm sector. Second, I discuss the methodology used in collecting and analyzing data. Finally, I discuss the results and conclude.

\(^5\) The term business model as used in this dissertation refers to the way smallholder production chains are structured.
3.2 A brief history of oil palm development in Ghana

The origin of the oil palm (*Elaeis guineensis*) can be traced back to West Africa. In Ghana, the oil palm has been cultivated as a subsistence and cash crop for several decades (Cotula et al., 2014). Smallholders have always dominated oil palm production in Ghana accounting for about 93% of total oil palm production in the 1950s (Gyasi, 1995) and about 75% in 2016 (Byerlee et al., 2016). During the British colonial era in the early nineteenth century, plantation estates were not promoted and remained underdeveloped as colonial masters viewed smallholder production systems as economically viable and resilient. Furthermore, the fear of smallholder alienation, livelihood destruction, disruption in export production systems and potential conflicts over land ownership slowed the development of oil palm plantation estates. Moreover, smallholder production systems were considered relatively cheaper to manage compared to plantation estates (Huddleston and Tonts, 2007). Consequently, plantation estates were not considered important during the colonial era compared to smallholder farms.

As a result of growing population coupled with low prices for oil palm in the 1920s and 1930s, smallholder production systems were unable to meet the growing demand for oil palm. This led to the decline and subsequent disappearance of oil palm in Ghana’s export inventory (Danyo, 2013). The demand for oil palm continued to increase amidst its dwindling supply. This stimulated state interest to promote the oil palm sector and led to policy changes that favored the establishment of oil palm plantation estates (Huddleston and Tonts, 2007) in the form of state owned and state managed plantations. Despite such efforts, the state’s intentions to re-vitalize oil palm sector was far from being a success story.
After Ghana got independence in 1957, oil palm plantations were developed alongside the Agricultural Development Corporation (ADC) with the aim of promoting and modernizing agricultural development through state-owned farms. A principal objective of the ADC was to make a shift from the state’s dependence on cacao and timber to oil palm. The post-independence era of Ghana was also marked by import-substitution policies and government interventions in production processes (Ofosu-Budu and Sarprong, 2013).

However, due to capital constraints and mismanagement, state-owned farms were not economically viable. Such farms worsened rural conditions as they led to the dispossession of land from smallholder farmers with little or no compensation (Gyasi, 1992). Consequently, there were no substantial changes in oil palm production. In fact, in the 1960s, the gap between oil palm demand and supply widened (Gyasi, 1995). Subsequently, many state farms were gradually eliminated as the government privatized most of them and tried to re-organize and convert the remaining farms into economically viable units. This was done through economic liberalization that sought to promote the development of estate plantations by investors (foreign and private) and joint state ventures. This plan led to the development of four main oil palm plantations with financial assistance from the World Bank - Ghana Oil Palm Development Corporation (GOPDC), Twifo Oil Palm Plantation Ltd (TOPP), the Benso Oil Palm Plantation (BOPP) and National Oil Palm Limited (NOPL) (Huddleston and Tonts, 2007). The establishment of oil palm plantations in Ghana was therefore a result of combined efforts of the state and international development agencies.
Since the establishment of plantation estates, the area of oil palm plantation has increased from about 140,000 hectares in 1975 to about 350,000 hectares in 2016 (FAO, 2018). This expansion has led to the emergence of oil palm as an important commodity for many Ghanaians. Thus, several smallholder farmers continue to convert cacao, plantain and cassava farms into oil palm farms. This shift can be attributed to the lucrative nature of the oil palm sector which has been the basis for the expansion of the oil palm sector of Ghana (Ofosu-Budu and Sarprong, 2013). Figure 4 shows the major oil palm producing regions and firms in Ghana.

Figure 4: Major oil palm producing regions and firms in Ghana (Asante, 2012)
In 2003, the government of Ghana identified oil palm as a strategic crop for poverty reduction and agricultural growth under the President’s Special Initiative (PSI). Perhaps, the PSI can be described as the most influential policy intervention in the history of oil palm development in Ghana. The PSI aimed at closing the estimated 100,000 MT shortage of palm oil to meet domestic demand. It also sought to increase the area under oil palm production by 100,000 hectares per year for the next five years (first phase of the PSI, 2003-2007) and then by 300,000 hectares over the next seven years (second phase of the PSI, 2008-2014). The PSI focused on empowering smallholder farmers, creating rural employment and building a rural industry (Asante, 2012). This approach was influenced by the experience of the previous government when land expropriation led to higher levels of poverty and community conflicts. The implementation of PSI was entrusted to the Oil Palm Research Institute (OPRI) by developing improved and subsidized seedlings for smallholder farmers.

Under the PSI, several high yielding varieties were developed and made available to smallholder farmers through OPRI. In addition, 22 nurseries were developed across the country in oil palm producing regions. The PSI also led the development of 3000 hectares of outgrower farms in the Central Region, an increase in the production of high yielding oil palm seedlings from 2 million to 5 million per year and the development of about 20,000 hectares of independent farms across the country (Asante, 2012). However, while there were huge investments in the initial setup phase, there are little or no funds to continue with the project. Thus, what started off as a well-conceived project to propel Ghana’s economy to high levels of economic growth has been waning over the years. This failure has disappointed and frustrated smallholders who were hoping that the project would help them with farm maintenance (Ofosu-Budu and Sarprong, 2013). Moreover,
smallholders who received seedlings from the OPRI had to maintain their farms and repay their loans without any assistance from the government.

The initial planning of the PSI made provision for the development of Corporate Village Enterprise Companies (COVEs). Each COVE was intended to consist of independent farmers and a milling company with a 20 ton per hour mill located within 30km from the nurseries established by the PSI. Communities interested in hosting a COVE were to secure 5000 hectares of land by consulting with local chiefs and these chiefs were to inform the secretariat of the PSI. The PSI proposed several COVEs in oil palm producing communities. However, none of these were developed probably due to the difficulties in acquiring large undivided tracks of land (Asante, 2012). This meant that smallholders who could not afford the high yielding varieties continued to plant low yielding varieties while some smallholder even remained trapped as waged labourers for oil palm firms.

3.3 Oil palm sector of Ghana

Oil palm is an internationally traded commodity. It is one of the most rapidly expanding crops that is grown in the tropics, but consumed globally. According to recent estimates, global oil palm production increased from about 22 metric tonnes in 2000 to approximately 60 metric tonnes in 2014 (FAO, 2018). Oil palm production accounts for about 37% of global oilseed production, making it the most consumed vegetable oil (Byerlee et al., 2016). With an ever increasing world population, coupled with the biofuel boom, it is likely that the demand for palm oil will continue to rise (Sayer et al., 2012).
The debate on the development of oil palm plantations is highly polarized. Proponents of oil palm development underscore the economic benefits which includes positive changes in the income levels of oil palm producers and increased asset endowment of oil palm producing villages (Cramb and Sujang, 2013; Rist et al., 2010; Sayer et al., 2012). On the other hand, critics—principally environmentalists, often highlight deforestation and greenhouse gas emission as some of the impacts of oil palm development (Koh and Wilcove, 2009; Vijay et al., 2016; Wilcove and Koh, 2010). Deforestation resulting from the development of oil palm plantations is also a direct threat to biodiversity and wildlife habitat as oil palm plantations generally contain less biodiversity compared to the native forest they replace (Laurance et al., 2014). Furthermore, political economists document a list of negative social impacts ranging from land dispossession to destruction of local cultural values (McCarthy, 2010; Vijay et al., 2016).

Over the past decade, there has been important responses to address these negative environmental and social challenges posed by oil palm development at both the national and international levels. The most prominent of such responses is the Roundtable for Sustainable Palm Oil (RSPO) established certification scheme established in 2004. The main objective of the RSPO is to promote the sustainable production and use of palm various stakeholders engaged in the palm oil value chain (RSPO, 2018). The RSPO brings together investors, agribusinesses, consumers and both social and environmental organizations to collectively implement a global standard for sustainable oil palm production. For example, amongst several other requirements, the principles and criteria of the RSPO certification scheme forbids the conversion of forests into oil palm plantation, promotes the preservation of socio-cultural attributes by oil palm developers, while investors promote the sustainable production and consumption of oil palm by consumers. Thus, the RSPO
is designed to transform the entire oil palm supply chain. Current estimates suggest about 19% of global oil palm production is RSPO certified. In addition to the RSPO, other country specific certification schemes have also been developed. For example, the Indonesian Sustainable Palm oil and Malaysian Sustainable Palm Oil certification schemes for Indonesia and Malaysia respectively.

Ghana’s agricultural sector is described as the core pillar of development. In 2016, the agricultural sector accounted for about 17 per cent of GDP (World Bank, 2018) and employs about 45 per cent of the total population. Unfortunately, the severity of poverty is very high among smallholder farmers. As a response, the Government of Ghana initiated the PSI to promote the development of oil palm as one of the main pillars of poverty reduction, industry led growth and agricultural development (Asante, 2012). In addition, Ghana’s Growth and Poverty Reduction Strategy for 2012-2016 describes oil palm as a strategic and priority crop (Ministry of Food and Agriculture, 2011). The oil palm is generally considered a smallholders’ crop in Ghana. While estate plantations account for about 25 per cent of oil palm production, smallholders account for an estimated 75 per cent of total oil palm production in Ghana (Byerlee et al., 2016). Currently, Ghana ranks 8th in terms of top oil palm production countries and accounts for about 1% of the world’s total oil palm production (FAO, 2018). Figure 5 shows the top oil palm producing countries in 2018. Despite a

6 Recent statistics for both oil palm production and agricultural contributions to GDP could not be found beyond 2016.
relatively smaller contribution to global output, oil palm remains a critical sector for a large number of impoverished smallholders in Ghana.

Figure 5: Top oil palm producing countries in the world (FAOSTAT, 2018)

The forest belt of Ghana with an annual rainfall of about 1200 mm is the main site of oil palm cultivation. The most suitable regions and their regional contribution to national oil palm production in Ghana are: Eastern Region (32%), Western Region (28%), Central Region (16%), Brong Ahafo Region (10%), Ashanti Region (10%) and the Volta Region (4%) (MoFA, 2015). The two main varieties of oil palm that are cultivated in Ghana are the Dura and Tenara varieties. However, the majority of smallholder farmers and corporations cultivate the Dura variety due to its higher palm oil yield.
Oil palm expansion is occurring mainly on customary land managed by local chiefs (Ahmed et al., 2017). Schoneveld and German (2014) note that the process of land acquisition is often not transparent with little to no evidence of consultation with local communities and compensation for affected members of the community as investors generally tend to negotiate directly with local chiefs. Thus, the possibility of local communities benefiting from such land deals is at the discretion of their local chiefs. However, purposively selecting farmers that had lost their land for interviews is not reflected in the sampling strategy.

Existing laws on compensation for affected members of the community make provision only for land acquired by the state for public good (Kuusaana and Gerber, 2015). In this case, the state compensates farmers with the market value of land acquired. Such provisions are non-existent for all other forms of land acquisitions which may be a possible reason for the neglect of local communities affected by land deals. Consequently, high levels of insecurity and uncertainty exist amongst farmers as they stand the risk of losing their land to investors at any time.

3.4 Land tenure structures in Ghana

Land ownership in Ghana is classified into two main categories - customary and public (or state) land. Approximately 80% of Ghanaian land is under the management of customary laws while about 20% is public land which is managed by the state (Anaafo, 2015). Customary land is viewed as communal property and is often managed by a representative, usually a chief on behalf of a
community. In principle, customary land can either be family land or the skin/stool land. Family lands refers to land owned and managed in the interest of the family. This is usually obtained via inheritance or outright purchase. On the other hand, the skin/stool land refers to land which is owned and managed by the occupant of the skin/stool on behalf of the community. Thus, the occupant of the skin/stool, i.e. the Chief, is entrusted with the management of the land on behalf of the community (Lambrecht and Asare, 2016). Notably, Kuusaana and Gerber (2015) find that Chiefs mismanage communal land often treating them as if they are their private properties and as if they are the sole beneficiaries. State or public land refers to land which is compulsorily acquired by the state for public interest. The state usually acquires such lands by using its compulsory purchase power. When such lands are not eventually used for public interest, the initial proprietors have a right to re-acquisition (Ghebru and Lambrecht, 2017; Lambrecht and Asare, 2016).

In addition to customary and public lands, there are leaseholds which enable individuals or groups of individuals to use land for a specified timeframe for a particular purpose. Leaseholds emerged as a result of increasing land scarcity (Deininger et al., 2011) and they can be implemented on both

7 Skin is generally used to refer to land managed by chiefs in the Northern part of Ghana occupied by Muslim population. The appellation of ‘skin’ is used as chiefs in Northern Ghana sit on skin, generally from animals. On the other hand, stool is generally used to refer to land managed by chiefs in the South. The appellation of ‘stool’ is used as chiefs sit on stool made from wood (Lambrecht and Asare, 2016).
customary and public lands. Commercial agricultural and residential leases granted to foreigners last for 50 years while Ghanaians can acquire leaseholds for 99 years for residential and agricultural purposes (Ghebru and Lambrecht, 2017).

For public leaseholds, the tenant negotiates directly with the government. In contrast, for customary leasehold, the tenant negotiates directly with the land owner. The customary leasehold can be traced back to the 1960s with the commercial production of oil palm and cacao (Anaafo, 2015; Ghebru and Lambrecht, 2017; Väth et al., 2018). The tenant pays rents to the land owner during the lease period. This has led to the emergence of informal land markets and consequently many Ghanaian have engaged in land leasing as an economic activity (Amanor, 2012). At the end of the lease, the land owner may re-possess the land or re-negotiate a new deal. While there are no variations of public leaseholds, two main variations of customary leaseholds exist based on cash-sharing. The first is called the “abunu” system. In the abunu system, the tenant pays for rents by sharing farm produce or the farm land into two equal halves with the land owner. The second is called the “abusa” system. Under the abusa system, the tenant pays rents by dividing farm proceeds in a 2:1 ratio. The tenant gets 2/3 of the farm proceeds while the land owner gets 1/3 of the farm proceeds.

With increasing urbanization, population growth and increased commercialization of land, there are concerns about how these may affect tenure security (Väth et al., 2018). In the past, there was an abundance of land and access to land for agriculture was almost ‘free’. However, with the advent of commercial agriculture and growing demands for food, fiber and fuel, this may drastically affect customary land tenure structures. The absence of written records of land
transactions has led to numerous instances of abuse by local chiefs. Kuusaana and Gerber (2015) find that many vulnerable Ghanaian farmers have lost their livelihoods because local chiefs sold their lands without their knowledge. This may have been a predominant cause of impoverishment and landlessness of some Ghanaian farmers.

3.5 Smallholder typologies and business models in Ghana

Oil palm production is carried out primarily by smallholder producers and large-scale estate plantations. The productivity of the oil palm largely depends on the availability and affordability of production inputs. Inputs for oil palm production include seedlings, insecticides, herbicides and fertilizers. Government agencies such as the Oil Palm Research Institute (OPRI) may provide seedlings while the Ministry of Food and Agriculture provides extension services to smallholder producers.

The literature identifies several definitions for smallholder producers of oil palm. In Ghana, a smallholder producer of oil palm is defined as “farmers growing oil palm, sometimes along with subsistence production of other crops where the family provides majority of the labour and the farm provides the principal source of income and where the planted area of oil palm is usually below 40 hectares in size” (Ghana National Interpretation Working Group, 2011, p. 4). Yet differences in land use decisions, supply chain integration and socioeconomic vulnerability between farmers cultivating 1 hectare and 40 hectares can be very wide. This heterogeneity amongst smallholder producers of oil palm is poorly documented. Three prevailing categories of smallholder producers linked to three business models of oil palm production exist in the Ghanaian
context. These are the scheme farmers (also known as nucleus farmers), the outgrower farmers, and the independent farmers (Adjei-Nsiah and Klerkx, 2016; Danyo, 2013).

The first category of smallholder producers of oil palm are the scheme farmers. Scheme farmers cultivate land owned by the contracting firm and do not have the luxury of choosing which crops to cultivate. Scheme farmers are contractually bound by a contract that stipulates farm management techniques provided by the contracting firm. The contracting firm provides credit, agro-inputs and managerial services to scheme farmers at a pre-determined price. In some cases, the contracting firms may also specify quality requirements. In return, scheme farmers are obliged to sell all of their fruits to the contracting firm. Ideally, scheme farmers receive close supervision in the management of their nurseries and farms from the contracting firms (Adeho, 2015).

The second category of smallholders are the outgrowers. The outgrowers normally produce oil palm either on privately owned land or through land sharing arrangements. The outgrowers obtain seedlings at subsidized prices and are obliged to sell their fruits to the company until their loans are paid. Once the outgrowers have paid off their loans, they decide whether or not to continue selling their fruits to the contracting firms or to other buyers. Therefore, the outgrower has limited control over their farms for the period during which they are indebted to the contracting firm. At the end of the contract, the outgrower may decide to continue selling to the contracting firm or may opt out of the contract. The main difference between the outgrowers and the scheme farmers is that the latter cultivate a portion of the contracting firm’s land while the former either cultivate their own land or leased land. The scheme and outgrower programs are the two most commonly prevailing business models for oil palm production in Ghana.
The third category of smallholders are the independent farmers. Independent farmers own their land, choose which crops to produce, are self-financed and are free to sell to whoever they prefer. Generally, independent farmers are not contractually bound to any firm and do not receive any outside assistance. However, independent smallholders may receive extension services from the government and other non-governmental agencies. In some cases, contracting firms approach ‘large-scale independent farmers’ and make a contract offer (Ofosu-Budu and Sarprong, 2013). Typically, such contracts are marketing contracts. Large-scale independent farmers that are contractually bound to a firm tend to produce under highly regulated conditions, achieve higher yields and may decide to continually sell a portion of their produce to the contracting firm. Independent farmers with no contracts have the option of either selling to the contracting firms or in local markets.

Scheme farming is the single dominant business model in the Ghanaian oil palm sector (Huddleston and Huddleston, 2012). Scheme farming was first introduced by the state as a means of incorporating agribusinesses, contracting firms in this case, into local agrarian systems. The contracting firms consider such contracts as resource provision and production management contracts. Through resource provision contracts, contracting firms provide smallholders with necessary agri-inputs for oil palm production. Furthermore, contracting firms also access arable

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8 Danyo (2013) defines this category of oil palm farmers as those who cultivate oil palm on between 10 and 40 hectares of land.
land through these contracts. Through production management contracts, contracting firms can closely supervise smallholder production systems and obtain produce of consistent quality. For smallholder farmers, scheme farming is viewed as an opportunity to secure markets for their produce.

In some communities, independent farmers and outgrowers form farmer producer associations (FPAs). Membership in such associations is generally voluntary and members tend to pursue a shared objective (Markelova et al., 2009). Through farmer associations, smallholders can access services not offered by governments, contracting firms or services which are expensive for smallholders to acquire on an individual basis. FPAs also serve as platforms for information exchange and capacity building. With the increasing and stringent demands for food quality standards, FPAs are gaining popularity (Fischer and Qaim, 2014). FPAs can contract with contracting firms to achieve a higher bargaining power, favorable prices and lower costs of transportation.

Despite its long history, smallholder participation in the Ghanaian oil palm contract farming is limited. This chapter aims at understanding the underlying reasons behind the non-participation decision of Ghanaian smallholder producers of oil palm. In the following, I describe the research sites where the study was conducted.

3.6 Key contract design requirements in the oil palm sector of Ghana

This section discusses the key contract design requirements of the contracting firms studied. Contract design requirement refers to the terms and conditions stipulated by a firm which
contracting smallholders are obliged to respect. These terms and conditions vary between contracting firms. It is important to understand specific contract design requirements as these may influence farmer decisions to not participate or participate in contract farming (Abebe et al., 2013). Contract design requirements will be discussed in two main categories: input supply arrangements and output supply arrangements.

Input supply arrangements consists of farm management practices and agricultural inputs the farmer receives from the contracting firm. Oil palm production is both labour and input intensive and consequently requires significant levels of financial investments. Inputs offered to farmers generally consists of high quality seedlings, fertilizers and pesticides at a predetermined price while the farmers provide the labour needed for farm management (Bijman, 2008). Ghanaian oil palm farmers are generally faced with a situation where there are only a few suppliers of inputs necessary for oil palm production. Thus, the ability of farmers to access these inputs is limited and they may therefore opt for contract farming as the only means of accessing production inputs (Ghebru and Lambrecht, 2017). For example, as a contract farmer with GOPDC, farmers obtained seedlings at a subsidized price of 3.2CAD instead of 4.2CAD. By providing inputs to smallholders, contracting firms can control the production process and achieve fresh fruit bunches of a minimum quality. Using the example of GOPDC, while GOPDC obliges all its contracting farmers to use seedlings provided by the firm, farmers are not obliged to utilize fertilizers and pesticides provided by GOPDC. Furthermore, farmers, who generally find farm management to be expensive, are expected to routinely apply fertilizer and other herbicides to their farms. GOPDC then pays for transportation at the point of delivery. On the other hand, Norplam also obliges all its contract farmers to utilize their seedlings, fertilizers and pesticides. As opposed to GOPDC, Norplam then
harvests and transports the fruits from the farms. Furthermore, while GOPDC does not have any land restrictions to be a contract farmer, Norplam requires farmers to have at least 10 hectares of land to be a contract farmer. Both contracting firms require contract farmers to demonstrate long term ownership of farmland – typically 25 years as oil palm trees are replanted after 25 years.

Output supply arrangements consists of pricing and selling arrangements between farmers and the contracting firms. The volatile nature of the prices of agricultural products, particularly oil palm may be central to smallholder decisions to not participate or participate in contract farming. For this reason, contracting firms generally choose a fixed or a variable pricing strategy (Miyata et al., 2009). With the fixed pricing strategy, the selling price of oil palm is negotiated and agreed upon before production begins. The farmer is guaranteed of a buying price for their produce and do not have to worry about fluctuating prices. This is disadvantageous to smallholder in that, after harvesting their produce, if the price offered by other buyers is higher than that offered by the contracting firm, then the farmer is locked into a contract with a lower price. This may eventually lead to side-selling from smallholders. On the other hand, fixed prices are advantageous in that if the prices offered by other buyers are lower, then the farm gains by accessing a market with higher prices. With the variable pricing strategy, prices are negotiated after or during the harvesting of oil palm. While GOPDC employs a variable pricing strategy, Norplam employs a fixed pricing strategy. Furthermore, while GOPDC pays for transportation only at the point of delivery, Norplam is responsible for transporting fresh fruit bunches of oil palm from smallholder farms. Contracting farmers with GOPDC are expected to supply a minimum of 10 tons per hectare per year. Contrarily, Norplam does not have an expected output supply from the farmers as Norplam is very much involved in the management of the farms. In fact, farmers mentioned that they were more of
supervisors on their farms. Finally, it must be pointed out that all the contracts between farmers and the contracting firms - GOPDC and Norplam are all verbal contracts.

3.7 Methodology

3.7.1 Data collection and analysis

A total of fourteen semi-structured interviews were conducted with non-participants (nine with farmer who completely abstained from contract farming and five with those who quit over time). The duration of the interviews ranged from 40 minutes to 90 minutes. The interview guide started with questions about general demographic information, their motivations for abstaining from or opting out from contract farming, the challenges faced as oil palm farmers and their willingness to participate in contract farming. All interviews and focus group discussions were recorded, transcribed and analyzed using Nvivo 12.

One focus group discussion was held with seven abstaining farmers. Amongst the seven abstaining farmers, semi-structured interviews had been conducted with three of them. Focus group discussions started with questions about farmer motivations for abstaining from contract farming, the challenges faced as oil palm farmers and their willingness to participate in contract farming. Focus group discussions were conducted as a means to triangulate findings obtained from individual interviews. Farmers who opted out from contract farming were not available for participation in focus groups. Table 5 summarizes the number of semi-structured interviews conducted and the number of participants present during the focus group discussion.
Table 4: Sample of non-participating farmers

<table>
<thead>
<tr>
<th></th>
<th>Number of semi-structured interviews conducted</th>
<th>Number of participants in focus group session</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstaining farmers</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>Opted out farmers</td>
<td>5</td>
<td>0</td>
</tr>
</tbody>
</table>

Data was analyzed as described in section 1.3.5. and data saturation was achieved (figure 6). Data saturation generally refers to a stage when there are no new additional themes from data collected (Charmaz, 2006).

Figure 6: Number of concepts against number of interviews conducted with non-participating farmers
3.8 Results and Discussions

3.8.1 Smallholder motivations for abstaining from contract farming

Analysis of in-depth interviews and focus group discussions identified contract design requirements, price fluctuation and social influence as the three main themes that determine smallholder decisions to abstain from contract farming. Each of these themes are discussed below.

The TPB posits that farmer behaviour is influenced by attitude, subjective norm and perceived behavioural control.

a) Contract design requirements

Smallholders mentioned that they could not participate in contract farming because of the nature of the contracts and the policies of the contracting firms. The literature on contract farming argues that contract design attributes could be a barrier to smallholder participation (Oya, 2012; Vink and Van der Heijden, 2013). Contracting firms generally choose terms and conditions that are beneficial to them without explicitly considering the benefits to smallholder farmers (Barrett et al., 2012; Briones, 2015).

Access to land is considered an important contract design requirement as without land, farmers cannot participate in contract farming. Access to and/or ownership of land for at least 25 years was required for smallholder participation in contract farming. Land tenure reforms are critical if farmers are to participate in novel agricultural interventions (Abate et al., 2016; Knowler and Bradshaw, 2007). Therefore, one criteria for participation in contract farming was secured access to land before smallholders were deemed eligible to participate in contract farming. An abstaining farmer describes his reason for not participating:

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Even if I want to be an outgrower for GOPDC, I can only be when I have my own the land so I do not meet the criteria of GOPDC. I am currently practicing the “abunu” system. GOPDC does not accept that but after harvesting, you can sell to them. GOPDC requires that one owns the land. [36]

Another abstaining farmer pointed out his reason not to participate in contract farming as follows:

In order to be an outgrower for NORPALM, you need to have at least 10 hectares of land. I do not have 10 hectares of land. Not only do you need 10 hectares of land, it also has to be around NORPALM for you to be considered [03]

According to TPB, when individuals have the capacity to perform a behaviour, they are more likely to perform the behaviour. The quotes above may suggest how contract design requirements deter smallholder participation in contract farming. Contracting firms require farmers to have guaranteed and long-term access to land and a minimum of 10 hectares before engaging in contract farming. These requirements seem to motivate smallholders to abstain from contract farming.

A former contracting farmer remarked:

The chief took away the land I was working on and sold it to the company. It is the chief so there is nothing we can do about it. If the chief needs money or does not like you, they can decide to take away your land and there is nothing you can do in this village [09]

As mentioned earlier, in Ghana, about 80% of the land is under customary law with the government owning and managing only about 20% (Anaafu, 2015). Practically, there seems to be a mismatch
between documented processes of land acquisition and actual methods of land acquisitions. This has resulted in land acquisitions in arbitrary ways. Either traditional authorities are by-passed by the government or traditional authorities do not have the capacities to negotiate land deals that are beneficial for local populations. Smallholder farmers therefore face the risk of losing their land to private investors or expropriation by the government (Marfo et al., 2012).

It is possible for large-scale investors to obtain land through traditional authorities at the expense of local communities. These traditional authorities often do not have the capacity to negotiate deals that are beneficial for their communities or may treat community land as personal property. In the case of the former, these communities are trapped in unbefitting contracts (Amanor, 2012).

Smallholders also choose to be independent as a result of the marketing restrictions. Contracting farmers are obliged to sell all of their fruits to their contracting firms. In addition to that, harvesting can be done only at specific periods of the years which are decided by the contracting firm. The majority of independent farmers stated that they often have pressing financial problems and the only option available to them was to harvest oil palm and sell. Contrary to smallholder independent farmers, contract farmers do not have the luxury of harvesting and selling whenever they want. For contracting farmers, harvesting and marketing procedures stipulate that they sell all of their produce to the contracting company and the company decides on the buying price. Consequently, independent farmers viewed the harvesting and marketing restrictions as another reason not to participate in contract farming. Many independent farmers cited that they want to be able to harvest and sell oil palm at their own discretion. An abstaining farmer said:
I have control over my farm and I sell to who I want. My mother was an outgrower and will always be on the farm and at the end of the day she does not decide who to sell to. She was obliged to sell to GOPDC even though at times their prices were the lowest. So, being an independent farmer, I decide when to sell my oil palm and who to sell to. This makes me happy. [04]

The quote above alludes to a loss of autonomy associated with participation in contract farming. This quote suggests selling restrictions imposed by contracting firms may serve as a reason for smallholders to not participate in contract farming. From another point of view, the loss of autonomy faced by contracting farmers may also serve as the basis of negative attitudes associated with contract farming. Thus, the loss of autonomy associated with farmer decisions to abstain from contract farming can be explained by the TPB in that farmers do not feel they have the capacity to control the behaviour, that is, participate in contract farming. This lack of control may also account for by the negative attitudes farmers have towards contract farming.

Furthermore, the contracting firms, precisely GOPDC buys only one of the two varieties of oil palm - the Tenera variety from farmers. In Kwaebibrem, independent farmers have the option of buying oil palm seedlings from GOPDC at 16 GHS or from the Oil Palm Research Institute (OPRI) at 13 GHS. On the other hand, contract farmers can buy seedlings at a subsidised price of

9 It should be noted that farmers generally perceived the quality of seedlings to be the same despite the differences in price.
11 GHS from GOPDC or from OPRI at 13 GHS (outgrowers can buy from any source). However, when farmers buy seeds from OPRI, they get 80% Tenera variety and 20% Dura variety. This implies such farmers can only sell the 80% Tenera fruit bunches to GOPDC. An abstaining farmer said:

Another problem concerns the variety. GODPC buys only the Tenera and this sometimes frustrates farmers who cultivate the Dura species. This is because they prefer the Tenara variety to the Dura. GOPDC says they buy all but they have never bought the Dura species from anyone in this community. When you buy seedlings from the Oil Palm Research Institute at Kusi\(^\text{10}\), they give you 80% Tenara variety and 20% Dura variety. I buy my seeds from kusi because I can use the Dura at home but at times I also sell the Dura variety to the market women because they buy both species. [07]

The above quote highlights how the requirements of the contracting firms could prevent smallholders from participating in contract farming. Again, the results suggest smallholders have difficulties meeting the requirements of contracting firms. Thus, according to the TPB, they are less likely to participate in contract farming. PBC as conceptualised by the TPB suggest when farmers do not have the capacity to engage with contract farming, they are more likely to abstain from contract farming. In addition to the production and marketing restrictions, farmers often cited delayed payments as a reason not to participate in contract farming. When asked about their willingness to be a contract farmer, an abstaining farmer replied:

\(^{10}\) The Oil Palm Research Institute is located at Kusi.
We have heard of problems where they will buy your fruits and you will only get the money many weeks later. At times, you can wait for months. I am not into that kind of business. That will affect me because I always need money. You can borrow money from your wife to use on the farm and after you sell you start avoiding her because GOPDC will not pay on time and your wife is constantly asking for her money. No...Whenever GODPC is willing to change their system of payment, I can become an outgrower or even sell to them. The issue of delayed payment is the main problem I have with GOPDC. As independent farmers, we believe in “cash and carry”\(^\text{11}\). [02]

Several independent farmers expressed negative perceptions towards delayed payments. Farmer’s reaction to delayed payments was not surprising. Delayed payments may also account for the negative attitudes smallholders have towards contract farming. These negative attitudes of smallholder attitudes towards contract farming may be a reason for farmer decisions to abstain from contract farming. This may be attributed to liquidity constraints as smallholders constantly need cash to manage their families and pay for other pressing needs. Delayed payments are commonplace in contract farming and could lead to high rates of contract default (Masakure and Henson, 2005; Miyata et al., 2009). As a result of delayed payments, many contracting farmers resort to side-selling despite the risk associated with it. The contracting firms treat side-selling as a serious crime. Contract defaulters have their contracts terminated and all of their produce ceased.

\(^{11}\) “Cash and carry” is an expression used by farmers to refer to a situation when a buyer pays for their oil palm at the time of delivery or pick-up.
This could cause many smallholders to be trapped in poverty as cultivating oil palm is their main source of income. Thus, in order to avoid such a catastrophic situation, smallholder farmers opt to abstain from contract farming.

Other farmers mentioned the high cost of farm maintenance and the labour-intensive nature of contract farming as a reason to abstain. The requirements of being a contract farmer are not only complex, but also capital and labour-intensive. The exorbitant cost of farm maintenance also limits farmers’ ability to meet the requirements imposed by contracting firms. According to the PBC construct of the TPB, high cost of farm maintenance deters farmer participation in contract farming. The quote below from an abstaining farmer captures this situation.

> My son, over here, to maintain an acre of land, labourers charge 100 GHS\(^{12}\) for pruning, 100 GHS for weeding. So, if you have 10 acres, you will be spending 1000 GHS on pruning and 1000 GHS on weeding. That is a total of 2000 GHS and this is a lot of money. If you do not have money, it becomes difficult for you to manage the farm. So, rather than be an outgrower where GOPDC expects you to manage your farm throughout the year, I can use that 2000 GHS for many other things other than just the farm. [08]

In fact, it appears that the relationship between GOPDC and the farmers has worsened over time. A study conducted a decade ago suggests that farmers had a good relationship with GOPDC when GOPDC was under the state management (Huddleston and Tonts, 2007).

\(^{12}\) 1 CAD = 3.92 Ghana Cedis (GHS) accessed on June 20\(^{th}\), 2018. (www.xe.com).
b) **Price fluctuation**

Fluctuating commodity prices increases the vulnerability of smallholders as these fluctuations are unexpected and can threaten smallholder household income levels (FAO et al., 2011). These unexpected price fluctuations make it difficult for smallholders to decide which markets they can access. Some abstaining farmers had the following to say about the fluctuating prices of oil palm.

*The price varies. There is the bumper harvest\(^{13}\) period and during this period, GOPDC reduces the price per tonne to about 400 GHS and during the lean season they increase to about 480 GHS. It varies. For the market women, the price also varies but they will pay you at least 550 GHS per tonne. Selling to GOPDC means that you are losing money especially during the bumper harvest because that is when we make some money. It pains my heart to see a big company like GOPDC treat us like this. So, I prefer selling to the market women.* [01]

Another abstaining farmer said the following about the fluctuating prices of oil palm.

*The problem is the price fluctuation. When we are in lean season GOPDC raises the price and when we are in peak season they decrease the price. So, the price varies. In the lean season like now, the local women buy for about 550 or 600 GHS but the company buys for about 480 GHS.* [03]

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\(^{13}\) The lean season runs from June to October and during this period farmers get between 2.2 to 3.3 tonnes of fresh fruit bunches per hectare. The bumper season lasts from January to May and farmers can get about 30 tonnes of fresh fruit bunches per hectare (Adjei-Nsiah and Klerkx, 2016).
Low prices offered by contracting firms compared to that of the local markets deters smallholders’ participation in contract farming. Because of the fluctuating buying price of contracting firms, abstaining farmers seem convinced that irrespective of their selling prices, they are always better-off compared to contracting farmers. Farmers do not perceive the low prices offered by contracting firms is in line with their fundamental objective of producing oil palm. Consequently, farmers have a negative attitude towards contract farming. Abstaining farmers view fluctuating prices offered by contracting firms as an opportunity to explore markets that offer higher prices. This is cross-validated by the fact that when asked about the challenges faced as abstaining oil palm producers, they do not, at all, mention fluctuating prices. However, farmers repeatedly mentioned price fluctuations as a reason for abstaining from contract farming.

Creation of the Oil Palm Development Board in Ghana, might be a step in addressing the problem of price fluctuation. One of the main objectives of the board, as an interviewee remarked, is to establish fixed buying price for oil palm across the country. Such experiment has worked in the cacao sector through the Cacao Board of Ghana that has implemented fixed buying prices for cacao across Ghana (Ricketts et al., 2014).

c) Social influence

Social factor such as the influence of community and/or family members also influences farmers’ non-participation. The quote below exemplifies the influence of a mother on her daughter’s decision to abstain from contract farming.

*NORPALM came here and talked to some people about their willingness to assist farmers and many of them joined. When NORPALM started having problems of delayed payments,*
my mother wanted to quit but she had to wait until the end of her contract. So, my mother and her friends advised me to abstain from contract farming. [04]

Another abstaining farmer mentioned:

My best friend who is an outgrower discouraged me from participating when the former President Kufuor launched the PSI. He said he did not like the way GOPDC manages outgrowers and with the PSI seedlings will be cheaper. He mentioned the restrictions imposed by GOPDC. So, if I decided to join, it means I would have to sell to GOPDC and there will be a lot of restrictions. So, I decided not to participate. [38]

Another abstaining farmer explained:

This is a small community and when there is bad news everybody knows. When GOPDC started having problems of delayed payments and low prices, the news was all over the village. It was like a wildfire going around. Even if you stayed in your house and did not go out, it will come and meet you. I heard about it in the community and decided to stay away from anything that involves GOPDC. [08]

Many non-participating (abstaining) smallholders, like the interviewees above, mentioned that they had learned from others’ examples and decided to not participate. From the quotes above, it would appear the experience of farmers with contracting firms influences the recommendations they provide to their peers. This is in line with the subjective norm of the TPB. Farmers therefore tend to learn from the experiences of their peers. Farmers also tend to comply with recommendations from their peers to abstain from contract farming. In rural areas such as that
within which this study is being conducted, rural ties influence smallholder decisions to abstain from contract farming.

In summary, abstaining smallholders consider non-participation in contract farming as a sound strategy for themselves. During the focus group discussion with abstaining farmers, all participants categorically rejected the thought of ever being a contract farmer. This finding is contrary to the contract farming literature which generally assumes that participating in contract farming programs is, by default, an attractive alternative for farmers; and assumes that non-participating smallholder farmers crave for participation in contract farming programs (Barrett et al., 2012; Bellemare, 2012; Da Silva et al., 2013). However, participating in contract farming can happen under adverse conditions that eventually leads to inequitable benefit sharing and farmer exploitation (Hospes and Clancy, 2011; McCarthy, 2010). Thus, the study finds that the majority of abstaining smallholder producers of oil palm choose to be self-excluded, a situation which allows them the freedom to do what they want to with their land and produce.

3.8.2 Smallholder motivations to quit contract farming

The decision to opt out from contract farming programs depends on benefits realized or cost incurred. Therefore, disproportionate profits to contracting smallholders and contracting firms, high levels of uncertainty and risk may cause farmers to exit from contract farming programs (Barrett et al., 2012). Also, the terms and conditions of contracts may also change overtime. Such changes may alter the capacity of farmers to continue to participate in contract farming.
Semi-structured interviews with former contracting smallholder producers of oil palm revealed important insights as to why these farmers stopped being contract farmers. Analysis of these interviews revealed one main theme, perceived lack of equity, that resulted in smallholders quitting from contract farming in the oil palm sector of Ghana.

**Perceived lack of equity**

Data reveals that opted out farmers’ perceived lack of both distributive and procedural justice. From a distributive justice perspective, smallholders generally cited unclear pricing mechanisms as a cause for farmer decisions to exit from contract farming programs. Pricing mechanisms need to be explicitly clear to smallholders in order for farmers to understand the costs of production, expected benefits of participating in contract farming and methods of debt repayment. Farmers complained that even though the companies gave them charts which can be used to calculate the cost associated with oil palm production, whenever they sold their fruits to the companies, they were always in a deficit. It would appear the TPB falls short in explaining how perceived lack of equity influences farmer decisions to quit contract farming. Furthermore, contrarily to the linear conceptualisation of behaviour according to the TPB, it appears farmer behaviour is not static as farmers that once viewed contract farming as a means of achieving personal goals now have a different view of contract farming. A former scheme farmer for Norpalm highlights how unclear pricing mechanisms influenced his decision to quit the scheme program. He explains:

*The problem I had with the scheme program is that the deductions are too much. You do not understand how they calculate it. For example, from 2.75 hectares, I got only 175 GHS last month. This cannot even pay for weeding or even take care of the needs of the family.*
The deductions are too much especially the cost of fertilizers. Normally from 2.75 acres I expect at least 750 GHS after the deductions. [25]

In addition, wealthy farmers (mostly outgrowers) mentioned their capacity to produce and sell oil palm independently as a reason to quit from contract farming. As outlined before, outgrowers own and manage their farms independently. These farmers are more concerned about distributive justice. Outgrowers who exited from contract farming programs highlighted the low prices offered by contracting firms, their capacity to produce and sell independently as reasons to quit from contract farming programs. An interviewee explained as follows their reason for terminating the contract.

I find it easy to produce and sell oil palm. I have been in this business for 20 years. When you have enough experience in anything in life, then you should be able to do that thing very well on your own. The price offered by Norpalm is low so when my contract came to an end, I decided to expand my business and now I have cars to take my fruits to the market. I can now sell to many more buyers even in Nigeria and Togo and their prices are better. [19]

From a procedural justice standpoint, neglecting farmer opinions in the decision-making process may lead to high rates of contract default. This often leads to conflicts between the contracting firms and smallholders. Smallholders may want to belong to a group because they feel valued and group membership may lead to high levels of self-esteem, self-identity and social status. An outgrower recounts:
My relationship with GOPDC is very good. Let me use the example of a father and son. The father expects the son to do everything to please him. GOPDC is like my father and the only requirement is for me to meet the expected tonnage per acreage per year and I always exceed the required tonnage. Because of this, every time I go to GOPDC, they show me some respect and love and this is more than enough for me. [29]

Simcock (2016) highlights three main elements of procedural justice that reinforce the underlying spirit of the above quote. The three elements are: inclusion, information and influence. The first, inclusion refers to the question of who has an agency in the decision-making process. In the context of contract farming, a central principle is to include all those who will be affected by a decision. Inclusion also ensures that all members are given an opportunity to meaningfully participate in the decision-making process. Contract farmers generally have an extension agent and outgrower representatives who are responsible for the management of their farms and channelling their complaints to the contracting firms. However, outgrowers frequently complained of absenteeism among extension agents. They said that these agents often came only during harvesting periods to remind farmers that failure to deliver their fruits to companies may lead to termination of their contracts.

Secondly, decisions must be based on accurate information. This implies a variety of sources must be used to obtain information. This is often considered critical as it ensures accountability and may lead to transparent outcomes for contracting parties (Luo, 2005). However, interviewees frequently mentioned that their only source of information is contracting companies. Whether or not this information is accurate is a question that leaves many farmers wondering.
Finally, influence relates to the extent to which the opinions of contracting parties are actually incorporated into the decision-making process (Konovsky, 2000). My data reveals that smallholders are generally less powerful and do not have the aptitude of influencing decisions during a negotiation process. A former outgrower narrates:

\[ GOPDC \text{ can breach the contract at any time but when you breach the contract, it is a serious offense for you. In my opinion, the most common breach of the contract is delayed payment. There are others like the absentee nature of extension agents. To them they think it is okay to breach the contract. As a poor farmer what can I do? I only have to wait and pray that they pay me because even if they don’t there is nothing I can do. } \]

Another outgrower explains:

\[ \text{You can’t challenge them. Meetings are generally based on a petition from farmers or something the firm wants to inform us about. Before coming for a meeting, they have already taken their decisions. So, we just go there to listen to what they have to tell us. They are the law and if they say this is what they want then you have no choice other than accept it because we can’t challenge them. } \]

Smallholders only have a consultative influence while the contracting firms have more of an authority over the decision-making process. Consultative influence refers to a situation where the opinions of smallholders are sought but they have no real influence over the decision being taken. Though they may be physically present, their opinions are not well integrated. Thus, smallholders become almost like spectators during such negotiation processes. This approach to incorporating smallholders in the decision making-process can be described as a cosmetic and virtual approach.
to negotiation as negotiation appears to exist between farmers and the firm but the opinions of smallholders are not taken into consideration by the contracting firm. On the other hand, contracting firms have direct authority on the decision making-process such that they have the capacity to directly influence the outcomes. Outgrowers and scheme farmers frequently mentioned that they were simply informed of decisions taken by the contracting firms. They were unanimous in asserting that a real negotiation them and between contracting firms never takes place.

The absence of negotiations between contracting firms and smallholder producers may lead to perceptions of injustice. Contracting smallholder producers therefore tend to value contracting firms that incorporate smallholders in decision-making process. In fact, they take pride in being a part of the contracting firm. However, this holds only if smallholders perceive they are treated fairly. A scheme farmer describes:

*I have a good relationship with Norpalm. They consult with us and involve us when taking decisions that concern us.* [37]

These findings demonstrate that there is a diversity of factors that influence smallholder decisions to not participate in contract farming or to quit from it. Smallholder independent farmers choose to abstain from contract farming as a result of contract restrictions and low prices offered by contracting firms. They prefer to sell into local markets where they could negotiate better prices for their produce. And, they quit from contract farming as a result of perceived lack of equity. Thus, it seems contract restrictions and fluctuating prices of oil palm simultaneously influence smallholder decisions to abstain and quit from contract farming programs. Quitting from contract
farming programs is further accentuated by a perceived lack of equity. Thus, the experiences of farmers shape their recommendations to other farmers to not participate in contract farming. Figure 7 captures the reasons this study identified for non-participation in and opting out of contract farming.

The evidence presented by this chapter suggests the TPB partially explains smallholder decisions to not participate in contract farming. For example, the first construct of the theory – attitude, examines if smallholders have a positive or negative assessment of contract farming. Attitude examines the extent to which smallholders can achieve their objectives through contract farming. These findings suggest non-participating smallholders have negative attitudes towards contract farming.
farming. Non-participants do not view contract farming as compatible with their objectives. For example, the desire of non-participants to maintain control over their land influences their non-participation decision. Furthermore, apparently smallholder intentions to maximize profits cannot be met through contract farming.

The second construct of the TPB – subjective norm, examines how the decisions of non-participating farmers are influenced by significant others. In other words, the subjective norm examines the extent to which smallholders tend to comply with social pressure from friends and/or family members. The findings suggest smallholder decisions to abstain from contract farming is influenced by either people considered important (such as family members and close friends) or by the views of local communities. Despite the influence from ‘significant others’ on smallholder decisions to not participate in contract farming, the majority of non-participating smallholders felt satisfied with their decision. For example, farmers often cited their ability to independently take production and marketing decisions as advantages of being non-participants of contract farming.

The third construct of the TPB, perceived behavioural control (PBC) considers the extent to which smallholders think they can efficiently perform a behavior. Hence, farmers who think they cannot meet the requirements of contract farming decided to abstain from contract farming. For example, farmers without access to land or farmers who produced Dura varieties were more likely to abstain from contract farming.

It can be concluded that the three constructs of the TPB are highly interrelated. For example, contract design requirements such as production, marketing restrictions and low prices may serve
as a springboard for the development of negative attitudes towards contract farming. In return, abstaining farmers or previous contract farmers may discourage aspiring smallholders from participating in contract farming. Furthermore, the lack of access to land, labour and inputs required for production increases the willingness of farmers to abstain from contract farming. A closer look at the TPB and farmer decisions reveals that the TPB only partially explains the non-participation decision of smallholders. The study finds that perceived lack of equity influences smallholder decisions to quit from contract farming. However, perceived lack of equity is not explained by the TPB.

Over the last decades, there has been increased attention to the concept of equity along supply chains. The concept of equity in supply chains often relates to two aspects: distributive justice and procedural justice (Narasimhan et al., 2013). Distributive justice (DJ) refers to a situation when individuals perceive the ratio of their outcomes to inputs is equal to the ratio of outcomes to inputs of other supply chain actors (Liu et al., 2012). DJ therefore focuses on individual perceptions of the allocation and distribution of outcomes. In contrast, procedural justice (PJ) refers to the extent to which supply chain actors are involved in the decision-making process and their perceptions of policies and procedures that underpin the management of these chains (Lind and Tyler, 1988; Thibaut and Walker, 1975). PJ therefore focuses on individual perceptions on the process of resource allocation and distribution. Consequently, DJ and PJ highlight individual concerns for equity and formal procedures (Liu et al., 2012). It is expected that supply chains developed and managed based on principles of equity can lead to fair and equitable outcomes for supply chain actors (Konovsky, 2000; Thibaut and Walker, 1975).
While the results suggest perceived lack of equity influences smallholder decisions to quit from contract farming, it is not captured by the TPB. This is important for two main reasons. First, the TPB assumes that individual decisions are linear and static (Feola and Binder, 2010). However, this is not the case as the findings suggest individual decisions change over time. Smallholders that once viewed contract farming as a means to an end changed their minds and decided to quit from contract farming. This underscores the need to account for feedback processes when understanding smallholder decisions. Second, perceived equity appears to be an important determinant of smallholder decisions to quit from contract farming. Other scholars have questioned if a theory of individual behaviour is explained by only three constructs (Ajzen, 2011; Armitage and Conner, 2001; Sniehotta et al., 2014). These scholars have called for an extension of the TPB. The results of this chapter add to existing critiques of the TPB and suggest that understanding equity issues along supply chains and how they influence smallholder decisions need to be studied more closely for possible inclusion in the TPB.

Figure 8 suggests a modified version of the TPB that can be used to explain smallholder non-participation decisions in contract farming.
3.9 Conclusion

This study identifies several important implications for contract farming in the oil palm sector of Ghana. The availability of land is critical for smallholder farming systems. The analysis demonstrates a need to focus on such methods of land control and incorporate existing livelihood strategies into narratives of oil palm development. The insights revealed by this study brings in to question the ‘win-win” view of contract farming and finds that by implementing specific contract requirements, contracting firms maintain virtual control over land owned by smallholder farmers. While smallholders retain ownership of their land, they lose the autonomy they have over their
land and may be entangled with debts and unequal power relationships that may not be beneficial to them. Consequently, many smallholders choose to abstain from contract farming.

State policies have promoted the development of oil palm in different ways thereby influencing the spaces in which agrarian change has ensued. There is therefore a need to distinguish between internal processes of oil palm production such as the PSI and external processes such as that from foreign investors. Each of these processes is accompanied by a series of opportunities and challenges and may lead to distinct routes of agrarian change. Finally, in contrast to simplistic narratives of smallholder inclusion or exclusion from contract farming programs, this study concludes that the effect of oil palm expansion on smallholder participation is dependent on the terms of smallholder participation in oil palm production and the management of contract farming programs.
Chapter 4: Smallholder decisions to participate in contract farming

4.1 Introduction

Smallholder participation in contract farming programs is considered critical in achieving global food security (Bellemare and Novak, 2016), conserving key ecosystems, enhancing agro-biodiversity and improving rural livelihoods (Barreiro-Hurlé et al., 2010; Defrancesco et al., 2008; Lambrecht and Ragasa, 2018). Furthermore, through contract farming, firms can gain access to consistent and high-quality products thereby making contracting firms major contributors to the global food economy (Prowse, 2012; Setboonsarn and Leung, 2014). As a result, contract farming is increasingly gaining attention as governments and development organizations view contract farming as an effective way of achieving multiple Sustainable Development Goals or SDGs (Minten et al., 2009). But, it all hinges upon smallholder participation in contract farming. The successful development of agricultural interventions necessitates an in-depth understanding of the factors that influence smallholder decisions to participate in these agricultural interventions (Pietola and Oude 2001).

The majority of studies assume that smallholders will automatically participate in contract farming without seeking to understand the ex ante motivations of smallholders to participate in contract farming (Abebe et al., 2013). The paucity of studies that examine smallholder motivations to participate in contract farming is especially notable in contexts such as Ghana where despite numerous policies to promote contract farming initiatives, smallholder participation in contract farming programs remains far below expectations (Lambrecht and Ragasa, 2018; Ragasa et al., 2018). This chapter therefore seeks to understand the motivations of Ghanaian smallholder producers of oil palm to participate in contract farming. Development analysts argue that
understanding smallholder motivations for participating in contract farming is important as it permits the close alignment of smallholder motivations with contract terms and conditions. Consequently, by understanding smallholder motivations, it is possible to enhance the performance of contract farming programs (Abebe et al., 2013; Minten et al., 2009).

The chapter is organized as follows. Below, is a literature review on contract farming and smallholder participation in agricultural interventions. The subsequent section describes data collection methods which is followed by results, discussion, and conclusion.

4.2 Literature review on smallholder decisions

Smallholders are the dominant producers of several agricultural commodities such as oil palm, cacao and coffee (Byerlee et al., 2016). The growing population and affluence coupled with globalizing agricultural systems is increasing demand for numerous agricultural commodities thereby providing an opportunity for smallholders to access new markets (UNCTAD, 2009a). While smallholders may benefit from accessing new markets through contract farming, contract farming has also increased smallholder vulnerabilities (Oya, 2012). Whether smallholder farmers can benefit from participating in contract farming depends on the nature of the product, value chain organization and most importantly the alignment of smallholder objectives for participating in contract farming and that of contracting firms (Bijman, 2008; Otsuka et al., 2016).

For several decades, scholars have made substantial efforts to examine the factors that influence farmers’ decision to participate in novel agricultural interventions (Baker et al., 2017; Ghadim and Pannell, 1999; Lee, 2005). The economic literature identifies several motivations as to why
farmers might participate in new agricultural interventions. This literature views contract farming as an efficient way of coordinating supply chains and reducing the cost of production. Contract farming can help smallholders in overcoming uncertainties in credit, access to agri-inputs and access to markets (Barrett et al., 2012; Little and Watts, 1994). However, other problems associated with participating in contract farming are side-selling from smallholder farmers, input diversion, and breach of contracts (generally referred to as moral hazard). Thus, even though contract farming is portrayed as a win-win strategy, there are high rates of failure of contract farming programs (Minot and Sawyer, 2016).

In addition, the economic literature also argues that factors such as smallholder perceptions of risk (Gong et al., 2016), land tenure (Lambrecht et al., 2014) access to credit and extension services provided by the government are critical if farmers are to participate in novel agricultural interventions (Abate et al., 2016; Knowler and Bradshaw, 2007). For example, Deininger and Feder (2001) find that tenure insecurity discourages investments on land as farmers may not reap their expected benefits if there is a high potential for them losing their land in the future (Ali et al., 2011; Lovo, 2016). Thus, the manner in which land reforms are instituted may directly impact farm management techniques and economic benefits to smallholders.

Similar to the economic literature, socio-psychologists argue that there are also non-economic motivations which influence farmer decisions to participate in new agricultural interventions (McDonald et al., 2016). The sociology literature identifies social norms that might influence farmer decisions to participate in an agricultural intervention. Social norms, as conceptualized by Borges and Lansink (2016), refer to what an individual does in a specific situation and what
‘significant others’ generally tend to approve. Social norms consist of both social values and moral values. Social values are defined by an individual with respect to a particular reference group, for example, family members or other farmers in the community. Moral values refer to those factors related to an individual’s personal satisfaction (Mzoughi, 2011). Social norms are an integral part of existing social structures such as farming communities and groups. Such norms are developed through a process of socialization. For example, opinion leaders are considered to have an important role influencing farmer decisions (Schneider et al., 2009). Opinion leaders create and uphold norms in a community which might influence farmer decisions. For instance, a study on biosecurity control on farms found that there was some sort of a ‘spoke-wheel’ interaction with several farmers consulting leading farmers for advice and information before participating in new pest management practices on their farms (Mankad, 2016).

In addition, the psychology literature suggests that farmers’ attitudes are critical determinants of their decision to engage in a new agricultural intervention (Hansson et al., 2012; Mankad, 2016). Farmer attitudes generally tend to be influenced by how much knowledge is available on the proposed intervention (Hansson et al., 2012). If the intervention is not explicit enough to a farmer in terms of cost of purchase, operation, and potential benefits, then there is a high probability for farmers to have a conservative and risk-averse attitude and consequently to reject the intervention (Gong et al., 2016). This holds true in many developing countries as the majority of smallholders operate under high levels of risk and operate within the margins of survival (Naylor and Courtney, 2014). Farmer participation in new agricultural interventions such as contract farming involves a certain degree of risk because farmers cannot accurately predict the outcomes of their decisions especially those farmers that can be described as ‘the poorest of the poor’ that are faced with
challenges of survival than having an economic mindset targeted at wealth profit maximization. Thus, levels of psychological preparedness partially distinguish farmers who are ready to participate in contract farming from those who are not ready to do so.

Recent reviews on farmer participation in agricultural interventions such as that of Blum (2015) for agroforestry and Reimer and Prokopy (2014) for conservation technologies find that the uptake of agricultural interventions is also influenced by the characteristics of the intervention. The characteristics might include but not limited to information related the difficulty or ease of use, observable benefits, compatibility with existing assets (Dearing, 2009). Other bio-physical factors such as soil quality, farm structure and climate equally influence the decisions to engage in new agricultural interventions (Pattanayak et al., 2003). If the agricultural intervention is complex, involves high cost, and profits are not clearly explained, then farmers are less likely to engage in a new agricultural intervention. Furthermore, Rueda et al. (2018) find that smallholders living closer to centers of agricultural interventions tend to have higher rates of participation that those living far away.

Moreover, the political-ecology literature highlights the complexity of agricultural systems (Feola and Binder, 2010). Generally, political-ecology focuses on environmental conflicts and embraces the co-evolution of the social and ecological aspects of agricultural systems (Feola et al., 2015; Folke et al., 2010). This literature lays emphasis on the characteristics, actions and interests of different actors as they seek to access agricultural land. With the modernization of agricultural systems, this literature examines how customary land tenure systems change and how less powerful agents (smallholder farmers in this case) adapt to such changes. Rammel et al. (2007)
argue that unequal power relations influence the management of natural resources. Unequal power dynamics influence the extent to which smallholders can negotiate access to agricultural land and contract requirements. Abebe et al. (2013) therefore underscores the necessity to design contracts that align goals between the contracting firm and farmers and minimize potential for moral hazards. Over time, contracts need to be adjusted as both the contracting firms and farmers learn by experience and the nature of the relationship developed (Bogetoft, 2002).

4.3 Methodology

4.3.1 Data Collection and analysis

A total of twenty-five semi-structured interviews were conducted with participants of contract farming. These consisted of nine scheme farmers, ten outgrowers and six members of a farmer producer association (FPA) - the Ewusiejoe farmer producer association. Following a series of general questions on demographics, smallholders were asked about their reasons for participating in contract farming, the challenges faced and their experience as contract farmers (appendix 2 for interview protocol). Each interview for about 50 minutes on average.

One focus group discussion was held with twelve outgrowers. Of these twelve participants at the focus group, semi-structured interviews had been conducted with four of them. One focus group discussion was also conducted with ten members of the Ewusiejoe FPA. Of these ten members of the Ewusiejoe FPA present at the focus group, three had previously been interviewed. Focus group discussions began with questions on smallholder motivations for participating in contract farming, challenges faced with regards to contract farming, and the willingness of farmers to continue participating in contract farming. The focus group discussions served as a means of triangulating
findings from individual semi-structured interviews. Due to the labour-intensive nature of scheme farming, it was not possible to have a focus group with scheme farmers as they were generally busy. I also had informal conversations with local chiefs to gain an understanding of the complexities in accessing land and existing governance mechanisms in the study area. All interviews and focus group discussions were recorded, transcribed and analyzed using Nvivo 12.

Table 6 summarizes the number of interviews conducted and the number of participants during the focus group discussion.

Table 5: Sample of participating smallholder farmers

<table>
<thead>
<tr>
<th></th>
<th>Number of semi-structured interviews conducted</th>
<th>Number of participants in the focus group session</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scheme farmers</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>Outgrowers</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Farmer producer association</td>
<td>6</td>
<td>10</td>
</tr>
</tbody>
</table>

Data was analyzed as described in section 1.3.5. and data saturation was achieved (figure 9). Data saturation generally refers to a stage when there are no new additional themes from data collected (Charmaz, 2006).
4.4 Results and Discussions

The study finds that smallholder motivations to participate in contract farming is complex and include multiple factors. An analysis of the interviews and focus group discussion identifies four main themes that motivate smallholders to participate in contract farming. These themes are: (a) financial factors; (b) social influence; (c) observed benefits; and (d) government policies.

a) Financial factors

Financial factors were the most frequently mentioned reasons for smallholder decisions to participate in contract farming. Before participating in contract farming programs, smallholders ask questions pertaining to the financial benefits, the associated cost of participation and the ease of implementing the requirements of contract farming. Awareness of the costs and benefits
associated with contract farming influenced smallholder motivations to participate in contract farming. Two sub-categories of financial factors – access to markets and increased bargaining power – influence smallholder decisions to participate in contract farming.

Firstly, accessing markets is imperative for smallholders to benefit from agricultural interventions. Smallholder access to markets does not simply mean the act of selling, it also pertains to post-harvest management practices and the prices smallholders receive for their produce (FAO, 2014b). For Ghanaian smallholder producers of oil palm, access to guaranteed input and output markets appeared to be an important factor for the majority of contracting farmers. Accessing inputs such as fertilizers, pesticides, improved seedlings, credit and herbicides required for agricultural production is a major challenge confronting Ghanaian smallholder farmers. In fact, Jayne et al. (2010) find that even when available, these inputs are often cost prohibitive for resource poor smallholders. The Ghanaian Ministry of Food and Agriculture documents the lack of agricultural inputs and credit as a major setback to the development of smallholder agriculture (MoFA, 2015). Many interviewees mentioned benefits related to accessing agricultural inputs as a motivation for participating in contract farming. A scheme farmer describes her reason for participating in contract farming.

_I could not afford the high yielding seedlings that currently exist so I had to go and pick seedlings that fell off from the palm trees from the state farms. This helped me reduce the cost of starting the oil palm farm. I was eager to join when the company promised to give us seedlings, fertilizers and other equipment needed for production as this is a major challenge for me. The company said all we have to do is accept to constantly sell our oil palm to them and they will give us these inputs._ [05]
Similar to the challenge of accessing input markets, accessing output markets is challenging for the majority of Ghanaian smallholder farmers. The ability of smallholder producers of oil palm to benefit from contract farming depends on their ability to successfully access output markets and receive remunerative prices for their produce (Acheampong et al., 2018; Barrett, 2008; Hazell et al., 2007). However, these farmers find it challenging to access markets. Thus, the possibility of having guaranteed access to both input and output markets may be at the origin of smallholder positive attitudes towards contract farming. Hence, smallholder producers of oil palm choose to sell it to the nearest available market. An outgrower recounts:

My son I choose to be an outgrower because for several years we were producing oil palm but it was not different from citrus or cacao in this community because it was difficult to sell. When GOPDC came, it became easy for us. GOPDC buys our fruits so we do not have to worry about how we are going to sell. That is how many people in this community started producing oil palm and GOPDC pays about 480 GHS\textsuperscript{14} per tonne [11]

Smallholders were also uncertain about their capacity to access other local markets. This uncertainty was particularly noted amongst farmers that live closer to contracting firms. For this category of farmers, it is unclear whether or not they have a positive attitude towards contract farming. However, these farmers identified themselves as contract farmers since the majority of their household income can be attributed to contract farming. The challenge of accessing output markets is further compounded by the dilapidating condition of the roads that connect farms to

\textsuperscript{14} $1\text{CAD} = 3.95 \text{GHS}$ accessed on June 18\textsuperscript{th}, 2018 (www.xe.com)
markets. Contracting smallholders mentioned the poor state of farm to market roads as a reason to participate in contract farming. However, this is only true for farmers with farms located close to contracting firms. An outgrower narrates:

*The roads in this area are extremely bad. When you think about the cost of transporting your fruits to the local market and how much you get from it, if you are from this area it is better for you to sell to GOPDC. GOPDC pays 50 GHS per tonne of oil palm while at the local market, they pay 60 GHS per tonne but in order to get there you will spend about 80 GHS. So being an outgrower was the best decision for me since GOPDC is closer to my farm.* [14]

The findings suggest farmers in hinterlands with poor quality roads may participate in the nearest available markets. In the worst-case scenario, farmers in areas with no roads may fail to even market their products due to the high cost of transportation especially during the wet seasons. In addition, the highly perishable nature of oil palm\(^{15}\) means farmers cannot store it for long without processing. As a result, multinationals such as Unilever decide to source oil palm from smallholders located within a 50km radius from oil palm processing mills (Unilever, 2016) while GOPDC sources oil palm from within 30km of its processing mill (Ofosu-Budu and Sarprong, 2013). A plausible explanation is that cost of transporting and the cost of participating in contract farming increases with distance between a farm and contacting firm. The hidden cost of

\(^{15}\) Oil palm must be processed within 24 hours after harvest in order to meet quality requirements such as free fatty acid (FFA) levels (Unilever, 2016).
transportation associated with accessing markets may result in smallholders selling to the closest buyers even if at lower prices.

Secondly, members of the Ewusiejoe farmer association choose to participate in contract farming in order to increase their bargaining power. Farmer producer organizations are defined as groups in which smallholders voluntarily participate in order to pursue shared objectives (Markelova et al., 2009). Participating in FPAs is a common strategy used by smallholders as this strengthens their bargaining power and enables them to compete against larger farmers (Gasson, 1977a; Miyata et al., 2009; Wollni and Zeller, 2007). A member of the Ewusiejoe farmer association describes his motivation for joining the association.

Being a member of the association is good because in order to sell to Norpalm, you need to have at least 10 acres of land. Most of us here do not have up to 10 acres of land so we normally sold our fruits at 418 GHS through the middlemen. Now, through the association we can sell directly to Norpalm at 480 GHS. [22]

Norpalm contracts only with farmers who own at least 10 acres of land. Thus, farmers with less than 10 acres of land are not able to either sell to Norpalm nor receive any form of support from Norpalm. Members of the Ewusiejoe farmer association generally own less than 10 acres of land and being a member of the farmer association offers opportunities for these farmers to access new markets by selling to Norpalm. Other farmers who are not members of an FPA and who do not own at least 10 acres of land are left with the option of either selling to the local markets or to middlemen. In order to continuously sell their fruits at higher prices as highlighted by the interviewee above, farmers are therefore willing to invest in and maintain their membership status.
in the Ewusiejoe farmer association. This means that if farmers perceive the benefits of contract farming outweigh the cost of implementation, the likelihood of participation is high. This finding is similar to that obtained by Fold and Gough (2008) for Ghanaian producers of pineapples who sold through FPAs or the local market. Few large-scale producers were able to sell their fruits directly to the contracting firm. Thus, the possibility of accessing new markets could lead to positive farmer attitudes towards contract farming.

On the other hand, with the demands for food safety standards on the rise, FPAs are increasingly gaining popularity as they offer avenues for agribusinesses to acquire high value produce of consistent quality (Fischer and Qaim, 2014). The literature on contract farming argues that contracting firms generally prefer to deal with large-scale farmers or FPAs as a result of the reduced production cost associated with searching for and managing multiple small-scale farmers (Wollni and Brummer, 2012). Thus, FPAs present a win-win for both contracting firms and members of an FPA. However, the critical role of FPAs depends on product types and institutional arrangements that underpin the governance of FPAs (Fischer and Qaim, 2012; Gereffi et al., 2005). With regards to product types, contrary to the ease of marketing highly perishable cash crops such as oil palm and cacao, it is extremely challenging for smallholders to market staple crops through FPAs (Hazell et al., 2007). Production and marketing methods for staple crops are relatively easy to access for smallholders. Consequently, the cost of independently producing staple crops may be lower compared to highly perishable cash crops whose cost of production and marketing may be unfamiliar to smallholders. The importance of FPAs diminishes when employed in the production for staple crops given that smallholders can access production and marketing methods at a relative cheap cost (Bijman, 2008). Finally, with regards to institutional arrangements, Ostrom (2000)
argues that when FPAs craft their rules, these rules can be adapted to the local context and this increases the likelihood of success. In the context of the present research, the rules that guide the management of the Ewusiejoe farmer association were developed by members of the association. Though FPAs can be important in helping smallholders overcome production and marketing constrains, they do not offer complete solutions to the challenges faced by smallholders. For example, Masakure and Henson (2005) find that in Zimbabwe, for vegetable producing farmers, rules guiding the management of FPA were not clear to farmers and farmers engaged in opportunistic behaviours which eventually led to mistrust amongst members.

b) Social influence

The sociology literature on farmer participation in agricultural interventions identifies social norms that might influence farmer decisions to adopt an agricultural intervention (Schneider et al., 2009). Social norms, as defined by Borges and Lansink (2016), refer to what is often done in a particular situation and what is generally approved of by ‘significant others’. Such norms are usually developed through a process of socialization and are context-specific.

The social influence factor highlights the importance of social factors in influencing smallholder decisions to participate in contract farming. Thus, according to the TPB, subjective norm indeed explains smallholder decisions to participate in contract farming. Smallholders were influenced either by close family relatives or other community leaders to participate in contract farming. These family relatives or other community leaders can generally be described as ‘opinion leaders’ or ‘significant others’ and are considered to have an important influence on farmer decisions (Schneider et al., 2009). The quotes below from outgrowers highlight the importance of close
family members and community leaders in influencing farmer decisions to participate in contract farming in oil palm production.

My father has been an outgrower for over 25 years and he is doing well. I became an outgrower by asking for his advice. He is one of the best farmers in this community and if one of the best farmers in the community is my father and he encouraged me to be an outgrower then I know it is for my own good. I’ll do whatever to be like him. [33]

I was brought into this community at a very early age and my father is a brother to the chief. I stayed with the chief and assisted him so he decided to compensate me with land which was reserved for the scheme program with GOPDC. Without the chief, I would not be able to be a scheme farmer. [06]

The quotes above reveal that smallholders tend to be socially influenced to participate in contract farming. Though latent, many smallholders also indicated that there is a social status associated with participating in contract farming. Many contracting smallholders referred to their participation in contract farming as a better source of livelihood through which they can earn social respect. Smallholders capable of sending their children to school, building cement houses and buying automobiles are generally perceived to be wealthy. The quotes below exemplify this.

16 Best farmers are considered those that are rewarded with farming equipment and certificate from the contracting firm and appears to be a prestigious status enjoyed by farmers.
Being an outgrower is one of the best things that I have done in my life. I have been able to build a storey building, send my son to the university, buy a car and a bike. Without being an outgrower, I would not be able to do all of this. As a man, you should be able to care for your family. [33]

As an outgrower you have a target to meet every year so I sell some of my fruits to GOPDC and keep the rest for the family. I need to feed my family. I could not take care of my family when I was growing only citrus, plantains and cassava. So, that is one of the reasons why I wanted to be an outgrower. In fact, I do not know of any outgrower in this community who sends all of their fruits to GOPDC. Many of us are outgrowers but we also have to think about ourselves and families before GOPDC. [17]

Despite the importance of participating in contract farming to these smallholder farmers, a question that kept recurring to me is the importance of the different sources of social influence. An attempt to answer to this question seems that the sources of influence must be trustworthy participants of contract farming. The presence of visible evidence that contract farming is beneficial to existing participants seems to spur smallholder desires to participate in contract farming. Thus, smallholder producers of oil palm perceive participating in contract farming as a means of achieving food security, a supplementary source of income to undertake other off-farm business ventures and also a means of satisfying family relatives that view participation in contract farming as good.
c) Observed benefits

The characteristics of an agricultural intervention may either facilitate or impede smallholder participation rates (Aubert et al., 2012; Carletto et al., 2010). Thus, if contract farming requirements are easy to implement, do not require significant investments and deliver visible benefits to early participants, smallholders may likely participate in contract farming. The findings suggest when the benefits of contract farming to early participants can easily be observed by non-participants, then non-participants may be motivated to participate in contract farming based on observed benefits. However, the TPB may not have captured how observed benefits influence farmer decisions. A scheme farmer explains one of her reasons for participating in contract farming.

My brother was a scheme farmer and I could see how his life was changing. He was able to build a house, send his children to school and he also got food stuff like milk from the company. He shared the food stuff with me and after seeing how his life had changed, I wanted to join the program. Who doesn’t like good things? [15]

A review of the psychological factors that influence smallholder participation in agricultural interventions finds that delaying participation in new agricultural interventions is a strategic decision pursued by many smallholders (Mankad, 2016). In Ghana, oil palm farmers typically observe farming practices of successful contracting farmers\textsuperscript{17} and implement these practices on

\textsuperscript{17} Successful contracting farmers are considered to be those who achieve higher yields, considered to be wealthy by other farmers and may be recognized by the contracting firms through an award.
their farms only after they see others succeeding with them and thus avoid risk. Michelson (2017) reports similar results for Nicaragua where farmers strategically delay participation in contract farming programs in order to observe the associated cost of implementing contract farming techniques and the potential success of contract farming.

d) Government policies for farmer producer associations

Over the last decade, the government of Ghana has embarked on a mission to transform its agricultural sector by increasing smallholder productivity and facilitating smallholder access to markets. Therefore, reducing or eliminating the barriers that impede smallholder access to markets is a critical theme in Ghana’s agricultural development policy (MoFA, 2015). One strategy employed by the government of Ghana has been the promotion of FPAs. Ghanaian smallholder farmers can only receive support from the government if they belong to a FPA. Thus, as an independent farmer, it is impossible to get support from the government of Ghana (Salifu et al., 2010). Thus, this was a main motivation for the majority of the contract farmer that were members of the Ewusiejoe farmer association to participate in contract farming. An interviewee describes his motivation for becoming a member of the farmer association.

As the government had announced, as a single farmer you would not get any benefits from them. The government made it clear that farmers need to be part of an association before they can get benefits from the government. That is why I joined the association. [24]

Multiple studies across Ghana highlight the critical role of the government in promoting the development of FPAs (Francesconi and Wouterse, 2015b; Lyon, 2003; Otsuki et al., 2018). Promoting FPAs is based on the recognition that FPAs have the potential of addressing smallholder
challenges. However, a fundamental question remains how the government of Ghana can efficiently support FPAs. In the context of the present study, it would appear farmer participation in FPAs is a representation of short-term opportunistic behaviour rather than a long-term commitment to contract farming. Empirical evidence on the success of FPAs across Ghana is mixed (Salifu et al., 2010). In as much as FPAs can enhance benefits to smallholders, there are also multiple cases of collapse of FPAs as a result of over-dependence on external support.

Assessing the viability of FPAs is extremely important as these groups could emerge for the sole purpose of accessing public resources. This may be the case of the Ewusiejoe farmer association where farmers often mentioned anticipated benefits from the government as the basis of membership in the association. In this regard, institutional scholars argue that it is imperative to establish rules that promote genuine collaboration amongst members of a FPAs. In addition, such rules should minimize or completely eliminate ‘free-riders’ as smallholders may not always be willing to belong to a FPA (Michalek et al., 2018).

In sum, it can be concluded that for Ghanaian smallholder producers of oil palm, participating in contract farming is a risk management strategy. Smallholder benefits from contract framing depend upon several factors. Smallholder participation is viewed as a means of achieving a social status as the majority of smallholder producers of oil palm predominantly engage in subsistence production of crops such as cassava, plantains, maize, citrus and cacao. However, for members of the FPA, participating in contract farming may offer hope for the future as through farmer organizations, new markets have been accessed and they could eventually get agricultural inputs from the government and other non-governmental organizations.
Figure 10 captures the reasons that this chapter identified for smallholder participation in contract farming.

![Diagram](image)

**Figure 10: Schematic representation of factors that influence smallholder participation in contract farming**

The findings of this chapter suggest farmer decisions to participate in contract farming can partially be explained by the TPB. The first construct of the TPB – attitude, relates smallholder perceptions of contract farming. Smallholders perceive participation in contract farming as a means through which they can access inputs and output markets. Thus, participating farmers tend to have a positive attitude towards contract farming. The second construct of the TPB – subjective norm, also appears to influence smallholder decisions to participate in contract farming. The opinions of significant others influence smallholder decisions to participate in contract farming. Many farmers
consider the benefits of participating in contract farming and decide whether or not to comply with recommendations from family members or friends. Apparently, smallholder decisions to participate in contract farming is enhanced when the benefits of participation can clearly be observed.

Finally, the last construct of the TPB, perceived behavioural control may not influence smallholder decisions to participate in contract farming. Farmers believed they do not need to possess resources needed for oil palm production in order to participate in contract farming. Farmer rather perceive contract farming as a means of accessing these resources. For example, some scheme farmers mentioned:

*The scheme program is very good. Through the scheme program, we get free land, seedlings and other inputs required for oil palm production. In addition, the company also buys the fruits and pays us.* [10]

*Having land here is extremely difficult but through the scheme program, land was made available to us. Also, the company supports in the maintenance of the farm, that is, harvesting, brushing, fertilizer application at a cost.* [21]

Based on (Ajzen, 1991)’s conceptualization of perceived behavioural control, farmers’ with the necessary resources to produce oil palm are more likely to participate in contract farming. Contrarily, the quotes above highlight that this is not always the case. The findings suggest the lack of productive resources motivates farmers to participate in contract farming. In fact, smallholders may tend to develop positive attitudes towards contract farming because through
contract farming they are able to access these productive resources. However, given that farmers consistently mentioned access to agricultural resources as a reason for their participation. More studies that aim at understanding how perceived behavioural control influences farmer decisions to participate in contract farming may reveal new insights.

It also appears that access to knowledge on oil palm production may enhance smallholder participation in contract farming. Members of the farmer producer association constantly alluded to knowledge acquired on oil palm production by participating in contract farming as a reason to maintain their status quo – participants in contract farming. The quotes below from members of the Ewusiejoe farmer association highlight this:

*Being a group comes with benefits. For example, through that Solidaridad we have been able to attend training seminars on oil palm cultivation. For example, at Jukwa, where there is a big oil palm plantation, we were trained on how to prune, ring, apply fertilizers etc. Applying these methods helps us in achieving higher yields even when one has no fertilizer.* [16]

*Through the association, I learned from what others are doing and my yield has increased. I am now able to sell to the company and get more money.* [27]

The quotes above exemplify the importance of knowledge on oil palm production to smallholders in participating in contract farming. Acquiring knowledge about contract farming may be a crucial step in the decision-making process of farmers. Smallholders’ knowledge on oil palm production, associated costs and benefits, may therefore inform farmer attitudes towards contract farming. It
is therefore imperative that feedback processes be considered when studying farmer decisions using the TPB.

Furthermore, it is important to understand how national policies may influence smallholder decisions. This study finds that as a result of government policies to support smallholder through farmer producer associations, farmers are increasingly joining associations in anticipation for benefits from the government. Using a modified version of the TPB, figure 11 summarizes farmer decisions to participate in contract farming.

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**Figure 11:** Explaining smallholder decisions to participate in contract farming using the TPB
In sum, the findings suggest smallholder decisions to participate in contract farming are influenced by smallholder attitudes towards contract farming, subjective norms, smallholder knowledge on oil palm production, government policies and lack of resources for oil palm production. These findings imply the underlying constructs of the TPB partially explain smallholder decisions to participate in contract farming. While previous studies on smallholder participation in contract farming have focused on farmer demographic characteristics and farm structure, there has been a neglect on the role of attitudes, subjective norms, perceived behavioural control, local policies and smallholder knowledge of production systems. This chapter contributes to literature on contract farming by examining how attitudes, subjective norms, perceived behavioural control, knowledge on oil palm production systems, government policies are important determinants of farmer decisions to participate in contract farming. These findings have important policy implications given the current focus of the Government of Ghana on oil palm development through contract farming. Some suggested policy recommendations are discussed in chapter 5.

4.5 Conclusion

In this chapter, I explore the various factors that influence Ghanaian smallholder producers of oil palm to participate in contract farming. The chapter finds that smallholder decisions to participate in contract farming varies depending on the prevailing conditions of farmers and the availability of alternative livelihood opportunities. At the same time, participating in contract farming can be viewed as a valuable source of additional income as several farmers do not solely participate in contract farming but also engage in other income generating activities. While the mainstream literature on smallholder participation recognizes the multifactorial nature of smallholder motivations to participate in contract farming, great emphasis has been on the financial benefits of
participating in contract farming. The current analyses suggest financial benefits is only one category of the several factors that influence Ghanaian smallholder producers of oil palm. While financial benefits may be the primary motivation for smallholders to participate, smallholder decisions are multifaceted and complex.

In highlighting the complexity of smallholder decisions to participate in contract farming, the above analysis enhances our understanding on the multiple ways in which contract farming can serve as a poverty alleviation initiative. Four main factors can be identified that influence smallholder decisions to participate or not participate in contract farming. Firstly, smallholder decisions are influenced by the extent to which contracts can enhance access to inputs, output market and market prices. Secondly, indirect benefits such as knowledge and skill acquisitions is a driving factor for smallholder to participate in contract farming particularly in cases where extension services are scarce. Thirdly, participating in contract farming is viewed as a means of securing income due to the limited livelihood alternatives. Finally, participating in contract farming is perceived by smallholders as a source of self-esteem and satisfaction.

In turn, subgroups of farmers differ in terms of the importance of factors that motivate smallholder behaviour. Despite the variations in smallholder motivations, the collective motivations to participate in contract farming is a reflection of the weaknesses of input and output markets in Ghana. The majority of motivations for smallholders to participate in contract farming can be attributed to the fact that being a contract farmer is perceived as a ‘silver-bullet solution’ to high cost of input prices, lack of extension services and access to credit.
These findings have important implications for the design and management of contract farming programs. These motivations are a reflection of local socio-economic conditions, consequently, smallholder motivations to participate in contract farming may vary both amongst smallholders and between geographic areas. The heterogeneity of smallholder motivations identified by this chapter implies that policies to enhance smallholder participation in contract farming must be based on a holistic understanding of the factors that influence smallholder decisions. The context-specific evidence is important as it may serve as an entry point for the appropriate design and implementation of agricultural policies that meet smallholder expectations. Hence, to promote smallholder participation in contract farming programs, governments can support agribusiness firms that participate in contract farming. This can be done through facilitating access to credit, establishing appropriate infrastructure and tax concessions. The chapter also contributes to the broader discussion on smallholder participation in contract farming initiatives which highlights the need to align objectives between smallholders and contracting firms in order to appropriately manage scarce resources.

The chapter also identifies several avenues for future research. First, it would be interesting to study the perceptions of contracting firms towards smallholder objectives of not participating and participating in contract farming. Second, it would be interesting to examine how smallholder motivations not to participate and participate in contract farming vary across different commodities. Third, agriculture is knowledge intensive (Arun et al., 2014). It is therefore imperative to identify and understand different learning mechanisms with the goal of ensuring that extension services reach the widest number of smallholders.
Chapter 5: Conclusion

The conclusive chapter of this dissertation discusses the implications of the results in three parts. The first part consists of a summary of the findings and knowledge contribution. The second part will discuss the policy implications and the third part concludes with a discussion on the limitations of the study.

5.1 Summary of findings and knowledge claims

This dissertation sought to enhance our understanding of smallholder decisions. In so doing, Chapter 2 systematically reviewed the extant literature to identify the factors understood to influence smallholder participation in contract farming. Despite a vast array of results in the articles that I reviewed, important general trends are identified. For example, farmers who are relatively younger, have prior experience with contract farming, and have larger households are more likely to participate in contract farming. Also, smallholders with larger farm sizes and more productive assets, more secure property rights, and whose farms are located close to contracting firms exhibit a higher likelihood of participation in contract farming. Additionally, farmers with a positive attitude towards contract farming generally tend to participate in contract farming.

Using the TPB, chapter 3 identifies and describes the reasons behind smallholder’ non-participation in contract farming which is decomposed into abstention and quitting from contract farming programs. The results suggest contract design requirements (land tenure, farm size, location and oil palm variety) is a reason for smallholder to abstain from contract farming. Furthermore, the low prices offered by contracting firms may also cause smallholders to abstain from contract farming. Also, the chapter finds that a perceived lack of equity causes smallholders
to quit from contract farming programs. Deploying the TPB as a conceptual framework revealed important insights into smallholder non-participation decisions. The negative attitudes of smallholders towards contract farming prompts them to abstain from or quit from contract farming. In addition, the subjective norm of the TPB also explains smallholder non-participation decisions. Smallholders generally comply with the recommendations of their peers that have a negative experience of contract farming. Furthermore, abstaining farmers do not think they meet the requirements of contract firms, hence, the decision to abstain. The negative attitudes of smallholders, social pressure from significant others and perceived behavioural control cumulatively influence smallholder decisions to abstain from contract farming. In addition, perceived lack of equity encourages smallholders to quit from contract farming.

However, the theory falls short of explaining how perceived lack of equity may influence smallholder decisions to quit from contract farming. This finding responds to the multiple calls, particularly from political economy scholars to understand how equity in supply chains can influence smallholder decisions (Ahmed et al., 2018; Birner and Resnick, 2010; Singh, 2002). Thus, the results suggest by incorporating elements of equity into the TPB, a better understanding of smallholder non-participation decisions might be achieved. Such an understanding is important as it allows contract farming researchers to understand the conditions under which smallholders abstain from or quit from contract farming.

Overall, the findings of the chapter reveal that while farmer decisions to abstain from contract farming result from an interaction of financial and social factors, their decisions to quit from contract farming can be attributed to a perceived lack of equity in contract farming programs.
Chapter 4 employed the TPB as a conceptual framework to identify and analyse the reasons behind smallholder decisions to participate in contract farming. The chapter finds that smallholders tend to participate in contract farming in order to access input and output markets. Social endorsement from family members or community members is also important in influencing farmer participation decisions. Participation in contract farming is further enhanced when benefits are clearly visible to farmers. Furthermore, government policies to promote farmer producer associations has driven smallholder participation in contract farming. Through farmer producer associations, farmers have accessed new lucrative market. The findings may indicate that the attractiveness of contract farming to smallholders partially depends on the extent to which it resolves smallholder challenges, farmer social networks and government policies.

The constructs of the TPB partially explain smallholder decisions to participate in contract farming. The results suggest participating smallholder farmers have a positive attitude towards contract farming. This is based on individual assessments on the benefits and cost of participating in contract farming. Participating smallholders generally consider contract farming as extremely important to their livelihoods. The influence of the subjective norm on farmer decisions to participate in contract farming is also confirmed. Significant others such as family members exert influence on smallholder decisions to participate in contract farming. Contrary to my expectations, perceived behavioural control does not seem to influence smallholder decisions to participate in contract farming. Rather lack of resources such as land, agricultural production inputs and labour positively influence smallholder participation in contract farming. Smallholders therefore view contract farming as a means through which they can access resources needed for producing oil palm under contract. This result is surprising because according to the TPB, when farmers have
the resources needed to participate in contract farming, then it is more likely for them to participate in contract farming and vice versa.

Overall, the findings of this dissertation illustrate how contract farming can increase smallholder vulnerabilities and simultaneously offer new opportunities to them. Thus, it can be concluded that the intersection between contract farming and smallholders in the oil palm sector of Ghana are at crossroads. A key conclusion of this dissertation is that smallholder decisions to not participate or participate in contract farming is multifaceted and does not involve only financial considerations but also a host of other factors including their priorities, values, social influence, and expectations of equity. While financial factors may be important, on their own they are not sufficient to fully explain smallholder decisions. These results call for more research into how perceived equity along supply chains might influence smallholder decisions. In addition, more research is also needed to understand how perceived behavioural control might influence smallholder decisions. Lastly, the results beg for more studies on how smallholder decisions might be influenced by access to knowledge on agricultural production systems.

However, these results are context specific, dependent on the characteristics of the contract farming programs studied and existing livelihood options available to smallholders. The results suggest contract design requirements implemented by GODPC and Norpalm may lead to a redefinition of land use rights thereby enabling contracting firms to capture more value from contract farming programs than smallholders. Contract farming may be beneficial to smallholder farmers in that it addresses challenges such as limited access to input and output markets faced by smallholders. However, enhancing these benefits to smallholders is contingent upon the terms and
conditions under which farmers are incorporated into contract farming programs. Furthermore, the likelihood of contract farming benefiting smallholders necessitates a long-term commitment from both contracting firms and smallholders. Although these results cannot be generalized beyond the Ghanaian oil palm sector, the process of constantly reflecting on my biases, building trustworthy relationships and triangulation makes the results of this research very reliable. Overall, the research mirrors principles of collaboration, communication and self-reflection that constitutes the fundamental basis of qualitative research.

Notwithstanding the negative aspects of contract farming in the oil palm sector of Ghana, there is some optimism about contract farming in this sector of Ghana. The results demonstrate the need and potential of contract farming to address the production and marketing challenges faced by smallholders. Poku et al. (2018) finds that Ghanaian farmers’ decisions to participate in contract farming programs is highly motivated by access to production inputs than access output markets. Thus, participation in contract farming programs can be improved by leveraging input supply arrangements that are beneficial to both the farmer and the contracting firm. Furthermore, the lack of suitable farm-to-market roads hinders smallholder participation in contract farming programs. Given the highly perishable nature of oil palm, the involvement of contracting firms in the transportation of oil palm from smallholder farms to a processing facility is critical.
5.2 Policy implications

This section discusses the main preconditions for farmers to benefit from contract farming. The findings suggest more equitable benefit and risk sharing contracts, supportive state interventions and the promotion of farmer producer organizations may enhance benefits to both smallholders and contracting firms. The researcher discusses these findings in terms of the role of the government and the role of contracting firms.

a) The role of the government

First, the government of Ghana has an important role to play if contract farming is to benefit smallholders. The role of governments can be divided into two categories: regulatory and developmental roles. With regards to the regulatory role, the government of Ghana may need to setup appropriate and efficient legal systems through which contracts may be enforced. In most developing countries such as Ghana, there is a deficit of regulations that guide the management of contract farming programs (Setboonsarng and Leung, 2014). This deficit in regulation has often resulted in contracting firms defining their own modus operandi which may not always align with government objectives of promoting contract farming. Thus, the government of Ghana can:

- Setup a regulatory framework that governs the implementation and management of contracts. Such a regulatory framework will entail an integrated bottom-to-top and top-to-bottom approach that leads to the establishment and adoption of land engagement protocols that define how local chiefs, local communities and contracting firms negotiate, decide and participate in land transfer deals. The existence of such protocols may limit the roles of local chiefs that often go beyond their responsibilities as local custodians of land to owners of land;
• Introduce and formalize regulations that recognize the existence of multiple land ownership arrangements. It is imperative for farmers under contracts to have unlimited and secured access to land needed for production. In Ghana, smallholders may own or rent land. Thus, within a single contract farming project such as that of GOPDC and Norpalm, it is possible to witness diverse ownership structures. It therefore becomes the responsibility of the government to ensure that these different land tenure and ownership structures are recognized and accepted by contracting firms.

The developmental role of the government focuses on efforts made by the government of Ghana to promote contract farming in an inclusive and equitable manner. Three main strategies could be used to promote the development of contract farming programs.

• First, a major requirement for the successful development of agriculture in rural areas is the presence of adequate infrastructural facilities such as transport networks and communication facilities. The literature on contract farming documents several instances where smallholders in areas with better infrastructural facilities are more likely to participate in contract farming (Barrett et al., 2012; Narayanan, 2014). The government of Ghana may provide tax cuts for agribusinesses that engage in contract farming;

• Second, the government could also perform market-matching responsibility for smallholders, that is, organize meetings between contracting firms, smallholders and representatives of farmer groups where these parties can discuss specific contract requirements;

• Third, another developmental role of governments consists of enhancing benefits to smallholder through farmer producer associations (FPAs). FPAs are defined as voluntary
membership based organizations consisting of stakeholders that intend to pursue common objectives. A review of the contract farming literature indicates an ‘orthodox’ point of view – FPAs have an important role in improving smallholder participation in contract farming (Setboonsarng and Leung, 2014; World Bank, 2007). Through farmer cooperatives, farmers can gain access to new markets which otherwise they find difficult or impossible to access. For example, through contract farming, members of the Ewusiejoe farmer producer association have been able to access the Norpalm market. Moreover, FPAs are important in that they can reduce the cost of production for smallholders as there may be less information asymmetries.

The results of this dissertation suggest contracting firms such as Norplam prefer to deal with cooperatives rather than several individual smallholder farmers. This can be attributed to the Norpalm’s desire to reduce the cost of production associated in dealing with several individual farmers. Furthermore, FPAs can improve the bargaining power of smallholders. For example, through the Ewusiejoe FPA, members were able to sell their products at a higher price. The bargaining power of individual smallholders is often reduced particularly in situations where there contracting firm is the only buyer (Gatto et al., 2017). Thus, through cooperatives, smallholders can increase their bargaining power.
b) The role of contracting firms

There are number of important recommendations contracting firms need to consider in order to make contract farming in the oil palm sector of Ghana a win-win that benefits not just the firms but also the participating farmers. These include:

- It is imperative for contracting firms to design and implement more equitable risk and benefit sharing contracts. Designing contract farming programs that are underpinned by comprehensive pricing mechanisms is imperative. Ideally, such pricing mechanisms would entail clearly specifying how the prices of inputs are calculated. Contracting firms also need to explain to farmers how they may incur a loss in the event of contract default. Such clarifications on pricing mechanisms might reduce the high rates of contract default and side-selling from smallholders. Transparency in contract farming programs is imperative to gaining and maintaining the trust of smallholders in contracting firms;

- Furthermore, given that contracting firms face serious competition from local markets, they may want to provide marketing contracts to farmers that are more beneficial to smallholders than alternative markets. Contract farming programs need to be financially beneficial to smallholders. In addition, payments to farmers need to be timely. Ghanaian smallholders seemed to be intolerant to delayed payments. In order to minimize competition from local markets, contracting firms will need to offer higher prices than local markets and will need to pay farmer on time for their produce in order to be successful at implementing contract farming programs;

- Oil palm production is input intensive and it necessitates appropriate support service to farmers. The results of this dissertation suggest farmers desire contracts that provide guaranteed and secure access to agricultural inputs and extension services. In order for
contract farming to be beneficial to both the smallholder and the firm, firms must ensure farmers have access to agricultural inputs and extension services as it eventually translates to higher productivity and/or income levels for smallholders and contracting firms. Thus, by supporting smallholder production systems, contract farming can be a win-win for both smallholders and contracting firms.

Overall, sustaining the important contribution of oil palm to Ghana’s economy necessitates more equitable risk and benefit sharing contract farming arrangements. By focusing on the benefits of contract farming to smallholders, a logical conclusion would be to advocate for the promotion of contract farming programs. There is significant potential for contract farming programs to achieve some of the sustainable development goals such as improved food and nutrition security and access to markets. Overall, poverty reduction potential of contract farming documented by numerous scholars highlights how contract farming can be leverage for achieving poverty reduction objectives. Scholars such as Bellemare and Novak (2016) document the positive effect of contract farming on food security amongst contracting smallholders. The results of the study also add to existing evidence of how contract farming can lead to improved farm productivity. However, in the African context, smallholders are yet to massively participate in contract farming programs as increased agricultural productivity can still be attributed to agricultural expansion (Pirker et al., 2016). It is in this light that development experts have called for an African Green revolution (Negin et al., 2009; Otsuka et al., 2013; Sanchez et al., 2009).
5.3 General study limitations

This dissertation has a number of limitations. Chapter 2, the systematic literature review, may not contain an exhaustive list of keywords. Future studies may therefore incorporate keywords that I may have omitted to broaden the scope of the articles reviewed. Also, my systematic review was limited only to articles published in English. I might have missed out on other important articles that focus on smallholder participation in contract farming published in other languages. Similarly, my review focuses only on journal articles thereby missing important contributions from the non-academic sphere which might have limited the insights revealed by the systematic review. Nevertheless, the review provides important insights into the factors that may account for smallholder participation in contract farming.

There are two issues worth noting in chapters 3 and 4. The first, typical of qualitative studies, is the issue of generalizability. The exploratory nature of this dissertation limits the generalizability of the study beyond its context. By following a logical qualitative approach, the dissertation sought to gain an in-depth understanding of farmer decisions within the context of the study. Furthermore, the research employs a snowball sampling approach to recruit research respondents. Snowball sampling limits research respondents to a circle of friends and/or family members and reduces the possibility of including potential research respondents that do not belong to this circle of friends or family members. It is likely that accessing more smallholders out of this circle of friends and families could have revealed additional insights. However, given the context-focused nature of this study in which I aimed at understanding contract farming for a critically important commodity in Ghana, the in-depth insights I gained are the true strengths of this study.
The second important limitation, pertains to the use of a translator. Qualitative research scholars have extensively documented the loss of meaning associated with the process of translation (Regmi et al., 2010; Roth, 2018; Temple and Young, 2004). In translating farmer responses from Twi to English, there might have been a loss of meaning which I tried to minimize through a second translator. I believe my African background helped in partially overcoming issues of contextual subtlety as they interfere with literal translations, but not speaking the native language is always a barrier to the accuracy of qualitative research.


doi:10.1016/j.worlddev.2015.03.016


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FAO, IFAD, IMF, OECD, UNCTAD, WFP, . . . Nutrition. (2011). *Price Volatility in Food and Agricultural Markets: Policy Responses*. Retrieved from [http://ubc.summon.serialssolutions.com/2.0.0/link/0/eLvHCXMrY2AQNtlz0EUrE9CWC4sCu10Q7tcDQywNLCTB9YoZpbMjQowGpqbm4EW6YW5A5tnOADRJMS87KRin83QOBWgMSC1ChlbBqPUGEbsf0uiJFakiDC7g9MVvvwJBi8pAbVqFzDwFt_z8FAWgjQolpYk5Cr7gHcbFCIYKkNN4FYIgC1RTi0UZQtxcQ5w9dOH2x4OutYIPeIFG9oszQfPh8aCDmlHk4pH0FKXHg30XD_adsRgDbyJoBXteC XinW4oEg4KliWmaiYlRCmhrqll](http://ubc.summon.serialssolutions.com/2.0.0/link/0/eLvHCXMrY2AQNtlz0EUrE9CWC4sCu10Q7tcDQywNLCTB9YoZpbMjQowGpqbm4EW6YW5A5tnOADRJMS87KRin83QOBWgMSC1ChlbBqPUGEbsf0uiJFakiDC7g9MVvvwJBi8pAbVqFzDwFt_z8FAWgjQolpYk5Cr7gHcbFCIYKkNN4FYIgC1RTi0UZQtxcQ5w9dOH2x4OutYIPeIFG9oszQfPh8aCDmlHk4pH0FKXHg30XD_adsRgDbyJoBXteC XinW4oEg4KliWmaiYlRCmhrqll)


development in the east-African highlands. *Agricultural Economics*, 23(3), 279. doi:10.1016/s0169-5150(00)00089-x


Appendices

Appendix 1: Interview protocol for non-participation smallholder farmers

Farmer Interview Guide

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<th>General Information</th>
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This section seeks to understand smallholder motivations for participation or not participating in contract farming.

I understand you are an independent farmer. Can you tell me the story of how this started?

In thinking about your decision to not participate (or quit from contract farming) in contract farming, what was important to you? Why?

In addition to that, what else do you consider? Why or why not?

What challenges do you face as an independent farmer?

Looking back, how would you describe your decision to be independent? Why or why not?

This section seeks to understand farmer willingness to participate in contract farming.

What you think about contract farming? Why or why not?

Would you ever consider participating in contract farming? Why or why not?

If you were to participate in contract farming what would you consider before participating? Why or why not?

Is there anything you think it is important that we have not talked about?
Appendix 2: Interview protocol for participating smallholder farmers

Farmer Interview Guide

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This section seeks to understand smallholder motivations for participation in contract farming.

I understand you are a contract farmer. Can you tell me the story of how this started?

In thinking about your decision to participate in contract farming, what was important to you? Why?

In addition to that, what else do you consider? Why or why not?

What challenges do you face as a contract farmer?

Looking back, how would you describe your decision to participate in contract farming? Why?

What does the contracting firm expect of you?

In terms of farm maintenance.

In terms of selling of fruits.

Are you able to meet these requirements?

How would you describe the easiness or difficulty in meeting these requirements?

What makes it easy for you to meet these requirements?

What are some of the difficulties you face in meeting these requirements?

Some people say these contracting firms are good and others say they are bad. What is your experience with them? Why is that?
How would you describe your relationship with the contracting firm?

When was the last time you had a meeting with the contracting firm?

How did that go?

Do you think they are working in your interest? Why? Or why not?

Do they treat you with respect? How? Or how not?

Do they treat every other contract farmer with respect? How? Or how not?

Can you describe a positive incidence in which the firm met your expectations?

Can you describe a negative incidence in which the firm failed to meet your expectations?

How was this incidence resolved?

Were you involved in the process? e.g. did the contracting firm consult with you?

Were your inputs considered?

How did that make you feel?

Do you see yourself contracting with your current contracting firm in future? Why or why not?

Do you have any suggestions on how the relationship with your contracting firm can be improved?

Is there anything you think it is important that we have not talked about?
Appendix 3: Individual smallholder consent forms

Consent Form

Project Title: Understanding smallholder participation in contract farming programs: the case of oil palm in Ghana

I. STUDY TEAM

Principal Investigator: Dr. Christopher Gaston, Assistant Professor, Faculty of Forestry

Co-Investigator / Graduate Student: Vilbert Vabi Vamuloh, Department of Wood Science, PhD Candidate.

This research is for Vilbert Vabi Vamuloh’s PhD dissertation. It is explicitly recognized that agricultural expansion due to the growing demands of food, fuel and fibre is a major cause of deforestation despite the importance of forest. Agricultural innovations are generally considered as core drivers of poverty reduction in many developing countries. Contract farming as one of these innovations aim at market integration, higher yields and lower environmental footprints. Higher yields and higher incomes have been documented but
also several trends of farmer exclusion, exploitation and social stratification. Thus, the purpose of this study is to gain a better understanding of Ghanaian oil palm farmers’ motivations and experiences surrounding contract farming. This research is being funded by the Rufford Foundation.

II. INVITATION AND STUDY PURPOSE

The aim of this interview is to understand the farmer decision making process. It specifically seeks to understand what incentivises or discourages farmers from engaging in contract farming in the oil palm sector in Ghana and farmers’ perception about the management of contracts.

III. INTERVIEW PROCEDURES

You are being invited to participate in an interview as part of my PhD project. The interview will take approximately 60-90 minutes of your time. The interviewer will record the interview with your permission and take notes during the process.

During the interview, you will be asked a range of questions related to why you would participate/or not participate in contract farming in the oil palm sector. Results from the study will be used for publications.

IV. STUDY RESULTS

The results of this study will not contain any information that could be used to identify participating farmers. Individual responses may be described in research reports; however, all possible precautions will be taken to conceal individuals’ identities so that readers of the report will be unable to link participants to any research findings. The results will be reported in a doctoral dissertation, may be presented at academic conferences, and may be published in academic journals.

V. POTENTIAL RISKS
I do not think there is any potential harm that participating in this interview would cause you. Some of the questions we ask may prompt unsettled feelings. Please let the investigator know if you have any concerns.

You do not have to answer any questions if you do not want to.

**VI. POTENTIAL BENEFITS OF THE STUDY**

There may or may not be any benefits of the study. Your responses will enable the researcher (student) understand the decision-making process of oil palm farmers in Ghana.

**VII. CONFIDENTIALITY**

Your confidentiality will be fully protected. All responses will be identified only by a code number and kept in encrypted, password protected files on a secure laptop. Participants will not be identified by name or company in any reports of the completed study.

Pursuant to UBC policy, the data will be kept in storage for five years after the completion of the study. At the end of the five years, the records will be destroyed.

**VIII. CONTACT FOR INFORMATION ABOUT THE STUDY**

If you have any questions or concerns about what we are asking of you, please contact the study leader or one of the study staff. The names and telephone numbers are listed on the first page of this form.

**X. CONTACT FOR COMPLAINTS**

If you have any concerns or complaints about your rights as a research participant and/or your experiences while participating in this study, please do not hesitate to contact the Research Participant Complaint Line in the UBC Office of Research Ethics at 604-822-8598 or if long distance e-mail RSIL@ors.ubc.ca or call toll free 1-877-822-8598 in Canada.

**XI. PAYMENTS**

You will not be paid for taking part in this study.
XII. PARTICIPANT CONSENT AND SIGNATURE PAGE

Taking part in this study is entirely up to you. You have the right to refuse to participate in this study. If you decide to take part, you may choose to pull out of the study at any time without giving a reason. Your participation is entirely voluntary. There are no negative consequences associated with a refusal to participate. No identifying information will be collected.

*Your signature below indicates that you have received a copy of this consent form for your own records. Your signature indicates that you consent to participate in this study.*

____________________________________
Participant Signature

________________
Date

____________________________________________________
Printed Name of the Participant signing above
Appendix 4: Focus group Consent forms

Consent Form for focus group discussion

Project Title: Understanding smallholder participation in contract farming programs: the case of oil palm in Ghana

I. STUDY TEAM

Principal Investigator: Dr. Christopher Gaston, Assistant Professor, Faculty of Forestry

Co-Investigator / Graduate Student: Vilbert Vabi Vamuloh, Department of Wood Science, PhD Candidate.

This research is for Vilbert Vabi Vamuloh’s PhD dissertation. It is explicitly recognized that agricultural expansion due to the growing demands of food, fuel and fibre is a major cause of deforestation despite the importance of forest. Agricultural innovations are generally considered as core drivers of poverty reduction in many developing countries. Contract farming as one of these innovations aim at market integration, higher yields and lower environmental footprints. Higher yields and higher incomes have been documented but also several trends of farmer exclusion, exploitation and social stratification. Thus, the purpose of this study
is to gain a better understanding of Ghanaian oil palm farmers’ motivations and experiences surrounding contract farming. This research is being funded by the Rufford Foundation.

II. INVITATION AND STUDY PURPOSE

The aim of this interview is to understand farmer decision making process. It specifically seeks to understand what incentivises or discourages farmers from engaging in contract farming in the oil palm sector in Ghana and farmers’ perception about the management of contracts.

III. PROCEDURES

You are being invited to participate in a focus group discussion as part of my PhD project. The focus group will take approximately 1-2 hours of your time. The co-investigator (Vilbert Vabi) will record the interview with your permission and take notes during the process.

During the focus group discussion, you will be asked a range of questions related to your motivations and experience with contract farming in the oil palm sector.

IV. STUDY RESULTS

The results of this study will not contain any information that could be used to identify participating farmers. Individual responses may be described in research reports; however, all possible precautions will be taken to conceal individuals’ identities so that readers of the report will be unable to link participants to any research findings. The results will be reported in a doctoral dissertation, may be presented at academic conferences, and may be published in academic journals.

V. POTENTIAL RISKS

I do not think there is any potential harm that participating in this focus group discussion would cause you. Some of the questions we ask may prompt unsettled feelings. Please let the investigator know if you have any concerns. You do not have to answer any questions if you do not want to.
VI. POTENTIAL BENEFITS OF THE STUDY

There may or may not be any benefits of the study. Your responses will enable the co-investigator (Vilbert Vabi) understand the decision-making process of oil palm farmers in Ghana.

VII. CONFIDENTIALITY

We encourage all participants to refrain from disclosing the contents of the discussion outside of the focus group; however, we cannot control what other participants do with the information discussed.

Participants will not be identified by name in any report of the completed study. Pursuant to UBC policy, the data will be kept in storage for five years after the completion of the study. At the end of the five years, the records will be destroyed.

VIII. CONTACT FOR INFORMATION ABOUT THE STUDY

If you have any questions or concerns about what we are asking of you, please contact the study leader or one of the study staff. The names and telephone numbers are listed on the first page of this form.

X. CONTACT FOR COMPLAINTS

If you have any concerns or complaints about your rights as a research participant and/or your experiences while participating in this study, please do not hesitate to contact the Research Participant Complaint Line in the UBC Office of Research Ethics at 604-822-8598 or if long distance e-mail RSIL@ors.ubc.ca or call toll free 1-877-822-8598 in Canada.

XI. PAYMENT

You will not be paid for taking part in this study.
X. PARTICIPANT CONSENT AND SIGNATURE

Taking part in this study is entirely up to you. You have the right to refuse to participate in this study. If you decide to take part, you may choose to pull out of the study at any time without giving a reason. Your signature below indicates that you have received a copy of this consent form for your own records and that you consent to participate in this study.

____________________________________________________
Participant Signature  Date

____________________________________________________
Printed Name of the Participant signing above

X. PARTICIPANT CONSENT AND SIGNATURE

Taking part in this study is entirely up to you. You have the right to refuse to participate in this study. If you decide to take part, you may choose to pull out of the study at any time without giving a reason. Your signature below indicates that you have received a copy of this consent form for your own records and that you consent to participate in this study.

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