UNIVERSITY OF GHANA

DEPARTMENT OF GEOGRAPHY AND RESOURCE DEVELOPMENT

OUTGROWER MODELS AND THE MODERNISATION OF AGRICULTURE: THE CASE OF BLUE SKIES COMPANY LIMITED IN THE AKWAPIM SOUTH MUNICIPALITY

BY

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THIS THESIS IS SUBMITTED TO THE UNIVERSITY OF GHANA, LEGON IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF MPHIL GEOGRAPHY AND RESOURCE DEVELOPMENT DEGREE

JULY, 2015

DECLARATION

I, Agbelengor Bernard Makafui, hereby declare that with the exception of my reference to other people's work which have been duly acknowledged, the work contained in this thesis, "Outgrower models and the modernisation of agriculture: a case of blue skies company limited in the Akwapim South Municipality" is the result of my effort and work carried out in the Department of Geography and Resource, University of Ghana, from August 2012 to July 2014. I also declare that the thesis has not been presented either in whole or in part for any other degree in this University or elsewhere.

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ABSTRACT

The study assessed the outgrower model as a tool for agricultural modernization in Ghana. It further attempts to examine the effects of agricultural modernization on output, and identify the livelihood outcomes of the model on the farmers involved in the scheme as well as their communities. Over the years, the impacts of the outgrower schemes on integrating smallholder farmers into the agro processing continuum has been a subject of argument between two main schools of thought. One school of thought argues that, the impact of the scheme on the farmers has been positive. The other school of thought sees it as an exploitative mechanism adopted by multi-national companies to exploit small holder farmers. Such disagreement is what necessitated the need for the study. Primary data were collected from 42 contract farmers, 20 non-contract farmers and 2 key informants, using questionnaire survey and in-depth interviews.

The findings suggest that the involvement of the contract farmers in this scheme had significantly increased their skills and knowledge in modern agricultural practices. Furthermore, a ready market in place for farmers contracted by the company caused a significant increase in their output hence influencing their livelihoods and communities positively. The study thus recommends that, in order to facilitate agricultural modernization, government should revisit tax incentives. This is aimed at encouraging investors to invest in the manufacturing sector, thus serving as a source of ready market for farm produce. Government should also develop a comprehensive agricultural modernization strategy (AMS) and industry development strategy (AMIS) for the country at the regional and district levels.

DEDICATION

This work is dedicated to the Almighty God for his guidance and protection throughout my study.

Also I dedicate this work to my entire family, my father, mother and siblings, not forgetting my friends whose inspirations spurred me on in every step to accomplish this study.

ACKNOWLEDGEMENT

A work of such nature cannot be accomplished without the support, help and invaluable contributions of several individuals and institutions. It is therefore necessary to acknowledge the contributions of such individuals and institutions whose assistance made this work a success.

My supervisors, Professor Joseph Yaro and Dr. Joseph Teye of University of Ghana deserve the first part of my appreciation, gratitude and thanks for their valuable suggestions, contributions and encouragement in accomplishing this task.

I am also most grateful to Timothy Elikem Horvor for his immense assistance. Special debt of gratitude is owed to the various authors whose work provided me the necessary inputs for this research. I am most grateful to the management of Blue Skies Company Limited, the institutions selected for the study for allowing me to use their operations as a case study for this study. My special thanks go to Mr. Ablor, The Chief Agronomist of the company. Finally and above all, To God, be all the Glory and Honour, for the great thing he has done, and the greater things he will do.

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LIST OF ABBREVITIONS

ADC-	Agricultural Development Cooperation
ADRA-	Adventist Development and Relief Agency
AMIS-	Agricultural Modernisation Industry development Strategy
AMS-	Agricultural Modernisation Strategy
AMSEC-	Agricultural Mechanisation Service Enterprise Centres
ASRP-	Agricultural Services Rehabilitation Project
CAADP-	Comprehensive Africa Agricultural Development Programme
EARO-	Ethiopian Agricultural Research Organization
ERP-	Economic Recovery Programme
FAO-	Food and Agricultural Organization
FYDP-	Five Year Development Plan
GoG-	Government of Ghana
GCAP-	Ghana Commercial Agricultural Project
GDP-	Gross Domestic Products
KTDA-	Kenya Tea Development Agency
LDC-	Least Developed Countries
MOFA-	Ministry of Food and Agriculture
MTADP-	Medium Term Agricultural Development Programme
NGO-	Non Governmental Organization
OECD-	Organization of Economic Co-operation and Development
PPP-	Public Private Partnership
SAL-	Structural Adjustment Loan
UNCTAD-	United Nations Conference on Trade and Development
USAID-	United States Agency for International Development

CHAPTER ONE
INTRODUCTION

1.1 Background to the Study

Agriculture serves as the backbone of the economies of most developing countries in the world (Kirsten et al., 2009, Umar and Phoa, 2012). Most of these developing countries have an economy strongly dominated by this sector (OECD Development Centre, 2008). Malaysia and Indonesia are some of the many economies in the world that have been transformed by improvement in the agricultural sector (Glover, 1994). Bosompem et al., (2010), view Ghana's economy as agriculture dominated, contributing about 36.7% of the country's GDP. This sector's contribution to GDP has predominantly been the export of traditional crops like cocoa. However, in recent times, income from non-traditional agricultural commodities like sea food and horticultural products are also becoming increasingly important for the country's foreign exchange (ISSER, 2008). According to the Ministry of Food and Agriculture (MOFA 2012), the agriculture sector alone employs close to 60% of the rural work force.

Ghana's agricultural sector comprises mainly of small holder farmers, using limited farm inputs and credits which usually lead to low output (Quain and Asibuo, 2009). This can be as a result of inadequate infrastructure and lax property rights, therefore allowing the sector to be controlled by small-holder farmers, working on fields that are less than three hectares (Chamberlin, 2007). This has attracted foreign multinationals to engage predominantly with small scale farmers.

Modernization of agriculture has been seen as one of the panaceas to boost agricultural production especially in developing countries. According to China's Modernization report of 2004, " modernization of the agricultural sector is a crucial element in world modernization'' (Chuanqi, 2012,p.1.). Agriculture modernization has facilitated the rapid

growth in food supply to world and increased the income levels of farmers (Chuanqi, 2012). Presently, Europe has a moderately higher level of agricultural modernization with America and Asia following respectively. Africa continues to linger behind in the modernization of agriculture (Bijman, 2008).

According to the Ghana Country Strategy Paper 2012-2016, Ghana's present agricultural agenda and national development strategy underscores the importance of stepping up from a subsistence-based small-holder system to a more resilient market-based position. The focus should be a blend of productive small-holders, alongside larger commercial establishments participating in agricultural production, agro-processing and other activities along the value chain. Thus, there was the need for specific focus on small-holder associating with other commercial businesses, through for instance, contract farming and out-grower schemes, so as to appreciate the maximum benefits of private investment in agriculture on development.. Asamoah (2010) also pointed out that agriculture played an essential role in the development of rural livelihoods. For the majority of those living in rural areas , agriculture is their main source of livelihood, thus an upgrade in their standard living depended to a very large extent on agricultural growth and development (Brempong- Asuming, 2003). Also, agriculture, which the overall domestic economy revolves around, to a large extent employs 60% of the labour force who are chiefly small holder farmers (Ntsiful, 2010).

Agricultural modernization also serves as a major agricultural production input and a catalyst for rural development. It aims at increasing power inputs to farming activities, enhancing lifestyle through the reduction of drudgery in farming activities; improving the quality and value of work, produce and processed products (agro-processing).

It also offers employment and sustainable source of income as well as provides agriculture-led industrialization and markets for economic growth (Stringer, 2001). Farmers produce for the food market, while agro-industries add value to the produce, and they are essential elements of the value chain in modern economies. The development of processing industries in rural communities helps add value to raw materials.

Mechanized structures in agriculture with tenant out-growers for produce have been very fruitful in the modernization of agriculture in Africa (Baumann, 2000). One of these schemes is out-grower model. According to Baumann (2000), out-grower model refers to long-term supply contracts between farmers and agribusiness processing/marketing companies/buyers that bring shared gains and normally include price and supply arrangements (date, quantity and quality). Thus, an out-grower scheme offers firms with prospects of controlling supply, while farmers also enjoy value-added production standards (Brambilla and Porto, 2007).

However, in this age of agribusiness growth and market liberalization, where such arrangements play a prominently role on the programmes of governments and donor agencies (Santiso, 2008), there is the propensity for these small scale farmers taking part in such a scheme, to be consigned to the background in the market economy (FAO, 2001). The most important issue that therefore arises is that, do such contracts yield desirable outcomes?

Exploitative arrangements by the managers are likely to have an adverse effect on the sustainability of the agribusiness investment. It is of importance therefore, to assess the effects of such a scheme, as a means of modernizing agriculture in Ghana's agriculture sector, and the experiences of outcomes of such similar initiatives in countries like Malaysia, Indonesia and Papua New Guinea.

Many researchers have conducted similar studies on this subject matter. For instance, little (2010) conducted a study in Ghana, on, outgrower models as a poverty reduction strategy. Glover (1983) and Minot (1986) also researched on the outgrower model and the commercialization of agriculture in developing countries. The question this study seeks to answer is: will the renaissance of an old model work under new global institutional arrangements?

1.2 Problem Statement

In Ghana, the role of agriculture is crucial for the improvement of livelihoods. For the majority of rural settlers, agriculture is their main source of revenue. Improvement on their standards of living depends on the growth of agriculture and its development (Brempong- Asuming, 2003). It is also indicated that, agriculture, which the overall domestic economy revolves around to some extent, employs 60% of the labour force who are chiefly small holder farmers (Ntsiful, 2010).

The Ministry of Food and Agriculture (2012), reported that the Government of Ghana (GoG) has engaged the World Bank and USAID in assisting an agricultural development project – the Ghana Commercial Agriculture Project (GCAP), with the prime objective of improving the investment climate for agri-business and developing inclusive Private-Public Partnerships (PPPs) and smallholder linkages intended to increase on-farm productivity and value addition in selected value chains, mainly through out-grower schemes.

The Food and Agriculture Organization report (2000) also emphasized the role out-grower models played in the modernization of agriculture. The out-grower model concept, over the years, has taken root in Ghana with more corporate entities implementing such schemes. Unilever Ghana Limited, Ghana Rubber Estate Limited and Ghana Oil Palm

Development Corporation have such schemes in the Western and Eastern Regions of Ghana (Ntsiful, 2010). The Eastern region of Ghana, according to a 2010 report of The Ministry of Food and Agriculture, has 77% of its total farming population being smallholder farmers. That is, 77% of the farming population have less than 1.2 hectares of land; 16% have between 1.2 to 2 hectares and the remaining 7% have more than 2 hectares. The region is also a home to big multinational Companies like Blue Skies Company limited, which practices such a model. Thus, this region has a high potential to be a home for a lot more outgrower schemes in the country.

The out-grower model concept has been implemented in Ghana with more corporate entities implementing such schemes. Unilever Ghana Limited, Ghana Rubber Estate Limited and Ghana Oil Palm Development Corporation have such schemes also in the Western Region of Ghana (Ntsiful, 2010).

Cotula (2010) reported that the out-grower scheme or models have the propensity to benefit the two parties engaged in the contractual agreement. Some of the benefits stated by Cotula that farmers under the scheme enjoy include; the provision of inputs and production services by the investors, introduction of new technologies, acquisition of new and modern skills. International and local markets also become accessible to the farmers.

Despite these benefits, contract farming also has the tendency to pose some challenges to the farmer. Some of these challenges are;

- Exploitation of farmers by the investors due to their monopolistic position.
- Introduction of new crops also exposes farmers to the risk of both market failures and production problems (FAO Report, 2001).

Investors on the other hand also profit from such agreements. For example, continous supply in terms of quantity and quality is assured, and also, issues of land constraints are

dealt with (Shepherd, 2001). Some challenges they also face are that, farmers sell outside the contract, farmers may divert inputs supplied into something else, and social and cultural constraints may affect farmers' ability to produce to specifications.

The questions that arise from this out-grower scheme/model in the context of Ghana are that, "for whose benefit is this model being implemented since the parties' involved are usually unequal partners?" Are farmers introduced to modern agricultural practises, and at what level?

What are the effects of out-grower scheme/model on output yield and the livelihood of the farmers?

Despite the growing interest in the out-grower schemes, Minot (2011) is of the view that the many advantages and challenges arising from such schemes, differ according to the physical, social and market environments. A national situation report in 2010 by The Agriculture Water Management mentioned that, poor extension support, poorly functioning marketing systems, biophysical constraints and limited access to inputs, equipment and financing, are some of the issues facing most of such schemes. The question that rises then is whether the outgrower scheme is achieving its objective of bringing modernization to agriculture and what are the effects of outgrower schemes on farming activities?

It is therefore justifiable to undertake this study to find out whether or not the outgrower model, as a means of modernization in agriculture, is fulfilling its purpose in the physical, social and market environments of the Akwapim South Municipality, where the company is located. Blue Skies Company Limited is an agro – processing company, established in February 1998 by a privately funded British National, for the processing of tropical fruits to supply to the European markets. The company, since its commencement, operates with individual farmers and not cooperatives (MoFA, 2013). This raises a number of concerns;

Are these farmers introduced to modern agricultural practices? What are the effects on output, livelihoods as well as the communities they operate in? To answer these concerns, the study seeks to assess the Blue Skies outgrower model as a tool for agriculture modernization and its effects on output and livelihood outcomes of farmers and their communities.

1.3 General and Specific Objectives of the Study

The general objective of the study is to assess Blue skies contract farming as an example of outgrower model and a tool for modernizing agriculture to achieve output and welfare benefits for farmers and their communities.

Specifically, the study seeks to:

1. Examine the outgrower arrangements, and company-farmer relations
2. Examine the modernizing effects of the outgrower model on output.
3. Identify the effects of the model on the livelihood of the farmers and their communities.

1.4 Research Questions

In an attempt to assess the blue skies out-grower models and the modernisation of agriculture on farmers, the following research questions will provide the focus and direction of the study;

a. What are the farming arrangements in place for the outgrower farmers and their relationship with the company?

b. What are the modernizing effects of the out-grower model on production level of farmers?

c. What are the effects of the out-grower model on the livelihood of farmers and their communities?

1.5 Significance of the Study

The study seeks to assess the out-grower model as a tool for agriculture modernization and its effects on output and livelihood outcomes of farmers. The result of the study would contribute to assessing outgrower model and its effect on agricultural modernization, and to ascertain whether it is worth continuing. Based on the crucial role information plays in the formulation and implementation of agricultural policies, results from the study could provide useful information to assist Blue Skies Company in setting priorities and formulating policies concerning improvement and sustainability of the outgrower model. Furthermore, the study would serve as a guide for other stakeholders in the agricultural industry who may want to promote agriculture modernization. In light of agricultural modernization, the study will also add to the body of knowledge so far as impact on livelihood is concerned.

1.6 Organisation of the Rest of the Study

Chapter one introduces background of the study and states the research problem under investigation. Aside the justification of the study, it also gives the research objectives, research questions and proposition for the study. Chapter two focuses on review of related literature to the study. It provides an in-depth knowledge into the literature available and the theories involved in the study, which is the base of the study as well as a working definition of some of the dominant key concept and concludes with the framework of the research. Chapter three discusses the methods adopted in collecting data. This chapter covers the profile of the study area, research design, data sources, data analysis procedures

and limitations to the study. Based on the results of the findings, chapter four presents the background characteristics of the farmers and discusses their contractual activities. Chapter five examines the contributions of the out-grower model to the livelihood of the farmers and their communities. Chapter six covers the summary, conclusions and recommendations of the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents a review of existing empirical work and theoretical perspectives on out-grower systems and agricultural modernization. The aim is to identify the views of other scholars on how out-grower systems can lead to agricultural modernization and improve the quality of life of farmers. The literature review is presented under the following thematic areas; the evolution of agricultural modernization in Ghana over the years and the achievements made since independence; and Crop yield and livelihood outcomes of contract farming. A critical focus on the policy framework for out-grower systems in Ghana as the base for value chain is also discussed. An overview of out-grower model and contract farming, where the origin of contract farming and the different types of out-grower models are discussed. Finally, the chapter brings into focus the conceptual framework which provides the context within which the study is carried out.

2.2 Agricultural modernization in Ghana

The Report of The Johannesburg Summit of 2002 mentions that, the focus on agriculture modernization have been in existence for long, and that numerous attempts in government policies since the colonial period has been to educate and advise farmers and to assist them to produce larger and better crops for export. The colonial government's agricultural agenda lessened the needs of the non-export crop producers to the needs of the rising urban elites, expatriate food importers and colonial authorities who emphasized the production of export crops (Aryeetey et al, 2004). The agricultural policies pursued during the period were designed to make the Gold Coast a source of raw materials and a protected market for metropolitan manufacturers and farmers.

During the period under the first president of Ghana, Dr. Kwame Nkrumah, a number of policies were adopted to solve the well documented food and agricultural problems in the country. Policies of agriculture modernization were formulated to be implemented in two phases. In the first Five-Year Development Plan (FYDP) (1951-56), small scale agriculture was regarded incapable to modernize and adapt to the needs of an expanding economy solely through progressive improvement of the traditional systems of production. Therefore, large scale farms under public auspices were to be established to test and demonstrate the feasibility of mechanized farming. This agricultural mechanization took place after independence in 1957, when the new government offered highly subsidized mechanized services to farmers (Boamah 2006). An Agricultural Development Corporation (ADC) was subsequently established to promote agricultural development. The ADC's role in establishing estate agriculture and leading the modernization of agriculture was greatly expanded under the second five-year development plan of 1959-64. These policies were geared towards improving on the traditional methods of farming in order to improve output. However, the policies were politically influenced and failed to achieve the expected results.

Over the next 15 years, from 1965 to 1980, policy dimensions have been designed toward agriculture development and they all tended to favour large scale, capital intensive type of cultivation over small scale production. Empirical record shows that all the regimes tended to give higher priority to industrialization based on imported raw materials than to agriculture raw material through modernization.

During the implementation of the first phase of the ERP, it was realized that the Ministry of Food and Agriculture (MOFA) and other organizations which were established to assist the agricultural sector were unproductive and ineffective (Adu-Dappah 1998). There was a

need to strengthen MOFA which resulted in an agreement on a programme to take care of the short term adjustment issues which were to be supported by a Structural Adjustment Loan (SAL). As a result, the World Bank undertook an Agriculture Sector Review which ascertained the main components of a strategy to advance agricultural development. This led to the launch of a $53.5 million Agricultural Services Rehabilitation Project (ASRP) in 1987. The main goal of this project was on building up the capacity of the public sector to support research, extension services, irrigation and policy planning, monitoring and coordination and to make the necessary investments for increased agricultural production (Adu-Dappah 1998; Kolavalli et al, 2010). Ghana's Agricultural Development efforts under the ERP over the period 1983-1988 were a success.

Under the belief that there was the need advance towards a more significant food and agriculture policy in the country, a Medium term Agricultural Development Programme (MTADP) was initiated in1988 as a joint Government of Ghana and World Bank project, and was implemented in 1991 to merge the gains made under the economic recovery programme during 1983-1988 (Kolavalli et al, 2010). This 5-10 years programme was designed to set priorities in the agricultural sector and to identify key policy and institutional reforms on a continuous basis. The MTADP has thus far provided a framework for more efficient allocation of public and private sector resources. It also provided a focus for policy and institutional reforms in the agricultural sector in order to fully realize Ghana's agricultural potential.

The period beyond 1992 saw a more stable political setting in which successive governments focused on the development of agriculture. The country has experienced much development in the agriculture sector with a lot of government policies and interventions from international organization. The AMSEC concept was introduced in

2003 to offer timely and affordable mechanized services to farmers who could not afford agricultural machinery on their own (Agricultural Engineering Services Directorate, 2003). As a start, the proposed AMSEC package comprised of a range of agricultural machinery, such as tractors, harvesters, boom sprayers, planters, power tillers, seed drillers, slashers, ridgers, and rice mills. This, during implementation phase, was altered. On average, each AMSEC was allocated a package of five tractors with basic implements (plows,harrows), plus a trailer (Houssou et al., 2013). According to the Agricultural Engineering Services Directorate of the Ministry of Food and Agriculture, this decision to allocate five tractors was based on the expectation that each AMSEC could serve, in a season, about 500 small-scale farmers with average landholding of 2.0 hectares (ha).

2.3 Overview of out-grower model of farming or contract farming.

Out-grower systems are arrangements that offer production and marketing services to farmers (Barrett et al 2011, Miyata et al 2009). These generally imply that an institutional arrangement involving parastatal organisations with some degree of public ownership or managements (Little 1994). Glover and Kusterer (1990) use the term contract farming to refer to the related agreements done in the private sector, where a farmer and the firm are involved in a forward agreement of production and marketing as solution for problems of market failure in the market for credit, insurance and information (Grosh 1994). In both schemes, farmers agree on contract to grow crops for central processing or exporting unit, with the farmers providing the land, labour and tools, and inputs such as– fertilizer, seeds and insecticides are provided on credit (Porter and Phillips-Howard 1997).

Contracts are usually made for one year at a time. Glover and Kusterer, (1990) suggest that contracts can be thought of as varying in ‘intensity’. At one hand, upon delivery the company pays at the market price, and exerts little control when it comes to production.

On the other hand, prices are fixed and constant and rigorous control over all phases of production are under the control of the contractor. The main distinction is between arrangements that affect smallholder access to inputs, processing facilities and markets on one hand, and those that provide farmers with developed land under varying degrees of controls.

The fundamental problem for contracts lies in the division of value added between farmers and the contracting firms (Masuku et al 2013). This is normally not a true indication of real value added but of relative strengths full of abuse, exploitation and the risks of production are transferred (Glover and Kusterer 1990). The only thing that binds all contract schemes together as an analytical category is the contract. However, the contract itself is the symbol of a relationship rather than the relationship itself, and the discrepancy between the two may be crucial (Singh 2002, Portale 2012). Its realization takes place in definite social and political environment (White, 1997).

2.4 Contract Farming Models

There are three widely recognized types of contract farming: (i) procurement contract, wherein local farmers produce and deliver specified quantity of agricultural produce of a particular quality; (ii) partial contract, which specifies the type of crops and some of the inputs are supplied by the contracting firm and produce is bought at pre-agreed price and (iii) total contract, under which the contracting firm supplies and controls total production process and the farmer only become supplier of land and labour (Singh 2002). The first is generally considered as marketing contract while the remaining two are referred to as production contract (Welsh 1997). The production management class of contract farming is associated with large out-grower and nucleus-estate schemes (Eaton and Shepherd 2001, Baumann 2000). Eaton and Shepherd (2001) have identified five types of contract farming

models and Bijman (2008) has discussed these further. Models are usually differentiated based on the intensity of vertical coordination, the type of product and the number of key actors involved. As Melese (2012) rightly put it, here is a summary of the five types of contract farming models.

In the centralized model, agribusiness firms buy from a large number of smallholders under strict quality control conditions and in predetermined quantities. The role of the firm can vary from mere provider of seeds to provision and control of different services and technologies at various stages. Nevertheless, the model usually involves the provision of extensive technical support, inputs and close control of the production process.

In the case of the nucleus estate model, it is a variation of the centralised model where an agro-company establishes a core estate and factory and the farmers in the surrounding area grow crops on part of their own lands which they sell to the factory for processing (Baumann 2000).

The multipartite model on the other hand, involves various actors such as governments, NGOs and service providers in a contract and usually deals with farmers' organisations such as cooperatives as well as joint ventures between the government and the private sector. Contracts under this model may involve a varying degree of coordination. According to the Asian Development Bank report (2005), this is the model that best fits the poor and smallholders as the integrated effort of many actors eases the burden on individual contracting parties. In this case, the agro-firm provides the necessary inputs, with government, institutions and agencies providing extension services, disseminating information, facilitating the formation of farmers' cooperatives and creating awareness about contract farming among farmers. As a result, the companies are able both to improve efficiency by using farmers' groups to deliver inputs and to ensure the application

of appropriate technical standards while the cost of providing extension and other services is reduced. Third parties (an NGO or the government) in the multipartite model can play an important role in dispute resolution and contract enforcement.

The informal model is one characterised by individual entrepreneurs and/or small companies that enter into informal contracts, usually on a seasonal basis. It is different from the models mentioned above in that it has limited resources for strong vertical coordination, so that its success usually depends on the support provided by the government or other service providers. The provision of material and technical input is commonly limited to seeds and basic fertilisers, grading and quality control (Baumann, 2000).

Finally, the intermediary model involves intermediaries between producers and buyers who subcontract buyers. In this model, because of the absence of strong linkages with farmers, buyers run the risk of losing control over quality, quantity and price. For similar reasons, farmers operating within this intermediary model are not safe from market uncertainties.

2.5 Contract farming as a tool for development

Contract farming has emerged as a source of ready quality raw material and has become a criterion for the success of any agribusiness corporation operating either on the domestic or international market. (Singh, 2002).The role of contract farming in development has been the subject of intense debate. Opponents argue that small holders are generally exploited by large agribusiness companies for low cost of labour and production risks are transferred to these farmers. Yet, others insist that smallholder farmers are time and again excluded from contract farming schemes (Masuku et al, 2013). This means that such

schemes result in greater income inequality and social tensions in rural areas, particularly due to land grabbing.

Some proponent like Watt(1994) see contract farming as a means of; (i) connecting smallholder farmers to growing local and export markets, thus removing some of the numerous challenges faced by smallholders (Baumann, 2000); and (ii) channeling foreign investment to agriculture to support/promote more inclusive business models with smallholders. In recent years, the system of contract farming has circulated widely in developing countries and is considered a potentially viable model for managing production and ensuring higher quality, safer food and lower production and marketing costs (UNCTAD, 2009).

From an institutional economic standpoint, contract farming has been used as a tool for rural development strategies for (i) connecting smallholder farmers to supply chains; (ii) overcoming factors that limit smallholder commercialization, such as institutional deficiencies (lack of access to inputs, technology and credit); and (iii) providing the secure market and fixed prices necessary for sustainable crop intensification (Singh 2002, Vermeulen and Goad 2006). Such arrangements have the potential for securing markets for some crops, particularly those that need processing and may otherwise not be produced. Due to its potential to induce smallholder commercialization, contract farming has been given a prominent role in the context of the Comprehensive Africa Agriculture Development Programme (CAADP).

It has been argued that contract farming puts the local economy on a dynamic path of growth and development because it leads to increase in incomes and employment in agriculturally backward regions and brings a break from low levels of productivity and instability in production.. This allows access to international markets because of the

technological and capital resources of these corporations and the international nature of agribusiness processes. (Singh 2002). The agribusiness firms take on risk by undertaking new projects in processing and marketing and provide a stream of cash flow to the local economy.

Contract farming is used to minimize the transaction costs and uncertainty that would arise if crops were purchased "on the spot market" to provide some control over the process of production, and often as a tool to manage a value chain or segments of it (Bijman, 2008). According to Minot (2011), contract farming can be successful for products that; (i) require vertical incorporation and coordination of the activities of the producers and sellers, (ii) allow for economies of scale in the processing and distribution chain or (iii) need higher levels of organization/integration where spot markets cannot satisfy the quality/quantity of the demand.

In general, spot market transactions are preferred to contract farming arrangements and other coordination mechanisms when: (i) the produce is non-perishable and the quality of the produce is standard and easily verifiable; (ii) the farmers and/or producers are familiar with production techniques and quality requirements and (iii) the market transaction costs are low (Bijman, 2008). Generic commodities such as grains, root crops and pulses are usually traded through the spot market rather than contract farming arrangements.

Contract farming is often adopted by companies mainly for produce such as fresh vegetables for export or supermarkets, dairy products, poultry, rubber, palm oil, sugar, tea, tobacco and cotton. Typically, both farmers and companies benefit from the contract; the company ensures its raw supply, while farmers receive fixed prices, which reduces their income uncertainty. A guaranteed and fixed price structure is broadly negotiated between the parties based on prevailing spot market prices or as a percentage of world prices.

However, given that the primary goal of contract farming is profit-making and is, thus, not always synonymous with fairness and parity, there are numerous instances where it is the company (e.g. processor) which unilaterally dictates prices unfavourable to farmers (Dannson et al., 2004). For some cash crops (e.g. tea, cocoa), there are several instances whereby parastatals fix the price on a seasonal basis to hedge against world market price fluctuations.

Evidence shows that when farmers are organized and well represented by associations or cooperatives, they benefit from better price negotiation and have unrestricted access to market information, which enables them to make informed production decisions based on fair price. Furthermore, well organized contract farming schemes provide market relationship and would appear to offer an important way for smallholder producers to farm in a commercial way (Eaton and Shepherd, 2001).

2.6 The objectives of parties in Contract farming

Glover (1987) contends that in most cases, a contract farming scheme has to comply with numerous and often conflicting objectives of its various partners. The development elements of the schemes may have certain obligations for equity and in some cases, contractor monopsony and profit maximization combined with powerful binding contracts may have certain consequences for the contract farmers (Baumann 2000). These objectives and complications help to determine and evaluate the roles of the private firm, government and/or NGOs and the smallholder farmer in a contract scheme.

2.6.1 The private company (the agro-processing firm)

Barret et al (2012) argues that the firm is a price taker, that is, it takes commodity prices as given on competitive urban or international markets. To the firm, the contract is a

guarantee of constant supply of raw material from the smallholder farms which it would not have realized if bought on the open market (Baumann 2002). This is because contracts can specify dates for planting and quantity to be delivered. The contract therefore both reduces uncertainty and gives the company control of the production process.

Moreover, the company does not have to invest in land, hire labour or large scale farming operations. Some agro-firms retain a 'nucleus estate' surrounded by out-growers, especially when the economies of scale of the processing plant (such as for palm oil) depend on a certain volume of input. Many companies have withdrawn from production completely, delegated responsibility for processing, and retained control of only the most critical stages of marketing. Avoiding conflict over landownership and labour issues is an important advantage of the contract, whatever the level of integration of the company. Little and Watts (1994) argue that not only does contract farming allow potential challenges with labour to be avoided, but it allows the company to profit from self-exploitation and taking advantage of the family.

Private companies engage in contract farming to steer clear of the risk of appropriation (Baumann 2002) and contract itself can be good for the public image of a private company and give the notion that it is advancing.

2.6.2 Government Policy

There are a number of objectives that inspire government's participation in contract farming schemes. Baumann (2002) identified that, not only does contract farming schemes provide governments the opening to combine development issues with foreign exchange earnings but also protects against foreign ownership of large tracts of land, and maintains the smallholder under a central authority in order to address its needs and to avoid the

development of enclave effects with plantations. According to Ellman (1986), government may enter contract schemes with ambitions of increasing cash and food crop production, reduce rural unemployment and to provide or improve rural social facilities and infrastructure.

Contract farming has key trade-offs for policy dimensions. The contract relationship is not a zero-sum game and the allocation of profits between the firm and its smallholders can improve the total margin of profits available (Glover and Kusterer 1990). In a hypothetical case, Baumann (2002) contends that the benefit of the contract goes beyond the firm and farmers to include banks that lend money to farmers.

2.6.3 Out-growers (Small holding farmers)

The main objective of a farmer to increase income with an acceptable level of risk by entering into contract agreements with an agro-processing firm to have access to ready market (Baumann, 2000). Reduction of cost, access to market information, technology, marketing channels, managerial skills, technical expertise as well as better and quality plant seeds, farm inputs and equipment motivates farmers (Pasour, 1998; Delgado, 1999; Vellema, 2000). Capital and credit procurement is also essential to the farmer (Hudson, 2000).

This is a major concern for most farmers and particularly those in developing countries. Farmers are prepared to surrender their autonomy for the sake of being able to produce (Kirsten and Sartorious, 2002). Farmers under contract can minimize production costs and maximize harvest and income as a result of the use of new technology and access to inputs (Watts, 1994; Clapp, 1994). Minimizing of cost is due to better technology, better collective decisions and reduced transport and marketing costs, cheap inputs from the integrator and the ability to increase economies of scale or attempts of technological

advancement by the integrator which can reduce cost (Hennessy 199, Pasour 1998, Royer 1995, Pasour, 1998).

Local markets are often highly unpredictable and prices are not stable. International markets are more stable but cannot be accessed by farmers without contract schemes. Through contract schemes, farmers can reduce marketing risk and stabilize income which gives them some form of insurance (Featherstone and Sherrick, 1992; Watts, 1994; Jackson & Cheater, 1994; Wolz & Kirsch, 1999; Martin, 1999; Colchao, 1999; Sofranko et al, 2000). What appeals to farmers is the reduction in marketing risk through the demand assurance specified in the contract, especially those who produce crops for which the markets are thin (Kirsten and Sartorious 2002).Contracts have the ability to bring together production and marketing decisions and hence improve farmer's effectiveness (Hudson, 2000).

Finally, contract schemes appeal to farmers because of increased prospects for greater product range or diversification out of traditional crops in order to grow high-value crops that will improve their income (Coulter et al, 1999; Glover, 1994; Von Braun &Immink, 1994; Kennedy, 1994; Delgado, 1999).

2.7 Analytical framework

Agriculture is the main source of income for the majority of rural settlers in Ghana and any means of improving their standards of living can be achieved through agricultural growth and development (Brempong- Asuming, 2003). It is also indicated that, the overall domestic economy revolves around agriculture which employs 60% of the labour force who are predominantly small holder farmers (Ntsiful, 2010).

It has been widely observed that contract farming has benefits for both the farmers and the investors and some which include the provision of inputs and production services by investors, the introduction of new technologies and the acquisition of new and modern skills. It also grants access to international and local markets. Investors also tend to benefit from such agreements with a guaranteed supply of raw materials, while issues of land constraint are overcome.

With the potential benefits of contract farming in mind, this study is grounded on five assumptions, aimed at investigating the effects of the contract on smallholder farmers. These assumptions are discussed below.

Firstly, it is assumed that government policy on agriculture modernization is necessary for the success of the contract scheme between Blue Skies Company Limited and their contracted farmers. This policy promotes the formation of farmers' cooperative groups that government uses to address the needs of individual farmers to ensure equity and fairness in the contractual relationship between the company and the farmers. With this in place, the relationship between the farmer and the company is purely demand and supply with the company looking only within for the supply of its raw material. The company also does not use its power to exploit the farmers in price determination of farm produce. Prices are determined on a fair arrangement between the company and the farmers, based on the competitive price in the market. This is what Minot (1986) explained as a 'spot (open) markets co-ordination'. This is achieved through price mechanism.

Secondly, the company is the only market option for farm produce. Selling of produce by farmers to the company is the underlying objective for which farmers enter the contract farming scheme with the company. Once in contract, the farmers do not look at other marketing alternatives because terms of business are better with the company than other

marketing avenues. The price which the company pays for the farmer's produce is satisfactory to them and can help increase farm income. However, farmers who have not signed any contract with the company, do not supply their produce to the company but turn to other marketing avenues to sell their produce. Glover (1990) has argued that contract farming mostly involves some form of monopsony in which a single firm deals with a number of relatively organised farmers. Etherington (1984) with reference to the Kenya Tea Development Authority (KTDA) drew attention to the market structure within which it operated. He found the KTDA to be an all-powerful autocratic organisation, both monopolist and monopsonist. This means that it is the single buyer of the tea leaves from the producers they had contracted.

Thirdly, technical supports are given to the farmers by the company in order to produce fruits to meet the company's standards. These technical supports are given in the form of training the farmers on modern agriculture practices and supplying farm inputs to the farmers. The company could achieve this by organizing its own extension service training or depending on government extension officer. Either way, the company has to make sure that the farmers are well trained to produce good quality crops. This, according to Minot (1986), is known as 'vertical Integration'. Vertical integration according to him is an institutional solution to the problems of market failure, which expedites information flow with regards to production practices, information flow regarding specific demand characteristics and the provision of financial and technical resources. Contracts take advantage of scale differences and information differences to provide growers with needed services, encouraging the use of certain inputs and practices, which are necessary to meet quality standards and delivery schedules.

Fourthly, farmers are able to increase yield due to motivation of ready market and receiving technical support. Irrespective of other factors, the farmers are able to make use of the training and inputs they receive to increase yield and total output from their farms. It has been maintained by Roy (1972) that, contract farming broadcasts new farming technology and improves access of the farm as a firm to credit and material inputs, which facilitates the adoption of new technology. The rapid infusion of technology has several implications for farmers. The farmers are able to produce and sell a greater quantity than was possible under traditional technology. Thus in an integrated industry, as one that would emerge through contract farming, non-contract farmers may be at a disadvantage in their access to new technology.

Finally, livelihood improvement depends on farm income of the farmers. It is assumed that the only means of income for the farmers is the money they get from selling all their produce from the farm to the company. The literature surrounding the contract farming and out-grower schemes notably mentions Business School approach (BS)(Goldberg: 1981; Morrisy:1974) as one of the main schools of thoughts. The BS approach emphasizes that agriculture is an international system. It believes that small farmers can gain from becoming engaged in it; and sees agribusiness (and through this contract farming) as a means of developing rural areas in LDCs. Writers of this school also point to the contribution cash crops can make to growth, through the exploitation of comparative advantage and the reinvestment of surpluses earned (World Bank: 1981; Myint: 1984). Thus, growers have an assured market for their crops, thus enabling them to forecast their incomes more accurately. They can also experiment with new crops and cultivation techniques, gain access to company's services, (extension advice and machine hire) material inputs (fertilisers, agro-chemicals and seed/planting materials) and gain easier

access to credit. These advantages may enable them to become more specialised and increase productivity (Glover: 1983; Goldsmith: 1985; Roy: 1972).

Perusing the literature on contract farming, it becomes clear that this subject is invariably linked with at least three other issues. First, the literature on contract farming is connected, to a very large extent, to the dealings of the transnational agribusiness firms. Second, most crops selected for contract farming are cash crops as opposed to food crops (Glover: 1990; Minot: 1986). This is because "the crops most easily incorporated into contract farming and out-grower schemes are likely to be those with high and skilled labour requirements and high incomes per hectare. Third, the spread of cultivation of cash crops increases the commercialisation of agriculture in the LDCs (Senanayake 2001).

The hypothetical out-grower model framework for this study has been developed based on the above assumptions on the out-grower schemes. The contract as established by government policy or through programmes of international and non-governmental organizations, includes components of financial, technical, extension service and marketing supports which are aimed at modernizing agriculture, thus giving the farmers the opportunity to increase their farm produce. This is what FAO (2001) opined that the quest for agriculture modernization can be accomplished through international programmes or policies, through government policies and other concerned organizations. In view of Schmidt (2000), the schemes as rural development drivers are developed to open up isolated rural areas, amass property for farmers, create jobs, guarantee food sustainability and expand exports all in the name of bringing modernization in agriculture.

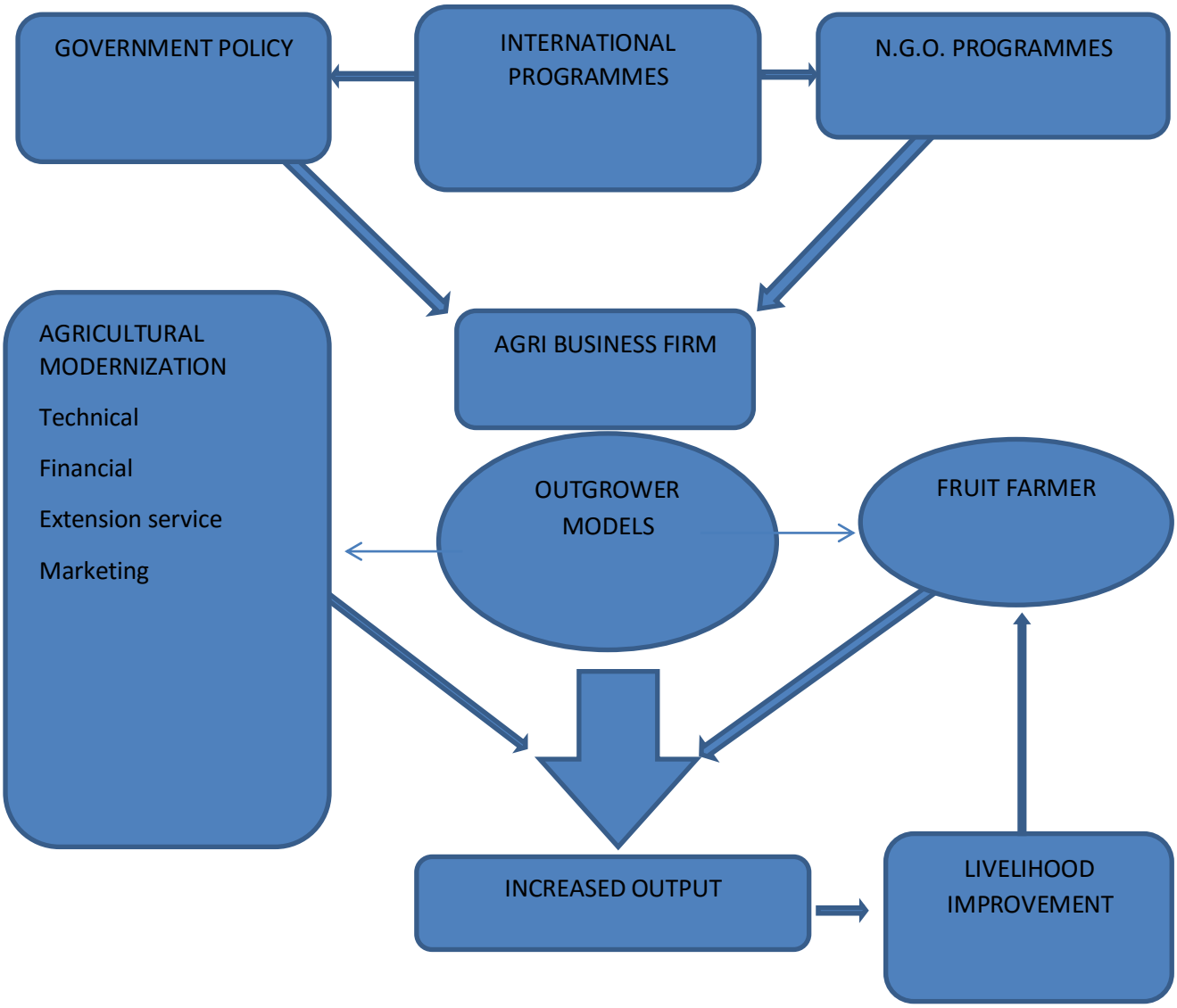
According to FAO (2001) and Watts (1994), contract models or the contract comes with the delivery of technical support and marketing supports. The provision of these supports then improves output yields and the income of the farmers (Schmidt, 2000). With these

provisions, farmers are encouraged to go into large scale production and to ensure higher yields. Technical support in the form of farm machinery such as tractors can enable farmers to expand their farm sizes while extension service supports will help the farmers to get access to and adapt to modern technologies, farm practices, and improved seed varieties. The marketing support element in the contract then helps to provide marketing channels to farmers through the agribusiness firms which can be manufacturing and export companies which serve as ready market to encourage farmers to produce more. This open access to a ready market automatically helps farmers to improve their livelihood and acquaint them with the production chain continuum (Watts 1994: Glover 1983).

With these support components of the contract, the rational farmers will be motivated to increase their productions either through expansion in farm size, intensification in agriculture or both. These will then lead to increase in total farm output, thus increasing their incomes. This increase in incomes directly affects their living conditions.

This framework help assesses The Blue Skies Out-grower model Scheme, in terms of the influence of government policies on the scheme. The farmer-company arrangements are also examined in terms of the provision of technical supports and other modern ways of farming. Finally, the effects of the scheme on output and livelihood of the farmers and their communities is examined.

Figure 2.1: Conceptual framework.



Source: Researcher's own construct, 2014.

CHAPTER THREE

STUDY AREA AND RESEARCH METHODS

3.1 Introduction

This chapter focuses on the socio-economic and physical features of the study area, which is the Akwapim South Municipality. It also presents the research design for the study and the justification of the methods used in the collection and analysis of the data. The first part of this chapter, deals with the background of the study area and the subsequent part deals with the methodology. Thus, the first section gives the general background of the study area in terms of its physical characteristics, the types of soil and their suitability for agriculture and the major crops grown in the municipality. An attempt has also been made to discuss the land tenure systems being practised in the area, the agricultural extension services, as well as the markets for agricultural products in the area, not leaving out the agro based industries in the municipality. Furthermore, an attempt has also been made to discuss the limitations to the study.

3.2 Profile of Study Area

The Akuapem South Municipality was established, at first, as a district in 1991, by a Legislative Instrument 1525A. In 2007, thus 16 years down the line, a new Legislative Instrument 1872 was passed thereby giving it its municipal status. It is found between latitude 5.45ºN and 5.58ºN and longitude 0.07ºW and 0.27ºW. It is about 23kilomters drive from Accra. According to the 2010 census (provisional) results, the estimated population of the area is 133,604 with 68,052 females and 65,552 males. Out of this, the municipality has about 60% of its population engaged in various forms of agriculture which translate into 27,441 holders of which 18, 3768 are men and 9,063 women. Its municipal capital is Nsawam. The Akuapem South Municipality is characteristically

agricultural based with 60% of its population engaged in subsistence and commercial farming. The population depends very much on farming for its household livelihood. Crops cultivated include maize, cassava, pineapple, pawpaw, different types of local and exotic vegetables- okro, pepper, garden eggs onion, cabbage and tomatoes- and tree crops like oil palm, citrus and cocoa. Besides crop production, the average family rears livestock and poultry with cattle, sheep, goats, pigs, and poultry being predominant. Agricultural lands in the Akwapim South Municipality are mostly Stool lands, family owned, lease hold and share cropping (Abunu & Abusa).

3.2.1 Land Area and boundaries

The Akuapim South Municipality occupies about 403 square kilometres of land. The total arable land cultivated in the municipality is about 20,000 hectares, additionally about 600 hectares of land is under cultivation along the Densu Basin. It is bounded by Ga West Municipal and Tema Metropolis to the south, Suhum-Kraboa-Coaltar, Akwapim North and West Akim Municipal to the north-west respectively.

Figure 3.1: Map of the Akwapim South Municipality

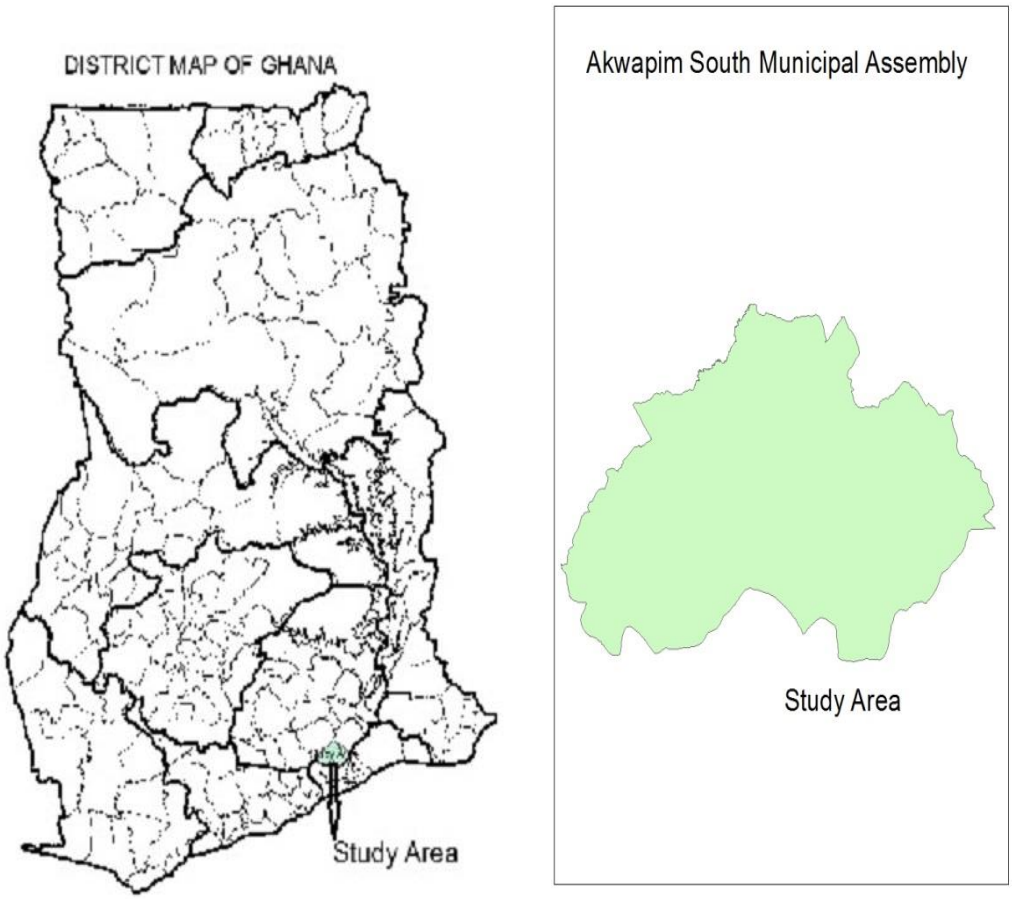


Figure 3.2: Map of Ghana showing study area

3.2.2 Soil, Climate and Drainage

Soil types are generally sandy loam with clays found in the valley bottoms. The municipal experiences a bimodal pattern of rainfall of 1700mm per annum with mean annual rainfall of 1250 mm per annum. Akuapem South Municipality is endowed with a number of water bodies. These water bodies are in the form of rivers, dams and dugouts. The major rivers in the municipality are Densu, Ponpon, Dobro and Nsakyi.

3.2.3 Crop Production

Crop cultivation is concentrated near river Densu. About 80% of farmers in the municipality are crop farmers who practice very little subsistence farming with about 60%-70% as small scale holders and 20%-30% as large scale holders. Some of the crops cultivated on large scale are consumed locally and also exported. The table below shows the major crops grown and the area cultivated and the number of holders.

Table 3.1: Major crops grown in Akwapim South Municipality

CROPS	MAJOR PRODUCING AREAS	NUMBER OF HOLDERS
Pineapple	Fotobi, Oboadaka, Pokrom, Kokuben, Akraman, Apenten	9,126
Pawpaw	Akwamu, Akwadum, Panpanso	106
Maize	Municipal wide	26,064
Cassava	Municipal wide	25,942
Yam	Municipal wide	2,155
Plantain	Municipal wide	2,704
Cocoyam	Municipal wide	317
Oil palm	Municipal wide	972
Vegetables	Along River Densu	1,627

Source: Municipal Composite Budget, 2012.

3.3 The Table Below Shows The Production Levels Of Farm Produce In The Municipality.

Yield of major crops for the past three (3) years

Table 3.2: Production levels of farm produce

CROPS	YIELD OF CROPS(Metric tons/ha) 2008	AREA CULTIVATED(ha) 2008	YIELD OF CROPS(Metric tons/ha) 2009	AREA CULTIVATED(ha) 2008
Pineapple	59	540.8	64	10,837.1
Pawpaw	30	105.6	30	63.4
Maize	1.6	7,820.5	2.0	7,231.1
Cassava	30	7,782.5	33	7,351.5
Yam	15	215.5	19	249.3
Plantain	3	540.8	4	N/A
Cocoyam	N/A	N/A	N/A	N/A
Oil palm	15	485.9	15	380.3
Vegetables	N/A	N/A	N/A	N/A

Source: Municipal Composite Budget, 2012.

3.2.4 Agricultural Extension Services

The municipality has four (4) extension zones, established to enable extension officers reach out to farmers easily and also for farmers to have easy access to extension services for the growth of the agricultural sector. Extension officers have been distributed among the four (4) zones and the agricultural municipal office, even though they are not up to the required numbers.

This affects the kind of assistance they can offer farmers in terms of modern agricultural practices.

3.2.5 Markets for Agricultural Products and Agro-based Industries

There are two major markets in the municipality; these are the Nsawam and Aburi market. However farmers also have the benefit of their nearness to markets in Accra and Tema, where they sell their produce since there is a high demand in those areas. There are about fourteen (14) agro-based industries in the municipality that mainly deal in processing of horticultural crops like pineapple and pawpaw into fruit juice for both local and international markets as well. Most of these industries are owned by Ghanaians except Blue Skies, which is a foreign company and a member of the Free Zones Board. However, these industries were established after a realization that horticultural crops are produced in larger amounts in the municipality and as such the technological capacities of the farmers are not able to contain the produce.

3.3 Methods of Research

3.3.1 Research Design

The research design adopted for the study is the cross sectional study design. This design is adopted because it is useful in obtaining an overall picture of how the out-grower model or scheme operates, how it contributes to agricultural modernization, and how it affects ready market, which is a component of the model, on output yield and eventually livelihood improvement. The research is to evaluate the effect of the Blue skies out-grower scheme in the Akwapim South municipality, on agriculture modernization, output and livelihood improvement. Program evaluation, according to Kelly (2004), is applied to intervention projects, purposively carried out in a community setting, to address social problems. The study made use of both qualitative and quantitative techniques for data collection and analysis. Such a triangulation of methods is carefully selected because it boosts the overall strength of a study (Creswell & Clark, 2007), and thus eliminates any

limitation or intrinsic biases and the challenge that comes with the use of single method. The aim of triangulation is most often in specific context, to validate findings through convergence of different philosophies (Jakob, 2001). The reason for arguing the case of triangulation in out-grower scheme research is that the researcher is of the view that, the use of one method will only allow for a partial understanding of such a complex, multi-dimensional concept of the scheme's operation. The primary source of data used in this research was obtained from a field survey conducted by the researcher. Questionnaire survey was the method used for collecting quantitative data, whilst in-depth interviews were used to collect qualitative data, concurrently, in order to save time, due to the scattered nature of the locations of the farmers.

3.3.2. Questionnaire Survey

The main instrument used to collect data from the sample was questionnaires. As stated by Clarke (1999), questionnaire is one of the most frequently used methods of data collection in evaluation research. Therefore, the questionnaire for the study was designed in six parts or sections. These sections are numbered A to E. The main variables that would be tested are personal information of the farmers and their farms, the provision of technical support, output yield, livelihood improvement and the limitations of the model or scheme. Some key elements examined under the sections were: family structure, crop security, living conditions and possession of assets both tangible and intangible. Questions were very simple and specific with a fixed range of answers. Some of the structured questions were multiple choice questions in which respondents were given a range of answers to choose from. Others were close-ended type of questions, with a 'yes' or 'no' option to choose from. According to Denscombe (2007), closed ended items allow respondents to select answers from categories that have been already established by the researcher. This has the

advantage of respondents providing answers that are of uniform length and lends itself to be quantified and observed. The last categories of questions have spaces provided at the end of the question for respondents to fill.

In the views of Taylor-Powell & Hermann (2000), through a system of standardized questions, a questionnaire survey is used to gather information about a particular population by sampling its members., . For this study, the structured questionnaires were administered to three main groups: farmers who are beneficiaries of the model, and farmers who are not out-growers and key informants. The population for the study was made up of all the contracted farmers of the out-grower model of blue skies company and some non-contracted farmers in Akwapim South Municipality in the Eastern Region of Ghana.

Given the confident intervals, level of precision and degree of variability in the attribute being measured, researchers have given formulae and tables for estimating 'appropriate' sample size of a population (lsrael, 1992; Krejcie and Morgan, 1970). Generally, they agree that larger sample sizes are better than smaller sample size. In other words, the larger the sample size, the smaller the magnitude of sampling error and the greater the likelihood that the sample would be a representative of the population. However, they unanimously agree that the above assertion holds only when the sample is randomly chosen.

According to Best and Kahn (1998) “there is no predetermined figure or percentage of subjects that decides the size of an adequate sample” and argue that sample size may depend on the nature of the population, the data to be gathered, the type of analysis to be done and funds available for the study. They implied that a sample size of even less than 0.1 % of a given population can be a reflection of the opinion of the population (with an error factor of 2% or 3%) if subjects arc randomly selected. Based on the above

arguments, 64 individual respondents participated in the survey. A list of 46 farmers who are out-growers for the company was obtained from the company. Based on the list, a census method of data collection was employed, and 42 out of the 46 farmers eventually took part in the survey. This was because, the rest of the 4 were not reachable. This was followed by grouping all 42 farmers selected, into 4 groups, using a stratified sampling technique. In Robson's (2002) view, grouping involves splitting the population into a number of groups, where there is a common feature between the participants of a group. The choice of this technique was guided by the fact that, the scheme puts the farmers into 4 different groups based on the type of fruits they supply to the company. Convenience sampling was used to select 20 non-contracted farmers for the study.

3.3.2.1. Pre-testing of questionnaire

The questionnaire was pretested in the study area, which was Akwapim South Municipality. This was done by randomly selecting 4 farmers from both the contracted farmers and non-contracted farmers. This was done in order to get the meaning of the questions to the respondents and how they arrived at their response. This also helped to know the time taken to complete a questionnaire, hence aid in planning for the period to be spent in gathering the data. It also helped provide the cost per unit of questionnaire administration and also the relevant and irrelevant questions and finally whether very important questions had not been left out from the questionnaire (Remenyi et al., 1998).

3.3.3 In-depth Interviews

The study also employed the use of in-depth interviews for some selected farmers and two key informants. According to Boyce & Neale (2006), in-depth interviewing is a qualitative research technique. Respondents' knowledge on a particular idea, program, or subject

matter is investigated by conducting detailed individual interviews. The interview process for this study followed a semi-structured approach and was conversational. The interviews were targeted at finding responses to issues that were not easily addressed through the questionnaire based interviews. The interviews were used to get detailed information from 2 key informants and every 3rd and 2nd contracted and non-contracted farmers who responded to the questionnaires. The 2 key informants for the study were the chief agronomist of the company and the agriculture extension officer of the municipality. In all, 26 in-depth interviews were conducted.

3.3.4 Secondary Data

The secondary data of this study was aimed at reviewing the contractual agreement between the company and the farmers, documentations of productions, deliveries and supplies as well as documentations of some of the benefits of the scheme to the farmers and their communities. Desk review of relevant project files of the scheme, as well as other schemes elsewhere, were done in order to provide a better understanding of the concepts, definitions, theories and tested results.

3.4 Data Analysis

With the help of Statistical Product and Service Solutions (SPSS version 16.0) now known as Predictive Analytic Software, descriptive statistics tools such as frequencies and percentages were used to analyse the data. The analytical technique(s) used to analyse each of the research questions are as follows: Research question one (1) was to find the kinds of modern agricultural practices that are in place for out-grower farmers? Frequencies and percentages were computed from respondents' responses to describe the kinds of modern agricultural practices that are in place for out-grower farmers.

Research question two (2) was to look at the effect of agricultural modernization on output as a result of ready market for the produce of farmers under the scheme. Frequencies and percentages were computed from respondents' responses to describe the market availability and accessibility (ready market) of respondents' produce.

Finally, research question three (3) which examined the livelihood outcomes of 'blue skies' contracted farmers and their communities was also analysed using frequencies and percentages computed from respondents' responses to describe livelihood outcomes of 'blue skies' contracted farmers and their communities.

3.5 Limitation of the Study

The data collection was restricted to the institution above-mentioned which may fail to represent the actual scenario of the whole country. While interviewing the respondents, it became obvious that there was a problem in explaining the questions, as some of the respondents in the scheme and outside the scheme were not well educated. Therefore it was difficult appreciating some technical terms like; out-grower models, agricultural modernization and technical support. Also, due to the scattered nature of the location of the farmers, both in the scheme and not in the scheme, it was difficult reaching some of the farmers, in order to obtain more data. Furthermore, due to the high number of farmers contracted one way or the other by individuals and multinational firms in the municipality (Akwapim South Municipal Assembly Composite Budget, 2012), there was a limitation placed on the number of non-out-grower farmers available for the study.

The researcher was confronted with financial constraints which places limitation on the study. The ever increasing cost of elements like transport, and feeding cost for the four months of the data collection exercise increased the financial burden of the researcher.

CHAPTER FOUR

PROFILE OF FRUIT FARMERS AND ASSESSMENT OF CONTRACT FARMING ARRANGEMENTS AND COMPANY FARMER RELATIONS

4.1 Introduction

This chapter discusses the profile of fruit farmers and assesses the contract arrangements in the study area. The chapter begins with socio-demographic characteristics of all farmers sampled in the Akuapim South District of the Eastern Region. The second section identifies two types of farmers in the Akuapim South district i.e. control and experimental groups, based on whether they have any contract or are into any form of agreement with Blue Skies Company Limited. The details of the contracts and types of contracts are also discussed in this section. The various supports such as technical and marketing supports that make parts of the contract are also discussed. The last section discusses availability and access to market to farmers, with particular focus on marketing support provided by Blue Skies limited. The demand and supply relationship between Blue Skies limited and the farmers is examined to identify whether there is any shortage and/or surplus in the demand and supply chain of Blue Skies and farmers' relationship. Also, the means of alternative market is discussed.

4.2 Socio-demographic background of farmers selected in the Study Area

In the view of Myers (1996), socio-demographic characteristics have an effect on farmers' agricultural practices. In this study therefore, social and demographic characteristics such as gender, age, marital-status, number of children and level of education of the fruit farmers have been analyzed to identify their impacts on fruit farming in the study area.

The total sample of fruit farmers was populated based on gender characteristics and it showed that 49(79%) farmers were males and 13(21%) were females. From the contract

farmers, 31(73.8%) were males and 11(26.2%) were females. And similarly from the non-contract farmers, 18(90.0%) and 2(10.0%) of all the non-contract farmers were males and females respectively. Based on these statistics, the study thus revealed that, there was unequal distribution between male and female farmers. This dominance can be attributed to patriarchal norms, men are considered owners of commercial farms despite the fact that it might belong to the family. The distribution of gender was important in this research, in order to know their various involvements in the farming business, since agriculture is largely becoming a female-dominated sector due to faster male out-migration (FAO, 2000).

Secondly, the ages of fruit farmers were tallied to examine its association with fruit farming. From the tally, the minimum and the maximum ages obtained from the farmers sampled are 37 and 60 respectively with a range of 23 years. However, from the age categories, the majority of 25(40.3%) of the farmers fall within the age group of 50 – 54. This is followed by 19(30.6%) farmers falling within the 55 – 59 age groups. The third highest number of farmers is 8(12.9%) fall within the 45 – 49 age categories. 4(6.5%) farmers fall within the 40 – 44 age groups. The remaining farmers, 3(4.8%), were those younger than 40 years and those at 60 or more years old.In general, the age distribution showed that the younger population were more unwilling to undertake agriculture than the older population not merely because of poor economic earnings or lack of access to essential elements of production such as land. Most young people do notregard farming as a noble occupation but as a dirty activity without proper facilities, inputs and the low status attributed to farmers (Leavy and Smith, 2010). More than three-quarters of all farmers who are involved in active farming fall within 30-50 years (Atibioke et al, 2012).

Table 4. 1 : Age distribution among farmer groups

Group	Age distribution among farmer groups						
	Less than 40	40 - 44	45 – 49	50 - 54	55 - 59	60 or more	**Total**
Contract	-	-	-	21	18	3	42
Non-contract	3	4	8	4	1	-	20
Total	**3**	**4**	**8**	**25**	**19**	**3**	**62**

Note: $\chi 2 = 42.289$; DF=5; $p<.001$;

Source: Field data, 2013

The statistics observed within the contract farmers group is much similar to that of the earlier mentioned, as a majority of 21(50.0%) are within the 50 – 54 age groups. This is followed by 18(43.0%) contract farmers who are within 55 – 59 age groups. However, the remaining 3(7.0%) contract farmers are either60 or more years old. There are no farmers under this group who are younger than 50 years. But age distribution among the non-contract farmers is slightly different from that observed under the contract farmers. The majority, 8(40.0%) of the non-contract farmers are within 45 – 49 age brackets. The second highest numbers of non-contract farmers occur for the age groups 40 – 44 and 50 – 54 which is 4(20.0%) for each. There were 3(15.0%) who were younger than 40 years and the remaining 1(5.0%) non-contract farmer is within the 55 – 59 age groups. There is no farmer among the non-contract group who was 60 years old or more.

From these statistics, it can be observed that while the age distribution among the contract farmers are concentrated between 50 to 59 years, that of the non-contract farmers are between wider age ranges of 40 to 54 years. However, what accounts for this differential age concentration among the farmer groups is not clear from these statistics.

Thirdly, the family sizes of the farmers sampled have been examined for the existence of any relationship with fruit farming. In this regard, higher family sizes may influence

incomes of fruit farmers. From the statistics, a majority of 43(69.36%) have a family size of 3 – 5. This is followed by 15(24.19%) farmers who have family sizes of more than 5 members. The last group, consisting 4(6.45 %,) farmers have family sizes of less than 3. Household size of farmers generally has implications on their livelihoods. Attanasio et al (1999) for example, in their demographic model, are of the view that, consumption or savings choices in a unitary household model are affected by the sizes of the family and composition modification over the life cycle.

The above statistics is a reflection of what occurs within each farmer groups. Among the contract farmers, the highest of 29(69.0%) farmers have family size of 3 – 5 members and this is followed by 11(26.2%) contract farmers with a family size of more than 5 members. The remaining 2(4.8%) contract farmers representing have family size of less than 3 members. Similarly among the non-contract farmers, the majority 14(70.0%), have family size of 3 – 5 members. This is also followed by 4(20.0%) non-contract farmers with a family of more than 5 members, and the remaining 2(10.0%) farmers in this category representing have family size of less than 3 members. Thus in terms of numbers, most fruit farmers have an average family size of 3 to 5 members which will be expected to place less weight on the incomes of fruit farmers.The results therefore indicate that, average family sizes and the household sizes of the farmers, in our traditional economy puts some amount of pressure, on the limited resources of the farmers in both groups.

Finally, farmers with higher education levels may be better adopters of improved farming methods and technologies than those with low levels of education. Thus, the educational levels of farmers have been analyzed in relation to farmers' contract status to identify if there is any relationship. As realized from the farmers sampled, a majority of 25(40.3%) have attained Senior High School (SHS) or Vocational school education levels. The second highest group, made up of 24(38.7%) farmers have attained Junior High School

(JHS) or Middle school education and this is also followed by 7(11.3%) farmers who have attained Primary School level of education. The final 6(9.7%) farmers have no formal education.

Similar patterns occur within the contract group as a majority of 18(42.9%) contract farmers have attained SHS or Vocational School levels of education. This is also followed by 16(38.1%) contract farmers who attained JHS or Middle School level of education. However, five (5) contract farmers have no formal education and the remaining three (3) contract farmers have attained Primary School level of education.

Generally, education plays a major role in information availability and a farmer's willingness for signing a contract with Blue Skies Company. The level of education a farmer attains has been identified in this study to be influential on the farmers' decision to sign up with the company in such a way that the lower the level of education, the higher the unwillingness.The above statistics suggests that fruit farming is related to levels of education in the Akuapim South District such that there are more fruit farmers with higher levels of education than those with lower or no formal education. . This finding is therefore in agreement with the findings of EARO (1999) which show that improved farm practices are better adopted by farmers with high levels of education than those with lower levels of education, thus the decision whether intentionally or non-intentionally, by the company to contract majority of such farmers.

Table 4. 2: Farmers' level of education.

	Level of Education				
Group	None	Primary	JSS/Middle	SHS/Vocational	**Total**
Contract	5	3	16	18	42
Non-contract	1	4	8	7	20
Total	**6**	**7**	**24**	**25**	**62**

Note: χ^2= 2.871; DF=3; *p*=.142;

Source: Field data, 2013.

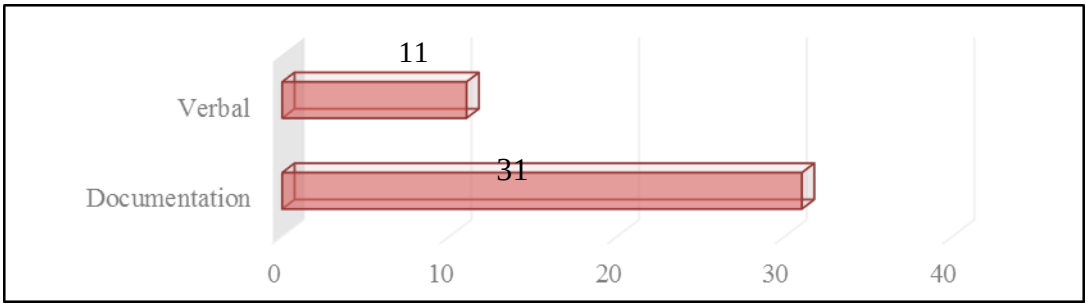
4.3 The nature of contract arrangements with Blue skies and crops grown

4.3.1 Nature of contract arrangement and selection of farmers

There are two types of agreements that establish the contract between the fruit farmers and the company as identified among the contract farmers. These types of agreements are based on documented arrangements or verbal arrangements. From the total forty two contract farmers sampled, the majority of 31(73.8%) stated documented arrangements of their contract with Blue skies. The remaining 11(26.2 %) farmers said their contract with the company was a verbal arrangement concluded from a contact with representatives of Blue skies. Some authors emphasize in their definitions of contract farming that the farmers' production decisions are directed by the contracts or that the buyer, which in this case is the Blue Skies Company, has the legal title to the crop, hinting at the power dynamics inherent to the model (Carney 1988; Watts 1994; Porter & Philips-Howard 1997; Grossman 1998; Prowse 2007). Glover and Kusterer (1990), viewed out-grower scheme as an arrangement in the private sector, where a farmer and a company engage in a forward agreement of production and marketing. Thus, farmers are contracted to produce crops for a central processing or exporting unit with the farmers providing land, labour and tools while the firms provide them with inputs – fertilizer, seeds and insecticides on credit

(Porter and Phillips-Howard 1997). The firm or company decides what crop should be supplied to them. The proportion of farmers in these two types of contractual agreements is presented in the diagram at figure 4.1.

Figure 4. 1: Proportion of contract farmers in two contract types.



Source: Field data, 2013

There is no definitive element in any of the contractual agreements that differentiate them as they both seem to have similar patterns of arrangements between the farmers and Blue skies. The arrangement types are rather based on the side that made the approach. When farmers approach Blue skies, a documented contract is arranged; otherwise, a verbal contract is arranged. The documented contract farmers claimed they made contact with the company with regards to supply their fruits to Blue skies but the verbal contract farmers noted that the company rather contacted them for the supply. This is confirmed in the quotes below.

[Documented contract farmer]: I applied to the company, in 2004 to allow me to supply my produce to them. So early 2005, when the company was in their peak seasons, and demand was very high, they called me and came around to inspect my farms. We signed the agreement forms before I began to supply to the company (Bestman Farms, at Yaw Krow, 2013).

[Verbal contract farmer]: The Company approached me and gave me the offer, because they claimed the size of my farm and the standard in terms of the quality of my fruits as well as the type is what drew me to them. So after a discussion with them, we agreed that I will be supplying to them (Life fruits at Mfrebi, 2013).

These two contract types focus on forward supports, demand and supply needs of both farmer and company. Thus, duration of support and demand and supply as well as quantity and quality of fruits supplied is considered important than security of relationship between farmer and company.

4.3.2 The contract durations

According to the company's annual report of 2011, Blue Skies contract farming arrangements have existed since the commencement of production. Thus, the contract duration varies among the farmers and between the contract arrangement types. Therefore, among all the contract farmers together, a majority of 15(37.7%) stated that, their contract durations spanned a period of five years. This is followed by two groups, each comprising 7(16.7%) fruit farmers altogether with contract duration of two and three years. Again, 6(14.3%) farmers said their contract runs for seven years. 4(9.5%) other fruit farmers also stated that their contracts are six year in duration and the remaining 3(7.1%) farmers claimed the duration of their contracts are four years.

Table 4. 3: Contract durations under the two contract types.

Contract type	Current contract duration (in years)						
	2	**3**	**4**	**5**	**6**	**7**	**Total**
Verbal	1	2	-	4	1	3	11
Documented	6	5	3	11	3	3	31
Total	**7**	**7**	**3**	**15**	**4**	**6**	**42**

Note: χ^2= 3.362; DF=5; *p*=.644

Source: Field data,2013

Among the two contract groups, 4(36.4%) verbal contract farmers have contracts that span for five years. This is followed by 3(27.3%) oral contract farmers whose contract runs for seven years. There were 2(18.2%) oral contract farmers with contract duration of three years. 1(9.1%) farmer among this group has a contract of six years and yet another farmer has a contract of six years. There is no farmer among the oral contract-type group with four years contract durations.

Similarly, among the documented contract farmers, the majority of 11(35.5%) have contracts of five years. This is followed by 6(19.4%) farmers with contract duration of two years which is also followed by 5(16.1%) farmers with contracts running for the span of three years. A total of 9 documentary farmers have contract durations of four, six and seven years with 3(9.7%) farmers each serving these contract durations.

But parts of the contract durations the farmers indicated in the table 4.4 have already been served. In this case, a majority of 16(38.1%) out of the fruit farmers were in their fifth year of the contract. This is followed by 9(21.4%) farmers who were in their fourth year of the contract. 7(16.7%) farmers said they were in their third year and another 6(14.3%) said they had served two years in the contract. 3(7.1%) more farmers stated that they were in their sixth year and the remaining 1(2.4%) farmer was in the seventh year of the contract.

Table 4. 4: Number of years served under current contract.

	Previous contract duration (in years)						
Contract type	2	3	4	5	6	7	**Total**
Oral	1	1	2	5	2	-	11
Documentary	5	6	7	11	1	1	31
Total	**6**	**7**	**9**	**16**	**3**	**1**	**42**

Note: χ^2= 3.977; DF=5; *p*=.553;

Source: Field data, 2013

No farmer among the oral contract-type group was in the seventh year of the contract but a majority of 5(45.5%) farmers in this group were in their fifth year. A total of 4(18.2%) farmers have served four and six years, (two each), of the contract. The remaining 2 farmers in this group have served two and three years each. Among the documented contract group, 11(35.5%) farmers have served five years of their contract and this is followed by 7(22.6%) farmers in their fourth year of the contract. 6(19.4%) other farmers said they were in their third year of the contract while 5(16.1%) were in their second year of the contract. The remaining two farmers of the documented contract group were each in their six and seventh year.

4.3.3 Contract supports to the farmers

Contract models or the contract itself normally comes with the provision of technical support and marketing supports (FAO, 2001; Watts, 1994), and Schmidt, (2000) believes that the provision of these technical and marketing supports then improves output yields and the livelihood of the farmers.The various types of support the contract gives to the farmers include training in modern agriculture practice, receiving farm machineries or services of farm machineries or training in the use of farm machineries, loans and farm

inputs.According to the Food and Agriculture Organization report of 2001, out-grower scheme or models have the tendency to benefit farmers in such a contract through the following means; provision of inputs and production services by the investors, introduction of new technologies and the acquisition of new and modern skills, and also access to both local and international markets. Baumann (2000), also further explained that, in such an arrangement the contracting firm provides input or technical support to the farmers or growers. This according to Minot (1986) is known as vertical Integration which is an institutional solution to the problems of market failure, through the facilitation of information flow regarding production practices, and the provision of financial and technical resources or support. In consonance with these, a majority of 39(92.9%) farmers receive training in modern agriculture practices. The same numbers of farmers either receive farm machineries or the services of farm machineries or training in the use of farm machineries. 4(9.5%) receive loan as financial support and a total of 21 farmers receive agriculture inputs from the contract.

Table 4. 5 : Types of supports given to contract farmers

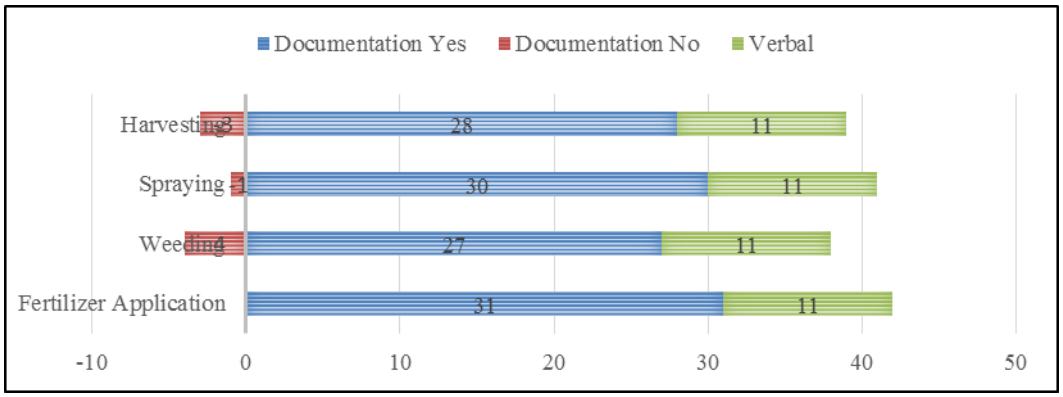
	Types of support		
Contract type	Yes	No	**Total**
Modern agriculture practices			
Oral	11	-	11
Documentary	28	3	31
Total	**39**	**3**	**42**
Note:χ^2=1.146;DF=1;*p*=.284;			
Machinery/service or training on use			
Oral	11	-	11
Documentary	28	3	31
Total	**39**	**3**	**42**
Note:χ^2=1.146;DF=1;*p*=.284;			
Loan			
Oral	-	11	11
Documentary	4	27	31
Total	**4**	**38**	**42**
Note:χ^2=1.569;DF=1;*p*=.210;			
Farm inputs			
Oral	5	6	11
Documentary	16	15	31
Total	**21**	**21**	**42**
Note:χ^2=.123; DF=1; *p*=.726;			

Source: Field data, 2013

On the other hand, 3 farmers do not receive training in modern agriculture practices. 3 farmers again, do not receive neither farm machineries, the services of farm machineries nor training in the use of farm machineries. 38 do not receive loans and 21(50%) farmers do not receive farm inputs from the company. Therefore, with these farm input supports, farmers are able to adopt new farming methods. This is in consonance with Roy (1972) who maintained that contract farming disseminates new farming technology and improves access of the farmer to credit and material inputs, which facilitates the adoption of new technology

From the above finding, the study further looked at details of the types of trainings farmers receive. All the contract farmers indicated that they receive some form of training on agricultural practices before, during and after their planting season. Details of the statistic on the various types of training showed that all verbal contract farmers receive these trainings. However, except fertilizer application, not all documented contract farmers receive these forms of trainings. The diagram at figure 4.2 shows details of the distribution of farmers for the various forms of trainings they receive over the farming season.

Figure 4. 2: Types of skill training contract farmers receive.



Source: Field data, 2013

The various periods' farmers receive the supports included pre-farming, during-farming, during-harvest and post-harvest times. Of all the contract farmers, 24(57.4%) farmers stated that they received training during the pre-farming period. 38(90.5%) farmers said they received the trainings during farming period and 39(92.9%) farmers noted that they received the trainings during harvest period. 29(69%) farmers noted that they received training during the post-harvest period.

Within the contract groups, 3(27.3%) oral contract farmers said they receive trainings during pre-farming periods and 11 said they receive trainings during farming. Again, 11 oral contract farmers receive training during harvest and 5 (45.5%) receive trainings during post-harvest. 21(67.7%) documentary farmers noted they receive trainings during

pre-farming period and 27(87.1%) of them receive the trainings during farming period. 28(90.3%) farmers receive during harvest trainings and 24(77.4%) receive post-harvest trainings. Among the documentary contract farmers 10(32.3%) do not receive the pre-farming trainings. 4(12.9%) farmers and 3(9.7%) farmers do not receive trainings during farming and harvest periods respectively. At post-harvest, 7(22.6%) documentary contract farmers do not receive trainings.

Table 4. 6: The various periods farmers receive supports

	Periods farmers received supports		
Contract type	Yes	No	**Total**
Pre-farming			
Verbal	3	8	11
Documented	21	10	31
Total	**24**	**18**	**42**
Note:χ^2=5.430;DF=1;*p*=.020;			
During Farming			
Verbal	11	-	11
Documented	27	4	31
Total	**38**	**4**	**42**
Note:χ^2=1.569;DF=1;*p*=.210;			
During Harvest			
Verbal	11	-	11
Documented	28	3	31
Total	**39**	**3**	**42**
Note:χ^2=1.146;DF=1;*p*=.284;			
Post-harvest			
Verbal	5	6	11
Documented	24	7	31
Total	**29**	**13**	**42**
Note:χ^2=3.882;DF=1;*p*=.049;			

Source: Field data, 2013

4.3.4 Types of fruits crops grown

The major fruits produced by

contract farmers sampled include pineapple, mango and sugar-cane with the dominant crop produced among them being pineapple. This is followed by mango and then sugar-cane. More farmers produce pineapple than mango and sugar-cane combine, but this does not mean the farmers practice monoculture. A total of fifty-three (53) farmers cultivate more than one crop among pineapple, mango and sugar-cane.

Table 4. 7: Proportion of farmers producing three main types of fruits

	Types of Fruits Produced		
Group	**Yes**	**No**	**Total**
	Pineapple		
Verbal	4	7	11
Documented	14	17	31
Total	**18**	**14**	**42**
Note:χ^2=.257;DF=1;*p*=.612;			
	Mango		
Verbal	3	8	11
Documented	12	19	31
Total	**15**	**27**	**42**

Note:χ^2=.463;DF=1;*p*=.496;

Source: Field data, 2013

In all, a majority of 18(42.9%) farmers produces pineapple, leaving 24(57.1%) farmers who do not produce pineapple at all. These figures are made up of 14(45.2%) documented contract farmers and 4(36.4%) verbal contract farmers who produce pineapple. Again, a total of 15(35.7%) farmers altogether produce mango with the remaining 27(64.3%) farmers who do not produce mango at all. This is also comprised of 12(38.7%), of the

documented contract farmers and 3(27.3%), of the verbal contract farmers producing mango.

The statistics above provides insight into the production patterns of the farmers which leads to the conclusion that pineapple is much important to the company and a target of the contract than mango and sugar-cane. Though the number of contract farmers producing pineapple is lower than those not producing, the number is quiet high and remain the highest among the farmers producing the other types of fruits. It can also be concluded that, pineapple seems to be the main crop produced on a large scale in the area. This large scale production could be attributed to nature of the land in the area.

Other fruits were also identified to be produced by the farmers but on a minor scale compared to the dominant pineapple and mango. These fruits include Papaya, Orange. In all, a total of 12(28.6%) of the contract farmers produce these fruits altogether. Among the farmers, the majority of 11(26.2%) farmers produce Papaya and it is followed by just 1(2.4%) farmer who produces Orange. 30(71.4%) contract farmers of all the farmers do not produce any of these fruits.

Table 4. 8: Proportion of farmers producing other minor fruits.

	Minor fruits produced			
Groups	Orange	Papaya	None	**Total**
Verbal	1	5	5	11
Documented	-	6	25	31
Total	**1**	**11**	**30**	**42**

Source: Field data, 2013

Among the groups, 6(19.4%) documented contract farmers produces Papaya. In the documented contract group, no farmer produces Oranges. Thus, the remaining majority of 25(80.6%) documented contract farmers do not produce any of the minor fruits. On the

other hand, 5(45.5%) verbal contract farmers produce Papaya and this is followed by 1(9%) farmer producing Oranges. Thus, the remaining 5(45.5%) verbal contract farmers do not produce any of these fruits. From this statistics, Papaya and Orange production can be said to be important based on minor production among the contract and non-contract groups respectively. However, what makes them that important is not clear from the statistics.

4.3.5 Farmers' fruit supply arrangements with Blue skies

The farmers indicated that the types of fruits listed in the preceding section of this chapter are the primary targets demanded by Blue skies Company. In this case, among the contract farmers altogether, a majority of 17(40.5%) farmers said they supplied pineapple. 15(35.7%) other farmers supplied mango and the remaining 10(23.8%) farmers supplied other types of fruits.

This is reflected in each contract group as 5(45.5%) verbal contract farmers supply pineapple to the company and this is followed by 4(36.4%) farmer supplying other fruits. The remaining 2(18.2%) verbal contract farmers supply mango. Within the documented contract group, a majority of 13(41.9%) farmers supply mango and this is followed by 12(38.7%) farmers who supply pineapple. The remaining 10(23.8%) farmers in this group supply other types of fruits.

Table 4. 9: Types of fruits farmers supply under the two contract types

	Fruits supplied to the company			
Contract type	Mango	Pineapple	Others	**Total**
Oral	2	5	4	11
Documentary	13	12	6	31
Total	**15**	**17**	**10**	**42**

Note: χ^2= 2.360; DF=2; p=.307;
Source: Field data, 2013

In finding out the duration farmers have been in this supply chain with the company, a total of 16(38.9%) farmers have been in the supply chain for five years. This is followed by a total of fourteen farmers with 16(16.7%) each having been in the supply chain for three and four years. Another 5(11.9%) farmers have been in the supply chain for two years and 4(9.5%) farmers have attained six years. The remaining 3(7.1%) farmers have been in the chain for twelve years.

Among the various contract groups, 5(45.5%) verbal contract farmers have been in business with the company for five years while 3(27.3%) other farmers have reached their sixth year in the supply chain. Three (3) farmers (one each) have been in the chain for two, three and four years. Within the documented contract group, 11(35.5%) farmers have reached five years in the contract and this is followed by 6(19.4%) farmers who have been in the chain for three years. Six (6) other farmers have served four years in the supply chain and 4(12.9%) have managed to stay in the supply chain for two years. 3(9.7%) other farmers stated that they have been in the supply chain for twelve years and the remaining 1(3.2%) documented contract farmer in this group has reached six years.

Table 4. 10: Duration of farmers in the supply chain under the two contract types.

	Duration in supply chain						
Contract type	2	3	4	5	6	12	**Total**
Verbal	1	1	1	5	3	-	11
Documented	4	6	6	11	1	3	31
Total	**5**	**7**	**7**	**16**	**4**	**3**	**42**

Note: $\chi 2$= 7.332; DF=5; p=.197;

Source: Field data, 2013.

Again, out of all the farmers, the majority of 26(61.9%) said they are able to supply to meet the quantity of fruits the company demanded of them but 16(38.1%) of them noted that they were not able to provide the quantity the company expected of them. Among the various contract types, only 2(18.2%) oral contract farmers noted that they were able to provide to meet the company's demand while the remaining 9(81.8%) said they were not able to meet the company's demand. However, the majority 24(77.4%) of the documented contract farmers stated that they are able to provide the quantity the company expects from them while the remaining 7(22.6%) the documented contract farmers are not able to supply to meet what the company demands from them.

Table 4. 11: Farmers able to supply to meet demand of the company

	Meet company demand?		
Contract type	Yes	No	**Total**
Oral	2	9	11
Documentary	24	7	31
Total	**26**	**16**	**42**

Note: χ^2= 12.081; DF=1; p<.001;

Source: Field data, 2013

A further analysis was done to identify the farmers who are unable to meet the demands of the Blue skies Company. The study found that out of those 16 farmers who were unable to meet the company's demands, a majority of 9(56.3%) stated that in such situations, they took the remaining quota from other farmers and supplied it to the company. The remaining 7(43.7%) said they did nothing to get the remaining quantity needed from them.

Table 4. 12: How farmers meet company demand.

	Meet company demand?		
Contract type	Yes	No	**Total**
Oral	2	9	11
Documentary	24	7	31
Total	**26**	**16**	**42**

Note: χ^2= 12.081; DF=1; p<.001;

Source: Field data, 2013

Among the contract type groups, 4(36.4%) oral contract farmers said they usually take from their colleague farmers to top-up their supply while 5(45.5%) of them do nothing. 5(16.1%) documentary contract farmers stated that they take the top-up from other farmers while the remaining 2(6.5%) do not do anything to top-up, in order to meet the quantity demanded from them.

It was also identified that some contract farmers who are able to supply their required quantities to Blue skies still have surplus left that they sell elsewhere. In all, 14(33.3%) farmers noted they usually have surplus after supplying the quantity the company needs from them. This consists of a majority of 6(54.5%) verbal contract farmers confirming that they have surplus after making supply to the company and 8(25.8%) documented contract farmers noting that they have surplus left after making their supply.

Table 4. 13: Proportion of farmers with or without surplus after supply.

	Meet company demand?		
Contract type	Yes	No	**Total**
Oral	2	9	11
Documentary	24	7	31
Total	**26**	**16**	**42**

Note: χ^2= 12.081; DF=1; p<.001;

Source: Field data, 2013

4.3.6 Supply quantity and quality determination.

Furthermore, to the farmers' fruit supply arrangements with Blue skies, the quantity of supply and the determination of quality of fruits to be supplied are done before and during supply. In the case of quantity farmer's supply, a total of 22(52.4%) out of all the farmers said they supply everything they produce to the company but the remaining 20(47.6%) farmers said they only supply part of what they produce to the company.

Within each contract group, 5(45.5%) verbal contract farmers said they supply everything to the company but the remaining 6(54.5%) only supply part of their farm output to the company. 17(54.8%) documented contract farmers also said they supply everything they produce to the company and the remaining 14(45.2%) documented contract farmers stated that they only supply part of the production to the company.

Table 4. 14: Quantity of fruits contract farmers supply

Contract type	Quantity supplied (everything)		
	Yes	No	**Total**
Oral	5	6	11
Documentary	17	14	31
Total	**22**	**20**	**42**

Note: χ^2= .287; DF=1; *p*=.592;

Source: Field data, 2013.

Moreover, it was identified that in most cases, the company determines a quota for the quantity of fruits the farmers have to supply. This was shown when a total of 38(90.5%) farmers noted that the quantity of fruits they supply to the company is determined by the company while the remaining 4(9.5%) farmers noted that they determine the quantity to be supplied to the company. Among the contract groups, all 11 verbal contract farmers said the company always placed a quota on the quantity they supply. But among the documented contract group, 27(87.1%) farmers said the company determines the quantity of fruits they supply and the remaining 4(12.9%) documented contract farmer noted that they determine what quantity to supply to the company. Based on these outcomes, it is evident that, majority of contract farmers, whether oral or documentary, are able to meet the quantity and quality expected from them by the company. This may be attributed to the many supports given them by the company.

Table 4. 15: Determiners of quantity of fruits to be supplied

Contract type	Determiner of quantity supply		
	Farmer	Company	**Total**
Oral	-	11	11
Documentary	4	27	31
Total	**4**	**38**	**42**

Note: χ^2= 1.569; DF=1; *p*=.210;

Source: Field data, 2013.

4.4 Company-farmer relations

One aspect, important to the existence and mutual benefit of both farmers and the Blue skies Company is how they relate to each other in terms of respect, equality, exploitation, satisfaction etc. These were examined in the various ways in which the company deals with the farmers throughout the farming season and in agreement to terms of pricing.

4.4.1 Company relationship with farmers

In the company's relationship with the farmers in the contract, it is important that the company respect the farmers and that the farmer does not feel exploited. In examining the existence of any exploitative relationship between the farmers and the company, the farmers noted that they have a good working relationship with the company.

4.4.2 Pricing and price revision

Pricing and price revision is an important aspect of the contract relationship between farmers and Blue skies. Whereas favourable pricing and price revisions are able to ensure stronger and longer farmer-company relationship, unfavourable terms would ensure weaker and volatile relations. Thus, a farmer's satisfaction on pricing and price revision is

important for company-farmer relations. Contract farming is based on profit-making practices and is, thus, not always synonymous with equity practices. There are numerous examples where it is the company which autonomously establishes prices which are not beneficial to farmers (Dannson et al., 2004). On pricing and price revision, all contract farmers have indicated that the company reserves the responsibility to determine pricing terms for their supply. However, price revision, as to the cost the company will pay for supply of produce in a farming season, is negotiated between the two parties with all 42 contract farmers claiming this is done annually.

Terms of payment is equally important for a good company-farmer relations as delayed payments are likely to trigger decline in farmer confidence and trust in the company. It was indicated that the majority of 40(95.2%) out of all contract farmers do not receive payment for their supply immediately on the spot of delivery but the remaining 2(4.8%) farmers noted they receive payment immediately on the spot of delivery. Among the contract groups, none of the verbal contract farmers receive payment on the spot of delivery while 2(6.5%) documented contract farmers receive payments on the spot with the remaining 29(93.5%) receiving payment at a later time.

Table 4. 16: Point of payment after supply.

Contract type	Meet company demand?		**Total**
	Yes	No	
Oral	2	9	11
Documentary	24	7	31
Total	**26**	**16**	**42**

Note: χ^2= 12.081; DF=1; p<.001;

Source: Field data, 2013.

A further inquiry was carried out to identify how long it takes the company to make payment to the farmers and it was shown that payment varies between two to three weeks of supply. In this case, a total of 37(88.1%) farmers indicated that they receive payment for their produce within two weeks while the remaining 3(7.1%) farmers receive their payments within three-weeks of supply.

Table 4. 17: Duration of payment after supply

	Duration of payment		
Contracttype	2 weeks later	3 weeks later	**Total**
Oral	11	-	11
Documentary	26	3	31
Total	**37**	**3**	**42**

Source: Field data, 2013.

Among the contract groups, all 11verbal contract farmers receive their payments within two-weeks of supply and 26(83.9%) documented contract farmers also receive their payments within two-weeks. The remaining 3(9.7%) documented contract farmers stated that they receive their payments after three-weeks.

4.5 Challenges of the contract to farmer

While the contract farmers acknowledge unprecedented significant improvement in farm output, livelihoods and community development, they nonetheless identified common challenges which come along with the scheme. These challenges are related to the direct and indirect failures and effects or consequent results in adopting new technologies and adapting to its effects on the environment. Part of these challenges also has to do with

incompetence, lack of technical personnel or complete technical ineptitude in operating and servicing farm equipment and machinery

A common frustration expressed by the farmers is in the company's failure to sometimes honour their obligations of farm input supports in the contract. These inputs were identified to include fertilizers and agrochemicals for spraying. Similarly, in most instances where the company delivers these inputs, they come late or are applied late due to uncertainties of the methods of application. Whereas failure of Blue skies to honour their obligation of the contract in supporting farmers with farm input will consequently impact outputs of the farmers, late delivery or application of such inputs will still impact on outputs anyway. In the case of the company failing to honour their obligation, some farmers expressed their frustrations as noted in the quotes below.

No, my brother. I borrowed money from a friend to plough my farms and was waiting for the company for the types of seeds they initially promised me but that never came. I had to plant some of the local breed which I took from my colleagues. By the time they brought me the fertilizer they also promised, the time had passed and I had already applied some. I waited for this for 2 years before they started supplying me chemicals and a spraying machine. This was a problem to me because I did not have the money to buy those things and my crops were not doing well (A pineapple farmer at Nsakye, 2013).

Secondly, the farmers have lamented technical inadequacies in their ability to handle and apply agrochemicals to crops on their farms. Agrochemicals are important parts of better yield and high farm outputs. However, the application of these chemicals needs to be done expertly in order to ensure balance between crop yield and sustainable ecological environment. This requires a thorough practical training in the use and handling of these chemicals so that their applications do not compromise the sustainability of the

environment. However, some farmers noted that they are completely new to some of these agrochemicals and do not receive adequate training in using and handling them. Hence, they become adamant and reluctant sometimes to use these chemicals.

The Company approached me and gave me the offer to produce for them because they claimed the size of my farm, and the standard in terms of the quality and type of my fruits was what drew me to them. Then the following year they said they will help me with some inputs and they gave me fertilizer which was different from what I have been applying. I applied it and realized that the maize that I grew between the pineapples was not doing well. So I reported to them and they promised to give me another type of fertilizer but I didn't go for it because I didn't know how to apply those types of fertilizers (A pineapple farmer at Pokrom, 2013).

Moreover, some challenges have to do with the means of acquiring farm equipment and machinery. This becomes a problem to farmers who expected the company to supply them with those equipment and machinery as part of the contractual agreement. Thus, in spite of receiving input supports in improved seed varieties and agrochemicals from the company for the contract, farmers put forth the difficulties in cost for them to rely on hired labour for most of the farm work. This eventually increases their cost of production and income. This is noted in the quotes from some farmers below;

The company gives us seeds and seedlings for our farms but we buy our own tools like sprayers, and cutlasses. These things are expensive and increase the cost we incur to produce fruits on our farms (A mango farmer at Apese, 2013).

A further challenge has to do with the technical ability to operate and service the farm machineries and hi-tech farm equipment. Although the farm machineries and equipment are not part of the supports the company gives to the farmers, the contractual requirements

in quality and quantity of fruits farmers are expected to supply in addition to the benefits of the contract, motivates them to invest and adopt modern technologies in their production processes with or without the technical abilities they required for servicing. In some instances, these machineries become unusable. A farmer stated as noted in the quote below;

I applied to supply my produce to the company in 2004. So early 2005, when the company was in their peak seasons, and demand was very high, they called me and came around to inspect my farms, before asking me to supply to the company. I saw this as a big opportunity and expanded my farm for the following year, 2006. I bought a tractor for my farms but after one year, the tractor developed some problems and there are no repairers around here. I had to go to Accra to report the worrying development to the technicians of the company I bought it from. However, by the time they came, another season was far gone. That is one of the problems those of us owning tractors keep having around here (A pineapple farmer at Amanfrom, 2013).

4.6 Chapter Conclusion

In this chapter, the nature of contract arrangements and Blue skies selection of farmers was analysed and it was identified that the farmers are selected based on the kind of contract (verbal or documented arrangement) between the company and the farmer. The underlying factor to these two ways of selecting farmers for the contract is the side that made the approach. When a farmer approaches the company, a verbal arrangement is agreed and a documented arrangement is agreed when the company approaches the farmer.

Furthermore, in the contract arrangements, it is identified that varying contract durations between 2 to 7 years exist among the farmers. This shows that the company does not have

a specific tenure of contract duration with all farmers but agree on different tenures with individual farmers. In a further inquiry, it was revealed that some farmers are almost running their contract out while the rest have just begun.

The contract arrangements include a number of supports such as modern agricultural practices, farm machinery or the service of farm machinery or training on the use of farm machinery, financial supports and farm inputs. It was identified that these supports are given at various stages of the farming season and the majority of the farmers tend to receive more training on modern agricultural practices, farm machinery or the services of it or training on the use of it and farm inputs.

The contract arrangements also tend to focus on the production and supply of fruit crops such as pineapple and mango as the dominant and oranges and papaya as the minor crops. This is because these crops are the main target of demand to the company and becomes the focus of the contractual arrangements. However, it was revealed that the company put in place quota regulations that determine the quantity of fruits farmers supply despite a few farmers making this decision by themselves. Similarly, quality of the produce is checked by the company before or during supply.

Finally, the ways in which the company relates with the farmers to ensure the farmers are respected, satisfied with terms of agreements and are not exploited were examined and it was shown, as the farmers noted, that they had cordial and good working relationship with the company. In satisfaction and agreement to the terms of pricing and price revisions, the farmers indicated that they were okay with the terms presented by the company since they did not have much say. This does not support the Second assumption of this study.

CHAPTER FIVE
THE EFFECTS OF BLUESKIES' OUT-GROWER SCHEME ON MODERNISATION OF FARMING AND COMMUNITY DEVELOPMENT

5.1 Introduction

This chapter looks at the outcomes of the contract on livelihoods of the farmers, as well as the impacts on the community. This outcome is assessed in terms of farm sizes, farm employment, productivity, livelihood of farmers and other beneficiaries, the effects on agricultural modernization, effects on land tenure and land acquisition and the overall effect on the community.

The chapter closes by examining the challenges that emerge due to the contractual agreements and how these challenges have affected farmers and productivity as a whole.

5.2 Effect of the Outgrowing on Agricultural Modernization

According to the Food and Agriculture Organization report of 2001, out-grower scheme or models have the tendency to benefit farmers in such a contract through the following means: provision of inputs and production services by the investors, introduction of new technologies and the acquisition of new and modern skills, and also access to both local and international markets. Baumann (2000), also further explained that, in such arrangements, the contracting firm provides input or technical support to the farmers or growers, with an assured market for the produce. Thus, central to the idea of contract farming is agriculture modernization in order to make use of scientific means of achieving higher yields and quality produce. Thus, in such contract schemes, dissemination of information becomes paramount to the spread and adoption of new methods of farm practices and ensuring high yields and quality crops. The adoption of new methods in the form of modern farm equipment, improved seed varieties, reliable and appropriate agro-chemical applications, farm logistics as well as agricultural skills trainings of farmers by

extension service and technical personnel is therefore important to the success of achieving modernized agriculture.

This formed the bases for the objective of the study and also the third assumption, upon which this study was conducted. That is, technical supports are given to farmers in the experimental group by the company in order to produce fruits to meet the company's standards. These technical supports are given in the form of training the farmers on modern agriculture practices and supply of farm inputs to the farmers.

The study thus revealed that, the company provides services to the contract in the form of 'best plantation practices' which are in the form of weeding, manuring in the form of application of fertilizer, spraying and skills in the use of chemicals, and harvesting techniques as well as frequent visits of the company's chief agronomist to the farms to have first-hand information of their progress.

Again, the study revealed that there are various forms of support that Blue Skies Company offers to farmers as part of the roles they play in the agreement. Basically, this includes technical support in the form of extension service to help the farmers with modern agriculture practices and training. Training is a necessary component of the contract as the company takes responsibility to offer extension service training to the farmers to get them prepared in order to produce good quality fruits. The training given by the company is all for good plantation practices to ensure good quality produce. These plantation practices are given in different ways to the farmers, namely manuring, weeding, spraying and how to handle agrochemicals as well as harvesting techniques. Most farmers in the contract are trained on manuring, spraying, and how to handle and apply agrochemicals to the crops. Despite giving the farmer extension service training, provision of farm logistics is absolutely not in the agreement and the company does not provide them. All the farmers confirmed that these are their responsibility to provide for on their own farms.

Financial support is also offered regularly to the farmers to enable them to buy inputs and pay for labour services that they hire on the farm. But this support is not often given and the numbers of farmers who receive this kind of support are usually low on funds all throughout the farming season. The Chief agronomist of the company also attested to the outcomes stated by the farmers and added that;

Once we have a contract with you, we provide certain vital technical support, to make sure you produce to our standard (Chief Agronomist, Blue Skies Company at Boboro, 2013).

In addition, farm logistics and inputs such as farm tools, improved seeds, fertilizers, insecticides and weedicides are provided by the company to the farmers at various stages during the farming period from pre-farming activity to post-harvest time.

Contract farmers were further asked to know whether they receive such services with a simple YES/NO answer and if yes, to indicate the stage at which they receive these supports.

Modern agriculture practices are received by 25(59.5%) of the farmers during pre-farming activity period. About 20(35.7%) receive this support but not in the pre-farming activity time and 2(4.8%) receive it at all stages of production. However, the majority of the farmers receive this support during farming period and harvesting time. During farming and harvesting time, the greater majority of 40(95.2%) farmers receive this support during farming and harvesting time and only 2(4.8%) receive it at all stages of production. During the post-harvest period when farming activities begin to look calm, the number of farmers that receive these supports decreases and yet about 30(71%) still get these supports.

During the pre-farming period, 25(59.5%) receive training support. This number increases to 40(95.2%) of the farmers during farming and harvesting times with the number of farmers reducing to 30(71.4%) of farming receiving post-harvest training. At this time,

15(35.7%) explained that they do not receive training support during pre-farming and 2(4.8%) receive training support at all stages. However, during farming and harvesting times, the numbers decreases. During the post-harvest time, the number increases again with about 32(76.2%) receiving post-harvest training. This is mainly in the form of training on the means or ways of preserving their produce. Meanwhile, farm inputs are provided by the company to the farmers and company takes this responsibility to ensure that the fruits produced meet the quality standards of the company. During the pre-farming period, 20(47.6%) of the farmers receive this support. Some farmers confirmed that the inputs are supplied by the company and it is part of the contract they signed with the company and they receive the inputs in various stages of the farming season. During the actually farming and harvest period, 23(54.8%) of farmers receive inputs and at post-harvest, about 20(47.6%) do receive the inputs.

Comparatively, the study also revealed that, non-contract farmers receive periodic education from the agricultural extension officers of the area, when the need arose. 7(35%) of the non-contract farmers interviewed made this revelation, leaving the other 12(65%) saying they do not receive any form of technical support whatsoever from any individual or organization. This, according to Quain & Asibuo, (2009) is elementary and essential for the success of any form of agricultural modernization programme.

5.3 Effects of Outgrowing on Land Tenure System

The economic value of land for farming makes land important in out-growing especially in areas where land is highly fragmented. It is most important for perennial tree crops and for large scale plantation farms. Thus the outcome of the contract on land acquisition is very vital for such a study. The dominant means of land acquisition among the farmers is through the land tenure system, land inheritance, land buying, renting, leasing and

borrowing. With the high profits in fruit farming as a result of the contract as confirmed by some farmers;

I rented the land and paid one hundred Ghana cedis per acre, for a year (A 42years old contract farmer at Doboro, 2013).

I own some and some are also on free hold and lease. It now cost 100 cedis to lease an acre of land for a one year period. Lands are readily available it depends on your money (A 50 years old contract farmer at Asante Ekura, 2013).

More people are entering into the farming business and those already in farming are expanding their farms through land buying, renting, leasing and borrowing. Some farmers confirmed this during interview;

We have been leased with more lands and we have also bought some more; [lease duration] I think it's about 50 years; [duration of lease years spent] It was about 4 years ago (A 45 years old contract farmer at Sekyekrom, 2013).

Generally, farms sizes have direct effects on total farmer output. However, there has been varying debates on the type of relationship between farm size and productivity. Masterson (2007) asserts that there is an inverse relationship between farm size and productivity but Sial et al., (2012) challenged the validity of this inverse relation with statistical analysis of the relationship between farm-size and productivity.

Before the commencement of the green revolution, researchers showed that the inverse relationship between farm size and land productivity is reduced (Sial et al., 2012). Thus, there is an appeal for larger size of farm. The contract scheme of Blue Skies brought about expansion in the sizes of farm lands and farmers with small farmlands increased their farm sizes by purchasing or renting extra lands. Some others farmers took advantage

of the land tenure systems to gained access to communal lands and expand their farm sizes.

First, during my first two years of supplying to Blue skies, I got a lot of money and I decided to buy and rent some lands and increase my supply to Blue skies. I got a lot of lands but my money was not enough so I bought and rent just small. Now, I can sell to the company and also sell some to the market women (A 53years old contract farmer at Ayigbe Town, 2013).

The profits on fruit farming and other benefits accruing from the contract farming have attracted a lot of people into fruit farming. With existing farmers also being given the boost and encouragement to expand, land acquisition have become competitive and land ownership drifting from the poor to the rich farmers around communities in the area. Communal land ownership is changing as the well-to-do farmers are leasing, renting and buying these lands. A non-contract farmer explained in an interview that;

I own some and some are also part of our family lands which was given to me when I requested from the elders of our family elders. Now mango farming and pineapple farming has become a big business and rich people are moving into our areas to also start farming. Gradually, our elders are leasing and renting the lands to them. But the problem is that, these people have the money so they come for big lands so even if your farm falls within the land they are renting or leasing, you can't say anything but move away (A 52 years old non contract farmer, 2013).

The implication for the shift in land ownership is its impacts on the livelihoods of poor non-contract farmers. As a result of higher prices for buying, renting and leasing land, these farmers are not able to hold on to their lands which they cultivate and from which

they earn income. Thus, this leads to a reduction in their income and consequently a reduction in their livelihood.

5.4 Effects of Outgrowing on farm productivity

Productivity per hectare of farmland is influenced by a number of factors including good agronomical practices, expanded land area (Bamire et al, 2007), fertilizer use (Ibrahim et al, 2008), education and family size (Safa, 2005). Thus, there are high expectations of high productivity on contract farms where these productivity influencing factors exist. In responding to the questions of whether the farmers have been able to achieve any increase in output per hectare since getting into contract with the company, the followings are the accounts given by contract farmers;

Yes. Prior to farming for Blue skies, I was just farming 10 acres of pineapple. But after the contract I rented more land to farm the passion fruits, as well as increase my pineapple farm and since then the company sometimes ask me to supply them with pineapple, when their demand was not met (A pawpaw farmer at Yaw Krow, 2013).

You can see for yourselves, it is so obvious; my output levels have really increased. I must be frank! Now I produce more, since there are more people to buy (A mango Farmer at Tafi, 2013).

Similar to what the Mango Farmer said, two other farmers said there have been increases in their output per hectare with all efforts because of the ready market as stated below.

My output levels have very much increased. Now I produce more, since there is ready market (A mango farmer at Ashalaja and A pineapple farmer at Amanfrom, 2013).

In addition to confirmation that their output per hectare have increased, some farmers noted that the increase in output have motivated them to expand farm size and also intensify their production.

You can see for yourselves because it is so obvious. My output levels have really increased. I started with 5 acres and now I have 12 acres (A pineapple farmer at Nsakye, 2013).

My output levels have really increased because I produce at full capacity (A pineapple farmer at Adeiso, 2013).

Yes. Very positive, now I farm my whole land and even borrow 2 acres from a close friend of mine (A mango farmer at Ekura Fitah, 2013).

Another farmer compared his output per hectare before and after entering the contract with Blue skies and noted that he was force by the low productivity of his farm to apply to produce for the company.

Yes, very much I must say. Prior to that [the contract], I hardly could farm and get the tree crops to produce to full capacity of the land. Since l could not market all my produce, I was forced to apply to Blue skies (A pawpaw farmer at Akotua krom, 2013).

5.4.1 Outcome of the contract on fruit farming and farm employment

The contract has made fruit farming encouraging and through the motivations of input supports, loans, extension services and other forms of on-farm and off-farm trainings a lots of farmers have begun fruit farming. All contract farmers reported expansion in their farm sizes and a lot of them stated their intension of further expansion. Non-farmers are also turning up to begin fruit farming.

Basically, I was unemployed, so I needed to get something doing for myself. Then, I got motivated by the profit Nana Amakye Duah [a local farmer] is getting from his farm and that was why I went into farming. Also, during this period when I started farming, a lot of the farmers had been approached by people to farm for them so they export their produce. So I also start producing and selling to those people (Mr. Kofi Adu, an orange farmer at Adeiso, 2013).

Another farmer also got motivated for fruit farming through his brother who was already in contract to produce and supply to Blue skies as noted below;

My brother introduced me to the fruit farming and by that time, I didn't know anything about fruit farming and he was already supplying fruits to the company. He was helping me at first but now I am on my own. Since then, my output levels have really increased and I have also expanded my farm. I started with 5 acres and now I have 12 acres (Mr. Ato Afram, a pawpaw farmer at Ekura Fitah, 2013).

Some farmers have also converted their farms from the fruit crops they produced to fruit farms as noted Mr. Ato Afram interviewed;

First, I was having 10 acres of maize farm but I wasn't making so much profit like other farmers supplying to the company. So I stopped farming maize and started Papaya. My first harvest was not that much but right now my output levels have really increased because I produce at full capacity (A pawpaw farmer at Anfaso, 2013).

Farm employment with all the contract's supports are expected to increase total farm output, which relates to total harvest and productivity. Productivity generally increases with increased farm labour because additional hands are able to help work on larger farms. Labour efficiency helps in higher productions and of quality yields. Thus many farmers are Global Gap certified; which means farmers have met the requirements about farm

practices such as knowledge of the application of farm chemicals, spraying and ensuring the well-being of farm workers. Farm workers are expected to have some social security and a farm-house for them to rest.

They came to visit us [the farm] and they briefed us on it [the requirements for certificate of Global Gap] about which chemicals you are allowed to spray, and the well-being of your farm workers. Then we signed the agreement to supply to Blue skies according to their requirements. After some time, they come to conduct an audit and inspection and we were Global Gap certified. If you are not, Global Gap certified then Blue Skies wouldn't do business with you (A mango farmer at Trom, 2013).

On-farm employment is higher among the contract farmers than the non-contract farmers. All contract farmers can employ a total of 1,228 people in communities in the study area. This means a contract farmer is able to employ an average of 29 workers. However, the non-contract farmers are able to employ a total of 64 employees with an average of 3 workers per farmer. The number of people employed on the farms keeps increasing as farmers maintain their contract status. This is captured in the following quote from a mango farmer;

[Have you increased employment on your farm?] Yes, because in the beginning I only had 2 acres of pineapple that I worked on alone. But after signing the agreement with Blue skies and rented more land to farm the passion fruits, as well as increase my pineapple farm, it becomes too big for me alone to work on, so I employed 8 local people to help me. After two years, the workload on the farm became so much and so I have to employ 5 more people. Currently, I have 35 people working on all my farms (A mango farmer at Trom, 2013).

A pawpaw farmer and a pineapple farmer also noted that;

You will be able to tell for yourselves if you visit the farm. My workers are really many on all the farms. Now I have more workers since my farms have become so big (A pawpaw farmer at Ahintia, 2013).

[have you increased employment on your farm?]Yes, because before to that [the contract], I always find it difficult to produce to capacity because we were not many. But now, we can farm to full capacity because we have added more workers (A pineapple farmer at Pokrom, 2013).

5.4.2 Outcome of contract on farm income

Technological advancement is the ultimate source of long term economic growth (Romer,1990) and the difference in the technology level can account for most of the difference in income (Caselli, 2005) In less developed countries, where the agriculture sector is dominant, productivity growth through the adoption of new technologies, play a very crucial role in income growth (Todo et al, 2011). The increases in total farm output may relate to higher revenue which consequently affects the incomes farmers make from their farms. Productivity per hectare generally increased among contract farmers as a result of the supports they are given. Of all the contract farmers, the majority of 41(97.3%) reported increases in productivity per hectare. A difference in income of the contracted and non-contracted farmers was identified. All 20(100%) non-contracted farmers complained of an unstable income levels due to marketing difficulties. Income is widely used as a welfare measure because it is correlated with ones capacity to acquire things that are associated with improved standards of living. The income gains by the contracted farmers as against the unsustainable income levels of the non-contracted farmers is a valid

indicator of the modernizing effect of agriculture on the contracted farmers engaged in the scheme.

Despite this, there are varied levels of output among the contract farmers as some of the farmer's record much higher harvest than others and across different farming seasons. Thus, in addition to differential costs of farm inputs and other expenses, incomes of farmers will be affected differently. In an interview with a mango farmer, he noted that the company is not able to absorb their full supply.

It [income] is good except that for now; my supply is exceeding demand of the company because the company has engaged a lot of farmers. So as a result of that we supply at least 2 tons a week but we still sell to other markets because we have excess supply. Even though the local market prices fluctuate, I am still able to make some profit. I have been able to build three houses and I have a car (A mango farmer at Trom, 2013).

Contrary to the above assertion of the mango farmer, a pawpaw and pineapple farmer noted that, the company was able to buy all that they produced and they do not have to look out for alternative markets as they make so much profit from supplying to Blue skies as noted below;

It is far better to sell to Blue skies, and they buy all our produce so we are not thinking of any other market. My output levels have really increased l produce at full capacity and make a lot of profit from it (A pawpaw farmer at Ahintia, and a pineapple farmer at Pokrom, 2013).

The reason for this sharp variance may be in the levels of outputs among different farmers. This is because the output levels are determined by farm sizes and levels of intensification on the farms.

Similarly, two other farmers noted that they gain more profit from supplying to the company than alternatives markets. This is quoted in the following;

It [profit margins of supplying to Blue skies and alternatives markets] is far better. They [Blue skies] buy all our produce so we are not thinking of any other market (A mango farmer at Trom and pawpaw farmer at Nsakye, 2013).

Several factors could contribute to the differences between the levels of total output among the contract farmers and across the farming seasons. While some farmers seem to know the differences in their farm output in different years, only a few are aware of the differences of their output compared to their counterpart farmers. There seems to be no explicit cause of the variation in farm output among the contract farmers because each farmer suggested different reasons for it. However, a lot of the contract farmers believe the differences in total farm output between different farming seasons is a result of physical climatic factors as noted by a Mango Farmer ;

The only time I recorded low output, was in a particular year when we received low levels of rainfall throughout the year. I was not the only one affected because most of my colleagues experienced the same problem. Even with that, I was still able to meet the company's demand (A mango farmer at Trom, 2013).

5.5 Effect of the contract on farmers' livelihood

The last objective of the study was to identify the effects of the model on the livelihood of the farmers and their communities. Livelihood may mean different things to different people. According to Chambers and Conway (1992), a livelihood consists of the capabilities, possessions (stores, resources, claims and access) and activities necessary for a means of living: a livelihood is sustainable which can cope with and recover from

depression and shocks, maintain or increase its capabilities and assets, and provide sustainable livelihood opportunities for the next generation; and which contributes net benefits to other livelihoods at the local and global levels and in the long and short term.

The assets that are generally recognised within sustainable livelihoods theory, as summarized by McLeod (2001) include natural capital, consisting natural resources such as land, water, wildlife, biodiversity and environmental resources; physical capital, involving basic infrastructure (like water, sanitation, energy, transport and communications), housing, the means and equipment of production; human capital, which generally concerns health, knowledge, skills, information and the ability to labour; financial capital, like financial resources available such as regular remittances or pensions, savings, supplies of credit; and social capital, are social resources which include relationships of trust, membership of groups, networks and access to wider institutions.

It was identified that the contract affects contract farmers in various assets. Natural capital is the available land for farming and for expansion. There should be no hindrance in the form of physical and social factors inhibiting cultivating the land for fruit farming. It also include available water source for the plants to grow and produce which could be a reliable rainfall or irrigation project. The physical capital of the contract farmers are their basic infrastructure, housing, the means and equipment of production and their human capital are factors that affect their health, knowledge, skills, access to information and the ability to labour. Their financial capital are financial resources available to them in the form of savings, credit supplies etc. and social capital are their social resources such as relationships of trust, membership of groups, networks and access to wider institutions upon which they rely to aid in their cultivation and for a meaningful live.

It was noticed that farmers gain multiple benefits from their involvement in the contracts. For instance the majority of the contract farmers noted that they have been able to enjoy

improved sanitation because of the KVIP provisions of Blue skies in their communities. Moreover, they noted that they have benefited a great deal of knowledge and skills in modern agricultural practices through extensive personnel and their access to new agricultural information has become much easier.

Natural capital represents land and even though land acquisition for farming is rising steadily and ownership changing mostly from communal to private, just a few farmers benefits in land ownership as only land buying is the only means considered for private land ownership. These few farmers were able to increase their farm sizes and expand. Again, financial capital as used hear indicates access to credits and loans and most farmers who said they benefit from using their as collateral to access credits and loans. Of all the farmers who indicated the benefits of physical capital explained that they have been able to improve the conditions of the housing property and acquire new ones. However, variables considered as benefits of social capital such as farmers' corporative groups are not common. Most of the contract farmers do not have membership to any farmers' corporative groups to be able to strengthen their collective powers for their benefit.

Table 5.1: Contracts effect on contract farmers.

Contract type	Effects of contract on farmers lives		Total
	Yes	No	
Human Capital			
Verbal	11	-	11
Documented	30	1	31
Total	**41**	**1**	**42**
Note: χ^2=.363; DF=1; *p*=.547;			
Natural Capital			
Verbal	-	11	11
Documented	6	25	31
Total	**6**	**36**	**42**
Note: χ^2= 2.484; DF=1; *p*=.115;			
Financial Capital			
Verbal	10	1	11
Documented	27	4	31
Total	**37**	**5**	**42**
Note: χ^2=.113; DF=1; *p*=.737;			
Physical Capital			
Verbal	7	4	11
Documented	25	6	31
Total	**32**	**10**	**42**
Note: χ^2= 1.295; DF=1; *p*=.255;			
Social Capital			
Verbal	-	11	11
Documented	1	30	31
Total	**1**	**41**	**42**
Note: χ^2=.363; DF=1; *p*=.547;			

Source: Field data, 2013.

Similarly among the contract groups, all verbal contract farmers have benefited from human capital but none of them gain anything from natural capital and social capital. This is again the case for farmers benefiting from financial capital as almost all of them indicated that they are able to access credits and more than half of the verbal contract farmer also explained that they do not benefit from physical capital. On the other hand, the majority of the documented farmers indicated that they have benefited from human capital. However, the few farmers who benefit from physical capital belong to the documented. Meanwhile, just about half of the farmers in the documented group have benefited from accessing credit loans and acquire new properties. Similarly, a social capital benefit is uncommon among farmers of the documented group.

Some of the contract farmers explained further the various ways in which the contract impact on their livelihoods and their families. For instance a pawpaw farmer explained that;

My livelihood has improved very much which has affected all the people who rely on me. Currently I have 2 of my children schooling in the America. If it had not been for the market the company gives, how could I have paid their fees? So I don't have to talk much but in a nutshell, it has really made my life better (A pawpaw farmer at Ahintia, 2013).

The farmers are not able to pinpoint any livelihood assets on which the contract has actually helped them improve because they identified that the contract have had an all-round effects on their lives. This is noted in quotes from a number of farmers below;

My life has improved very much in every aspect of my life. I now have money to solve a lot of challenges I could not have been able to manage in the past (A passion fruit farmer at Nsumia, 2013).

My livelihood has improved very much. My family is very happy because we can now afford a lot of things we could not in the past (A pawpaw farmer at Kwagyare, 2013).

A Mango Farmer added further that;

…when my wife was in serious labour to deliver a baby, I first took her to the government hospital here but I didn't like the conditions of that place when I went there. So my friend told me a certain hospital in Accra will be better and so we went there. A few years ago it would not have been possible for me to do but now my livelihood has improved so I can afford it (A mango farmer at Trom, 2013).

Some farmer have also noted that they have been able to channel the profits made from their farms into other investments especially transport business;

My livelihood has improved very much, not just me, but all the people who really on me. I bought vehicles for 'trotro' business, which I was able to start with from profits from this farming business (A mango farmer at Trom, 2013).

Another farmer also noted that farming is the only source of economic livelihood from which he has benefited a lot.

Yes, this is all l do, and it is from this that l pay my workers and take very good care of my family (A pawpaw farmer at Asoboi, 2013).

However, there are varying degrees of effects of these livelihood assets on the lives of the contract farmers. Among all the contract farmers, 22(52.4%) noted that the degree of benefits of the contract on their lives have been very high while 20(47.6%) also noted that the benefits have been somewhat. Among the various contract groups, 5(45.5%)Verbal contract farmers stated that the benefits have been high with the remaining 6(54.5%) confirming that the benefits have been somewhat. Again, 17(54.8%) Documented contract farmers noted a very high benefit of the scheme on their lives with the remaining 14(45.2%) noting that the benefits on their lives have been somewhat.

Table 5.2: Degree of benefits of the contract on the lives of farmers.

	Level of benefits		
Contract type	Very high	Somewhat	**Total**
Verbal	5	6	11
Documented	17	14	31
Total	**22**	**20**	**42**

Note: χ^2=.287; DF=1; *p*=.592;
Source: Field data, 2013

The descriptions some contract farmers gave of the improvements they have made in their livelihood from their contracts turn to point out that the contract have had a ripple effects to non-farmers. To a large extent, the descriptions given by the farmers seem to suggest that their improvements have a trickle down effects to other people connected to them. Some of them explained that not only have they increased the levels of their farm incomes but everyone around them have also seen improvement in their lives as stated in the passages below;

My livelihood has improved very much, not just me, but all the people who depend on me. I have acquired more lands and properties elsewhere, all from the money I make from this business (A passion fruit farmer at Nsuobri, 2013).

5.6 Effects of the contract on community development

The development of the communities in the study area is neither a part of the contractual agreement nor responsibility of the company involved. However, both individuals and Blue skies have taken up the duties of extending their social and corporate responsibilities towards the developments of their communities. While the individuals have done that in ways mainly creating jobs and employing the people and thereby reducing the unemployment situations in their communities, Blue skies has much more paid attention to infrastructural provision.

The company's provisions of some infrastructure in some of the communities have led improvement in physical and human capital of not only the contract farmers but the entire community. All contract farmers have indicated the Blueskies support in the development of their community in many aspects. The areas where the company supports the community include infrastructural provision, community training and seminars on farming practices for farmers and financial donations.

From the survey, all contract farmers noted that apart from supporting them in their farming activities, the company also supports their community in many areas. These areas where the company supports the community include infrastructural provision, community training on farming practices and financial donations. Among all the contract farmers,38(90.5%) confirmed company support in infrastructural provision. 38(90.5%) again reported that the company organizes community-wide training on modern farming practices and of financial donations, 16(38.1%) contract farmers noted that the company has been supporting. On the other hand, 4(9.5%) farmers did not believe the company supports in infrastructural provision. 4(9.5%) farmers again stated that the company does not organize training activities for them in the community and 26(61.9%) of them representing noted that the company does not support the community financially.

Table 5. 3: Company's support in the community

	Types of community support		
Contract type	Yes	No	**Total**
Infrastructural			
Verbal	11	-	11
Documented	27	4	31
Total	**38**	**4**	**42**
Training on farming practices			
Verbal	9	2	11
Documented	29	2	31
Total	**38**	**4**	**42**
Financial donations			
Verbal	5	6	11
Documented	11	20	31
Total	**16**	**26**	**42**

Source: Field data, 2013.

Among the various contract groups, all 11 Verbal contract farmers believe the company provides infrastructural support, while 9(81.8%) and 5(45.5%) of them believe the company organizes community training on farming practices and also provide financial donations respectively to support the community. Among the Documented contract farmers, 27(87.1%), confirmed the company supported in infrastructural provision. Again, 29(93.5%) of Documented contract farmers noted that the company organized community-wide training on modern farming practices but all 11(100%) farmers believed the company donated financially to support the development of the community.

The explanations of the benefits the communities in the study area derive from the company were outlined by some specific contributions of the Blue skies to the development of these communities. Different farmers mentioned exclusively different

specific benefits. A pineapple farmer hinted that the company organizes annual health screening programmes as quoted below;

[Has your community benefited from Blueskies?] Yes. But not so much because we only used to supply them with passion fruit and sometimes pineapple. So their attention towards the community has not been that much, but they help organize health screening programmes during our festivals celebrations (A pineapple farmer at Nsakye, 2013).

Another farmer also mentioned that Blue skies help build toilet facility, give manure and loan to farmers. This is noted in the quote below;

They have built a ten unit toilet facility for this community and they give us composite manure to increase our production. They also gave us a loan of GHc 12,000 sometime back to expand our farms which they take back by deducting from their end when we supply them with fruit (A pineapple farmer at Mpakadan).

To some of the farmers, the ability of the company to buy all their farm produce is a major benefit their community derives from the company. In addition, they acknowledge agriculture training activities and farmers' seminars the company organizes frequently. Besides building the structures, Blue skies sometimes renovates some existing infrastructure and makes them better. A Mango Farmer noted this as quoted below;

[Has your community benefited from Blueskies?] Yes, I know for instance that, they have renovated one of our KVIPs in this area. So I will say a big yes (A mango farmer at Amanfrom).

Some other farmers also mentioned that Blue skies have provided schools and toilet facilities in their communities. The quote below reveals thus;

They have provided some schools and other toilet facilities in the communities; they are really helpful in the communities (A pineapple farmer at Danso and A pineapple farmer at Nsakye, 2013).

And yet some communities have not received any benefit from the company but farmers in those areas said they know that Blue skies have made plans to provide certain facilities.

[Has your community benefited from Blue skies?] Not yet. But I know plans are far advanced to support the community build a 2 unit classroom block here at Anfaso (A pineapple farmer at Anfaso, 2013).

[Has your community benefited from Blueskies?] Nothing I know of yet. But I heard Blueskies have plans to provide a community library here for the schools and members of this community (A pawpaw farmer at Doboro, 2013).

Besides building new classroom blocks and renovating some of the old ones, another farmer acknowledged the employment capacity of Blueskies and explained how this has helped provide employments for a large number of people in their communities.

They have built new classroom blocks for the school of this community and have also renovated some older ones. Their biggest contribution is how they are able to employ some of the young unemployed youths in the community to work in their company (A pineapple farmer at Nsakye, 2013).

Besides the employment opportunities the company created, a mango farmer also stated that the company has helped his community to reduce the burden of travelling long distances to another community in order to purchase medical drugs for health problems.

They provide employment for most of the youth in the area, and have built a drug store for the community to have access to drugs and not travel far for them (A mango farmer at Apese, 2013).

Yet there are still some communities that have not benefited at all.
[Has your community benefited from Blue skies?] No, not my community. But I know the company has supported a lot of projects in other communities (A pineapple farmer at Danso, 2013).

Some of the infrastructural facilities the company provides have been identified to include the Somanya Agricultural Resource Centre, which was established for agricultural research and to help in the training of farmers; a six unit Sekyekrom Kindergarten block and an eight unit Abortia Primary School block provided to help ease the pressure on the government provided classroom blocks and to take those classes under trees; the twelve seater WC toilet facility in Asante Ekura Nsawam and the eight-room KVIP built in Amanfrom in the Eastern region of Ghana to ensure sanitation and reduce the risk of disease outbreaks; and The Daniel Safo Sports Complex in Nsawam.

The company's location has also helped to provide employment to a lot of people not only in the communities in the study area but from other communities. The employment statistics for the company have changed over the years. For instance, the Agronomist of

Blue skies at their office in Nsawam-Eastern Region explained that beginning in February 1998; the company has increased employment from about 35 employees to over 500 employees by 2005. Currently, the company employs approximately 2,000 people.

Many youths in the community have been employed in different aspects of the production process in the company from manufacturing to distribution. In manufacturing, people have been employed for fruit washing, cleaning, machine operating, packing and driving and distributing. The agronomist of the company stated;

Beside the growing number of farmers we signed to the contract, a number of people from the various communities have been employed in the company (Chief Agronomist, Blue Skies Company at Doboro, 2013).

5.7 Chapter summary.

This chapter has been an attempt to evaluate the effects of the out-grower scheme on the livelihoods of the contracted farmers in the study area communities. Based on the interviews and responses, the results portrayed that the contracted farmers have acquired significant skills and are practicing modern ways of farming, as against the non-contracted farmers, who have not been introduced to some of the modern ways of agricultural practice. This supports the first assumption on which this study was grounded. Again it was observed that, this introduction to modern ways of agricultural practices dramatically increased the production levels of the contracted farmers. This increase was also due to the availability of a ready market as depicted in the out-grower theory and the fourth assumption of this study. This also led to an increase in farm incomes.

Finally, the results indicated that, the overall impact of the scheme on the contracted farmers and their communities was positive, hence giving credence to the last assumption of this study.

CHAPTER SIX

CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This study investigated the following: the outgrower model as a tool for agriculture modernization; the modernization effects on output, incomes and livelihoods of farmers. The study conducted on the activities of Blue Skies Company Limited and its employee farmers assessed the out-grower scheme and its effects on the farmers and their communities.

6.2 Conclusion

The contract between the fruit farmers and the company has been identified to be of two types. These types of agreements are based on documented arrangements or verbal arrangements. These two contract types focus on forward supports, demand and supply needs of both farmer and company. Thus, duration of support and demand and supply as well as quantity and quality of fruits supplied is considered important than security of relationship between farmer and company.

The study revealed that, the out-grower farmers had some form of appropriate technical knowledge before the contract. However their skills and knowledge levels increased significantly after their involvement in such a scheme, due to the technical support given to them by the company, as part of the components under such a scheme. In the case of the non-out-grower farmers, they have a relatively lower level of appropriate technical training. They received such support ‘once in a blue moon’, from the agriculture extension officers in the municipality. This gives credence to the third assumption used in this study.

The study again revealed that, the ready market in place for farmers contracted by the company caused a significant increase in their output. The company, in most cases, is the

only or major source of market for the farmers' produce. This also gives credence to the second assumption of the study. The increase in output was evident in their acquisition of more farm lands to expand their farm business. The increase in output was again evident in the increase in production of the company to feed both local and foreign markets. In the case of the non-out-growers, only a very few percent of the farmers said their output had increased. They attributed this increase to the timely and regular purchase of their produce by some selected market women, who the farmers called ''customers''. The rest of the non-out-grower farmers, forming the majority, complained of a decrease in output yield. This, they also attributed to a deliberate attempt on their side, to reduce their losses in terms of wastage, as a result of no readily available market. The fourth assumption has again been validated by this outcome of the study.

The study also confirmed the fifth assumption which was that, livelihood improvement depends on farm income of the farmers, and this income can be realised through the provision of a ready market under an out-grower scheme. The findings of this study revealed that, the scheme positively contributed to improving the livelihood situations of the farmers, found under such a model. The result also indicated that, farmers contracted by the company have had more sustainable and reliable source of income from their farming activities, which enabled them meet the needs of their households, for example, paying the fees of the children. With increased income, farmers were able to acquire more factors of production to expand their business. Even though the scheme brought about improved standard of living for many, if not all of the contracted farmers, the effect of the scheme on the communities in general was significantly positive since only a small fraction of the farmers in the scheme, said their communities had not yet benefited from the company. For the contracted farmers, parameters such as ability to support household

members, access to educational and health facilities as well as acquisition of household and productive assets were considered as indicators of improved livelihoods.

Despite these positive effects of the scheme on agriculture and livelihood of the farmers, as propounded in the out-grower theory, the scheme is not without some hindrances. The proponents of the theory paid much attention to the benefits of the theory to the farmer and as a catalyst for development with very little focus on the implementation agents such as managers of such schemes. The sustainability of such schemes depends largely on the actions and inactions of the managers of such schemes. Majority of the contracted farmers had some criticisms against the management of the scheme, but not the scheme itself. These farmers for instance reported that, they were not consulted or involved in the determination of the prices of the produce they supplied to the company. Others also reported that, they were not given all they were promised by the company, in running their farm businesses and government did not involve itself in the running of the model. This revelation therefore partially supports the augments made by opponents of this theory that, the managers took advantage of the farmers found under such schemes. This revelation also contradicts the first assumption of the study, which was that, government's policy on agriculture modernization was necessary for the success of the out-grower model between Blue Skies Company Limited and their contracted farmers. This policy was to promote the formation of farmers' cooperative groups that the government was to use to address the needs of individual farmers to ensure equity and fairness in the contractual relationship between the company and the farmers. The company does not use its power to exploit the farmers in price determination of farm produce. Also, prices are determined on a fair arrangement between the company and the farmers based on the competitive price in the market.

In spite of this challenge, the out-grower farmers still called on the government and other companies to replicate such schemes or models, on other areas of the country.

"In order to reverse the trend and end the hunger in the region and lift millions of people out of extreme poverty and sustain Africa's economic growth, what is required is nothing less than an African green revolution." Jacques Diouf, 2007.

The study therefore concludes that the out-grower model introduces farmers to modern agricultural practices and with the provision of ready market, it has a positive impact on output yield and eventually livelihood improvement. These impacts on livelihood were not just limited to the farmers, but also extended to the communities they belonged to.

6.3 Recommendations of the Study

The issue is no longer about whether we should have policy interventions in improving the viability of the out-grower schemes as an agricultural modernization tool. Rather, it is about whether the scheme needs to be upgraded in order to cover other areas of crop production. There is the need for all stakeholders like government, international agencies and NGO's to come on board for the replication of such a scheme nationwide.

The following proposed recommendations would address this goal:

Government should as a matter of urgency revisit the tax incentives for the agricultural sector. This should be aimed at encouraging investors to invest into that sector. Such support should come in the form of creating more free zone areas, as was the case in the establishment of Blue Skies Company Limited. This step would attract investors who would take advantage of such a policy to move in and build more manufacturing companies. Other areas that would also encourage such investments could be the provision tax incentives on their imported inputs and exports of their final product. This can

contribute to reducing their operational cost and attracting multinational firms to invest in this sector. Consequently, this would lead to the expansion of the schemes for the benefit of the rural poor.

There is also the need for a Framework for rural finance. Rural or agricultural credit mechanisms are needed in order to provide the finance to farmers and rural agro-industries so that they can buy the equipment and inputs needed. The financial institutions required to provide this function may need to be strengthened and more focus, placed on the agricultural sector. or, where they are absent, they will have to be established. Financial services are important in any agri-business activity. The study has shown that farmers and agro processors, as well as manufacturers, will require funds to enable them to carry out their proposed activities, such as expansion of their lands, running training programmes for the farmers contracted as well as the farmers also for their workers.

It is also recommended that government develops a comprehensive agricultural modernization strategy (AMS) and industry development strategy (AMIS) for the country at the regional and district levels. This would encourage the decentralisation of agricultural modernization, so it is not regarded as a preserve for the few privilege farmers in the cities. Part of the function of the AMS and AMIS will be to identify the strengths and weaknesses in the existing schemes and to suggest pertinent improvements. They will also help to re-align emerging modernisation networks with new sources of supplies, not at the expense of traditional sources at the local levels. They will again be in charge of the establishment of adequate repair, maintenance and parts supply lines, as well as local stocks.

There is the need for government to place more emphasis on the development of small-scale farmers by encouraging the formation of farmer groups with increased capacity to participate in the commercial sector.

There is also the need to strengthen input supply networks and promote the manufacturing base on agricultural operations and processing technologies. The goal is to increase the availability of agricultural machinery and equipment for land preparation, agroprocessing and other operations.

Government should provide regular in-service training for extension officers, artisans and other entrepreneurs to improve their understanding of the different agricultural modernization options available to farmers and to expose them to new technologies and opportunities.

REFERENCES

Adu-Dapaah, H.K. (1998). Final technical report submitted to IAEA, Vienna following the Award of IAEA fellowship to Indian Agric Research Institute, New Delhi.

AESD (Agricultural Engineering Services Directorate). 2003. *Establishment of Agricultural Mechanization Service Enterprise Centers (AMSEC Proposal 2003).* Ministry of Food and Agriculture, Accra, Ghana.

Agricultural Water Management: *An Evaluation of the African Development Bank's Assistance in Ghana and Mali 1990-2010.* http://www.oecd.org

Aryeetey, E., Laryea, A., Antwi-Asare, T., Baah-Boateng, W., Turkson, E., Codjoe, E., & Ahortor, C. (2004). "Globalization, Employment and Poverty Reduction: A Case Study of Ghana.Report of a Study" Commissioned by the International Labour Organization.

Asamoah, C. (2010). *"An Evaluation of Farmer Field School Induced Changes in Ghanaian Cocoa Production".* International Institute of Tropical Agriculture, *17*(3).

Asian Development Bank (2005), *30 cases of contract farming; an analytical overview.*Vietnam Resident Mission. Unit 701-706, Sun Red River Building, *23* Phan Chu-Trinh-Hanoi-Vietnam.

Asuming-Brempong, S.(2003). *Economic and Agricultural Policy Reforms and their Effects on the Role of Agriculture in Ghana.* Agricultural and Development Economics Division (ESA) Food and Agriculture Organization of the United Nations.

Atibioke 1, O.A , I., Ogunlade2, A. A., Abiodun1, B. A., Ogundele1, M. A., Omodara1, & Ade1, A. R.(2012), *Effects of Farmers' Demographic Factors on the Adoption of Grain Storage Technologies Developed by Nigerian Stored Products Research Institute (NSPRI): A case study of selected villages in Ilorin West LGA of Kwara State.*Research on Humanities and Social Sciences www.iiste.org ISSN 2224-5766(Paper) ISSN 2225-0484(Online), *2*(6)

Attanasio et al 1999, Attanasio, O., Banks, J., Meghir, C., & Weber, G., (1999). *Humps and bumps in lifetime consumption.Journal of Business and Economic Statistics 17*(1), 22–35.

Barrett C. B., Bachke M. E., Bellemare M. F., Michelson H. C., Narayanan S., Walker T. F. (2012). *Smallholder Participation in Contract Farming: Comparative Evidence from Five Countries. The World Bank, Washington, DC, USA World Development 40*(4), 715–730, 2012_ 2011 Elsevier Ltd.

Bamire, S. A., Abdoulaye, T., Amaza, P., Tegbaru, A., Alene, A. D., & Kamara, A. Y. (2010). Impact of promoting sustainable agriculture in Borno (PROSAB) program on adoption of improved crop varieties in Borno State of Nigeria. *J. Food Agric. Environ*, *8*(3), 391-398.

Baumann, P. (2000); *Equity and Efficiency in Contract Farming Schemes: The Experience of Agricultural Tree Crops.*Working Paper 139, Overseas Development Institute, October 2000.

Best, J.W., & Kahn, J.V. (1998). *Research in education.* Boston: Ally and Bacon

Bijman, J. (2008). *Contract farming in developing countries*: An overview[Working Paper].Retrieved from http://www.fao.org/ag/ags/contract-farming/ags-library/en

Boamah, J. K. (2006). *Policies on Engineering in Agricultural Development*. Paper presented at the Third National Biannual Conference of the Ghana Society of Agricultural Engineering, August 2006, Kumasi, Ghana.

Bosompem, M., Ntifo-Siaw, E.,and Kwarteng, J., (2010). *Partnership for Agricultural Development through Microfinancing*:*Ogua journal of social sciences* 5(1). Faculty of Social Sciences University of CapeCoast.

Boyce, C., & Neale, P. (2006). *Conducting in-depth interviews: A guide for designing and conducting in-depth interviews for evaluation input*: Pathfinder International Watertown, MA.

Brambilla, I., & Guido, G. P.(2007), "*Market Structure, Outgrower Contracts and Farm Output*. Evidence from Cotton Reforms in Zambia.

Caselli, F. (2005). *Accounting For Cross-Country Income Differences*. Amsterdam:North Holland.

Carney,D (1998). *Sustainable Rural Livelihood*. What contribution can we make? Department of Intenational Development. Russell Press Ltd, Nottingham.

Chamberlin, J. (2007), *Defining Smallholder Agriculture in Ghana: Who are smallholders, what do they do and how are they linked with markets: Ghana Stratergy SupportProgram (GSSP).* Background Paper no.GSSP0006.http://www.Ifpri.org/sites/default/files/publicatios/gsspwp06.pdf

Chambers, R., & Conway, G. (1992). *Sustainable rural livelihoods: practical concepts for the 21st century*. Institute of Development Studies (UK).

Chuanqi, He (2012). *Modernization Science: the Principles and Methods of National Advancement*. Heidelberg: Springer.

Clapp, R. A., (1994). *The Moral Economy of the Contract*, in Porter G. Phillips-Howard K. (1997).*Comparing contracts: an evaluation of contract farming schemes in Africa*. In P.D. Little and M. Watts (Eds.), *Living Under Contract* (Madison: University of Wisconsin Press, 1994).

Clarke, A. (1999). *Evaluation Research: An Introduction to principles, Methods and Practice*. London: SAGE Publications.

Colchao S. (1999). *Will AG Banks Prosper in Age Of Vertical Integration*? *ABS Banking Journal, 91*(11).

Cotula L. (2010). *Making The Most of Agricultural Investment*: a survey ofbusiness models that provide opportunities for smallholders. FAO and IIED.

Coulter, J., Goodland, A., Tallontire, A., & Stringfellow, R. (1999). *Marrying Farmer Cooperation and Contract Farming For Service Provision in a Liberalising Sub-Saharan Africa* (Natural Resource Perspectives 48). London: Overseas Development Institute.

Creswell, J.W. , & Plano Clark, V.L. (2007). *Designing and Conducting Mixed Method Research*. Thousand Oaks, CA:Sage.

Dannson, A., Ezedinma, C., Wambua, T.R., Bashasha, B., Kirsten, J., & Satorius, K. (2004). *Strengthening Farm-Agribusiness Linkages in Africa. Agriculture Management, Marketing and Financial Service*. AGSF Occasional Paper 6. Rome, FAO.

Delgado C. (1999). *Sources of Growth in Smallholder Agriculture In Sub-Saharan Africa*: The role of vertical integration of smallholders with processors and marketers of high value-added items. Agrekon 38:165-189. Special Issue, May 1999.

Denscombe, M. (2007). *The Good Research Guide for Small-Scale Social Science Research Projects.* Berkshire: The open university.

EARO (1999). *National Animal Health Research Programme Strategy*. Ethiopian Agricultural Research Organization, Addis Ababa (EARO), Ethiopia (Draft Document).

Eaton, C., & Shepherd. A. (2001).*Contract Farming: Partnerships for Growth.* FAO Agricultural Services Bulletin 145, Rome.

Ellman, A. (1986). *Nucleus Estates and Smallholder Outgrower Schemes*. Overseas Development 105, December, UK: Overseas Development Administration

Etherington, J. R. (1984a). *Comparative studies of plant growth and distribution in relation to waterlogging. X. Differential formation of adventitious roots and their experimental excision in Epilobium hirsutum and Chamerion angustifolium. Journal of Ecology, 72,* 389-04.

FAO. (2000). *Food Insecurity: When people live with hunger and fear starvation.* The State of Food Insecurity In The World. Food and Agriculture organization of the United Nations Viale delle Terme di Caracalla, 00100 Rome, Italy.

FAO. (2001). *Contract farming – partnerships for growth*. FAO Agricultural Service Bulletin (145), Food and Agriculture Organization of the United Nations, Rome.

FAO (2007). *The State of Food and Agriculture.* Food and Agriculture Organization of the United Nations,Rome, Italy: Jacques Diouf.

Featherstone, A. M., & Sherrick, B. J. (1992). Financing vertically co-ordinated agricultural Žrms. *American Journal of Agricultural Economics, 74*(5): 1232–7.

Glover, D. (1983). *Contract Farming and Smallholder Outgrower Schemes in Less Developed Countries, World Development , 12*.

Glover, D. (1987). *Increasing the Benefits to Smallholders from Contract Farming: Problems for Farmers Organisations and Policy Makers, World Development 15* (4).

Glover, D. (1994). *Contract Farming and Commercialization of Agriculture in Developing Countries*. In: Von Braun J & Kennedy E (eds), Agricultural commercialization, economic development and nutrition. Baltimore, MD: The John Hopkins University Press.

Glover, D. (1994). *Contract Farming and Commercialization of Agriculture in Developing Countries*. Agricultural Commercialization, Economic Development and Nutrition, edited by J. von Braun and Eileen Kennedy, 166-175. Johns Hopkins.

Glover, D. A. K. K. (1990*) Small Farmers, Big Business: Contract Farming and Rural Development.* St. Martin's Press, New York.

Glover, D., & Kusterer, K. (1990). *Small Farmers, Big Business: Contract Farming and Rural Development*, London: Macmillan.

Glover D., & Kusterer, K. (1990). *Small Farmers; Big business: Contract farming and Rural Development.* St. Martin's Press, New York.

Glover, D., & Ghee. L. T. (1992). *Contract Farming in Southeast Asia: Three Country Studies. Institute for Advanced Studies, Monograph Series SM* 5, University of Malaya,Kuala Lumpur.

Goldberg. L. R. (1981). *Language and individual differences: The search for universals in personality Icxicons.* In L. Wheeler (Ed.), RevietV cifl'ersollalily a"d sodal psychology *2*, 141-165. Beverly Bilis. CA: Sage.

Goldsmith, A. (1985). *The Private Sector and Rural Development: Can Agribusiness Help the Small Farmer?* World Development, *13*(10/11), 1125-1138.

Grosh, B., 1994. *Contract farming in Africa: an application of the new institutional economics. Journal of African Economies 3,* 231–261.

Grossman, L. (1998). "*Diet, income, and agriculture in an eastern Caribbean village*." Human Ecology, *26*(1) (1998), 21-42

Hennessy D. A. (1996). Information Asymmetry as a Reason for Vertical Integration. *American Journal of Agricultural Economics 78*(40).

Houssou, N.X., Diao, F., Cossar, S., KolavalliJimah, , K., & Aboagye. P. O. (2013). "Agricultural Mechanization in Ghana: Is Specialized Agricultural Mechanization Service Provision a Viable Business Model*?" American Journal of Agricultural Economics 95* (5): 1237–1244.

Hudson, D. (2000). *Contracting in Agriculture: A Primer for Leaders*. Research Report 2000–007. Department of Agricultural Economics. Mississippi: Mississippi State University.

Ibrahim, M., Hassan, A., Iqbal, M., & Valeem, E. E. (2008). Response of wheat growth and yield to various levels of compost and organic manure. *Pak. J. Bot*, *40*(5), 2135-2141.

Israel, G.D. (1992). *Sampling the Evidence of Extension Program Impact.*Program Evaluation and Organizational development, IFAS, University of Florida.

ISSER (2004; 2006; 2007; 2008). *State of the Ghanaian Economy*. University of Ghana, Legon.

Jackson, J. C., & Cheater, A. P. (1994). Contract farming in Zimbabwe*: Case studies of sugar, tea, and cotton*," in P. D. Little and M. Watts, *Living under Contract*(Madison: University of Wisconsin Press,).*Journal of Biology, Agriculture and Health Care. ISSN 2224-3208,2*(9), 2012.

Jakob, A. (2001). *On the Triangulation of Quantitative and Qualitative Data in Typological Social Research: Reflections on a Typology of Conceptualizing "Uncertainty" in the Context of Employment Biographies*. Forum: Qualitative Social Research, *2*(1).

Kelly, M.J. (2004). *Qualitative Evaluation Research*. London: Sage Publications.

Kennedy E. (1994). *Effects of sugarcane production in Southwestern Kenya on income and nutrition*. In Von Braun, J & Kennedy, E (Eds), Economic development and nutrition. London: Johns Hopkins University Press.

Kirsten, J.F., Dorward, A.R., Omamo, S.W., Poulton, C., & Vink, N. (2009). *Institutions and the agrarian development challenge in Africa*. Washington DC: IFPRI.

Klaus M. Schmidt, (2003). *"Convertible Securities and Venture Capital Finance,"* Journal of Finance, American Finance Association, *58*(3), 1139-1166, 06.

Kolavalli, S. et al. 2010. *Do CAADP processes make a difference to country commitments to develop agriculture?* International Food Policy Research Institute (IFPRI). IFPRI, Washington, DC.

Krejcie, R.V., &Morgan, D.W. (1970). Determining sample size for Research Activities. *Educational and Psychology Measurement*, 30(3), 607-610

Leavy, J., & Smith, S. (2010). *Future Farmers: Youth Aspirations, Expectations and Life Choices. FAC Discussion Paper 013. Brighton: Future Agricultures Consortium.*

Little, P., & Watts, M. (1994). *Living under Contract: Contract Farming and Agrarian Transformation in Sub-Saharan Africa, Wisconsin:* University of Wisconsin Press.

Little, P. D.(1994*). Contract farming and the development question* in P. D. Little and M. J. Watts, *Living under Contract.*Madison: University of Wisconsin Press.

MacLeod, C. J., & Moller, H. (2006). Intensification and diversification of New Zealand agriculture since 1960: An evaluation of current indicators of land use change. *Agriculture, ecosystems & environment*, *115*(1), 201-218.

Marian D., Quain, & James, Y. A.(2009). *Biotechnology for Agriculture Enhancement in Ghana. The challenges and opportunities.*Asian Biotechnology and development Review, *11*(3), 49-61, 2009, RIS.

Martin L. (1999). *Navigating production contract arrangements*. Staff (99–10). East Lansing, MI: Michigan State University.

Masterson, T. (2007). Productivity, technical efficiency, and farm size in Paraguayan agriculture.

Masuku, C., & Moyo, P. (2013). Corporate social responsibility as an invention of public relation: a case of Econet and National Railways of Zimbabwe (NRZ). *Journal of Media and Communication Studies, 5*(8), 113- 122.

Melese, A. T. (2012). *Contract Farming: Business Models that Maximise the Inclusion of and Benefits for Smallholder Farmers in the Value Chain*. Unif.L. Rev. 2012.

Ministry of Food and Agriculture (MoFA) (2010), Statistics, Research, and Information Directorate (SRID), Accra- Ghana.

Ministry of Food and Agriculture (MoFA) (2012), Statistics, Research, and Information Directorate (SRID), Accra- Ghana

Ministry of Food and Agriculture (2013). District profile, Akuapem South Municipal http://mofa.gov.gh/site/?page_id=1495

Ministry of Food and Agriculture, Accra-Ghana, http://mofa.gov.gh/site/#, 04th July, 2014.

Minot, N. (1986) *Contract Farming and its Effects on Small Farmers in Less Developed Countries*. Michigan State University, East Lansing Michigan.

Minot, N. (2011), *Contract Farming in sub-Saharan Africa: Opportunities and Challenges*. Policy Seminar: "Smallholder led Agricultural Commercialization and Poverty Reduction: How to Achieve It?" 18-22 April,2011, Kigali, Rwanda, ACTESA-MSU-IFPRI African Agricultural Market Programme.

Miyata, S., Minot, N., & Hu, D.(2009). *Impact of contract farming on income: linking small farmers, packers, and supermarkets in China*. World Development, *37*, 1781–1790.

MOFA (Ministry of Food and Agriculture). 2011c.*Youth in Agriculture: Programme, Policy, Strategy and Sustainability.* MOFA, Accra, Ghana.

Morrissy, J. D. (1974) Agricultural Modernization Through Production Contracting: The Role of the Fruit and Vegetable Processors in Mexico and Central America. Praeger New York.

Myers, J.H.(1996).*Segmentation and positioning for strategic marketing decisions*. Chicago, IL: American Marketing Association.

Myint, H.(1984) *Exports and Economic Development in Less Developed Countries* in Eicher, CK. and M. Staatz (eds) Agricultural Development in the Third World. Johns Hopkins University Press, Baltimore.

Ntsiful, A.K.(2010): *Outgrower Oil Palm Plantations Scheme By Private Companies And Poverty Reduction In Ghana*. A Dissertation Presented to St. Clement University in Turks and Caicos Islands. http://stclements.edu/grad/gradnsti.pdf.

OECD DEVELOPMENT CENTRE (2008), *Business for Development: Promoting Commercial Agriculture in Africa, OECD Development Centre, Paris*. Felgenhauer, K. and Wolter, D. (2008). Out grower Schemes–Why Big Multinationals Link up withAfricanSmallholders.www.oecd.org/dev/41302136.pdf

Passour, E. C. (1998). *The potential impact of increased vertical integration on North Carolina grain farmers*. North Carolina State University, December 1998. http://www.ncsoy.org/pasour2.htm.

Portale, E. (2012). *Socio-Economic Sustainability of Biofuel Production in Sub-Saharan Africa*: Evidence from a Jatropha Outgrower Model in Rural Tanzania. Working Papers at Harvard University Center for International Development.

Porter, G., & Phillips-Howard, K. (1997). Contract farming in South Africa: A case study from KwaZulu-Natal. Geography: *Journal of the Geographical Association 82*(354):1-38. January 1997.

Porter, G., & Philips-Howard, K. (1997), '*compering contracts: An evaluation of contract farming Schemes in Africa'*. World Development, *25*(2): 227-238.

Prowse, M. (2007). *Making contract farming work with cooperatives. Producer organisations and poverty reduction*. Rural Policy and Governance Group. London, ODI.

Quain, M. D.; Asibuo, J. Y. (2009). Asian Biotechnology and Development Review 2009,*Journal 11*(3).

Rajasingham-Senanayake, D. (2001). *Ambivalent empowerment: The tragedy of Tamil women in conflict.* In Rita Manchanda, ed. *Women, war and Peace in South Asia: Beyond victimhood to agency*, pp. 102-130. New Delhi, Sage Publications.

Remenyi, D., Williams, B., Money A., & Swartz E., (1998).*Doing Research in Business sand Management*. London, Sage.

Report of the World Summit on Sustainable Development Johannesburg, South Africa, 26 August- 4 September 2002. http://www.un.org

Robson, C. (2002b). *Real World Research: A Resource for Social Scientists and Practitioner Researchers.* Oxford: Blackwell.

Romer, P.M., (1990). "Endogenous Technological Change". Journal of Political Economy, V(5), 71-102.

Roy, P. (1972) *Contract Farming and Economic Integration*. Interstate Printers and Publishers,

Royer, J.S (1995). *Potential for Cooperative Involvement in Vertical Coordination and Value Added Activities*. Agribusiness *11*(3)

Safa, M. S. (2005). Socio-Economic factors affecting the income of small-scale agroforestry farms in hill country areas in Yemen: A comparison of OLS and WLS

determinants. *Small-scale Forest Economics, Management and Policy*, *4*(1), 117-134.

Santiso, C. (2008) '*The Paradox Of Governance: Objective Or Condition Of Multilateral Development Finance*?' SAIS Working Paper Series, WP/03/03, Washington DC, John Hopkins University.

Satorius, K., Kirsten, J. (2002). *Can Small-Scale Farmers Be Linked To Agribusiness? The Timber Experience*. Agricultural Economics Research, Policy and Practice in Southern Africa. Agrikon, *41*(4)

Shepherd, A. (2001), *Contract Farming, Partnership for Growth*. FAO Agricultural Services Bulletin 145.

Schmidt, L. (2000). "*Guide to handling of tropical and sub-tropical forest seed."* Danida Forest Seed Centre.

Sial, M. A., Arain, M. A., & Laghari, K. A., (2012). Effect of high temperature stress on grain yield and yield components of wheat (Triticum aestivum L.). *Journal of Science, Technology and Development*, *31*, 83-90.

Singh, B.B.(2002). *Recent Genetic Studies on Cowpea*. In: Fatokun C.A., Tarawali S.A., Singh B.B., Kormawa P.M.,Tamo M (eds) challenges and opportunities for enhancing sustainable cowpea production. International Institute for Tropical Agriculture, Ibadan, Nigeria, 3-13.

Singh, S. (2002)*; Contracting Out Solutions: Political Economy of Contract Farming In the Indian Punjab*. World Development, *30* (9)

Sofranko, A., Frerichs, R., Samy, M., & Swanson, B. (2000). *Will Farmers Organize? Structural Change and Loss of Control over Production*. http://web.aces.uuiuc.edu/value/research/organize.htm. 324.

Stringer, R. (2001, May). *How important are the 'non-traditional'economic roles of agriculture in development? Discussion (0118).* Adelaide University SA 5005, Australia.

Taylor-Powell, E., & Hermann, C. (2000). *Collecting Evaluation Data: Surveys.* University of Wisconsin Extension, Cooperative Extension.

Todo, Y. et al (2011). " Effects of Geography and Social Networks on Diffusion and Adoption of Agriciltural Technology: Evidence from Rural Ethiopia". *Ethiopian Institute of Agricultural Reesearch.* 2-13.

Umar, A.M., & John Phoa, C.L (2012): ―*Evaluation of Fadama II Road Infrastructure among Rural Communities in Adamawa State, Nigeria*‖. Asian Journal of Agriculture and Rural Development, *2 (*2): 294-301.

UNCTAD. (2010), Technology and innovation report 2010: *enhancing food security in Africa through science, technology and innovation*. Geneva.

Vellema S. (2000*)*. Technology and Control in Philippine Contract Farming: The Cases of Asparagus Production and Maize Seed Production. *International Journal of the Sociology of Agriculture and Food, 8*(1): 25–34

Von Braun, J., & Immink, M. D. C. (1994). *Non-traditional vegetable crops and food security among smallholders in Guatemala*. In Johann Kirsten & Kurt Sartorius (2002). Linking agribusiness and small-scale farmers in developing countries: is there a new role for contract farming. In Von Braun, J &Kennedy, E (Eds),

Agricultural commercialisation, economic development and nutrition. London: Johns Hopkins University Press.

Vermeulen & Goad (2006). '*Towards Better Practice in Smallholder Oil Production'.Natural Resource Issues Series (5)*. International Institute for Environmental Development. London, UK.

Watts, M. (1994). *Living Under Contract: Contract Farming, Agrarian Restructuring and Flexible Accumulation*, in PD. Little and M. J. Watts (Eds.), Living 01&r Contract (Madison: University of Wisconsin Press, 1994).

Welsh, R. (1997). *Vertical Co-Ordination, Producer Response, and the Locus of Control over Agricultural Production Decisions*. RuralSociology,*62*(4), 491–507.

White, B. (1997).*Agroindustry and Contract Farmers in Upland West Java*. Journal of Peasant Studies, *24* (3).

Wolz, A., & Kirsch, O. C. (1999). *Equitization of Agribusiness in Vietnam: Options for Small- scale farmers with special emphasis on coffee production in Daklak Province*. Discussion Paper No. 69. Heidelberg, Germany: Research Centre for International Agrarian and Economic Development. Available online at http://www.rzuser.uniheidelberg.de/t08/diskus69.htm.

World Bank (1981) Accelerated Development in sub-Saharan Africa, IBRD Washington DC.

APPENDICES

Appendix 1

UNIVERSITY OF GHANA

DEPARTMENT OF GEOGRAPHY AND RESOURCE DEVELOPMENT

Research Questionnaire For Farmers In The Akwapim South Municipality.

This questionnaire is being administered to you as a farmer under contractual agreement with Blue Skies Company Limited in Doboro in the Akwapim South Municipality and those who are not into any form of contract. The aim of this survey is to find out your view on the effects of such a contract in terms of its provisions of technical support, output yield and livelihood improvement. The information you give will be treated as very confidential, and used for academic purposes only. It is hoped that therefore that, you will be very objective and open as possible in your responses to the questions that follow.

SECTION A: Respondents Personal Information

a. Age; ☐

b. Sex; Male Female

c. Marital Status; Single Married

d. Number of Children;

e. Educatinal Level; None

i. Literate; Primary JSS/Middle Secondary/Vocational

Tertiary

f. Are you a native of this area; Yes No

g. How did you acquire the land you are farming on?.....

Farm Information

a. Name of the Farm;

……..

b. Size of farm land;……acres

c. Location of farm;……..

d. Crops produced; Mango Coconut Sugarcane

Pineapple Others

e. If others, please specify…….

f. Number of workers employed on the farms (total);……

i. Number of male workers employed;……

ii. Number of female workers employed;……..

g. Do you have any contract with Blue Skies Company to supply them with fruits?

Yes No

If No, go to question **p**

h. What kind of agreement is it; Oral Documentary

i. If it's an oral agreement, what are some of the issues mentioned as part of the agreement?.....

.....

j. If it's a documentary agreement, what is entailed in it?.....

.....

k. How did you get into such a contract;……..

l. How many years have you been in such a contract;

m. How many years does the contract run;

n. What do you supply to the company; Mango Coconut Sugarcane Pineapple Others

o. How many years have you been in this supply chain;

p. If No, what arrangement do have in place to sell your produce?.....

1. <u>SECTION B:</u> Modern Agricultural Practices.

a. Do you receive any technical support in the form of modern agricultural practices? Yes No

b. If yes, what kind of technical support do you receive; Training Financial Logistics Farm inputs Others

c. If others, please specify;.....

d. At what level(s) do you receive this (these) technical support(s);

i. Pre farming period

ii. Farming period

iii. Harvesting period

iv. Post harvesting period

e. Do you receive any kind of training in good plantation practices? Yes No

f. If 'Yes' what type of skills:

i. Manuring practices like fertiliser application

ii. Weeding

iii. Spraying and the skills to the use of the chemicals

iv. Harvesting techniques

2. SECTION C: Output Yield

a. Do you keep records of your productions and supplies? Yes No

b. How are prices for your farm produce determined?.....

c. How often are these prices reviewed? Weekly Monthly Annually Seasonally

d. Are you paid on the spot after delivery; Yes No

i. If no, when are you paid;……

e. Do you supply everything you produce; Yes No

For controlled group, end here.

f. Who determines the quantity of farm produce to be supplied; Farmer Company

g. Ever since you joined this scheme, what has been the effect on your output; Increased Decreased Same.

h. If it has increased, what is the cause?.....

i. If it has decreased, what is the cause?.....

j. After supplying to the company, do you still have some left to sell to the local markets; Yes No

k. Do you always meet the company's demand? Yes No

l. If no, what do you do to meet that demand?.....

3. SECTION D: Livelihood Improvement

a. Does the company support your community in anyway; Yes No

b. What kind of support does the community get from the company;

Infrastructural Training Financial

c. In your assessment, in which of the following ways has the contractual agreement between you and the company been improved, ever since you became part of this scheme;

Human Capital Natural Capital Financial Capital Physical Capital Social Capital

SECTION E; Challenges and Way Forward

a. In your opinion, has your involvement in such a scheme, been very beneficial to you; Very much Somewhat Undecided Not Realy Not at All

b. What is the reason for your answer in **a,** above?.....

.....

c. What are some of the challenges you are facing, as a result of joining such a scheme?.....

.....

d. Do you think if such a scheme should reproduced else where it will benefit other farmers? Yes No

e. If yes, in what way;

……

f. If no, why not;

……

……

Appendix 2

Interview Guide

Farmers in a contract with Blue Skies Company (Uncontrolled group)

A.

i. Can you please tell me about your farm and its operations, prior to your joining such a scheme?

ii. Can you please tell me about your current contract with the Blue Skies Company Limited, when and how it started?

iii. Has your farming practices been affected by such a contract, if yes in what way?

iv. How do you acquire your farming inputs like farm lands and equipment?

B.

i. How has your total productions being affected by this scheme?

ii. Are you always able to meet the demand of the company, if no, what do you do?

iii. During bumper harvest periods, what do you do with your surplus?

iv. What are the benefits you enjoy as a result of your access to foreign markets?

C.

i. As a participating farmer of this scheme, what in your opinion are the benefits of such a scheme to you?

ii. Can you please tell me the extent to which the company supports community projects like, provision of schools, boreholes, clinic, feeder roads and scholarship scheme for students in the community?

iii. As a participating farmer of the scheme, how you think this scheme is benefiting the nation as a whole?

Appendix 3

Interview Guide

Farmers who are not in any form of contract (controlled group)

A.

i. Can you please give me a little history about your farms, when and how it started as well as your operations?

ii. Can you please tell me, if you know about contract farming and what you know about it?

iii. Have you ever been approached by any individual or company, requesting you to supply your produce to them, if yes, what was entailed in such an arrangement and how often?

B.

i. Since you began farming till now, have you changed or introduced new methods or approach to your practices, if yes what kind and what informed this change?

ii. Do you receive any kind of support from any individuals or entities, if yes what kind and what was the reason for this support?

C.

i. How has your output performance been, since you began producing?

ii. How do you market your produces, when they are ready for harvest and your market targets?

iii. Are you able to sell all you harvest, if no, what arrangements to do you make for the surplus?

iv. Do you face any challenges with marketing your produce, if yes, what are they?

D.

i. Has your livelihood been affected by your farming business, if yes, in what ways?

ii. How has your community benefited from your farming business?

iii. What are the challenges you encounter in your farm operations and how do you think they can be solved?

Appendix 4

Interview Guide for Key Informants

Chief Agronomist/ Extension officer

A. Company Information

i. Can you please tell me the position you hold in this company and for how long?

ii. Can you please give me a description of this company, your mission statement, your products and services and your operations?

iii. How many farmers have been contracted by the company to supply farm produce, and what kind of contract is entered into with the farms, and how are the farmers selected?

iv. . What is entailed in the agreement your company went into with the selected farmers, under your outgrower scheme?

v. Does the company have farms, if yes, what is the size and what does it produce?

B. Modern Agricultural Practices

i. How is the company through the outgrower scheme, contributing to the modernization of agriculture, what kind and at what levels?

ii. How does the company ensure that these modern practices are actually being practiced?

iii. How often are these practices evaluated, reviewed and upgraded and what international standards are used as a bench mark?

C. Output Yield

i. Is the company able to purchase the entire farm produces the farmers contracted produce?

ii. What are the arrangements made for the purchase of the produce, when they are ready for harvest?

iii. In the events of any disaster, does the company support the farmers?

iv. Have you observed an increasing level of production, since the inception of this scheme?

v. Is the company able to produce to an optimum capacity?

vi. Are you able to utilize all the supplies made to the company? If no, what do you do with your surplus?

D. Livelihood Improvement

i. How does the company help improve the livelihood of the farmers under such a scheme?

ii. Does the company have any cooperate social responsibilities, which it carries out in the community it operates and the communities of the farmers contracted?

E. Challenges and Way Forward

i. What problems in your opinion are militating against the successful implementation of the scheme and their possible solutions?

ii. In your opinion as an agronomist and a professional, is this scheme not affecting land use and the production of other crops, not related to your production, like food crops?

iii. As a company or agribusiness, employing such a scheme, in your opinion what are the overall benefits of such a scheme on the economy of Ghana as a whole?

iv. Any other thing you would want to share?

Appendix 5

Plate 1: Some benefits of the Blue Skies Outgrower scheme and some selected communities.

Amanfrom KVIP, Ghana

Asante Ekura Nsawam WC, Ghana