

SMALLHOLDERS' PARTICIPATION IN CONTRACT FARMING: ASSESSING MOTIVATIONAL FACTORS AND EMBEDDED CONSTRAINTS FROM TRADITIONAL STAPLE FOODS PRODUCERS IN NORTHERN GHANA.

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ABSTRACT

The recent growth in value chain agriculture which seeks to insert smallholders into commercial agriculture particularly in developing countries has sparked controversy over its economic and welfare impacts on participating smallholders. This has given rise to a body of literature that analyse various aspects of the phenomenon. However, the question of why smallholders choose to participate in such chains especially through contract farming schemes has not been thoroughly explored. In few cases are smallholders themselves asked explicitly why they choose to produce on contract for agribusiness firms, as many studies take it axiomatic that smallholders produce on contract solely because of the income benefits they expect to derive. This study explores the motivational factors behind smallholders' decision to produce traditional staple foods on contract for local agribusiness firms in Tampola, a typical farming community in the north-eastern part of Ghana. The goal is to ascertain and highlight smallholder constraints that are embedded in such motivational factors to enhance agricultural policy intervention. Using in-depth interviews, I find among others, that a cluster of factors reflecting the volatility of the mainstream agriculture markets featured prominently as sources of motivation for smallholders to produce on contract. The link between these motivational factors and the United Nations Sustainable Development Goals are also briefly discussed. The paper concludes that the emerging donor-facilitated value chains for food staples involving large number of smallholders need to be thoroughly explored to unravel the best ways of developing smallholder agriculture.

Keywords: Contract Farming, Agriculture Value Chains, Motivations, Smallholders, Ghana.

INTRODUCTION

The recent world food crises of 2008 and 2011 has triggered a renewed donor interest and support for smallholder agriculture particularly in Sub-Saharan Africa, the hardest hit region (Dethier & Effenberger, 2012). In this regard, many scholars call for a modernization and commercialization of smallholder agriculture in developing countries particularly through insertion of smallholders in the global or domestic agricultural value chains as primary suppliers of outputs (Chikhuri, 2013; Mcmichael, 2013). In such value chains, a complex but coordinated schemes of buyer-producer networks replaces the traditional transactions of the local agricultural markets. One common of such schemes is contract farming (CF) in which agricultural production is undertaken under forward agreements between growers and buyers specifying the production and marketing of farm outputs (Briones, 2015; Swinnen & Maertens, 2007).

Scholarship differ on views regarding the impacts of contract farming on participating smallholders especially in developing countries. The win-win argument is that CF arrangements on the one hand have the potential to deliver at the right time the specified quality and quantity of agricultural raw materials for exporters, processors, distributors and supermarkets (Reardon, Barrett, Berdegue, & Swinnen, 2009; Swinnen & Maertens, 2007). On the other hand, CF can serve as cure to a gamut of challenges that confront smallholder agriculture in developing countries – poor inputs and outputs markets, low credit availability, low farm technology adoption, among others (Barret et. al., 2012; Maertens & Vande Velde, 2017; Minot, 2011). Still, some (Bellemare, 2012; Dedehouanou, Swinnen & Maertens, 2013) express optimism about the welfare gains of CF to poor smallholders. On the contrary, critiques (Raynolds, 2002) examine the potential of CF arrangements to fuel a gendered intra-household resource conflicts as wages from CF production are discriminatory on gender basis, whilst others examine the potential of CF to skew power relations in favour of contracting firms and thereby manipulating vulnerable smallholders (Key and Runsten, 1999; Singh 2005).

Whilst literature abounds on the impacts of contract farming on participating smallholders, few studies examine the complexity of smallholders' motivation to produce on contract (e.g. Masakure and Henson, 2005), but very little attention has been given to the smallholders' constraints that emanate from such motivational factors. Moreover, the CF literature has been overwhelmingly dominated by contracts that focus primarily on high-value horticultural export crops, giving credence to studies that show a weak linkage between high-value chains and staple foods (von Braun, 2005). But on the contrary, staple foods have been noted to have a wider positive rippling effect on smallholders' livelihoods (World Bank, 2007). Through in-depth interviews with staple foods producers in northern Ghana, the study explores their views on why they choose to produce on contract for contracting local agribusiness firms in a donor-facilitated value chain agriculture programme. The paper also draws the link between these views and some of the United Nations Sustainable Development Goals (SDGs) specifically those pertaining to global poverty and hunger.

The paper is organized into five sections. In the next section, the contract farming debate is presented. The third section presents the choice of method used for data collection and introduces the empirical setting and the case study. The fourth section presents and discusses the empirical factors that motivates smallholders to produce on contract. In the final section the paper concludes by emphasizing the complexity of smallholder's motivations to contract and the need to focus more on developing value chains for staple foods.

THE CONTRACT FARMING DEBATE

Contract Farming and Smallholders

Contract farming refers to a vertical integration in which the production and supply of agricultural produce are carried out under forward contracts whereby growers (farmers) make commitments to provide an agricultural commodity of a specific *quality* and *quantity* at a specific *price* within a given time frame in exchange for *farming inputs* from agribusiness firms (Minot & Sawyer, 2016; Singh, 2002). Whilst the nature of these contracts can vary considerably depending on the nature of the contractual relation, who and what is involved (IFPRI, 2006), two common types are easily identified – marketing contracts and production contracts (Swinnen & Maertens, 2007). Marketing contracts involve some simple pre-harvest agreements stating the pricing system, product quantity and delivery time, but the contracting firm has no control over production decisions. Under production contracts, specifications are more rigid and extended to include farm management decisions, production methods to use, credit and technical assistance. Input supply is a core element in most CF arrangements (Key and Runsten, 1999). Applying the concepts of contract, agency and game theories, there are however, numerous variations in contract features and design (Bogetoft & Olesen, 2002; Goodhue & Simon, 2016; Ragasa, Lambrecht & Kufoalor, 2018; Wu, 2014).

While the institution of CF is expected to have a positive impact on agricultural modernization in developing countries, empirical evidence, however, on the transformative effects on rural economy, food security and smallholders remains a subject of considerable debate (Bellemare & Novak, 2017). Proponents of agribusiness growth emphasize the risk sharing potential of contract farming as an instrument for addressing market failures, focusing more at the *micro level*, and dealing with transaction costs emanating from uncertainty, market imperfections and coordination failures. It is argued that contract farming integrates the smallholder into *commercial agriculture*, leading to income growth and for that matter poverty reduction (Eaton & Shepherd, 2001; Kirsten & Satorius, 2002). Empirical evidence generally suggest that contract farming increases the incomes of smallholders producing under contract compared to their counterparts who do not (Bellemare, 2012; Reardon et al., 2009).

However, from a political economy view point, critiques view CF arrangements as one replete with unequal power relations leading to exploitations of producers by contractors. A leading critique (Davis, 1980) is that the social cost of CF radically alters traditional farm organization especially when the contract crop is a non-traditional crop, leading to smallholders' loss of traditional autonomy. Similarly, (Key & Runsten, 1999) noted that whilst farmers will usually enter into contract voluntarily, with time they tend to invest fixed resources into the production of contract crops which are, most often, non-traditional high-value export crops. This is at the expense of traditional food staples and having the potential of escalating rural food insecurity. Moreover, in the long run farmers will face limited exit options subjecting them to exploitations. In terms of contractual relations, (Glover, 1984) noted that contracts are often biased towards contracting firms. Singh (2005) for instance, noted in India that whereas in most cases contractual agreements provide immunity for the firm against unforeseen obligations, farmers under all circumstances must meet the contract obligations.

Other critiques (Glover, 1987; Miyata, Minot, & Hu, 2009; Otsuka, Nakano, & Takahashi, 2016; Simmons & Patrick, 2005) noted that CF arrangements has a potential to escalate rural inequalities and poverty as it is generally observed that

CF arrangements mostly include a limited relatively wealthy households and exclude poorest households with smallest farm sizes. On the contrary, however, a recent study (Briones, 2015) on CF and equity found a negative correlation between CF participation and farm size and suggests a participation bias in favour of farmers with smallest farm holdings.

Motivations for Smallholders' Participation in Contract Farming

An important determinant behind a smallholder's acceptance of a contract is that the smallholder will usually accept a contract offer that is superior or more profitable than the alternative gains the farmer would have otherwise made from not entering the contract. However, a smallholder's acceptance of contract does not necessarily mean that he/she perceives the contract as fair, but it merely implies that the smallholder expects to be at least better off with the contract than without the contract (Barret et al., 2012). Bijman (2008) noted that the basic source of benefits of contract farming to smallholders is through the resolution of market failures. This implies that contracts that have input supply packages as well as guaranteed markets are more appealing to smallholders. On the contrary, however, Narayanan (2010) noted that even if a contract is capable of resolving market failures and increasing the welfare gains of smallholders, it can still be rejected if they perceive the contract as one that introduces a new risk. For instance, he noted that Indian smallholders rejected contracts due to concerns about other risks such as health issues due to exposure to chemical inputs required under the contract, or if the crop is perceived as destroying the fertility of their land. Similarly, Schipmann and Qaim (2011) found that non-contract farmers in Thailand refused to enter into contract (which offered a higher returns) because they valued their independence and freedom to produce and sell on the spot market.

In few empirical cases are smallholders themselves asked explicitly why they chose to participate in a contract farming. For example, Masakure and Henson (2005) focus explicitly on smallholders' motivation towards contract production within the context of non-traditional vegetable contract farming in Zimbabwe and found a cluster of factors including income, technical transfer and market uncertainty as the main push factors for smallholders' decision towards contract production. Similarly, Minten, Randrianarison & Swinnen (2009) found that the weakness and imperfections in local agricultural commodity markets drove Madagascan farmers to contract with supermarkets where they are assured of secured input supplies, whilst Schipmann and Qiam (2011) found in Thailand that assured market access by contracting firms against the backdrop of frequent seasonal saturations in the local market, were important factors driving smallholders to participate in a contract production.

Admittedly, most of the existing literature acknowledge the multifaceted nature and the complexity of motivations to engage in contract farming (Abebe, Bijman, Kemp, Omta, & Tsegaye, 2013; Masakure and Henson, 2005) but very little attention has been given to the smallholders' *constraints* that emanate from such motivational factors. Moreover, the literature has been overwhelmingly dominated by contracts that focus primarily on high-value export crops as studies show a weak linkage between high-value chains and staple foods (von Braun, 2005). However, majority of smallholders across developing countries produce more staple foods than cash crops, and spend about three-quarters of their income on staple foods (World Bank, 2007) hence a contract farming scheme that focuses on value chains for staple foods identifies more with the peculiar constraints that confront smallholders.

The present study fills in these gaps in a number of ways as it introduces several dimensions to the contract farming literature. First, by asking smallholders themselves explicitly why they decide to produce on contract, the study provides empirical motivational factors from the smallholders' perspective as such empirical works are few. Second, with a focus not only on the motivational factors but also ascertaining smallholder constraints that are embedded in such motivational factors, the study highlights deep-rooted challenges that smallholders often face in farming. Finally, by focussing on contracts that deal with traditional staple foods, the study does not only throw more light on the potential of contract farming in poverty reduction but also ascertains some direct links to food security, a theme that is rarely discussed across the literature.

THE GHANAIAN CONTEXT

Several empirical work on CF in Ghana generally suggest that it has made tremendous contributions to income, inputs, yields and smallholder technology adoption (Guyver & MacCarthy, 2011; IFPRI, 2006; Kolavalli, Mensah-Bonsu, & Zaman, 2015).

With an average farm size of 1.2 hectares, and low application of intensification technology, smallholders account for about 80% of domestic agricultural production in Ghana (Ministry of Food and Agriculture - MOFA, 2010). Northern Ghana has the poorest regions, with lower agricultural productivity due to harsh climate, weak farmer-market linkages, and poor access to credits and inputs (Chamberlin, 2007; Hesselberg, 2013). In this regard, various governmental and non-governmental initiatives are concentrated in northern Ghana to develop and promote value chains for traditional food staples- maize, rice, soybean, among others (MOFA, 2010).

The north eastern part of Ghana (Upper East Region) benefits from several agricultural value chain enhancement projects, mostly implemented through non-governmental organizations (NGO) in northern Ghana. Examples of popular contract farming projects in northern Ghana include the Masara contract farming scheme, a non-profit scheme registered in 2009, dedicated to enhancing the value chain of maize production (Amanor, 2011). Others include Akate Farms for maize production, and also, the Savannah Farmers' Marketing Company established by the Association of Church Development Projects (ACDEP) to offer support to smallholder producers of sorghum, soybean and groundnut. In all cases, participation is strictly through CF arrangements where framers are provided with farming inputs and are bound to sell their farm produce to these contracting agencies.

THE CASE STUDY

The study involves the Agricultural Corporative Development International and Volunteers in Oversees Corporative Assistance (ACDI/VOCA) who is the implementing NGO of the Agricultural Development and Value Chain Enhancement (ADVANCE)¹ project in northern Ghana. The project is a USAID funded project that aims to support the scaling-up of agricultural investments to enhance the competitiveness of selected traditional staple foods – maize, rice and soybeans in northern Ghana using a facilitative value chain approach. The project links smallholders to credits, markets and equipment

¹ The ADVANCE project was redesigned in 2011 to fall in-line with USAID Feed the Future (FTF) programme. The project aims to transform northern Ghana's agricultural sector in traditional staple foods to achieve a higher degree of food security among the rural population. See more at ACDI/VOCA home page www.acdivoca.org

through larger commercial farmers and domestic agribusiness traders (aggregators) who have the capacity and the interests to invest in smallholder production. Through the facilitative value chain approach both oral and written contractual agreements exist between beneficiary smallholders and the input-supplying agribusiness firms. Various degrees of *marketing contracts* exist as agribusiness firms provide basic farm inputs like *improved* seeds, fertilizers and other farm implements in return for a specified quantity of the harvested crops. The price is usually negotiated between the agribusiness traders and their contracted smallholders, moderated by the ACDI/VOCA to make sure each party gets a fair deal (Field interview with ACDI/VOCA officials in June, 2014).

The study sought to find out the motivating reasons why individual smallholders choose to enter into contractual arrangements with these agribusiness traders as against the traditional open spot market system. The study was conducted in Tampola, a rural farming community under the Kasena Nankana Municipal Assembly (KNMA) - local government jurisdiction - in the Upper East region of the republic of Ghana. The community is situated about 3km from Navrongo, the municipal capital. It is geographically located at 10° 53' 5" N, 1° 5' 25" W.² This community was chosen because it exhibits all the peculiar challenges that confront smallholders in developing countries: it is rural, poor road network to the urban centre, poor public transport to urban centres, poor communication technology, poor agricultural extension services, one annual rain season, lack of credit facilities, and so on (KNMA, 2012).

METHOD

The empirical evidence discussed here covers 22 on-farm interviews with smallholders in Tampola, one of the farming communities around the vicinity of Navrongo in the Kasena Nankana Municipality³ of the Upper-East region of Ghana. The fieldwork took place between June and August of 2014 to generate data for the completion of a master thesis entitled 'Why do smallholders decide to produce on contract? The views of traditional staple foods producers in the Upper East region of Ghana' which was submitted to the department of human geography, University of Oslo in November 2015 as partial fulfilment leading to the award of a Master of Philosophy degree in development geography.

An initial contact was made with ACDI/VOCA an implementing agency of the ADVANCE programme to familiarise with the nature of the value chain production that they coordinate between smallholders and agribusinesses. I was privileged to witness a stakeholder forum that brought together participating smallholders, agribusinesses and farmer-based organizations on 26th June, 2014 organized by ACDI/VOCA. Initial contacts were made with 4 farmers and representatives of some agribusinesses at this forum. A *snowballing* technique was then used through these initial informants to recruit all the other informants mostly smallholder farmers producing under contract. The rationale for using a snowballing technique stems from the fact that I intended to conduct an on-farm interview with farmers since it was a peak farm season which kept farmers almost on-farm all day. In this case it is appropriate that a contract farmer recommends another farmer, and for that matter gives direction to the next farm. To overcome the major weakness of a snowballing technique – the high tendency of selecting informants from a narrow enclave of friends and like-minded people - multiple initial contacts with

² Navrongo: <https://en.wikipedia.org/wiki/Navrongo> accessed 20/ 12/ 2018

³ A municipality in Ghana refers to a local government delineation of a large town with/without smaller adjoining communities with a total population of more than 95,000 (Local government Act 462).

farmers comprised those with diverse backgrounds - crop variety, duration for contract production, level of education, gender, among others.

Semi-structured in-depth interviews lasting between 45 minutes to an hour were conducted with a total of 22 smallholders on their farms. To attain some degree of variations in terms of responses, farmers were categorized on the basis of age, gender, educational background, type of crop under cultivation, length of time engaged in contract farming, as well as farmers for different contracting agribusiness firms under the value chain project. In terms of age, all farmers were between 20 and 60 years. In this regard, 8 were between 20 and 45 whilst 14 aged between 45 and 60. In terms of gender, there were 7 females as against 15 male farmers. With regards to education, 8 could read and write English (the official language of Ghana), whilst 14 could neither read nor write. In terms of crop variations, there were 11, 7 and 4 farmers for maize, rice and soya beans respectively. In terms of farming duration, the period under exploration was the past 5 years, hence informants were categorized between 3 to 5 years and less than 3 years. There were 9 farmers for less than 3 years, whilst 13 were for between 3 to 5 years. All informants produced for 4 different contractors with at least 5 farmers producing different crops for more than one contractor at the same time. However, the above enumeration is only meant to achieve a high degree of variation as the sample size in a qualitative research is not meant to be *representative* but emphasizes the analysis of *meanings in varied contexts* (Patton, 2002).

FINDINGS/DISCUSSIONS

Per the analysis of the data, motivational factors revolve around three broad themes – market uncertainties, food security and social collateral - as discussed in the subsequent section. All informants except ACDI/VOCA pleaded anonymity during data collection, hence this position is held in high esteem.

Market Uncertainties

Input/output Markets

A major challenge that confronts smallholder agriculture in most developing countries is a weak input and output markets in an atmosphere of pervasive risks, uncertainties and information deficiencies. Major inputs such as fertilizers, improved cultivars, irrigation facilities and other farm implements are either not available, or too expensive for *poor farmers*. Because of the very small sizes of their farms, most smallholders in developing countries find it difficult to access inputs such as credits, fertilizers and machinery. Whilst Foster and Rosenzweig (2010) found that Indian smallholders were *unable to access* high productivity and cost-saving mechanization because their farms were *small* as compared with their large-scale counterparts, Chavas (2001) found elsewhere that as a result of frequent market failures in developing countries, large scale farmers often enjoy competitive advantage over smallholders, because the former is more able to obtain credits and hence face lower capital costs.

The agricultural market situation is not different in Ghana and perhaps worse in northern Ghana. Hesselberg (2013) affirms that smallholders in northern Ghana indicated the lack of capital, loans and credit which can be invested in other production inputs such as fertilizers and technology as a main problem. Similarly, the Ministry of Food and Agriculture (MOFA) of Ghana identifies weak market-farmer linkages as well as *weak commodity value chains* as key issues confronting the development of smallholder agriculture (MOFA, 2007). Similar views were observed empirically from the informants with

regards to the nature of the local markets that farmers access inputs and supplied outputs. For example, commenting on the volatility of the local inputs market, especially with regards to quality seeds, a male maize farmer noted that:

“In the past it was very difficult for us especially in this village to get seeds...I mean improved seeds and also an inoculant. You know the way our soil is over utilized these days, you can’t just put any type of seed into the soil and expect to have a good harvest. We need modern seeds, but how to get them is expensive. So, when the NGO people came to us with the aggregators and say to us, they will provide us with improved seeds on loan so that we pay back after harvest and when we produce quality crop, everybody was happy. They told us all we have to do is enter into a performance agreement with the aggregators and always follow the way they want us to produce the crop. They told us the aggregators will also give us all other inputs that we will need...”

A female soybean farmer describes the local input market this way:

“Listen my son, it is so expensive to hire a commercial tractor to do ploughing and harrowing of your land. You see this small piece of land here, you are talking of not less than 700 Ghana Cedis [\$218]⁴ for both ploughing and harrowing. Where do I get that kind of money from? We are talking of just preparing the land, before other inputs like fertilizers too. The tractor services being provided by government people is less expensive but is difficult to get them to hire because there are very few in the whole municipality. But the NGO and the aggregators promised to assist with hiring tractors for us when they came so I see that a good opportunity...”

Weak institutional support for the agricultural markets coupled with high transaction costs has rendered the local market ineffective. It was therefore easier for farmers to access improved seeds, fertilizers and other capital inputs like tractors from sources other than government sources through the intervention of NGOs. In this regard many farmers find it more rational to agree to produce on contract when the implementing NGO introduced farmers to agribusiness firms. A common feature of input supply strategy adopted by the contracting firms which seemed to have gone down well with farmers is the ‘seed in-kind’ pay-back method. Under this strategy, the agribusinesses supply farmers with improved seeds and at the end of harvest each farmer pays back double the quantity of seeds received. For instance, if a farmer is given 2kg of improved seeds, he/she pays back with 4kg of harvested crops before the contracting firm buys the remaining output. Many farmers got driven by this approach to participate in contract production for two main reasons. First, most sources at the spot market are either *not reliable* or some sellers deliberately sell seeds that are not genuinely processed or ‘improved’ to unsuspecting farmers. So, seeds coming from the agribusiness firms are deemed more trustworthy. Second, the in-kind pay-back method is more convenient, relatively cheaper and more affordable for farmers than going to purchase from the open market. This could be more beneficial to very poor smallholders who may not have other non-farm sources of income and the money to afford improved seeds from the open market. One male rice farmer noted:

“...it is so expensive to buy quality seeds from the inputs dealers and moreover even if you have the money, some input dealers can sell fake seeds to you if you are not lucky...they will tell you is a correct seed and if you do not know how to identify the correct one you just buy it without knowing it and before you get to know, it is too late.”

⁴ \$1 = GHC3.2, July 2014

This finding is partly consistent with the findings elsewhere (Abebe et al., 2013). Both studies show that contract farmers prefer inputs supply from the contracting firm to other alternative sources for quality reasons. But whilst the former study (Abebe et al., 2013) noted that inputs supplied by the contracting firm are often overpriced, because the contracting firm in their case enjoyed some monopoly in the input market, the present study, however, finds that similar inputs (seeds) from the other input dealers were rather more expensive. Two things could possibly account for this development. First, there are many private agribusiness firms that are involved in the contract arrangements and therefore it is possible that competition for contract farmers could bid down the cost of input coming from the contracting firms. Second, it may be due to the in-kind pay back method. Because farmers have advance access to quality seeds on credit and have the flexibility of paying back later with part of their harvested crops, they see it as a more guaranteed source of credit even if they do not readily have the cash to pay for it. This way, they may not really feel the price as expensive, since it is easier for them to pay back with part of their crops than paying with cash at the open spot market.

With regards to the output market the high tendency of the contracting firms to purchase agricultural outputs in bulk was a major factor motivating contract production. As long as farmers comply with the production requirements of the buyers, in most cases a real chunk of their outputs are assured a ready market. This is very beneficial to smallholders as the local market is highly saturated especially in the bumper harvest seasons. Since farming constitutes the basic economic activity of the rural folk, and perhaps every farm household cultivating similar crops, effective demand at the local market level is often very low, because non-farm households are often few. Farmers who want to make more sales in the study community, have to incur an extra transport cost to travel an extra distance to Bolgatanga, the regional capital where demand seems to be a bit higher than Navrongo the municipal capital. Even with that, there is no guarantee that a farmer will sell all crops transported. An elderly male rice farmer captures it this way: *“The problem is that if you are a farmer you need someone who can come to you and say I need 10 bags of rice at this time, and then you are sure your produce will not go waste after harvest.”*

Weight versus Volume

Another factor relating to agricultural markets is whether to sell farm outputs in weight or in volume. In this regard the urge to sell in weight was a major factor driving farmers to produce on contract as in their view this was seen as a more transparent and objective way of selling than in volumes. Whereas the middlemen at the local markets usually use bowls or empty tomatoes tin popularly called ‘olonka’ (see figure 1) as a unit of measurement of farm produce such as vegetables and cereals, the contracting firms strictly use the modern measurement scales to weigh bags of crops in kilograms. So, the urge to *sell in weight* to the agribusiness firms than the traditional way of selling in volumes to middlemen was what drove some farmers to produce on contract. An elderly female maize farmer who has been on contract for the past 4 years expressed her frustration this way:

“For the market people they always cheat when they are buying from you. You see that the olonka is full but they tell you it is not full, and they keep fetching and pouring on top of it until it is overflowing, sometimes even the overflow alone is more than one olonka. So, they fetch 2 olonka and count it as 1 olonka. But for the aggregators they come with a measuring scale, when they say is 1 kilo, it is 1 kilo, you can see it for yourself, no cheating.”



Figure 3: 'olonka' - filled with vegetables at a local market. Source: Fieldwork, June, 2014

Whilst many studies have noted that farm gate prices received by smallholders are far lower than the actual cost they have incurred in production, the attention has often revolved around high cost of transport as a component of the producer price which reduces the smallholder's disposable income. Other factors include lack of adequate information about market signals that weakens the bargaining power of smallholders especially in remote areas (IFAD, 2012).

However, little is known about the nature of transactions that transpires between the smallholder and their most regular buyers: the *middlemen*. Yet one of the ways smallholders are *squeezed* by middlemen is the buying method the latter adopts. It is not so uncommon in many rural areas in Ghana to see middlemen using bowls and empty tins to measure agricultural produce. Whilst one may argue that it is cheaper to use this locally adopted measurement method than the relatively costly modern scales, it is also true that the former is too subjective and solely at the discretion of the buyer and can therefore lead to cheating. This brings in the debate on the effectiveness of a minimum guarantee price especially in rural areas without a standard unit of measurement.

Price Stability/Income

Farmers also cited the fact that prices offered by middlemen or traders at the local market are usually unstable compared to that offered by the contracting firms. When informants were asked how variations in producer prices for staple foods influenced their decision to produce for contracting firms, a male maize farmer in his early 40s has this to say:

"At the harvest season prices are generally lower because there are lots of maize in the market and moreover too those market women will always tell you that if you do not like the price, they are giving to you, they can go to get from another farmer. You too you need the money to do other things in the house and for your children, so what will you do? You just take whatever they offer you, because if you say no another farmer will accept it, you can't go home empty handed, because you even need money to send the rest of the maize home if you do not sell everything. So, at the end of the day you do not get what you were expecting to get. But with the aggregators you know that there is a range you are going to get, if you have good grains you can get a good price."

The pricing option adopted by most contracting firms is the variable price option (varies with the quality of farm produce) which is used to induce high performance from farmers. Prices are usually negotiated during harvest through FBOs and in collaboration with ACIDI/VOCA. Whilst farmers indicated that the contract prices especially for maize are relatively higher compared with spot market prices during bumper harvest due to market saturation at local markets, they, however, noted that the prices offered by local traders in the lean seasons are usually higher than contract prices. This means the motivation to contract is not dependent on the high price per se, but on the *stability* of the contract prices compared with the open market prices. It also came to light that a minimum guarantee price for maize in particular exist in both harvest and lean seasons. This is usually announced daily by the local MOFA unit through radio broadcasts. Whilst most farmers located in remote villages like Tampola are not privy to this information on time, even the few that get to know can do little to influence buyers.

The challenges associated with *lack of information* about market signals have been well documented (IFAD, 2012). This makes it very easy for middlemen to take advantage of smallholders. Also, considering the fact that most agricultural produce are highly perishable, farmers, most of which lack proper storage facilities, are left with little or no option. Again, *high transportation cost* necessitated by poor road networks and long distances from farm to market centres, as mentioned earlier, leaves the smallholder with a weak negotiation power when it comes to pricing. Moreover, a general price increase for farm produce does not always sink down to the *farm gate* where most farmers sell their produce to middlemen due to high transaction costs. It is estimated that transaction costs along the maize value chain, for example, constitute up to about 80% of the farm gate price, implying that smallholders actually receive only 20% of what they are supposed to get for their produce in actual sense (World Bank, 2007).

It is therefore self-evident when smallholders cited the quest for price stability as a reason for taking part in contract farming. Many other studies elsewhere cited price stability as a main motive for producing on contract and selling through formalized markets (e.g. Minten et al., 2005, Singh, 2008, Neven, Odera, Reardon & Wang, 2009). For instance, Minten et al. (2005) found that although majority of farmers believed that the contract price was averagely lower than the spot market price (even though this was untrue because farmers did not consider the cost of inputs supplied by the contractor), farmers continued selling to the contracting firms without much evidence of side-selling. Similarly, Neven et al. (2009) found that price stability was key as contract farmers tend to have greater certainty about when and at what price the sale will take place, and for this reason contractual payments has led to income security of contract producers. The variable price option can also induce high performance from farmers. This is also good for the development of the entrepreneurial, as well as the farming know-how of smallholders, which has been one of the goals of the ADVANCE program. Rehber (1998) argued that a fixed price option often punishes farmers who have better entrepreneurial skills and produce higher quality crops.

With regards to income benefits, the study is consistent with previous studies that contract farming increases the household incomes of participating smallholders (Maertens and Swinnen, 2009; Reardon et al., 2009, Bellemare, 2012). There is overwhelming evidence from the field that many farmers envisaged a higher return from a contract production due to its higher productivity potential induced by high quality inputs. A middle-aged male maize farmer noted:

“With the aggregators I produce more...on the same plot I used to produce less. Now I can get about 25 bags from that plot you are seeing over there, but in the past, I could barely get 15 bags. It means I get

more money, I can pay my children's school fees, buy other stuffs like soap, dresses and shoes for them when they are going to school."

Another motivating factor related to income that came to bare is the urge to own a bank account as most smallholders indicated that most of the agribusinesses, they produce for often prefer to deal with them through rural banks. Payments accrued to farmers were made mostly through bank accounts by contracting firms. Whilst some farmers see this as a good opportunity because it enabled them to develop a savings habit, others also indicated that it enabled them to plan for the next season because they were more certain how much they have to invest in the next season. This linkage is rarely discussed across the CF literature. Aside from the fact that opening of bank accounts can help smallholders to easily secure credits from rural banks, it can also help develop the savings habits of smallholders from their meagre incomes and this can put them in a better position to plan for the next farm season. For instance, Duflo, Kremer & Robinson (2009) found among Kenyan smallholders that whilst vouchers could increase fertilizer usage, *poor savings habits* during bumper harvests accounted for their inability to purchase fertilizers in the lean season.

Food Security

The informants were asked how the need for their access to food all year round influenced their decision to take part in a contract production. The answers were mixed. First, some farmers noted that because of the higher productivity they derive from contract crops they are able to keep enough for household consumption than they would have gotten from farming on their own. They emphasized that in the lean season especially when food prices are higher, they still have enough for the house consumption after supplying their contractors. This they, however, attributed to the high yielding technologies and the irrigation facilities that they enjoyed under the collaborative contract arrangements. A middle-aged male rice farmer puts it this way:

"Sometimes you agreed to supply the aggregators with maybe 40bags but after harvest you can get more than that, sometimes 45 or 50, and you decide to give them more or keep the rest for the house, it stops you from buying food, it helps a lot, especially in the lean season when food is very expensive... in the past it was not like that, I could not get even 20 bags from 4acres, but now because the seeds they gave to us is very good and also the fertilizers we use, I get more bags. They have also built irrigation dams for us, you know rice needs plenty water to grow well."

Second, some farmers especially soybean farmers did not see a direct link between food security and taking part in contract production. They however, noted some spill over effects from higher incomes on food security as they mentioned that proceeds from contract production are often used to cater for general household needs including food.

Many smallholders in Africa are *subsistence* farmers and therefore produce very little for commercial purposes than the portion that is consumed by the farming household. Again, food crop productivity increase has a potential of transforming a net-food-buying household to a net-food-selling one if producer prices do not fall far below the expected gains from the increase in productivity. Hesselberg (2013) refutes the notion that subsistence farmers in developing countries are able to produce sufficiently to sustain the household food demand all year round. He observed in the Upper East Region of Ghana (the study region), that in a good harvest year, only 13% of smallholders have staple food lasting all year round. The present

findings thus, concurs with this view as many farmers noted that they produced very little without contract farming and for that matter could hardly sustain the food demands of their various households until the next farming season.

The linkage between food security especially at the smallholder level and participation in contract farming depends largely on the contract design and the type of crop under contract. When the contract crop is a high-value cash crop, smallholders do not benefit much since most smallholders in developing countries are staple food crop producers. However, evidence shows that smallholders in a high-value cash crop contract schemes can still benefit through input delivery channels, either by diverting part of contract inputs into food crop production (Govereh, Jayne & Nyoro, 1999) or through intercropping, where food crops are grown together with the contract crop on the same land using contract inputs (Porter and Phillips-Howard, 1997). However, focusing too much on high-value cash crops does not favour poor smallholders. This is because staple food crop production involves more small producers and therefore has a stronger linkage to food security and poverty reduction. In Ghana for instance, evidence shows that the most widely traded staple food crop (maize) is largely produced by smallholders. This has a dual effect of income generation and food security (Ghana Statistical Services, 2014), and refutes the notion that staple foods production on commercial quantities is not a more profitable venture for private sector investment. It is interesting to note that the combined outputs of both large and small-scale farmers are unable to sustain the domestic demand for cereals in Ghana, which implies that there is effective demand for staple foods: *“Ghana experiences deficits with regard to rice, maize, sorghum and millet. To make up for the shortfalls in cereal production some quantities of maize, rice and sorghum are imported. Ghana imports all its domestic requirements of wheat.”* (MOFA, 2010, p. 11). The challenge has to do more with the weak capacity of farmers and also lack of the technical know-how to produce more. A shift towards staple foods value chains of this kind is therefore very vital for smallholders’ food security.

Social Collateral

The involvement of NGOs and FBOs in the contract arrangements also served as a source of motivation for farmers to engage in a contract production. Membership in an FBO provided some form of social collateral for both the farmers and the contracting firms. Contracting firms strictly deal with farmers through their FBOs for two main reasons. First, to ensure easy delivery of inputs and other services such as training to farmers as FBOs have the capacity to organize their members. The second reason is to ensure that performance agreements are adhered to by farmers. But from the farmers’ side, the FBO is seen as a platform for learning new farming skills from each other, especially from the most experienced or educated ones, and also a platform to easily access inputs and services like tractors and spraying machines. Those farmers who were not previously producing on contract saw this benefits that other colleagues got from being members of an FBO and subsequently decided to also join. A middle-aged male soybean farmer indicated that:

“I also wanted to work with the aggregators, because I see that my colleagues were getting more support, they got spraying machines, fertilizers and tractor services and so they told me that the first thing I have to do is register with the ‘Apotaaba group’ [FBO] so that once I become a member, the aggregators will start dealing with me. Then I decided to register.”

The implementing NGO as well often encourage FBO membership as trainings and workshops for farmers were mainly carried out through FBOs. These trainings are often useful for enhancement of large-scale production. Technical trainings

are, thus, largely diffused through various representatives of FBOs who in turn teach their members. An elderly maize farmer puts it this way: *“The FBO leaders normally go for the workshops at Navrongo to learn the new farming skills and come back to teach us the other members”*. The more educated farmers are often selected to attend such training workshops and come back to train other farmers. In the view of some farmers also, membership in an FBO is important for a stronger price negotiation on behalf of farmers, and a social collateral against the risk of any possible default on the side of the contracting firm by ensuring that contracting firms honour their part of the agreement. A young male maize farmer puts it this way:

“I decided to work with the aggregators because I know as a member of an FBO it is difficult for them to cheat me. I for instance am a maize farmer, then somebody comes to promise me that I should produce a number of bags for him so that he will come and buy, if is me alone, that person can run away after I have produced the crops, I can't do anything, but as a member of a farmer group, I know for sure that am not alone, and that he has promised other farmers too, do you understand? When we are many he can't run away or cheat, unity they say, is strength.”

In terms of price negotiations another maize farmer indicated that *“We negotiate the price, I do not have a say as an individual farmer but it is a collective decision by all the members of the FBO that we will accept this amount or that amount. Moreover, The ACDIVOCA people always make sure that we get a good price”*.

The involvement of NGOs and FBOs in a contract farming arrangement has well been noted to provide complementary services that benefit both the contracting firm and the farmer (Barrett et al., 2012). In the study area for instance, the initial technical training of farmers is usually undertaken by NGOs to prepare farmers both with farming skills and developing their entrepreneurial capacities to be able to engage in commercial production. Major irrigation facilities along the local government area and its surroundings were provided by donor agencies. This is done mainly to produce a conducive environment for commercial agriculture and thereby incentivising agribusiness firms into the area, since the availability of irrigation facilities reduces transaction costs for both farmers and the firms. Other empirical findings elsewhere emphasize the potential benefits that comes with FBOs and NGOs as a source of motivation for both contracting firms and farmers. For example, Harou and Walker (2010) indicated that contract pineapple farmers in the south-eastern part of Ghana mentioned the likelihood of getting support from NGOs as the reasons for joining FBOs and farmer cooperatives. It is noted from the present study as well that NGOs and contracting firms as well deal with farmers only through their FBOs. The group enforcement mechanisms of FBO membership (social collateral) in the present study is also consistent with several other empirical findings. Farmers believed that FBO membership provides them with a better contract offers since FBOs have the greater bargaining power than individual farmers would have. Bachke (2010) noted that contract offers available through FBOs were better than those available to individual farmers who were not linked to an FBO because the latter has a better bargaining power.

Implications for UN Sustainable Development Goals

The United Nations Sustainable Development Goals (SDGs) set targets for all nations to be accomplished between 2015 and 2030. The 17 SDGs broadly relate to the areas of human development, economic development and environmental protection as well as climate change. Though the SDGs mainly focus on national level policy initiatives to attain these

goals, private businesses and industry are encouraged to contribute to the attainment of these goals as well through partnerships, direct investments and market-based solutions. The findings above relate directly to two SDGs - goal one and two.

The SDG1 aims to end poverty in all its forms or at least halve global poverty by 2030. Globally 85% of farms are held under small holdings and out of about 1.2 billion poorest people in the world, 75 per cent reside in rural areas, of which a large proportion of them are small-scale farmers (Seville, Buxton & Vorley, 2011). In developing countries, an estimated majority of 2 billion people live and work on small farms, and agriculture constitute the main *livelihood* for these people (Singh, 2008). In order to reduce poverty and improve living standards in these countries, it follows logical therefore, to target these *majority* rural folks. Moreover, studies have shown that a growth in the agricultural sector is four times more *effective* in reducing poverty than growth in any other sector (IFAD, 2012). Overcoming the smallholder constraints identified and discussed above therefore through a donor-facilitated contract farming arrangement of this kind will ensure a more stable income for poor farmers which will eventually lead to poverty alleviation.

The SDG2 has a primary goal of ending global hunger and achieve food security. There is a positive correlation between agricultural output and food sufficiency at national, regional and global levels. Evidence show (Dethier and Effenberger, 2012) that cuts in agricultural investment at the national and most importantly the global level, led to the recent global food crisis. It is worth noting however, that even though the food crisis is a result of agricultural supply drawbacks, the problem of food security is not directly linked to unavailability of food at the global level, but most importantly to food affordability by *poor people in developing countries*. This is because food price hikes pose significant threat to poor consumers in developing countries as close to three-quarters of their income is spent on *staple foods* (World Bank, 2007). For example, the 2007-2008 world food crises according to Ivanic and Martin (2008), has pushed an estimated additional 105 million people into poverty and has drawn back global poverty reduction efforts for seven years. In Sub-Saharan Africa, Wodon and Zaman (2008) noted that poverty has increased by some 2.5 per cent as a result of the crisis.

To reverse this downward trend and reduce global hunger by meeting the ever-increasing global food demand, contract farming initiatives of this nature that focus on food crop production is a prerequisite since smallholders have a higher potential of increasing food production.

CONCLUSION

The paper explored from the perspective of smallholders in northern Ghana why they decide to engage in value chain productions through contract farming. The findings show that the motivations to produce on contract is complex and depends on the individual farmers' livelihood situation and the larger agrarian policy environment. The findings seem to concur (howbeit indirectly) with the mainstream view that contract farming positively affect the incomes of participating smallholders especially through high quality contract inputs, and a stable output market and/or prices which translates into higher incomes.

However, whilst income-driven motives may be the overriding factor, the study reveals other deep-rooted motives such as the urge and prestige in owning a bank account; belonging to a social platform to share ideas and learn new farming methods; issues regarding dis/honesty in the open spot markets as well as the urge to earn extra food for household

consumption which are all a reflection of the weaknesses of the local agricultural regime and the resulting challenges smallholders often face in farming.

Admittedly, some of the existing literature acknowledge the multifaceted nature of the motivations to engage in a contract production. But the present findings emphasize the constraints emanating from such motivations and also points to the fact that contract farming for food staples, and which is donor-facilitated needs to be thoroughly explored to unravel the best ways to improve smallholder's agriculture since it has a great potential of contributing to reducing poverty and hunger, an important component of the UN sustainable development goals.

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