

**CONTRACT FARMING IN SMALLHOLDER POULTRY ENTERPRISES IN THIKA
DISTRICT**

**BY
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DEVELOPMENT STUDIES**

INSTITUTE FOR DEVELOPMENT STUDIES

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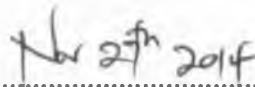
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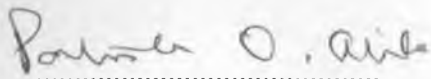


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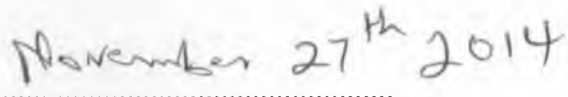


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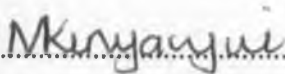
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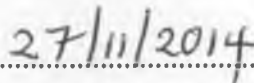
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DEDICATION

To my loving parents, who have been practicing poultry farming over the years and to other smallholder poultry farmers who strive to succeed in a volatile environment.

ACKNOWLEDGEMENT

Special thanks and sincere gratitude goes to my two devoted supervisors, Prof Patrick O. Alila and Dr Mary N. Kinyanjui who have constructively guided and helped me greatly improve my critical thinking and sharpen my writing skills throughout this study. Alongside, I appreciate the encouragement, support and faith directed to me by the IDS fraternity.

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I am grateful to my respondents from Kamwangi and Mang'u Divisions who expressed their honest thoughts. In addition, I thank all the key informants who helped me understand the intricacies involved in contract poultry farming. I specially appreciate the support of the two feed companies who assisted me in determining the households under contract and directing me to their physical locations. I hope the findings of this study will enhance a cordial contract relationship with the smallholder farmers in future.

Last but first I am indebted to my family; my parents who have always financially supported me through every means possible, my wife Soraya Wanjiru who has encouraged me emotionally and has been patient with me over my study period, sister Grace and brother Joseph who have been prayerful towards my success all along.

Above all, I thank Almighty Lord for His enduring mercies and love without which I wouldn't have made it this far.

ABSTRACT

This study is concerned with assessing the influence of contract farming on the smallholder poultry enterprises in Thika District. In order to achieve this overall objective, 60 households which practised poultry farming under contract arrangement were selected by use of stratified random sampling. To check for possible differences or similarities in poultry farming, 10 households not engaged in any contract arrangement were identified through snowball sampling and used as a control group. In addition representatives from contracting feed companies, district agricultural officer, sub-district livestock production officer were and area chiefs were purposively selected as key informants for the study. Data was collected by use of questionnaires and interview guides through a guided face to face interview. In order to complement data from household surveys, two focus group discussions were conducted each in the two purposively selected locations. The data was analysed by use of SPSS and Microsoft Excel Tables.

The study established that there was a higher proportionate ownership of contracted poultry enterprises by men as compared to women ownership. In addition, it was found out that women from all the contracted households contributed a disproportionately higher labour burden to the poultry enterprise but received considerably low income in comparison to their male counterparts in the household. It was also established that limited access to government extension assistance and poor road infrastructure influenced the likelihood of smallholder farmers to join contract arrangements. Farmer's need to solve transport challenges for poultry inputs and outputs as well as marketing challenges for their eggs was a major reason for the smallholders to join the contract. The study revealed that households in informal contract arrangements could easily exit one contract and join other contract arrangements because it was a verbal agreement based on trust unlike households engaged in formal contract arrangements which were bound by a written tripartite agreement and could only exit upon meeting contract stipulations.

The study concludes that contract farming arrangements can potentially benefit smallholder poultry farmers especially by solving their transport and marketing challenges and eventually resulting to increase in their income generating capacity but can also potentially relegate the smallholder farmer to a mere participant in the contract relationship. This becomes evident particularly in instances where the contractor fails to involve the smallholder farmer in designing of contract terms, revising of contract terms, manipulates the expectations of the smallholder farmer and in turns fails or superficially addresses the concerns raised by the farmers. This weakens the sustainability of the contract relationship. The study therefore recommends that the government should enact legislation specific to contract farming to safeguard the interest of both the contractor and the farmer and provide measures to be taken to solve problems which arise in the course of running the contract. In addition the government should step up the efforts of agricultural assistance through revitalising the role played by government extension officers towards smallholder poultry farmers as well as safeguarding these farmers from import of cheap eggs from neighbouring countries. Besides, gender transformative approaches should be emphasized by the contractors in order to enhance a cordial relationship within the household as far as labour burden and receipt of income from the poultry enterprise is concerned.

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LIST OF ACRONYMS AND ABBREVIATIONS

GDP:	Gross Domestic Product
WDR:	World Development Report
ASDS:	Agricultural Sector Development Strategy
KEPOFA:	Kenya Poultry Farmers Association
KIPPRA:	Kenya Institute of Public Policy Research and Analysis
IFAD:	International Fund for Agricultural Development
IDS:	Institute for Development Studies
SSA:	Sub Sahara Africa
FAO:	Food and Agricultural Organizations of the United Nations
GOK:	Government of Kenya
FGD:	Focus Group Discussion
SPSS:	Statistical Package for Social Sciences
PFE:	Poultry Farming Enterprise

CHAPTER ONE

INTRODUCTION

The focus of this research study is to assess the influence of contract farming arrangement on smallholder poultry farming enterprises in Thika District. This chapter covers the background to the study, problem statement, research questions as well as research objectives and justification for the study.

1.1 Background to the Study

Kenya is categorised as an agriculture-based country due to its high share of agricultural contribution to GDP growth which averages at 32% (World Development Report, 2008). This is articulated by the Agricultural Sector Development Strategy (2009), which states that 70% of the population on average is predominantly rural of which close to 80% depend on agriculture for their livelihoods either directly or indirectly. According to ASDS (2009), the livestock sub sector contributes 17% with poultry contributing 6.1% of the livestock GDP. Poultry production is a key income generating activity for rural and peri urban farmers in Kenya and is estimated to contribute to the livelihoods of 21 Million people (Mwanza, 2010).

According to the Population and Housing Census (2009), poultry population estimates were approximated at 32 Million birds with indigenous birds dominating at 81% while commercial birds (both hybrid layers and broilers) stood at approximately 14 % of the total poultry population. Commercial layers represented 8.3% or approximately 3.1 Million birds (Omiti, 2010). There has been tremendous growth of the commercial poultry sector in Kenya over the years especially by smallholder farmers due to the rising opportunities for income generation, employment, and other sector linkages such as: poultry feed industry, hotel industry and input supply industry (Mwanza, 2010; Omiti, 2010). For instance, Kenya Poultry Farmers Association (KEPOFA) approximates that 70% of the livestock feeds manufactured in Kenya constitutes poultry feeds.

However, the past performance trends depict a situation in which potential for agriculture has vastly been underused for development especially to the benefit of smallholder farmers (WDR, 2010). In Kenya, ASDS (2009) notes that the huge growth potential for agriculture in general

and the livestock sector in particular has been declining. The poor performance of the agricultural sector is attributable to several challenges such as: credit incapacitation, poor rural information systems, declining farm sizes due to population pressure resulting to land fragmentation, market inefficiencies which affect production and marketing of agricultural produce (KIPPRA, 2007; Karugia *et al.*, 2010).

1.1.1 Challenges Encountered by Smallholder Farmers

Alongside these challenges Karugia *et al.* (2010) notes other challenges emanating from centralized national level decisions have severely constrained the capacity of smallholder farmers in Kenya. These include: policies that excessively tax agriculture and the infamous neoliberal reforms of the 1980s which led to decline in state support especially in agricultural extension services and the eventual collapse of agricultural marketing boards and cooperatives. In a study of agribusiness linkages in Sub Saharan Africa, Dannson *et al.* (2004) cited shrinking government expenditures in agriculture manifest in annual budgetary under-allocations in research and extension for agriculture depicting a political economy with an inclination towards urban bias as a major challenge too. These challenges have over the years constrained the capacity of most rural smallholder farmers in their efforts to commercialize and possibly forcing them into practising agriculture mainly for self sufficiency needs (IFAD, 2010).

IFAD (2010) notes that finding good market opportunities to make agriculture a remunerative business is of major importance for smallholders. This is evident in several empirical findings (KIPPRA, 2007; Delgado *et al.*, 1999) which note that wealth creation and development prospects for resource poor agrarian communities will remain elusive if market opportunities exclude a significant proportion of poor smallholder farmers. This stems from the fact that agriculture contributes a significant share towards the national GDP, employment, human welfare, health and political stability with distinct evidence that majority contribution is by smallholder farmers (KIPPRA, 2007).

Dolan (2001) contends that improving the market participation of smallholder farmers can be harnessed through increasing their productivity and competitiveness so as to address the environmental and market risks they face. One of the ways in which the productivity and

competitiveness of smallholder farmers has been enhanced is through the contract farming arrangement which has demonstrated a great potential of integrating small-scale farmers into the modern economy (Kirsten and Sartorius, 2002; Costales & Catelo, 2008). A contract farming arrangement involves the contractor who typically provides credit, inputs, training and extension in exchange for a marketing agreement that fixes a price for the product and binds the farmer to follow a particular production method (Warning and Key, 2002). Contract farming is characterized by farm activities which are highly labour intensive (Dolan, 2001).

Little & Watts (1994) note that contract farming is not a new phenomenon in Kenya, in fact they establish that its existence dates back to the late 1950s. During this period it was geared for horticultural production of major cash crops such as coffee in the settler plantations and rice in the Perkerra Irrigation scheme. They also note that since the 1960s contract farming has seen a major transition from sole preoccupation in traditional cash crops only to high value non-traditional crops and livestock products. However the greatest transition to high value non-traditional crops such as horticulture and fruits as well as livestock products occurred from the early 1990s through to the 21st Century (Dannson *et al*, 2004). This major shift was greatly prompted by the neoliberal market reforms recommended by the Washington Consensus of getting the state out and getting prices right (IDS, 2005).

Onumah *et al*. (2007) note that prior to the 1980s agricultural input and output marketing systems were characterized by extensive state interventions in terms of price controls, ensuring food security, control of private sector marketing participation and securing the participation of smallholder farmers in food and cash crop production. However, after the market liberation reforms took effect, this resulted to rolling down of the state and facilitated private sector participation. This led to dismantling of price controls, collapse of marketing boards, parastatals and producer cooperatives (Karugia *et al*, 2010). The immediate mid term result of this was that most of the smallholders especially those living in the remote rural areas were marginalized and rendered vulnerable since these institutions served as their formal input and output marketing channels (IDS, 2005).

1.1.2 Contract Farming

Alongside the neoliberal market reforms, other factors have led to the rise of contract farming arrangements in Kenya. These include: the revolution of the supply chain management which has been prompted by the rise of supermarkets, increased urbanization rates coupled by an increase in per capita incomes of the rising middle class non farm population (IFAD, 2010; Costales & Catelo, 2008).

Strohm & Hoeffler (2006) contend that Kenya has the most developed commercial poultry industries in Africa. Nyaga (2007) notes that commercial poultry consisting of hybrid broilers and layers are kept at the periphery of the major towns such as Nairobi, Thika, Nakuru and Mombasa due to ease of procuring inputs and ready market for the products (Nyaga, 2007). Among the commercial poultry producing areas in Kenya, only Kiambu and Nakuru counties have some form of contractual arrangement (Wainaina *et al*, 2012). The study area, Thika District in Kiambu County has in the past twenty years ranked among the top egg producers in Kenya. In fact an estimated 21% of all the commercial layer farms in Kenya were located in Thika District (Nyaga, 2007). Most of the egg producers in the district reside on small parcels of land and egg production remains as one of the most viable business options (Kariuki, 2007).

Several incentives have been cited to influence the involvement of these poultry farmers into commercial production notably, a variety of poultry feed manufacturing companies within Thika town (Mwanza, 2010). At the same time there has been an improvement in technology through improved genetic breeds, efficient methods of production facilitated through technical training and extension services provided by the feed manufacturing companies who sell poultry feeds to these farmers (Mwanza, 2010). Ramaswami *et al*. (2006) highlights that production and price risks are important factors in poultry production. Covey and Stennis (1985) as cited in Ramaswami *et al*. (2006), report that risk reduction is the principle incentive for producers to enter into contracts.

Although contract farming arrangements have been in existence in Kenya for long and renewed interest in research has been experienced in this field for the last two decades, there is insufficient information regarding the impact of this arrangement on smallholder farmers

(Strohm and Hoeffler, 2006). Some authors argue that such arrangements are beneficial to smallholders by providing access to pre-financed inputs on credit as well as enhanced market access thereby reducing production and marketing risks (Minot *et al*, 2009; Warning and Key, 2002; Kirsten and Sartorius, 2002). Other authors argue that contract farming arrangement represents a form of global restructuring of agrarian production relations geared towards capitalist accumulation; this is characterized by exploitation of smallholders by appropriating their land and labour resulting to loss of autonomy of the smallholder farmers as well as causing intra-household gender tensions due to division of labour and income (Little and Watts, 1994; Singh, 2002).

In light of this contradictory evidence about contract farming in general, interrogating the nature and extent of the contract farming arrangement between the commercial smallholder poultry farmers and the contracting feed companies in Thika District will be useful in understanding the potential benefits and challenges that exist in this model which serves as one of the alternatives in smallholder commercialization.

1.2 Problem Statement

Contract farming arrangement which is entirely a private sector led initiative has evolved over the decades as an alternative model to address the constraints and opportunities that face the smallholder farmers. Notably, contract farming enhances the capacity of smallholders to make use of their endowments such as land, labour and other productive assets in imperfect markets and arrive at combinations of income, allowable risk which reflect their resources and preferences (Baumann, 2000).

However, there are concerns about the nature of these exchange relations and the extent to which the welfare of the smallholder farmers is enhanced in their transition from subsistence to commercial production. Literature shows that there has been unequal power relations within the contract arrangement, intra-household gender tensions prompted by gender division of labour and income manifested in the social relations of production (Little and Watts, 1994; Singh, 2002).

Several studies have outlined how contract farming arrangements result to unequal power relations in favor of the contracting firms (Dannson *et al.*, 2004, Bijman, 2008). This has been explained by the weak bargaining power of smallholder farmers in the production and marketing decisions and eventual loss of farmer autonomy (Key and Runsten, 1999). As a result, the smallholder farmers become blind producers and are bonded by the contract arrangements which are guided and dominated by private agents (Kinyanjui, 2012). Evidence also shows that contracted farming arrangements have been found to be biased in allocating contracts and associated benefits to men while placing greater unpaid labour demands with no proportionate allocation of benefits on women within the household (Maertens and Swinnen, 2009). This has prompted gender divisions, internal dissent and tensions within the household (Little and Watts, 1994)

These empirical findings, though important, essentially represent national and regional levels and are from the horticulture sector. It is not explicit how contract farming safeguards the position of the smallholder poultry farmers in the livestock sector. Further, most literature on contract farming in Kenya has tended to focus on the horticultural sector and little emphasis has been given to livestock sector (Strohm and Hoeffler, 2006). Moreover, literature on contract farming in the livestock sector has focused on the improved market access for rural smallholder livestock producers, increase in income and productivity of the smallholder farmers (Wainaina *et al.*, 2012; Catelo and Costales, 2008). The scope of these studies limits the findings to the income effect of contract farming only.

The proposed research will make further attempts to fill the apparent research gap by extending the study beyond the income effects to other possible socioeconomic effects of contract farming arrangement on power relations between the parties involved and intra household gender dimension among contracted smallholder poultry farmers in Thika District. Further, the role of contract farming arrangement in provision of services such as training, extension and infrastructure services to the contracted farmers shall also be interrogated.

1.3 Research Questions

The study will be guided by the following overall research question; **what is the influence of contract farming on smallholder poultry enterprises in Thika District?**

This overall research question shall be informed by the following specific research questions?

1. What are the characteristics of contracted smallholder poultry farmers?
2. How is the contract farming arrangement organized?
3. How do the smallholder poultry farmers benefit from the contract farming arrangement?
4. What major constraints do smallholder poultry farmers face within the contract farming arrangement?
5. What factors contribute to the sustainability of the contract farming arrangement among the smallholder poultry farmers?

1.4 Research Objectives

The main objective of the study is: **To assess the influence of contract farming on smallholder poultry enterprises in Thika District.**

The specific research objectives include:

1. To establish the characteristics of contracted smallholder poultry farmers in Thika District.
2. To describe the organization of the contract farming arrangement
3. To establish how the smallholder poultry farmers benefit as a result of the contract farming arrangement.
4. To identify the major constraints facing the smallholder poultry farmers within the contract farming arrangement
5. To examine the factors which contribute to sustainability of the contract farming arrangement among smallholder poultry farmers

1.5 Justification of the Study

There has been limited government support in research and extension services, input and output price controls since the neoliberal market reforms of the 1980-1990s. Consequently, the plight of smallholder poultry farmers in Thika District and elsewhere within Kenya has been left in the

hands of the private sector. Partly this has taken the form of contract farming which is primarily initiated by the private sector.

The findings and conclusions would be useful to these farmers in evaluating the exchange relationship with the contracting entities and enable them to maximise on the possible opportunities or insulate themselves against the constraints within the exchange relations. The findings will also provide information that would highlight the key areas that the contracting firms could emphasize on to ensure that sustainability of their business relationship with the smallholder farmers holds.

The results of the study would also add on to knowledge concerning the structure and nature of the exchange relations and standards and rules which should govern these arrangements and protect the welfare of smallholder poultry farmers. Hopefully it should provide insightful information that will serve as a basis for the government's support towards the private sector led initiatives aimed at transformation of smallholder agriculture from subsistence to an innovative commercially oriented modern agricultural sector as outlined under the economic pillar of Kenya Vision 2030.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This section presents an analysis of the existing relevant theoretical and empirical literature to the study. The goal is to identify the gaps of knowledge that the current study seeks to fill. To do this, the section is divided into four parts. The first part reviews theoretical literature on overview and rationale for contract farming, factors influencing participation of smallholder farmers in contract farming arrangement and the impact of contract farming on the welfare of smallholder farmers. The second part examines the theories that are applicable for the current study while the third part presents the existing empirical literature. Lastly, a conceptual framework that guides the present study is presented as a result of the literature reviewed.

2.2 Theoretical Literature Review

2.2.1 Overview and Rationale for Contract Farming

Key and Runsten (1999) contend that contract farming is a form of vertical integration where agribusiness and agro processing firms enter into an agreement with farmers who provide land and labour; in return the contracting entity provides production inputs, specifications for crop maintenance, extension and supervision services. Bijman (2008) highlights that the contract farming arrangement establishes a commitment on the farmer to produce a specific commodity at certain quality standards determined by the contractor and a commitment on part of the contractor to support the farmer's production and purchase the commodity. Subsequently, contract farming arrangement allows firms to exert control over the production process without the burden of owning or operating farms. Further, contractors do not have to invest in land, hire and manage labour; they are thus able to transfer production risks and costs, particularly for land and labour, on to farmers (Key and Runsten, 1999). Usually the initiative to establish a contract farming arrangement originates from the contractor who seeks to either increase supply of homogeneous produce or wish to expand input sales in the case of input suppliers (Bijman, 2008).

Notably, Costales and Catelo (2008) emphasize that contracting firms vertically integrate with the key purpose of reducing transaction costs associated with direct exchange in the open market

that is normally characterized by market imperfections and opportunistic behavior. Besides reducing transaction costs several studies have cited the reasons that explain the evolution and rise in popularity of contract farming arrangements such as the neoliberal market reforms of the 1980s, the entrenchment of peasantry into global capitalism and the global restructuring of agribusiness.

Karugia *et al.* (2010) states that the neoliberal market oriented reforms had great impact on substantially reducing the role of the state. Before these reforms took effect, the state performed a key role in the agricultural sector especially towards the smallholder farmers but after the reforms, the result was rolling down of the state and facilitation of private sector participation (Onumah *et al.*, 2007). Karugia *et al.* (2010) points that this led to dismantling of price controls, substantial reduction of subsidies in agricultural research and extension, collapse of marketing boards, parastatals and producer cooperatives which were the major channels of smallholder participation in commercial farming. Kirsten and Sartorius (2002) argue that the declining role of state provision of marketing, input and technical services has created a major avenue for contract farming especially in input and technical service provision.

Various studies explain how peasantry has been entrenched into international capitalism. For instance, in Kenya, the introduction of the Sywnnerton Plan of 1954 was aimed at providing land owners with security of tenure or a title deed which could be used primarily as collateral to obtain financial credit for agricultural development. However, Kinyanjui (2007) notes that this plan invariably benefited the elites and politicians in Thika and Kiambu districts at the expense of the rural households who lost access to land through unjust practices and ended up being congested on small parcels of land sometimes as squatters. This marked the rise of rural smallholder farmers and rapid social differentiation amongst the peasantry in Thika district and over time the problem has been exacerbated by the age old custom of passing on land from one generation to the other as well as high population growth (Kinyanjui, 2007).

Empirical literature identifies further that most of these smallholders are incapacitated by capital, remoteness from the markets, poor infrastructure, limited technical skills and knowledge on how to conduct commercially viable farming as well as little bargaining power (Kinyanjui, 2002;

Hoeffler and Strohm, 2006). Existence of such constraints facing these farmers provides an avenue for contract farming to address them through superior incentives and equity considerations and facilitate commercial farming among rural smallholders (Glover, 1987).

The global restructuring of agribusiness and subsequent contribution to the rise of contract farming arrangements in developing countries is explained by several studies. For example, Bijman (2008) argues that the rise of supermarkets and malls in developing countries dealing with food retailing has led to the rapid expansion of contract farming. He explains that the supermarket's procurement systems characterised by centralised purchasing, supplier preference and the quest in attaining high quality standards so as to meet changing consumer preferences favors the introduction of contract farming since the arrangement is able to vertically integrate production and marketing functions simultaneously. Eaton and Shepherd (2001) assert that increased urbanization coupled by an increase in per capita incomes has created demand for livestock products. The supply of livestock products to the urban population has increasingly been assumed by private firms especially through contract farming arrangements (Jabbar *et al.*, 2007). In addition, Da Silva (2005) argues that on the supply side, improved biotechnology in breeding, feeding and livestock husbandry do explain the rapid rise of contract farming arrangements in developing countries.

2.2.2 Organization of the Contract Farming Arrangement

Baumann (2000) suggests that a clear description of the contractual terms is imperative as it determines the degree of inclusion or exclusion with smallholder farmers. He argues that some contracts depict a steep criteria for inclusion which outlines certain preconditions such as minimum land size, family labour, good health, preference for certain education levels, marital status and ability to construct livestock structures among others. This preconditions could pose a barrier to inclusion of smallholders farmers especially the poorer farmers. In addition Baumann (2000) asserts that the administration of a contract is highly dependent on the political and economic environment on which it is embedded.

Hoeffler and Strohm (2006) have shown that the political and economic environment dictate whether a formal/written contract or a verbal contract based on trust is to be established. Eaton

and Shepherd (2006) contend that in all cases however, the aim of a contract is to establish the rights and obligations of both parties which specify the terms which include price setting for output and inputs, renewal and termination of contract, duration of the contract, terms for delivery, collection and rejection of produce as well as the frequency of payment.

Key and Runsten (1996) argue that it is the manner in which both parties in a contract observe the rights and obligations to each other that is important in determining the sustainability of the relationship rather than the formality or informality with which the contract farming arrangement is established. Failure by either party to comply to the terms consequently results to manipulation and exploitation of the position of parties within the contract and this weakens the sustainability of the relationship (Little and Watts 1994).

2.2.3 Participation of smallholder farmers in Contract Farming

Literature outlines a diversity of factors that influence the decision of smallholder farmers to participate in contract farming arrangements. Firstly, these factors can be as a result of individual or household decisions. Capital support, income generation, certainty of market access and risk reduction are cited in literature as the most influential factors in explaining participation of smallholder farmer in contract farming arrangements. Secondly, are the factors associated with the bargaining power position of the smallholders farmers manifest in household total income (both on and off farm income), skills and management, education, gender, and location of the household.

Guo *et al.* (2005) states that the ability of contracting agribusiness firms to provide pre-financed inputs as well as necessary technical knowledge and assistance positively influences the probability of smallholder farmers to participate in the contract farming arrangement. This is because smallholder farmer often lack or have very little financial reserves coupled by their low technical skills in production of contract commodities (Da Silva, 2005). Doward *et al.* (1998) describes this kind of relationship between the contracting firm and the smallholder farmer as an interlocking contract characterised by a tight interplay in the input factor provision and output factor marketing.

Contract farming arrangements have a higher ability to generate more income for the smallholder farmer in comparison to independent farming arrangements (Rusten and Key, 2002; Ramaswami *et al.*, 2006; Wainaina *et al.*, 2012). This is largely because contract farming ensures market access for the smallholder farmer produce thereby providing market certainty often at pre-determined prices. This enhances the capacity of smallholder farmer to deal with the problem of marketing perishable farm produce which is a major challenge in commercial production (Woodend, 2003). In addition Masakure *et al.* (2005) notes that contract farming arrangements in Zimbabwe help smallholder farmer save costs associated with poor market information systems that characterise most developing countries. Kirsten and Sartorius (2002) argue that the limited scale of operations pose high transaction costs at individual level in producing and marketing especially when located in remote areas and therefore marketing through the contract farming arrangement positively influences their participation.

The high risk level manifest in price and production factors pose a major constraint on smallholder farmer to participate in poultry production (Jabbar *et al.*, 2007). However, most of the successful contract farming arrangements do provide for a reduction in price risk through a pre-determined output price; others even provide a production risk cover (Ramaswami *et al.*, 2006). According to Minot (2007), majority of smallholder farmer are very risk averse but once such a provision for risk reduction is guaranteed through the contract farming arrangement, then it highly influences their decision to participate in contract farming.

The bargaining power of smallholder farmer is said to highly influence their decision to participate in contract farming arrangements (Key and Runsten, 1999). Quisumbing and Maluccio (2000) contend that measures of individual characteristics such as awareness through education exposure, skills and training, extension service provision as well as ownership of productive assets are highly correlated with bargaining power. In addition, they cite external factors such as existence of legally enforceable rights to highly correlate with an individuals bargaining power. For instance, the likelihood of individuals to participate in contract farming arrangements is negatively correlated with advancement in education level, experience in farming, and exposure to public extension services (Wainaina *et al.*, 2012; Ramaswami *et al.*, 2006). This is largely because such factors increase the awareness and exposure of the individual

smallholder farmer to alternative means of production and marketing. Such results explain why contracting firms wish to engage with smallholder farmer characterised by weak bargaining power.

Wainaina *et al.* (2012) further indicates that a household's financial endowment manifest in both on-farm and off-farm income increases the probability of participating in contract farming. However, higher financial endowment have the result of increasing the bargaining power of an individual therefore this preposition calls for more research insight to examine its validity. Indeed, Ngeno *et al.* (2011) in a study conducted in Kericho County, established that an increase in the household's financial endowment does not significantly influence the decision to participate in commercial poultry production.

Gender of the individual is cited as highly influential in the decision to participate in contract farming. Dolan (2002) and Wainaina *et al.* (2012) in their studies of contract farming in Kenya state that men are more likely to participate in contract farming arrangements than women. This is explained by the fact that Kenyan rural society is largely patriarchal in nature and title to most of the productive assets such as land remain a preserve of the man. Kinyanjui (2002) in a study of peasant organizations in Thika district observed that the exclusion of women in development discourse has been contributed by patriarchy which robs women power and authority within the household.

2.2.4 Contract Farming and Welfare of Smallholder Farmers

Literature identifies that contract farming does not only contribute to positive outcomes for the contracted smallholder farmers but it also results to negative effects on the smallholder farmer. Little and Watts (1994) point that sound empirical studies of contract farming in Africa grounded on field based microeconomic data have been quite sparse. In fact most studies have laid emphasis on the technological and commodity based context leaving out the political, social and historical contexts that are quite critical in shaping the contractual process. Little and Watts (1994) analyze the social relations of production and the control of the labour process within a neo-Marxist framework and reveal two very distinct effects of contract farming on rural smallholder farmer. First, the findings concerning the internal configuration of household labor

dynamics suggest that contract farming is highly labor intensive and that the higher labor burden is disproportionately assumed by women and children. In addition, they assert that contract farming arrangements constrain labor rather than liberating it.

Glover and Kusterer, (1990) have also observed that a common outcome of contract farming arrangements is that women and children provide most of the labor but the payments are made in the name of the male household head who holds title to land. Similar findings have been evident in Kenyan studies, for instance, Ngeno *et al.* (2011) evidence that adoption of commercial poultry production pose greater demands on women's unpaid labor without a matching increase in access to benefits. Schneider and Gugerty (2010) argue that limited access of land and control over allocation of labor and cash resources are key constraints hindering women's ability to benefit from contract farming. This phenomenon periodically ignites gendered division of internal dissent and tension within the household (Little and Watts, 1994).

Studies have shown that the inequality between male and female in sharing of labour and income effects in contract farming arrangements has serious repercussions on its sustainability. For example, Von Bulow and Sorensen (1993) in a study of tea contracting among Kenyan farmers revealed that women absconded their duty in labour provision on the tea farms upon realizing that men were the only sole beneficiaries to the contracts because of the fact that they held title to land. Eventually this led to contract default since women increasingly became aware of the high inequality and shunned from working on the farms. Glover and Kusterer (1990) have pointed out the need to make payments to those who do the work (frequently women) so as to ensure the contract farming arrangement is sustainable from the household perspective.

Although contract farming has the possibility of increasing total household income, the woman is generally excluded from participating in income access and allocation within the household (Maertens and Swinnen, 2009). Quisumbing and McClafferty (2006) observe that household income control by women has superior development impact because it is more likely to be associated with improved child nutrition, increased investment in children education, healthcare and other household investments. The effect of contract farming on women's work intensity and subsequent bias in income participation imply extending gender inequality and hampering

genuine development within the household. To this effect, Maertens and Swinnen (2009) propose that there is need for more research and better empirical evidence to quantify the effects of contract farming arrangements and modern supply chains on women.

Secondly, Little and Watts (1994) demonstrate that contractual relations are not reciprocal obligations of equity between the smallholder farmers and the contracting firm, but rather they are social relations of unequal exchange which perform in favor of the latter. Little and Watts (1994) assert that contract farming relegates the smallholder farmer to some illusory nature of autonomy as stipulated within the contractual terms but in reality this equates the smallholder farmer simply as a disguised self employed proletariat.

Several studies have outlined how contract farming arrangements result to unequal power relations in favor of the contracting firms. Dannson *et al.* (2004) in a study of agribusiness linkages in Africa, state that contract farming arrangements are affected by the unreliability and unsustainability of the relationship between parties. Precisely, Dannson *et al.* (2004) note that many contracting firms maintain the perception of farmers as simply a source of raw materials and have no interest in developing gainful financial resources to support the capacity of smallholder farmer. Additionally, some contracting firms fail to incorporate smallholder farmer in drafting the contract and worse still others dishonor the terms citing farmers as inferior parties which eventually leads to tension and breakdown of agreements because farmers feel exploited and renege on their commitments through side selling and other practices which completely breach the contractual terms. Bijman (2008) argues that, over time, the contract farming arrangement creates a dependency relationship between the smallholder farmer and the contracting firms; this leaves the farmers vulnerable to the sudden changes in the strategies the contracting firms may decide upon.

Loss of farmer autonomy in the contract farming arrangement is further elaborated by the weak bargaining power that the smallholder farmer possess (Ramaswami *et al.*, 2006). The weak bargaining power of the smallholder farmer is a feature that contracting firms look out for in selecting which parties to contract since it favors them at the expense of smallholder farmer. Kinyanjui (2012) highlights that the weak bargaining power of the smallholder farmer caused by

small scale nature of their operations, low levels of education as well as poor technological know how which renders them to be bonded within these farming arrangements. She reveals that the situation of bonding is exacerbated by the fact that most smallholder farmer are not in a position to conduct sufficient research in production and marketing and instead opt to learn from their neighbours and friends through the demonstration effect. As a result most of these smallholder farmer become blind producers, fail to keep records of their progress and lack awareness in pricing and product price determination a situation which forms the genesis of their bonding in a production system that is guided by private agents (Kinyanjui, 2012).

2.3 Theoretical Framework

2.3.1 Center- Periphery Model

This study is underpinned on the theoretical prepositions by Samir Amin, a Neo Marxist and a proponent of dependency theory which holds the view that imperialism has actively underdeveloped the peripheral societies or at the very least obstructed their development (Martinussen, 1997). Amin drew his conclusions chiefly from empirical analyses of West Africa which were primarily concerned with the conditions and relations of production.

According to Amin (1980), the peripheral economy is characterized by two sectors, the center which plays a determining role in creating and shaping the market and the export sector which constitutes the periphery and serves as the source of capital in the form of raw materials and labour which are extracted by the center at prices unfavorable to the peasants. In addition, there are no development promoting links between agriculture and industry in the periphery hence the periphery fails to be self reliant (Martinussen, 1997). The periphery therefore depends entirely on the center for industrial goods necessary for production of raw materials (Amin, 1980). This relationship exposes the periphery to a dependency state where the external demand of industrial goods from the center continues to be the principal driving force in maintaining the dependent relationship. Amin (1980) notes that the center has objectively sustained the dependency relationship and gained dominance over the periphery by ensuring there is minimal development of industry in the peripheral so that it may continue to sell industrial goods in the periphery.

This theory is relevant to the current study because on one hand the production relations in the contract farming arrangement are defined by the smallholder farmer farmers who obtain pre-financed inputs and in exchange provide labour, land and the poultry produce. On the other hand the contracting firms provide industrial goods, chiefly in form of poultry feeds on credit basis after which they obtain surplus value in form of poultry produce derived from the pre-financed inputs, labor and land. The theory shall provide an appropriate framework to analyze the nature of exchange relations between the smallholder farmer in poultry farming and the contracting feed companies and establish whether the prepositions of the theory do hold or otherwise.

Although the center-periphery model provides useful framework for analysis of the present study from a neo-Marxist perspective, it fails to identify how the dependency relationship at times characterized by exploitation can be improved. Instead the model prescribes that the periphery should de-link for the center and become self dependent. However, it fails to identify how the self dependency state can be enhanced within the periphery. It is from this backdrop that the study will be complemented by the capabilities approach.

2.3.2 Capabilities Approach

This approach stresses the importance of people's effective participation in the decision making process in response to their circumstances and priorities. The approach advocates for the need to focus on peoples capabilities which are defined by their potential functionings. The culmination of such capabilities corresponds to the overall freedom to lead the life that a person has reason to value (Sen, 1999). Sen (1999) criticizes normative evaluations based exclusively on material resources, income and commodities; instead he stresses the importance of intrinsic value which is to be found in people's capabilities.

This approach is relevant to the present study because it provides a framework for analyzing the contract farming arrangement and how the capabilities of smallholder farmers can be enhanced so that they benefit not only from the income aspect but also from other aspects of concern to their lives such as gender equality within the household and equal exchange relations.

2.4 Empirical Literature Review

2.4.1 Smallholder Farmer Characteristics and Participation in Contract Farming

Several studies emphasize on the relevance of household characteristics in influencing participation of smallholder farmers in contract farming arrangements. These characteristics include: household size, education levels, gender, previous experience in poultry farming and total household income.

While focusing his in-depth study on two Eastern Islands in Indonesia about contract farming in poultry production, Patrick (2004) established that a relatively high number of contracts were found to occur in Lombok than in Bali. He explained that Bali was more urban characterised by increased industrial activities and declining agriculture while Lombok was more rural and as a result did not have more opportunities for off-farm employment opportunities. Absence of this opportunity resulted to households in Lombok retaining greater household sizes. This was a favourable condition for family labor provision on the farms consequently attracting more agribusiness firms than in Bali which had more off-farm employment opportunities. In addition he noted that contract farming in poultry production is highly labor intensive and greater household size favored this arrangements since it provided more family labor.

By conducting a comparative study of contract and non contract smallholder poultry farmers in Nakuru county, Wainaina *et al.* (2012) found out that farmer's education level had a negative influence on their likelihood to participate in the contract arrangement. Similar findings were evidenced by Smith (1959) in a comparative study of contract and independent smallholder egg producers in Alabama, USA. He found out that only 27% of contract producers had received high school education compared to independent producers who stood at 45%. The researchers explain that higher levels of education have the effect of increasing awareness of the smallholder farmers exposing them to alternative production and marketing channels which negatively influences their decision to participate in the contract farming arrangement.

Wainaina *et al.* (2012) also revealed that gender was found to be positive and significant in influencing participation into contract farming. In particular, the findings indicated that male farmers had a higher probability of participating in the contract farming arrangement than their

female counterparts. This is explained by disproportionate ownership and control of productive assets by men in Kenya. Similar conclusions have been drawn by Shneider and Gugerty (2010) in their study of gender and contract farming in the wider Sub Sahara Africa. They explain that agrobusiness prefer to engage with male participants as opposed to female participants primarily because the title to land and other productive assets is registered to the former and therefore more secure to deal with than dealing with the later especially in instances which involve making claims upon contract default.

Ramaswami *et al.* (2006) conducted a field survey of contracted smallholder poultry farmers in India and reported that previous experience in poultry farming did significantly influence their likelihood to participate in contract farming arrangements. Just as the case with higher education levels, increase in experience of poultry farming caused partly by provision of public extension services had the effect of increasing the awareness of farmers and reducing their likelihood to participate in contract farming arrangement. In deed the reseacher revealed that majority of the farmers under the poultry contract had previous experiences which were different and not related to poultry.

In addition, Wainaina *et al.* (2012) revealed that higher farmer's financial endowment encompassed in both on farm and off farm income increased the likelihood to participate in the contract farming arrangement. This was because farmers with higher total incomes could be able to establish the basic preconditions for contract entry and engagement such as building the poultry structure and purchasing feeding and watering equipments. Although useful for the current study, its is important to establish whether a households income endowment would be a constraint especially in case of poor farmers and with the introduction of new technology by contractors which calls for higher incomes in order to acquire and use it in the contract farming arrangement.

One of the objectives of the present study is to find out the characteristics of the contracted smallholder poultry farmers and further establish how they influence the likelihood to participate in the contract farming arrangement. Although the studies reviewed provide a useful insight in understanding how household characteristics influence likelihood to participate in contract

farming arrangement, it is important to note that contracts vary significantly because of the nature of commodity in place, context, time and the contract terms.

2.4.2 Benefits to Smallholder Farmers in the Contract Farming Arrangement

Literature has identified that smallholder farmers face several challenges in their effort to engage in commercial farming. As a potential alternative model in addressing these challenges, contract farming has presented several benefits to the smallholder farmer.

Studies have reported the potential of contract farming to increase and stabilize the income of smallholder farmer. For instance, in a longitudinal study conducted in years 2005-2010 among contracted soybean smallholder farmers in Brazil, Da Silva Junior *et al.* (2011) reported that the average farmers income increased by 600% between years 2006-2009. Jabbar *et al.* (1999) in a study of poultry farmers under contracts also reported increase in incomes as a major benefit. In addition he noted that contract farming arrangements under his study ensured stability in incomes for the smallholder farmer especially because they provided for a predetermined output price and this in effect reduced the risk presented by price fluctuations. However the studies are insufficient in explaining the increase in incomes for smallholder farmer under contract since they fail to adjust for the cost of domestic/family labour in the production process.

In a qualitative study on contracted non-traditional vegetable smallholder farmer in Zimbabwe, Makasure and Henson (2005) reported that households cited timely and reliable supply of inputs as a major benefit. The smallholder farmer indicated that they no longer incurred the cost and burden of transporting their inputs. In addition the smallholder farmer claimed to have benefited by obtaining free agronomic advice and new technology which was not only useful for production of the commodities under contract but also useful for improved production of food crops for their subsistence needs.

Similar spill over effects from contract farming were reported by Bolwig (2012) from a study of contracted organic smallholder farmers in Uganda. The smallholder farmers were able to use several of the organic and good farming practices on their food crops which in turn increased their yields and motivated them to expand the land under cultivation. Although the resultant

benefits from the introduction of new farming methods and technology to the smallholder farmer under contract farming are important, it is equally important to establish the extent to which such changes in technology and production methods could potentially lead to disruption of traditional farming methods and overcapitalization. This could eventually result to unemployment, and discarding of vital traditional farming practices. The present study shall extend deeper insight into such changes within the contract farming arrangement and establish their possible shortcomings specifically on the growth of smallholder poultry farming enterprises.

Rehber (2000) in a comparative study in Turkey established that contract farming benefits smallholder farmer by enhancing an assured market for their commodities especially if such commodities are highly perishable. 75% of the contracted farmers indicated that guaranteed price and collection of their export vegetables at maturity was the major benefit they derived from the contract farming arrangement. Woodend (2003) also reported market access certainty as a major benefit to contracted smallholder farmer in Zimbabwe.

In another study of contracted poultry farmers in India, Ramaswami *et al.* (2006) reported that contract farming arrangements enhanced the credit capacity of smallholder farmer. He explained that since smallholder farmer accessed inputs on a pre-financed basis, they thus needed less working capital and this significantly reduced their need to borrow capital from commercial banks which charged relatively higher interest rates. In addition, the researcher reported that existence of a contract farming arrangement enabled the smallholder farmer to obtain bank loans based on the contract agreement forms. This further enhanced the financial intermediation of the smallholder farmers. Although these studies suggest that the existence of contract farming agreement enhances the capacity of smallholder farmers to access bank loans, it is imperative to find out through the present study the extent to which such an opportunity might enhance the financial capacity or result to increased indebtedness.

The reviewed studies provide a useful basis for understanding how the smallholder poultry farmers benefit as a result of the contract farming arrangement which was one of the objectives of the present study. However it is pertinent to observe that such benefits are influenced by the nature of the commodity under contract, time and contract terms which dictate the rights and

obligations of either of the parties in the contract. As a result these influences, benefits in a contract tend to vary widely hence the need for the present study to be specific to the context and time.

2.4.3 Constraints Facing Smallholder Farmers in the Contract Farming Arrangement

While contract farming arrangements have been reported to enhance benefits for the smallholder farmers, on the flipside, they also contribute to constraints which affect the welfare and growth of these farmers. Such constraints usually result due to contract default on part of the contract firm, strategic manipulation of the contract terms or through other indirect effects caused by the contracting firm.

In a field survey of factors affecting sugarcane production among contracted smallholders in Migori County, Lumumba (2013) established that the contractor constrained the capacity of smallholder sugarcane farmers by failing to abide to the contract terms as well as manipulating the terms and conditions stipulated in the contract agreement. For instance, the contracting firm failed to harvest mature sugarcane on time which affected the ability of the smallholder farmer to use the other blocks in the farm since sugarcane was harvested in blocks. In addition sugarcane was weighted at the factory's gate rather than at the farm gate. As a result it recorded low sucrose contents which had to be borne by smallholder farmer. The smallholder farmers had to bear all the costs and production risk during times when there was closure of the factory in order to carry out mechanical repair services.

Contract farming arrangement have been reported to weaken the bargaining power of smallholder farmers by failing to incorporate them in the contract design phase. Rehber (2000) in a study of contract farming for non-traditional vegetables among smallholder farmers in Turkey revealed that failure to engage the smallholder farmer in designing the contract terms coupled by use of technical language in the contract form was a major constraint for the smallholder farmer. He found out that more than 57% of the smallholder farmer complained that they had not been involved in designing the contract terms and conditions and that they simply signed the contract without articulate comprehension because the language was too complicated. Similar findings were also evidenced by Lumumba (2013) in Migori County among contracted smallholder

sugarcane farmers who concluded that such reasons contributed to failure of the contract farming arrangement to improve the incomes of the contracted sugarcane farmers.

Contract farming arrangements have been reported to expose smallholder farmers bearing the full production risks associated with production of technical commodities. In a Ghanaian case study, Freeman *et al.* (2008) found out that failure to cover for production risks coupled by inadequate technical training on a new variety of sorghum among smallholder farmers resulted in failure of the contract arrangement. The researcher noted that the contracted firm failed to offer technical training on account that this would increase their costs of contract arrangement. Eventually the smallholder farmer were forced to incur the total costs of low yields and crop failure which led to total collapse of the contracted sorghum project.

Contract arrangements have been perceived to capture smallholders assets and physical capacities and prevent them from diversifying their inputs and capital into other alternative uses. In a cross country study of East and West Africa, Baumann (2000) reported that contract farming arrangements have the tendency to lock down the smallholder farmers into inflexible production arrangements especially when they provide advanced credit in kind rather than in cash. This strategy by contracting firms ensures that the smallholder farmer can only produce the commodity under contract in continuity thus preventing any form of diversification. In addition, the researcher revealed that lack of access to credit and cash for household non contract expenses such as food, education and health further constrains the growth rather than result to benefits for the smallholder farmer.

Similarly contract farming arrangements have been reported to capture smallholder farmers in instances where they introduce new technology. Baumann (2000) noted that the situation gets worse in the case where smallholder farmer adopt and become heavily reliant on the contractor for very specific production assets. For example, Lumumba (2013) reported that smallholder sugarcane farmers in Migori County could not be able to utilise their land for alternative purposes since they were not allowed to assign land to any other activity without the consent of the contractor. In addition the contract stipulated that the smallholder farmer had to give a 2 years notice of withdrawal from the contract. In contrast the contracting firm could suspend the

smallholder farmer at any point if it suspected the smallholder farmer's inability to sustain the expected production capacity by maturity period of the sugarcane. Lumumba (2013) reported that this inflexibility resulted to food insecurity among the contracted sugarcane farmers.

In the Niayes region of Senegal, Maertens and Swinnen (2009) conducted a case study to establish the gendered effects of contract farming. They found out that there was a clear gender bias in access to production contracts. Out of a total 73 contracted bean farmers and 58 contracted mango farmers only 4 women had been contracted. The gender bias is evident across literature. For instance, Dolan (2001) in a study of smallholder high value vegetable farmers in Central Kenya found out that women constituted less than 10% of the contracted farmers.

With respect to access and control of benefits of the contract farming, Bolwig (2012) in a qualitative study of organic contract farming among Ugandan smallholders in pineapples and coffee reported that generally, women had much less control over the benefits from the contract farming arrangement than men while they often carried an equal or larger share of the labour and management burden. Precisely men made decisions on how to spend the income from the contract farming unilaterally by buying what they thought was necessary for their households and spending the rest as they wished while women were not supposed to question them. Bolwig (2012) concluded that women had a weak bargaining power attributable to the patriarchal nature of the society where men ultimately have sole rights to access and ownership of productive assets within the household.

In another study of commercial poultry production in the peri-urban areas of Kericho County, Ngeno *et al.* (2011) found out that in over 95% of the households, eggs were sold by women. However, the researcher revealed that women had very low degree of control and decision making upon receipt and use of cash income. Ngeno *et al.* (2011) concluded that these women had low education levels and this situation exacerbated especially when their husbands were unemployed. Similar findings were reported by Njuki *et al.* (2013) in a cross country survey study who noted that women only managed 29% of income from sale of eggs and 67% of the income was managed jointly. In explaining the pattern of income management from sale of eggs,

Njuki *et al.* (2013) concluded that the commercial nature of eggs prompted by a high urban demand has led to the egg's business becoming increasingly male dominated.

One of the objectives of the present study was to establish the major constraints facing smallholder poultry farmers in the contract farming arrangement. The studies reviewed (Lumumba, 2013; Rehber, 2000; Freeman *et al.*, 2008; Baumann, 2000; Maertens and Swinnen, 2009; Dolan, 2001; Bolwig, 2012) although important to the crop subsector, they are not specific to poultry farming; moreover those studies under review and specific to poultry farming (such as: Ngeno *et al.*, 2011 and Njuki *et al.*, 2013) likewise, fail to be specific to poultry farming under contract arrangement. The present study expressly on contract poultry farming therefore shall shed light into the shortcomings identified.

2.4.4 Factors Influencing Sustainability of Contract Farming Arrangements among Smallholder Farmers.

With the understanding that contract farming arrangements contribute benefits and constraints to smallholder farmers, empirical literature shows that contract farming can potentially be beneficial or present challenges as an alternative model in facilitating the transition from subsistence to commercial farming. It is therefore worthwhile to examine the factors that could contribute to sustainability of the contract arrangement between smallholder poultry farmers and the contractors.

FAO (2011) indicates that enhancing a favorable macroeconomic environment increases the success of contract farming arrangements. For instance, Da Silva Junior *et al.* (2011) in a longitudinal study of soybean farming under contract in Brazil reported considerable success based on increase in number of contracted smallholder farmers from 16,000 in 2005 to 109,000 in 2010. He compared these numbers with a sugarcane project by smallholder farmers who were not under contract which had only managed to garner 40,000 farmers within 40 year period. In the soybean contract, the Brazilian government had provided tax exceptions for contracting firms which ensured a favourable macroeconomic environment unlike in the sugarcane project. This incentive resulted to an increase in number of contracting firms from 27 in 2005 to 43 in 2010. This enhanced competition which in turn insulated the smallholder farmers from monopolistic

tendencies which would have occurred in case of a few contracting firms and high costs of operating business by providing farm inputs at favorable prices to the farmers.

For contract farming arrangements to be successful, there is need to involve the smallholder farmers in management as well as in the design of the contract terms so that there is an elevated sense of ownership. Delgado (1999) in a cross country study in Sub Sahara Africa, concluded that educated people from the area of contract operation, speaking the predominant language of the farmers need to be associated in the senior management for effective participatory management and success of the contract arrangement. Tristan (2008) in the study of a failed contract farming arrangement in the Chincha Valley of Peru, found the reasons for failure were as a result of the attachment of smallholder farmers to their cultural identity and idiosyncrasy. He concluded that there was a crucial need to commit indigenous people with special skills and characteristics in the management of relationships between the company's interests and the expectations of the smallholder farmers.

Coutler *et al.* (1999) has emphasized the need for marrying farmer cooperation and contract farming in order to enhance success with the arrangements. The conclusions are based on findings of a cross country study of Sub Sahara Africa where there was high contract default rates from the farmers and the contracting companies. The reasons for the contract default were found to be associated to the risks in prices and production facing both parties. The need for ensuring cooperation between farmers through farmer groups and the contracting firms was observed as effective in facilitating group training as well as enforcing repayment of credit since group members could be able to put check on one another.

The effectiveness of farmers groups emerges in literature and cannot be overlooked. For instance, Patrick (2004) concluded that the success of contract rice farming in Bali, Indonesia was primarily as a result of contracts being negotiated with the smallholder farmer groups rather than individual farmers. The contracts would serve collective benefits while the group had the motivation to enhance self discipline by dealing with errant members. Runsten and Key (1996) in a study of contract farming of confectionery peanuts among smallholders in Senegal, reported that the contracting firm used local intermediaries within the smallholder farmer groups to screen

potential growers, monitor production and enforce repayment. The local intermediaries were found to be important since they could manage social sanctions by penalizing smallholders who attempted to renege on the contract while at the same time they could mobilize social action in case the contracting firm failed to observe the contract stipulations. In addition the Runsten and Key (1996) revealed that the local intermediaries served as effective channels for rural information systems which had been a constraint for the smallholder farmers.

In order to enhance the success of contract farming arrangements, studies have concluded there is a crucial need to facilitate training to the smallholder farmers on how to manage the commodities under contract so as to reduce production risk. Freeman *et al.* (2008) found out that the smallholder sorghum contract in Ghana collapsed largely because the contracting firm failed to facilitate training which resulted to high crop failure which the smallholder farmer could not bear anymore.

Rehber (2000) in his study of contract farming among smallholder vegetable farmers in Turkey, concluded there was need to enact legislation to govern the conduct of parties especially where the contracting firm failed to pay on time and strategically delayed on input provision so as to target and collect output when the output prices were much lower to the disadvantage of the smallholder farmer. In addition he emphasized the need for ensuring use of simple language which was comprehensible to all farmers upon finding that more than 20% of the contracted farmers could not understand most of the language used. The literature reviewed provides useful insights for the present study which attempts to find out the factors that enhance or undermine the sustainability of contract arrangements among smallholder farmers which is one of the objectives.

2.5 Conceptual Framework

Dependent Variable: The dependent variable in this study is taken to be smallholder poultry farming enterprises. The operationalized variables of interest will include: Increase in incomes, increased market access for the farmer's output, timely and reliable supply of inputs, reduction of production risks, ease of entry or exit in the contract arrangement, gender inclusiveness and flexibility in contract terms.

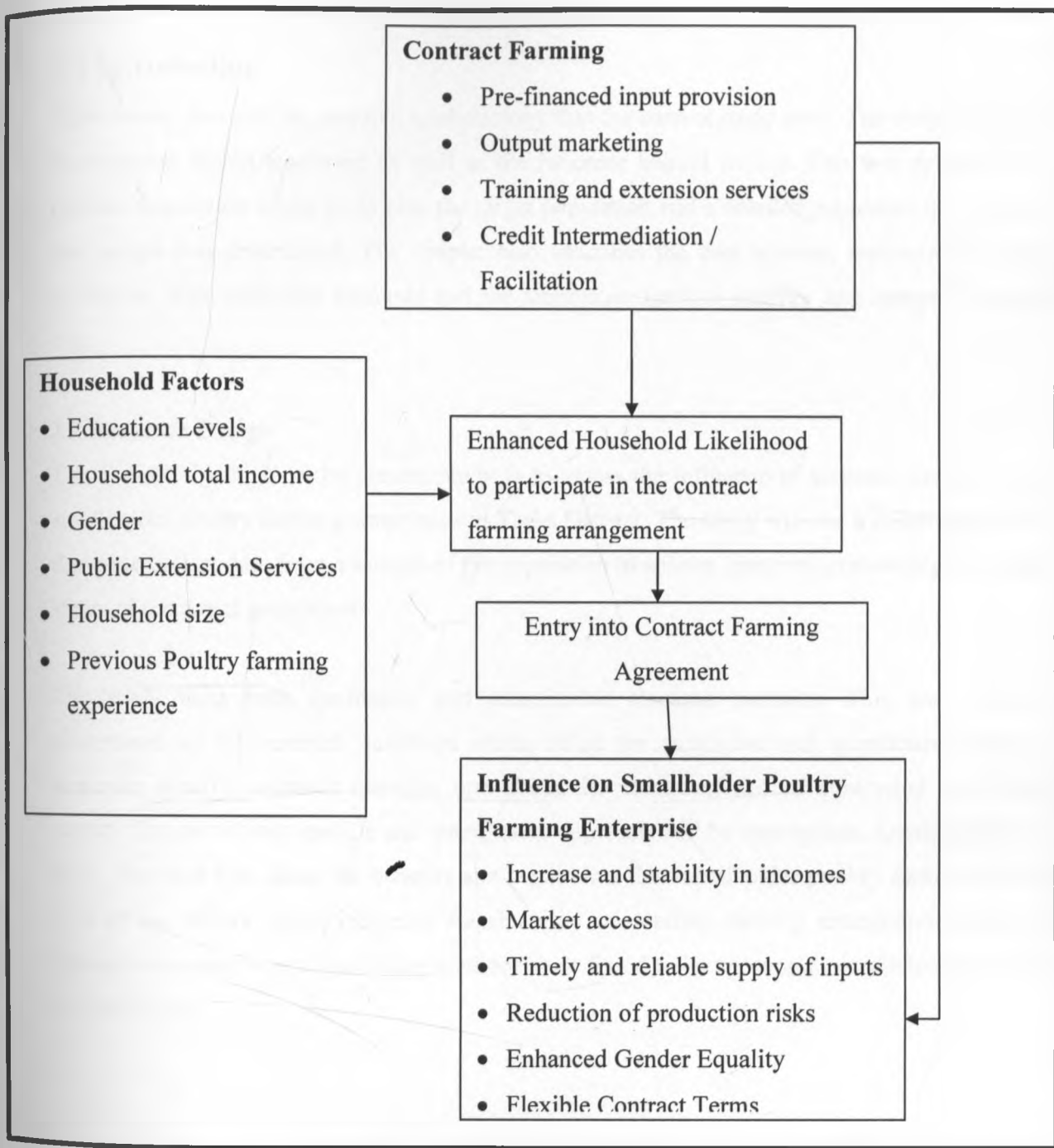
Independent Variable: The independent variable for this study is influence of contract farming. The variables of interest will be operationalized as: pre-financed inputs provision, output marketing, training and extension services, provision of new technology, credit intermediation and management organization.

The conceptual framework guiding the study is presented in Figure 2.1. The flow and direction of the arrows from one box to the other depicts the relationship between the variables. Box number 1 specifies the operational variables which represent the independent variable. It is expected that contract farming through provision of pre-financed inputs, output marketing, credit intermediation, training and extension services will enhance the likelihood of smallholder poultry farmers to participate in the contract farming arrangement as shown by arrow A.

However, a review of theoretical and empirical literature acknowledges the existence of other independent variables which could influence the likelihood of smallholder poultry farmers to participate in the contract farming arrangement irrespective of the benefits that accrue to them from the contract arrangement. These variables are contained in box number 4 and include education levels of household head, gender of the household, household total income, availability of public extension services, household size and previous poultry farming experience.

Enhanced household's likelihood to participate in the contract farming arrangement is expected to form the basis for consenting to contract depicted by arrow C and eventual influence on the smallholder poultry farming enterprise shown by box 3. The expected outcomes of this arrangement include increase in incomes, increased market access, timely and reliable supply of inputs, reduction of production risks, gender inclusiveness and flexibility in contract terms. Arrow D depicts a dependency relationship between the contracting firm and the smallholder poultry farmers.

Figure 1: Conceptual Framework of the study



Source: Author's Conceptualization

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter presents the research methodology that the current study used. The chapter explains the research design employed as well as the rationale behind its use. This was followed by a concise description of the study site, the target population and a detailed procedure showing how the sample was determined. The chapter also describes the data sources, instruments for data collection, data collection methods and the techniques used to analyze and interpret collected data.

3.2 Research Design

The overall objective of the present study is to assess the influence of contract farming on the smallholder poultry farming enterprises in Thika District. The study will use a descriptive survey design to collect data from a sample of the population to answer questions concerning the current status of the target population.

The study used both qualitative and quantitative research methods. This was primarily determined by the research questions which called for qualitative and quantitative data. For example, specific research question one about the characteristics of contracted smallholder poultry farmers is very specific and quantitative approach will be appropriate. Specific questions three, four and five about the benefits and constraints that smallholder poultry farmers' face as well as the factors which influence sustainability of contract farming arrangement called for detailed responses where qualitative methods were found to be appropriate in eliciting such kind of information.

3.3 Study Site

The study was carried out in Thika District, Kiambu County. The district covers 1,960 square Kilometres with a population density of 675,868 (GOK, 2009). Thika district comprises six administrative divisions which include: Thika Municipality, Kakuzi, Juja, Gatundu North, Gatundu South and Ruiru. The choice of the study site for poultry farming in general and egg production precisely lies in the fact that Thika District has in the past twenty years ranked among the top egg producers in Kenya (Kariuki, 2007). In fact, in 2006 an estimated 21% of all the commercial layer farms for chicken egg production in Kenya were located in Thika District (Nyaga, 2007). The district scored the highest number of commercial poultry producers in the (Kenya Population and Housing Census, 2009). In addition the district is located within Kiambu County which has a 60% urbanization rate compared to the country's rate which stands at 32%. These statistics further reinforce the suitability of conducting the study in the district so as to observe the urbanization effects on the rural agricultural sector.

3.4 Population and Sampling Procedure

The unit of analysis for this study was households (which had married partners). The reason for targeting households where partners were married was because the study wanted to study the gendered influence of contract farming within the household. The male household head was the target respondent whenever they were available at the time of the study. The preference for male household heads lay in the nature of the society which was largely patrilineal and the household was regarded property of the male head of that household. In case the male household head was not available the female counterpart was interviewed. The study population specifically comprised of those households that practiced poultry farming for commercial egg production under a contractual arrangement with the contracting firms.

The study employed probability and non-probability sampling techniques.

Sampling of locations

Out of the six administrative divisions in Thika district, Gatundu North division was purposively selected because it was identified to have widespread contract farming arrangements with the smallholder poultry farmers unlike the other divisions. This information had been obtained by

the researcher through preliminary interactions with three contracting firms in Thika Town who cited the division as their stronghold client base.

There are four wards/locations in Gatundu North division. However due to time and money constraints the researcher could not be able to conduct research on the target population for all the four locations. With this understanding therefore, purposive sampling was used to select only two locations which had the highest units of study population for the study. These locations included Kamwangi and Mang'u locations. The choice of locations for this study was specifically determined by the number of smallholder farmers under contract arrangements. This was concisely determined with the help of the feed manufacturing companies who were engaged with smallholder poultry farmers through contract arrangements. The two feed companies stated that they had the highest numbers of contract farmers located in Mang'u and Kamwangi.

Sampling of the Households

The sample size for the study was taken to be 70 households from which 60 households were engaged in contractual arrangements and the remainder (10) formed our control group defined by the fact that they practiced commercial poultry farming although they were not engaged in any form of contractual arrangement. There were a total of 112 contracted farmers from the two feed contracting companies within the two locations selected. One of the feed company had a total of 64 contracted farmers while the second had a total of 48 contracted farmers.

There were a total of 13 households which were excluded from the target households since they comprised of single, widowed or children headed households. The remaining 99 households formed the sampling frame from which a sample size of 60 households (30 from each of the two feed companies) was selected from each of the two contracting firms for the two purposively selected locations. The sample size was drawn through stratified random sampling in terms of the form of contract and marital status of the households in order to capture the variations of the smallholder poultry farmers.

The first step in sampling was to define the criteria for selection which was guided by two aspects. One, the period when the smallholder poultry farmers commenced a contractual arrangement with the current contractor, two, the form of contract the smallholder farmer's were

engaged in. The second step involved computing the proportionate sample size for each stratum. This was followed by use of simple random sampling to obtain a representative sample relative to the size of each of the stratas.

Snowball sampling was employed in order to determine the sample size for poultry farmers in the control group. The rationale for this technique was due to the fact that the population of the independent smallholder poultry farmers in the study area was unknown to the researcher. The researcher asked contracted smallholder poultry farmers to identify those farmers who practiced poultry farming independently. Through this, the first independent poultry farmer was identified who also disclosed other independent farmers in the sampled locations. This was done repeatedly until a total 15 farmers was attained. The researcher was able to determine names and the physical location of these farmers. Simple random sampling was later used to select 10 farmers from the total 15. The 10 sampled farmers were visited soon after and data collected by use of a questionnaire through a guided face to face interview.

Sampling of Key Informants

Key informants for this study comprised: one official representing each of the two feed manufacturing companies/contract firms, Thika Sub-district livestock production officer, a district agricultural officer from Thika district and two chiefs each from the two sampled locations. In total, six key informants were engaged in this study. These key informants were purposively selected because they were considered to possess pertinent in-depth information and relationships involved in poultry production and marketing practices in the study area. It was also expected that they would elucidate further information relevant to the contract farming arrangement which eventually complemented information from the household surveys.

Sampling and Recruiting for the Focus Group Discussion

In order to complement the quantitative and qualitative data from the survey questionnaire and key informants, the study recruited two focus group discussion (FGD) which consisted of eight participants each. The participants comprised contracted smallholder poultry farmers who were purposively selected in order to capture the variations of the poultry farmers manifest in; the period they had been engaged with the current contractor, gender of the participants and the form of contract arrangement they were involved in.

3.5 Data Sources and Data Collection Methods

The data for the study was collected from primary and secondary sources. Primary data was obtained from the target population which precisely comprised of households under contract arrangement and practising commercial poultry production. Key informants and the focus group discussion formed an additional source of primary data for this study. Primary data from contracted households was collected by use of a survey questionnaire while interview guides were used to collect data from key informants and both were conducted through a guided face to face interview. Data from the focus group discussion was collected by note taking through a group interaction process centered around thematic topics in contract poultry farming. Since the study site comprised of Kikuyu tribe almost entirely, the researcher translated the questionnaire to Kikuyu which was the local language so as to simplify and facilitate clear understanding on part of the respondents. Survey questionnaires and interview guides comprised of questions designed based on the specific research objectives so as to assess the influence of contract farming on smallholder farming enterprises.

The study also made wide use of secondary data sources which included published and unpublished literature such as journals, books, government publications, official reports and websites, reports and theses. These secondary sources were reviewed selectively based on the research objectives. In addition, they were also largely informed theoretical and empirical literature on the rationale for contract farming, the benefits and constraints it posed to smallholder farmers as well as the factors that have influenced sustainability of the contract farming arrangement over time in relation to smallholder farmers.

3.5.1 Field Data Collection

Household survey commenced on 16th of July 2014 and ended on 31st of July 2014. It would not be easy to establish the physical location of the households which were randomly selected in the sampling frame from each of the two feed companies. The researcher was therefore accompanied by two marketing representatives from each of the feed manufacturing companies (who visit the farmers every week) who introduced him in every household so that he could conduct the guided face to face interview. Key informant interviews commenced on 1st of August 2014 and ended on

11th of August 2014. Unlike household surveys, it was easy to identify the physical location of the key informants since they had a designated office.

3.6 Data Analysis

Given the form of data to be collected, the study used both quantitative and qualitative data analysis methods. Close-ended questions in the questionnaire were pre-coded and they were analysed by use of Statistical Packages for Social Sciences (SPSS). However open-ended questions from both the survey questionnaire and the interview guide had to be coded in preparation for data entry. In addition the notes taken during focus group discussions were transcribed and subsequently coded. The coding of data collected through qualitative methods was done through sorting data into emerging themes that were informed by the research questions and the literature reviewed. These themes enabled the researcher develop categories which constituted the story line. It is from the emerging data categories that frequencies were established for these data. This was done by use of Microsoft Excel Tables.

Descriptive statistics such as measures of central tendency and frequency tables based on the research objectives were used in analysing data from households. For instance arithmetic mean was used on the quantitative variables of interest from the household data such as current and initial flock size, household size, age of the respondent, and years of poultry farming experience. In addition statistical tests such as Mann Whitney U Test were used to assess the relationship in variables of interest such as education levels between male the households under study. Chi-square tests, and contingency tables were used to test relationships between variables such as household size and labour participation within the household and influence of road infrastructure on the likelihood of the household participation in contract arrangements. Independent t-tests were also used to compare means in flock sizes between the smallholder poultry farmers engaged in formal and informal contract arrangement.

CHAPTER FOUR

STUDY FINDINGS AND DISCUSSIONS

4.1 Introduction

This chapter presents findings based on data collected through quantitative and qualitative data methods. Quantitative data was collected mainly through household surveys which employed a guided face to face interview. Qualitative data was collected through focus group discussions, key informant interviews and partly through household surveys by use of open ended questions. The findings are organized around the specific study objectives which include: establishing the background characteristics of the respondents, household and poultry enterprise characteristics; describing the organization of the contract; identifying benefits and major constraints that are embedded in the contract farming arrangement as well as examining the factors which influence the sustainability of the contract farming arrangement among smallholder poultry farmers.

Ten respondents who were not on contract were included in this study as a control group to find out the factors that influence their preference and more so if they encounter challenges and how they deal with such challenges in poultry farming.

4.2 Basic Characteristics of Respondents

The background characteristics of respondents included ownership of poultry enterprise, age, and level of education.

4.2.1 Ownership of Poultry Enterprises

Establishing the owner of a poultry enterprise was important to the study in order to identify the gendered pattern of ownership for the sampled households. As shown in Table 4.1, for the formal contract arrangement male ownership of poultry enterprises stood at 56.5% while female ownership was 13%. For the informal contract arrangement male ownership was 40.5% while female ownership was 21.6%. Joint ownership in the formal and informal contract arrangements stood at 30.4% and 37.8% respectively. In the two forms of contract arrangements, the study revealed that a higher proportion of poultry enterprises were owned by men while a relatively lower proportion was owned by women. In contrast, for the control group women owned 50% of the poultry enterprises while 50% was owned jointly. There was no male ownership of poultry enterprises.

Higher proportionate ownership of contracted poultry enterprises by men could possibly be explained by their disproportionate ownership and control of the household's productive assets which reinforces their ability to participate in such arrangements. These findings of higher male ownership of contracted poultry enterprises are consistent with those reported by Schneider and Gugerty (2010) in their study of gender and contract farming in the wider Sub Sahara Africa. They revealed that agribusinesses prefer to engage with male farmers as opposed to female farmers primarily because of ownership of title to land and other productive assets. This was further confirmed by a key informant from one of the feed manufacturing companies who stated that they preferred to engage the head of the household especially men in married households because they own the land premises on which the poultry enterprise is located. On the one hand this feature accords men an upper hand when it comes to obtain loans and credit since they own the required collateral and on the other hand it renders women less likely to be served by formal credit and financial institutions.

A possible explanation for men not owning poultry enterprises in the control group would be that their female counterparts were more empowered financially and had an investment drive or that their male counterparts had other off farm employment opportunities which kept them preoccupied hence they left ownership of the poultry enterprises to their female counterparts.

Table 4.1 Ownership Status Comparison between those engaged and not engaged in Contract

Owner of P.E	Engaged in Formal Contract		Engaged in Informal Contract		(Control Group) Not engaged in contract	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Male	13	56.5	15	40.5	-	-
Female	3	13.0	8	21.6	5	50.0
Joint	7	30.4	14	37.8	5	50.0
Total	23	100.0	37	100.0	10	100.0

Source: Survey Data (2014)

4.2.2 Age

The range of the respondents was 43 years which was expressed by the oldest respondent who was 69 years and the youngest who was 26 years. As shown in Table 4.2, for the contracted smallholder farmers the age bracket 41-50 recorded the highest percentage (35%). This was followed closely by the age bracket 31-40 at 28.3%. The study revealed further that 16.7% of the respondents fell in the age group 51 -60 years while 11.7% of the respondents were aged 61 years and above. The lowest percentage (8.3%) was found to be the age bracket 21-30 years. These results indicate that majority (71.6%) of the respondents engaged in the contract farming arrangement were of middle-ages (21-50 years).

For the control group, half of the respondents (50%) fell in the 51-60 age bracket while age brackets 31-40 and 41-50 had 2% each. Only 1% of the respondents were aged 61 years and above and none of the respondents was below the 31-40 age bracket. Even though most of the respondents from the contracted households were middle aged, a large number of those in the control group were relatively more advanced in age. Although age would not necessarily translate to years of poultry farming experience, one explanation for this variation in age between the contracted and non contracted households could be that, for those in the control group their relatively more advanced ages could have had the possibility of translating to more years of poultry farming experience which could have exposed them and raised their potential and awareness to practice farming independently. In deed the researcher established that all the 10 farmers in the control group had at one time practiced poultry under contract arrangements before they later resolved to practice poultry farming independently. This would have potentially increased their poultry farming experience.

Table 4.2 Age of the Respondents

Age (Years)	Contracted Farmers		Independent Farmers (Control Group)	
	Frequency	Percent	Frequency	Percent
21-30	5	8.3	-	-
31-40	17	28.3	2	20.0
41-50	21	35.0	2	20.0
51-60	10	16.7	5	50.0
61 and above	7	11.7	1	10.0
Total	60	100.0	10	100.0

Source: Survey Data (2014)

4.2.3 Education

A farmer's education level is an important factor of influencing their likelihood to participate in the contract farming arrangement (Wainaina *et al.*, 2012 & Smith, 1959). The study sought to establish the highest education level attained by the owner of the poultry enterprise for households on contract and those not engaged in contract arrangement. From Table 4.3, for owners engaged in contract arrangements, 40% had completed secondary education. The remaining 60% comprised of 3.33% who had not attained any education at all, 30% who had completed primary education, 20% who had not completed primary education and another 6.67% who had not completed secondary education. For owners engaged in informal contract arrangements, 31.37% had completed secondary education while a further 3.92% had attained tertiary education and training. The study also found out that 5.88% had not attained any form of education at all, 23.53% had completed primary education, and another 25.9% had not completed primary education while a further 9.8% had not completed secondary education.

For the owners in the control group, the study established that majority (53.33%) had completed secondary education; another 6.67% had attained some tertiary education and training. Furthermore, 20% had completed their primary education while 13.33% had not completed their

primary education. Those who had not attained any education stood at 6.67% while there were no owners in this category who had not completed their secondary education.

Education levels of owners engaged in contract arrangements and those not engaged in contract arrangements was compared using the Mann Whitney U test. The test suggested that there was no statistically significant difference in the education levels for these two categories ($\bar{u}=582$, $P=0.783$) at 5% level of significance. For instance, the mean rank in education levels stood at 48.19 and 50.20 for owners engaged in contract arrangements and those not engaged in contract arrangements respectively. The findings of this test therefore indicate that education level was not statistically significant in influencing the likelihood of the smallholder farmer to join the contract farming arrangement.

Table 4.3 Owner's Highest Level of Education

		Level of Education of the owners Engaged in Formal Contract Arrangement						
	Owner of Poultry Enterprise in the Household	None	Primary Complete	Primary Incomplete	Secondary Complete	Secondary Incomplete	College/ University	Total
	Husband	1	5	3	4	0	0	13
	Wife	0	1	0	2	0	0	3
Joint Owners	Husband	0	1	2	3	1		7
	Wife	0	2	1	3	1	0	7
	Total	1	9	6	12	2	0	30
	Percentage	3.33	30.00	20.00	40.00	6.67	0	100
		Level of Education of the owners Engaged in Informal Contract Arrangement						
	Husband	0	4	3	5	1	2	15
	Wife	1	3	0	3	1	0	8
Joint Owners	Husband	2	3	6	3	0	0	14
	Wife	0	2	4	5	3	0	14
	Total	3	12	13	16	5	2	51
	Percentage	5.88	23.53	25.49	31.37	9.80	3.92	100
		Level of Education of the owners not Engaged in Contract Arrangement						
	Husband	0	0	0	0	0	0	
	Wife	0	0	0	4	0	1	5
Joint Owners	Husband	1	1	1	2	0	0	5
	Wife	0	2	1	2	0	0	5
	Total	1	3	2	8	0	1	15
	Percentage	6.67	20.00	13.33	53.33	0.00	6.67	100

Source: Survey Data (2014)

4.3 Household and Poultry Enterprise Characteristics

Establishing the characteristics of the contracted smallholder poultry farmers in Thika District was one of the key objectives for the study. The characteristics include: year the smallholder farmer joined the contract farming arrangement, experience in poultry farming, other commercial farming enterprises, flock size, household composition, road infrastructure and access to government extension services. These characteristics had been evidenced by empirical literature to influence the likelihood of the household to participate in the contract farming arrangement.

4.3.1 Year of Joining Contract arrangement

The contracted poultry farmers were asked to state when they joined the current contract farming arrangement. As shown in Table 4.4, notably a vast majority of farmers engaged in both formal (60.9%) and informal contracts (62.2%) joined 2-3 years ago. A relatively less proportion (13.5%) joined informal contract 4-5 years ago while 8.1% joined informal contracts 6-7 years ago. The study revealed further that 5% joined informal contract 8 years and above ago. Only a small percent (2.7%) had joined informal contract a year ago.

An equal proportion of farmers (17.4%) joined formal contract 4-5 years ago and 6-7 years ago. None of the farmers had joined formal contract 8 years ago and only a small proportion (4.3%) had joined the formal contract a year ago. Nearly 2/3 of the farmers in both formal and informal contracts joined the contract farming arrangement between years 2011-2012 or 2-3 years ago. A key informant from one feed manufacturing company explained that the high entry during this period occurred after the effects of high influx of imported eggs from Uganda which triggered the demand and price of eggs for these farmers to drop considerably. At the time, most of these farmers were not under contract and were reliant on middlemen for the marketing of their eggs. Consequently, they were faced with an uphill task of finding an outlet for their eggs which were accumulating by the day since the middlemen were instead purchasing cheap imported eggs from Uganda. This greatly influenced their decision to enter into contract so that the contracting feed companies could solve their predicament by exchanging their eggs through supply of poultry feeds at farm gates at a relatively higher price than the middlemen. This finding is important to the study because it indicates one way through which macroeconomic effects manifest in import of cheap eggs from a neighboring country can potentially pose output marketing challenges to

local farmers and eventually influence the farmer's likelihood to participate in contract farming arrangement in order to shield against such challenges.

Table 4.4 Year farmer joined current contract

Number of Years	Farmers in Informal Contracts		Farmers in Formal Contracts	
	Frequency	Percent	Frequency	Percent
1 year ago	1	2.7	1	4.3
2 -3 years ago	23	62.2	14	60.9
4-5 years ago	5	13.5	4	17.4
6-7 years ago	3	8.1	4	17.4
8 years and above ago	5	13.5	0	0.0
Total	37	100.0	23	100.0

Source: Survey Data (2014)

4.3.2 Flock Size

In order to find out the scale of operation of the smallholder poultry enterprises, respondents were asked to state their flock size during the time of the study. For the contracted farmers, the largest poultry enterprise had a flock size of 2000 while the smallest had 100. The mean flock size was found to be 634 birds. From Table 4.5, the highest percentage (46.7%) of flock size owned was 100-500 birds while 40.0% represented a flock size of 501-900 birds. The study further revealed that a small percentage (10%) represented a flock size of 901-1,300. Only 3.3% represented a flock size of 1,701 birds and above.

For the famers in the control group, the highest flock size was 1,980 while the lowest had 675 birds. Study findings revealed that 30% of these farmers owned a flock size of 901-1,300 while another 30% owned 1,701 and above birds. Furthermore, 20% had a flock size of 501-900 birds while another 20% owned a flock size of 1,301-1,700 birds. There were no farmers in this category who owned between 100-500 birds. The mean flock size for the control group was 1,191 birds

Table 4.5 Flock Size of Contracted farmers and those not engaged in contract

Flock Size	Contracted Farmers		Independent Farmers (Control Group)	
	Frequency	Percent	Frequency	Percent
100-500	28	46.7	-	-
501-900	24	40.0	2	20.0
901-1300	6	10.0	3	30.0
1301-1700	-	-	2	20.0
1701 and above	2	3.3	3	30.0
Total	60	100.0	10	100.0

Source: Survey Data (2014)

An independent samples t- test was used to find out if current flock sizes differed based on whether farmers were engaged in contract or not. The study found out that farmers engaged in contract arrangements had smaller flock size (M=1.73, SD= 0.90) than those not engaged in contract arrangements (M=3.60, SD=1.17), $t(68) = -5.812, p=0.000$. These findings show that majority of the contracted farmers had smaller mean flock size relative to those who practiced poultry farming independently who had higher mean flock size on average. A possible explanation for this would be that the contracted farmers used contract farming arrangement as a starting point to overcome the transport and marketing challenges faced in practicing poultry farming independently especially at small scale. These findings are consistent with those of Kirsten and Sartorius (2002) in South Africa who found out that the small level of operations pose high transaction costs to small scale farmers especially when they are located in remote rural areas. Producing and marketing through the contract farming arrangement therefore greatly addresses such challenges and positively influences the farmer's participation especially if they have small flock sizes.

The challenge of transport for feeds was resolved by free farm gate delivery through contract farming hence their desire to participate the contract farming arrangement. This is important because their small flock sizes would imply high transport costs in acquiring poultry feeds

because of the distance involved since they were located in the rural areas of Thika district. In addition, a key informant from the feed manufacturing company explained that once a farmer attained a flock size of 1,500 birds and above their likelihood of participating in a contract farming arrangement decreases and they instead choose to practice independently. This is largely because with higher flock size, egg production is high and this means that they can be able to hire a delivery van to sell their produce to chains stores in urban areas where prices are relatively favorable and use the same delivery van to transport their inputs on large scale at one round thereby being able to fully cover their transport expenses as opposed to those with small flock sizes who are more unlikely to manage their transport costs owing to their small level of egg production.

4.3.4 Household Composition

The largest household comprised of 8 members while the smallest had 1 member. The mean household size was found to be 3 members. In Table 4.6, data shows that for households engaged in informal contracts, 54.1% of the households had 3-5 members while 40.5% of the households had 2 members or less. Only a small percent (5.4%) of the households had 6 members or more. For the households engaged in formal contracts, a large majority (78.3%) had 3-5 members while those having 2 members or less were 21.7%. For this category however, there were no households which had more than 5 members living in the household. The findings indicate that majority of the households either engaged in formal or informal contracts had 3-5 members living in the household. For both categories of farmers, only few (2) households had 6 members and above. On further probing of the respondents, the study established that the rest of the family members were enrolled elsewhere in education institutions on boarding basis. This finding could be related to our earlier analysis of age which revealed that majority of the respondents were middle aged (21-50 years) with a higher possibility that their children were enrolled in school at the time of the survey.

Table 4.6 Household Size for Households in Formal and Informal Contracts

Number of Members	Informal Contract		Formal Contracts	
	Frequency	Percent	Frequency	Percent
2 and below	15	40.5	5	21.7
3-5	20	54.1	18	78.3
6 and above	2	5.4	0	0.0
Total	37	100.0	23	100.0

Source: Survey Data (2014)

Further analysis established that from a total of 37 households engaged in informal contract farming arrangement, all the household members from the 2 of the households did not participate in the poultry farming enterprise while all the members from one of the formally contracted households did not participate at all in the poultry farming enterprise.

A Chi-square (X^2) test of significance was conducted to establish whether there was a relationship between members living in the household and labour participation within the contract farming poultry enterprise. The null hypothesis was that household size does not affect labour participation within the contract farming poultry enterprise. At a 0.05 probability level, the Chi-square tests revealed that there was no significant relationship between members living in the household and their participation in the poultry enterprise for both the households in formal and informal contract farming arrangements (Formally Contracted Households: $X^2=0.647$, $P=0.421$, $df=1$; Informally Contracted Households: $X^2=1.786$, $P=0.775$, $df=4$). For instance, for the households engaged in informal contracts, out of 2 households which had 6 members and above only 1-2 members participated in the poultry enterprise while all the 14 households with 2 members and below having 1-2 members participate in the poultry enterprise. Likewise, for the households engaged in formal contracts, out of 17 households which had a household size of 3-5 members, only 15 households had 1-2 members participating in the poultry enterprise and only 2 households had 3-4 members participating in the poultry enterprise.

These findings indicate that larger household composition do not necessarily translate to greater participation of household members in the contract poultry enterprise; indeed the findings

contradict Patrick (2004) argument in rural Indonesia that households under contracted poultry farming have larger family sizes which translates to more labour provision/participation in terms of family labour towards the poultry enterprise. A possible explanation which emerged from a focus group discussion with locals was that, contracted poultry farming is very sensitive and calls for high levels of caution because of two key reasons. Most of the owners of the poultry enterprises felt that they could not entrust their investment which had involved considerable capital to their children who were, either not very careful in handling flock or they could no longer be entrusted to assist with labour provision. For instance one respondent stated

"I choose to work on my own because I cannot entrust my sons anymore...I once did and I used to record losses before I realized that they had been siphoning my poultry feeds and eggs and selling to unscrupulous neighbors who had poultry at often very low prices so that they could buy alcohol with the proceeds"

Untrustworthy household members and children was a major complaint which was elicited during the focus group discussion and this could most likely explain the finding that larger household composition do not necessarily imply higher labour provision within the contracted poultry farming enterprises since in majority of the households parents choose to work on their own and did not entrust poultry activities to their children.

Table 4.7 Cross tabulation of participant household members within the household by total household size

		Informally Contracted Households				Formally Contracted Households			
		Members living in household			Total	Members living in household			Total
		2 and below	3-5	6 and above		2 and below	3-5	6 and above	
Household members who participate towards Contracted Poultry Farming Enterprise	1-2	14	17	2	33	5	15		20
	3-4	0	1	0	1	0	2		2
	5 and above	0	1	0	1	0	0		0
	Total	14	19	2	35	5	17		22

Formally Contracted Households: $\chi^2=0.647$, $P=0.421$, $df=1$; Informally Contracted Households: $\chi^2=1.786$, $P=0.775$, $df=4$

Source: Survey Data (2014)

4.3.5 Poultry Farming Experience

Previous experience in poultry farming is an important factor in influencing the likelihood of the farmer to engage in the contract farming arrangement. This is because more previous poultry farming experience has the potential to raise awareness of the farmer consequently reducing their likelihood to join any contract farming arrangement. The study sought to establish whether the households had prior poultry farming experience before joining the current contract farming arrangement. The study found out that 35 households, 15 (65.2%) from a total of 23 formally

contracted households and 20 (54.1%) from a total 37 of the households engaged in informal contract arrangement stated that they had been practicing poultry farming prior to joining the current contract farming arrangement. Only 8 households and 17 households engaged in formal and informal contracts respectively stated that they had no prior poultry farming experience.

Further probing was done to find out whether the 35 households who had prior poultry farming experience had been engaged in other contract farming arrangements or not. Interestingly, the study revealed that only 4 households (1 from a total 15 engaged in the formal contract and 3 from the total 20 engaged in informal contract) had been practicing poultry farming independently before they ever joined any form of contracted poultry farming. Even though 65.2% (15) and 45.9% (20) of the households engaged in formal and informal contracts had prior poultry farming experience further analysis indicates that a considerable proportion (88.6% or 31 from a total 35) of this households from the two contract forms had been engaged in other contract farming arrangements.

Overall these findings indicate that majority of households engaged in formal and informal contract arrangements never had any prior poultry farming experience before they ever joined any contract farming arrangement a finding which had been revealed by Ramaswami *et al.* (2006) among contracted poultry farmers in India. He concluded that accumulated experience in poultry farming prior to ever joining any contract farming arrangement had the effect of increasing awareness of farmers and subsequently reducing their likelihood to participate in the contract farming arrangement.

4.3.6 Other Commercial Farming Enterprises

A contract farming arrangement has the potential to transfer benefits through spill over effects to other farming enterprises within the household. With postulation this in mind, the study sought to establish household engagement in other commercial farming activities. All 37 (100%) households engaged in informal contract farming arrangement and 22 (95.7%) from a total 23 of households engaged in formal contracts had been practising other commercial farming enterprises besides poultry as shown in Table 4.8. The proportion of households engaged in other commercial farming enterprises were indicated in the Table 4.9. Of all the other commercial

farming enterprises practised by households besides poultry, it is interesting that 58 (96.7%) from a total of 60 households practiced commercial dairy farming.

This finding prompted further knowledge hence the researcher took it up in the focus group discussion. The participants argued that sieved poultry manure was an important feed for dairy cows and because dairy feeds were expensive, the farmers therefore used poultry manure as a substitute. In deed, during the focus group discussion it was revealed that sale of poultry manure is a common business in the study area and a 70kg bag sells for KShs 600-800. The FGD participants further argued that dairy and poultry farming auger well since a decline in performance of one can be offset financially by high performance of the other instead of going for a loan facility. The contracted farmers also practised other commercial farming enterprises as indicated in Table 4.9.

The findings from household survey and the focus group discussion revealed that the contracted farmers diversified their commercial farming activities as a strategy to cope with the experience of a shortfall in one of the enterprise at any given moment. For instance, on one hand the respondents explained that they would often sell their dairy in order to either clear debts arising from poultry or be able to purchase new flock in case they wanted to expand their poultry farming enterprises. On the other hand the respondents stated that they would dispose their flock in case poultry enterprise led to persistent losses and instead increase their dairy flock. Such a mix ensured that the farmers shielded against sudden shortfalls in one enterprises which would destabilize their income sources.

Table 4.8 Household engagement in other commercial farming enterprises

	Households engaged in Formal Contracts		Households engaged in Informal Contracts	
	Frequency	Percent	Frequency	Percent
Practice other commercial farming enterprises				
Yes	22	95.7	37	100
No	1	4.3	0	0
Total	23	100.0	37	100

Source: Survey Data (2014)

Table 4.9 Proportion of contracted household's practice in other commercial farming enterprises

Other Commercial Farming practiced	Count out of 60 contracted farmers	Percent
Dairy	58	96.7
Tea	27	45.0
Pineapple	12	20.0
Coffee	8	13.3
Dairy goats	5	8.3
Pigs	3	5.0
Macadamia	3	5.0
Bananas	1	1.7

Source: Survey Data (2014)

4.3.7 Road Infrastructure

It was important for the study to establish whether road infrastructure from the households interviewed to Thika town influenced their poultry enterprise activities primarily because of two reasons. One, the two contracting feed companies and other poultry input retail shops are only located in Thika town and secondly, the Sub district livestock production officer explained that Thika town was the only nearest urban centre which marked the first point of large scale commercial eggs distribution to other towns as well as urban consumption. The study first established whether the households interviewed were satisfied with the road infrastructure to Thika town. From the Table 4.10, a vast majority 91.3% and 81.9% of the households engaged in formal and informal contracts respectively expressed their dissatisfaction with the road infrastructure. Similar results were obtained from the control group where 80% expressed their dissatisfaction with the road infrastructure to Thika town.

It was expected the contract farming arrangement had greatly solved the challenges of road infrastructure for the poultry enterprises of households engaged in both formal and informal contract arrangements since they obtained feeds at farm gate and their eggs produce was also exchanged and bought at farm gate. However at a 1% probability level, Chi-square tests

established there was a significant relationship between the level of satisfaction with the road infrastructure and the effect it had on the poultry enterprises ($X^2=52.541$, $P=0.000$, $df=1$). For instance, from a total 51 households who stated that they dissatisfied with the road infrastructure, 50 further stated that it affected their poultry enterprises.

It was noted during the focus group discussion that despite the fact that contract farming arrangement facilitated cost free feed delivery, exchange and purchase of eggs at farm gates for the contracted farmers, they still used the roads to go to the bank and credit institutions located in Thika Town, visit the offices of contractors, purchase chicks in Thika town and to visit the agro vet outlets located in Thika town. These needs implied that the road infrastructure would still affect their poultry enterprises. Furthermore, some participants in the group discussions claimed that poor road infrastructure was a hindrance to their efforts to market their own produce because at times they felt prompted to sell their eggs independently especially when the contractor offered a poor buying price but poor road infrastructure and high transport charges prevented them from doing so.

This finding indicates that poor road infrastructure inevitably weakened the capacities of smallholder farmers by reducing their ability to be self reliant in practicing poultry farming but become reliant on the contracting feed companies and middlemen at times to solve their road infrastructure challenges. However, 8 farmers in the control group were also not satisfied with the road infrastructure but they stated that they easily overcame the challenge since they had the means of transport either through their children who delivered feeds to them and collected their eggs for sale in urban centres at favourable prices or the farmers owned the means of transport which they used for marketing of eggs to towns and delivery of feeds conveniently. This finding also shows that the ability to own or access means of transport enabled the farmer to be self reliant as was the case with the farmers in the control group rather than depend on the contractor to address transport challenges.

Table 4.10 Household satisfaction with road infrastructure to Thika town

Whether satisfied with transport infrastructure to Thika Town	Households engaged in Formal Contracts		Households engaged in Informal Contracts		Households not engaged in any Contracts (Control Group)	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Yes	2	8.7	7	18.9	2	20
No	21	91.3	30	81.9	8	80
Total	23	100.0	37	100	37	100

Source: Survey Data (2014)

Table 4.11 Cross tabulation of the level of satisfaction with road infrastructure to Thika town and its effect on the poultry farming enterprise

Does transport system affect your poultry farming enterprise	Are you satisfied with the state of the roads		Total
	Yes	No	
Yes	0	50	50
No	9	1	10
Total	9	51	60

$\chi^2=52.541, P=0.000, df=1$

Source: Survey Data (2014)

4.3.8 Access to Government Extension Services

The fact that the study area was rural and considered an agriculture-based zone, the study sought to find out the household's access to government extension services. This was important for the study since Quisumbing and Maluccio (2000) argue that exposure and access to government extension services increases the awareness of the smallholder farmer and subsequently raises

their bargaining power which influences their decision to participate in the contract farming arrangement. Contracted households and those in the control group were asked to state whether they received any form of extension assistance from government agricultural officers. As shown in Table 4.12, 93% (53 from a total 60) of the contracted households had not received any kind of government agricultural assistance. In contrast, 80% (8 from a total 10) of those households in the control group stated that they received government agricultural extension assistance.

Further probing was conducted to establish if the kind of extension assistance was relevant to the poultry farming enterprise for farmers engaged in formal and informal contract arrangements. The study established that 7% (4 from a total 60) of the contracted households who received government extension services stated that the form of assistance was related to crop husbandry and dairy farming and therefore not relevant and specific to poultry farming enterprise. However the 8 households in the control group who received government extension services stated it was relevant and specific to poultry farming enterprise. It related to records keeping, disease prevention and control by use of appropriate methods, marketing of farm produce, crop and livestock integration methods. This finding indicate that exposure to government extension services increases the awareness and exposure of the farmer to alternative production and marketing channels and consequently reduces the likelihood of farmer's participation in the contract farming arrangement which is also consistent with Wainaina et al., (2012) findings among contract and non-contract smallholder farmers in Nakuru county.

Table 4.12 Household access to government extension services

Do you receive any form of government extension assistance	Contracted Farmers		Non-Contracted Farmers (Control Group)	
	Count	Percent	Count	Percent
Yes	4	7	8	80
No	56	93	2	20
Total	60	100	10	100

Source: Survey Data (2014)

4.3.9 Farmers Initial Awareness of the Contract Farming Arrangement

Bijman (2008) states that the initiative to establish a contract farming arrangement originates from the contractor who seeks to either increase supply of a homogeneous produce or wish to expand input sales in the case of input suppliers. With this in mind, the study sought to find out how the farmer first learnt about the current contract farming arrangement. While majority (87%) of the households engaged in formal contracts learnt about the contract farming arrangement through the contractor and only 4.3% through either their friends or neighbors, majority (54.1%) of those engaged in informal contracts learnt about the contract farming arrangement either through their friends or neighbors while 43.2% learnt through the contractor.

The findings for the households engaged in formal contracts where majority (87%) learnt about the contract through the initiative of the contractor are consistent with Bijman (2008) but the findings of households engaged in informal contracts where majority (54.1%) learnt about the contract through their friends or neighbors are inconsistent with the same argument by Bijman (2008). One possible explanation was that formal contract farming arrangements were more technical and capital intensive and required the guidance, orientation and initiative of the contractor to raise awareness to the smallholder farmers unlike the informal contract farming arrangements which were less capital intensive and less technical and could be easily be passed on through the demonstration effect between friends and neighbors. It further emerged from the focus group discussions that although participants recognized the potential benefits evident in formal contract arrangements by use of the cage system, they choose to use the deep litter system because it was simple and it did not require any other associated capital item. Furthermore, the participants argued that they easily consulted each other and they did not have to wait on the contractor to solve their problems. For instance one participant explained

"with the deep litter system (in the informal contract arrangement) you can solve your problems and challenges on your own or consulting with my neighbors and friends...it's like the way we practice indigenous chicken...it is not so costly like the cage system where I have to take a loan and wait on the contractor to train me"

Table 4.13 Farmers mode of Initial Awareness of the Contract Farming Arrangement

How farmer learnt about the contract	Households engaged in Formal Contracts		Households engaged in Informal Contracts	
	Frequency	Percent	Frequency	Percent
Friend/Neighbor	1	4.3	20	54.1
contractor	20	87.0	16	43.2
Group meeting/ seminar	2	8.7	1	2.7
Total	23	100.0	37	100.0

Source: Survey Data (2014)

4.4 Organization of the Contract Farming Arrangement

It was one of the objectives of this study to describe the organization of the contracts. There were two forms of contract arrangements, formal and informal. Information regarding how contracts were organized was pertinent so as to understand the terms of entry, ease of entry and exit and the terms governing the price of inputs (poultry feeds and other capital assets) and outputs (eggs). From the 60 randomly sampled households under contract, 23 were engaged in formal contract arrangement while 37 were engaged in informal contract arrangements.

4.4.1 Entry / Exit Requirements and Terms of Operation

The major difference between formal and informal contract farming arrangements was that formal contract arrangements required heavy capital investment. They were practised using the poultry cage system which was capital intensive unlike the deep litter system in the informal contracts. Therefore besides construction of the poultry shed, the farmer under the formal contract was required to purchase and install the cage system either by paying the full amount of cash or through a bank loan in the form of a tripartite agreement which was facilitated by the contractor's negotiation with the local bank based on the past experience and history with the smallholder farmer. According to an official from one feed manufacturing company, the study found out that the formal contract farming arrangements were governed by expressly written agreement between the contractor and the smallholder farmer. In case the smallholder farmer was not able to raise the full amount of money required to purchase and install the cages, the

feed manufacturing company would facilitate loan access to the SHF, install the cage system, 4 month old birds (which was at the inception of the laying stage) and reach an agreement which explicitly restricted the farmer to three terms.

One of the terms was, under the arrangement the farmer would only use poultry feeds from the contractor and that they would only sell/exchange eggs with the contractor who has facilitated the loan from the local bank. Second, the farmer would repayment the loan through proceeds from the sale of eggs collected by the contractor and third, that the farmer would only end the contract upon clearing the loan in full together with any other charges. The smallholder farmer was therefore necessitated to open a bank account with only a specific local bank where the loan repayment details would be transacted and recorded. These terms restricted the exit of the smallholder farmer from the present contract until they cleared their loan in full. At the same time, the smallholder farmer was required to place security on the loan disbursed using their own assets and property.

There were different terms of entry in the informal contract arrangement for the two sampled companies. A key informant from one company stated that the entry requirement was that either the smallholder farmer pays for feed supply in full amount of money or they obtain poultry feeds which were equal to the exchange of eggs produce every interval. In the other company, the smallholder farmer would obtain poultry feeds on credit and this was not dependent on whether they could exchange eggs or not at that given point in time but that they could clear for the credit on feed delivered later in time although usually not exceeding 1 month unless one had emergency reasons which they would communicate to the office for further credit extension. In both companies though, the informal contracts were based on trust and mutuality in observing the contract terms. Subsequently there was a high ease in entry or exit for the smallholder farmers since there was no binding terms

4.4.2 Price Terms for Inputs and Outputs

In the formal contract arrangements, the price for eggs was fixed and relatively higher than the market price. However the prices of poultry feeds were invariably fluctuating and dependent on the macro economic situation as the key informant from the feed company explained. In the

informal contract arrangements however, the prices for poultry feeds and buying price for eggs were also invariably fluctuating.

4.5 Influence of Contract farming on Smallholder Poultry Farmers

The overall objective for this study was to assess the influence of contract farming on smallholder poultry farming enterprises in Thika district. The study therefore examined the gendered influence of contract farming within households, benefits to smallholder poultry farmers from the contract farming arrangement and the major challenges that these farmers experience in the contract farming arrangement all which are discussed below.

4.5.1 Gendered Influence of Contract farming within the Household

Some of the attributes which influenced ownership of the poultry enterprise within households such as opportunity for off farm income were interrogated. The study also sought to establish other attributes which related to gender and pertained to sharing of the labour burden in the poultry enterprise versus the receipt and decision to use income within the household. In addition the degree of decision making and control was interrogated in comparison to the degree of ownership.

4.5.1.1 Off-farm Employment and Ownership of Poultry Enterprise

Ngeno et al. (2011) in a study of commercial poultry farmers in Kericho County, argued that there was a high likelihood for women in married households to own commercial poultry enterprises if their male counterparts had the opportunity for off-farm income. This was based on the understanding that the off-farm income opportunity tends to preoccupy the man and he becomes more willing to surrender ownership and control of the on farm opportunity to the wife. This study therefore asked the respondents to state whether any of them had an off farm employment opportunity. From the Table 4.14 it is evident that where the women were the owners of the poultry enterprise in the households engaged in either formal, informal or the control group, all their spouses (husbands) had an off farm employment opportunity. For instance, there were 3 women owners from a total 23 for the households engaged in formal contracts, 8 women owners from a total 37 in the informal contracts and 5 women owners from a

total 10 households in the control group. In all the three cases, all their husbands had an off farm employment opportunity.

The study therefore observed that the likelihood for women owning the commercial poultry enterprise in any household is highly influenced by the availability of off farm employment opportunity for their spouses a possible explanation being that the spouses will be preoccupied and in terms of time, extra source of income and subsequently surrender ownership to their counterparts. However with the understanding that this is an adequate but not sufficient explanation for women ownership of poultry enterprises in case their male counterparts had an off farm employment opportunity, another possible explanation would be possibly because these women had a high investment drive.

Table 4.14 Cross tabulation of the owner of the poultry enterprise and the opportunity for off-farm employment for both husband and wife within the household

Form of Contract		Owner of Poultry Enterprise in the Household	Opportunity for Off-farm Employment within the Household			
			Husband		Wife	
			Yes	No	Yes	No
Households engaged in formal Contracts	Husband	13	2	11	1	12
	Wife	3	3	0	0	3
	Joint	7	1	6	1	6
	Total	23				
Households engaged in Informal Contracts	Husband	15	2	13	4	11
	Wife	8	8	0	0	8
	Joint	14	7	7	2	12
	Total	37				
Households not engaged in contract (Control Group)	Husband	0				
	Wife	5	5	0	0	5
	Joint	5	1	4	0	5
	Total	10				

Source: Survey Data (2014)

4.5.1.2 Sharing of Labour Burden versus Receipt of Income

The study sought to establish whether those who provide labour towards the contracted poultry enterprises accessed a proportionate share of the benefits. This was done through enquiry of the members who undertake the various tasks that revolve around and within poultry farming until production is achieved and the household member who receives income from the sale of produce from the poultry enterprise. For gender analysis between the male and female counterpart within the household, the labour burden was compared between the husband and wife of the household even though the other household members participated in labour towards the poultry enterprise. From the Table 4.15, for the households engaged in formal contracts women contributed 51% in terms of labour men contributed half that of women at 25.7%. However, when receipt of income was considered men disproportionately received 82.6% of income while women only received 17.4%. The findings were not much different for those households engaged in informal contracts. In this category, women contributed 44.4% of the labour while their spouses contributed an amount slightly above half that contributed by women at 24.3%. When income receipt was considered, women only received 37.8% while their spouses received 54.1%.

For the two forms of contracts, the findings indicate that on one hand women contribute a relatively higher amount of labour burden towards the poultry enterprise in comparison to their male counterparts but on the other hand they receive an amount relatively less than that received by their male counterparts. It would be expected that those who contribute much of the labour receive income in proportionate share but the findings in this study are contradictory. This could be explained by the patri-lineal nature of the study area which was rural and any productive asset is deemed property of the man who is the head of the household. This gives way to subsequent access of the benefits derived from such property irrespective of the party discharging labour to the productive assets. A key informant from one feed company explained that they prefer dealing with the man from the household especially in formal contract arrangements which are more sensitive since they involve providing collateral for bank loans. This information could possibly explain the reason why the proportion of income receipt by the husband is much higher (82.6%) in formal contracts than in informal contracts (54.1%).

Table 4.15 Cross tabulation of labour burden and income receipt within households

	Households engaged in formal contract					Households engaged in Informal contract				
	Husband	Wife	Children	Hired Labour	Total %	Husband	Wife	Children	Hired Labour	Total %
Who discharges labour										
Proportion of Labour Burden	25.7	51	15.2	8.6	100.0	24.3	44.4	9.3	22	100
Who receives income	Husband	Wife	Either Husband or wife			Husband	Wife	Either Husband or wife		
Proportion of Income Receipt	82.6	17.4			100	54.1	37.8	8.1		100

Source: Survey Data (2014)

4.5.1.3 Decision- Making, Control and Ownership of Poultry Enterprise

It was imperative to study household decision concerning the poultry enterprise as much as we studied ownership of the poultry enterprise within the household. Essentially, the study sought to establish whether women in particular made decisions on how to use income received from the contract poultry enterprise, to dispose and acquire more of the poultry enterprise independent of their husbands. As shown in Table 4.15, for households engaged in the formal contract arrangement the degree of control and decision making for women was only limited to their degree of ownership. For instance, only 3 women could control and make decisions about the poultry enterprises which corresponded to 3 women owners from a total 23 households. For those households engaged in informal contract arrangement, 10 women controlled and made decisions concerning the poultry enterprise which was slightly 2 more in relation to their ownership count which stood at 8 from a total 37. Decision making and control by men stood at a count of 10 and 16 while their ownership count stood at 13 and 15 for households engaged in formal and informal contract respectively.

These findings indicate that the degree of decision making and control over the contract poultry enterprise is influenced highly by the degree of ownership between the man and woman within the household.

Table 4.16 Count of owner of poultry enterprise and who decides how income receipt from PFE is used within the household

	Households engaged in Formal Contract				Households engaged in Informal Contract			
	Husband	Wife	Either Husband or wife	Total	Husband	Wife	Either Husband or wife	Total
Owner of Poultry Enterprise (Count)	13	3	7	23	15	8	14	37
who controls how poultry farming income is used (Count)	10	3	10	23	16	10	11	37

Source: Survey Data (2014)

4.5.2 Benefits of Contract farming

Establishing the benefits resultant from the contract farming arrangement was considered necessary for the study so as to determine the positive influence of contract farming arrangement for the smallholder farmers. The main reason(s) for joining the current contract farming arrangement were interrogated. Further probing was done to find out if the smallholder farmers

continued to enjoy the benefits they had anticipated at the time of entry in the contract with the passage of time.

4.5.2.1 Reasons for Joining Contract farming Arrangement

The study was based on the premise that contract farming arrangement facilitates commercial poultry production for smallholder farmers by providing inputs on credit basis, marketing of farm produce, input delivery at farm gate and reduction of production risks through provision of extension services. These services were considered as benefits which the smallholder farmer could enjoy once they joined the contract farming arrangement. Based on this, respondents were asked to identify the main reason for joining the contract farming arrangement.

From the Table 4.16, while only 27% (10 from a total 37) of those in informal contract joined to obtain poultry inputs on credit, 100% (all 23) of those in formal contracts joined to obtain inputs on credit. This finding could be explained by our earlier analysis that formal contract was highly capital intensive and very asset specific because of the cage system involved. This could have prompted most of the households to desire credit from the contractor so as to acquire and install the system unlike those in informal arrangement who could be able to secure own funding for their poultry enterprises. The income receipts from their other commercial farming enterprises was sufficient as expounded by an official from one feed manufacturing company who explained *“majority of those in informal arrangements rarely need credit on inputs to start their operations because they have other commercial farming activities such as coffee, tea, pineapple and dairy which they rely on for savings to put up poultry projects....and yet still, they only need to construct the shed and buy chicks which is not so capital intensive (unlike those in formal arrangements).... their (informal) only challenges is how to expand the poultry project later on especially if they fail to be consistent when they face operation challenges”*

The study further revealed that 89.2% (33 from a total 37) in the informal arrangement joined so that they could be able to market their eggs produce. All 23 (100%) in formal arrangements joined so that they could be able to market their produce since they had been assured of a higher fixed predetermined price for their eggs upon contract entry unlike 89.2% in the informal arrangement who only had the assurance of selling their eggs to the contractor but at a

fluctuating price dependent on the market rate. Only 8.9% (7 from a total 37) in informal and none in formal contracts joined the current contract farming arrangement so that they could reduce production risks through extension services. A possible explanation for this low score in this attribute was because provision of extension services by the contractor was not a requisite in contracted poultry production but rather an initiative out of will by the contractor.

Interestingly, the study found out that all households (100%) from all the two contract forms joined the current contract farming arrangement so that they could be able to obtain inputs at the farm gate. One possible explanation for this finding primarily relates to the poor state of the roads which the researcher observed in the course of field survey and the information generated by the respondents and the key informants. In addition the households did not have their own means of transport. For instance, the key informants from the two sampled feed companies explained that poor roads presented transport challenges to these smallholder farmers in accessing inputs located in Thika town. This clearly explains why this was the main reason from the smallholder farmers in both formal and informal arrangements joined the contract arrangement. The challenge was no different for all the 10 farmers in the control group who also cited poor road infrastructure as a major challenge to their farming activities. In addition an interview with local Livestock Production Officer revealed that poor road infrastructure hindered the motivation of smallholder farmers to practice farming on a commercial scale.

Table 4.17 Main reason for joining current contract farming arrangement

Main reason for joining current contract farming arrangement	Households engaged in Informal Contract		Household engaged in Formal Contract	
	Count out of 37	%	Count out of 23	%
To be able to obtain poultry inputs on credit	10	27	23	100
So that I could be able to market my produce	33	89.2	23	100
To be able to obtain inputs at the farm gate	37	100	23	100
To enable me reduce my production risks through extension services provided	7	8.9	0	0
Because practising poultry farming independently proved difficult	0	0	0	0

Source: Survey Data (2014)

4.5.2.2 Resultant Benefits from Participation in Contract farming Arrangement over Time

The researcher sought to identify the benefits that the smallholder poultry farmers enjoy when they participate in the contract farming arrangement over time. This inquiry particularly identified whether the participants in the two contract forms continued to enjoy the benefits they had anticipated upon joining the contract such as timeliness in input delivery, possibility of increase in incomes and provision of free agronomic extension services relevant to the poultry farming enterprise. The need to determine if either of the contract farming forms had introduced any new poultry farming technology and its resultant benefits to the smallholder farmer was also interrogated.

Table 4.17 shows that overall, majority of the households engaged in both forms of contract expressed satisfaction in the timeliness in supply of inputs mostly poultry feeds by the contractor. The figures stood at 95.7% and 97.3% for the households engaged in formal and informal contracts respectively. The study also observed that the contract farming arrangement enabled households in both contract forms to market their produce of eggs substantially. For instance all the participants in the formal arrangement stated that the contract farming arrangement enhanced marketing of all their eggs produce destined for the market through collection at farm gate while 89.2% of those engaged in informal arrangement alluded to the same. There were different findings with regards to the possibility of the contract farming arrangement increasing incomes for the households engaged in the formal and informal contracts. While in both categories majority stated that participation in the contract farming arrangement had resulted to a rise in incomes, the proportion was lower in formal arrangements at 56.5% (only 13 from a total 23) as compared to 94.6% (35 from a total 37) households in informal contracts who stated that the current contract arrangement had resulted to increase in their incomes.

Table 4.18 Resultant benefits from participation in contract farming

	Households engaged in Formal Contract				Household engaged in Informal Contract			
	Yes	%	No	%	Yes	%	No	%
Satisfaction in timeliness of input supply	22	95.7	1	4.3	36	97.3	1	2.7
Whether contract farming arrangement has facilitated marketing of all eggs produce destined for the market	23	100.0	0	0	33	89.2	4	10.8
Whether income has increased since farmer joined current contract farming arrangement	13	56.5	10	43.5	35	94.6	2	5.4

Source: Survey Data (2014)

Prior interaction with the two feed companies helped the researcher establish that the contract farming arrangement provided agronomic extension assistance to smallholder farmers in the study area free of charge. The researcher sought to establish whether this claim was a reflection of what was actually happening on the ground. Respondents were therefore asked to state if they received any extension service from the contractor and whether such service was relevant in supporting their poultry enterprise. Table 4.18 below shows the proportion of households who were provided with the extension services for both formal and informal contract arrangements. In formal contracts, only 34.8% stated that they received extension services from which 26.1% claimed it was beneficial to their poultry farming enterprise. For those engaged in informal contracts, 70.3% stated that they received extension services and a further 67.6% claimed that it benefited their poultry farming enterprises. In all the two forms of contract arrangements, the

respondents claimed that the advice had saved them unnecessary costs which occur as a result of minimal knowledge in poultry production.

Table 4.19 Provision of free extension services and their relevance to the poultry farming enterprise

	Formal Contract Farming arrangement					Informal Contract Farming arrangement				
	Yes		No		Total	Yes		No		Total
	Count	%	Count	%		Count	%	Count	%	
Do you receive any extension from contractor	8	34.8	15	65.2	23	26	70.3	11	29.7	37
Has any of the extension benefited your poultry farming enterprise	6	26.1	2	8.7	8	25	67.6	1	2.7	26

Source: Survey Data (2014)

For the total households engaged in formal and informal contract arrangements, 41.4% (29 from a total 60) stated that the contractor had introduced a new poultry farming technology of cage system. He study identified that 31.4% (22 from the total 29) of those who had been introduced to the cage poultry farming system had been able to acquire and use it in their enterprises. All the 22 households who had been able to acquire and install the cage system attributed various benefits to its adoption which included, minimal labor input in watering the flock, improved egg collection percentage due to less egg breakage and the ability to monitor birds progress individually unlike the deep litter system.

4.5.3 Challenges to Contracted Smallholder Poultry Farmers

In order to avoid bias in assessing the influence of contract farming in smallholder commercial enterprises, the study sought to identify the major constraints facing smallholder contracted

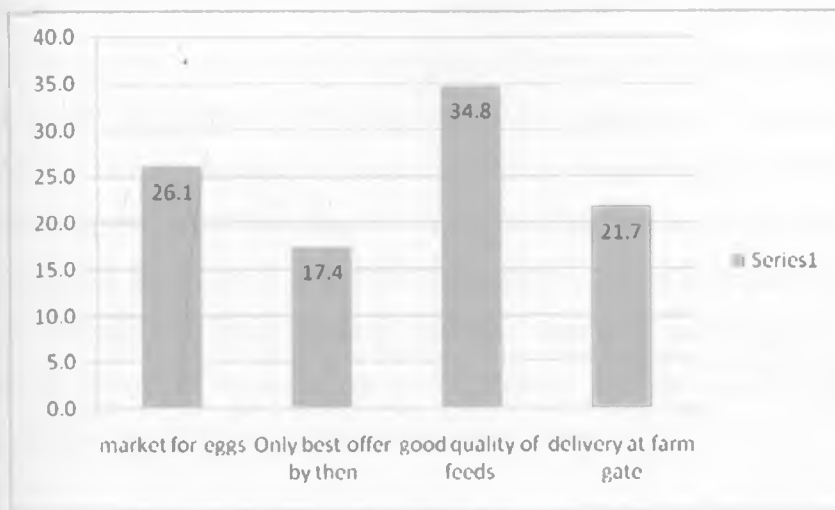
farmers. Several attributes were interrogated to establish the satisfaction of the smallholder farmer at various stages of the contract which are discussed below.

4.5.3.1 Challenges faced upon Contract Entry Phase

The study sought to understand if the contractor allowed for negotiation of the contract terms upon entry in the formal and informal contract arrangements. It was observed that the contractor allowed negotiation of contract terms upon entry for all the 23 households who chose to engage in the formal contract arrangement. However there was no negotiation of contract terms upon entry for all 37 households who chose to join informal contract arrangements. To find out whether failure to allow for negotiation of contract terms upon entry was a challenge or not the researcher asked the respondents to express their level of satisfaction with the terms the contractor offered. The study revealed that from the 37 respondents engaged in informal contract arrangements, only 1 was “satisfied”, 18 respondents were “neither satisfied nor dissatisfied” while the remaining 18 were “dissatisfied” in the terms the contractor offered. The researcher further probed the reasons why the 18 respondents went ahead and joined the contract despite the fact that they had expressed dissatisfaction in the terms the contractor offered.

As shown in Figure 4.1, the highest response (34.8%) why the respondents went ahead and joined the contract was because they wanted to obtain poultry feeds on credit. 26.1% stated that they went ahead and joined so that they could be able to market their eggs, 17.4% stated that the contract arrangement was the only best offer by then while 21.7% chose to join because they desired cost free delivery of feeds at farm gate.

Figure 4.1 Reasons why respondents dissatisfied with contract terms went ahead and joined the contract



Source: Survey Data (2014)

The study established that the 23 households were allowed to negotiate with the contractor the selling price of their eggs produce, the price of poultry feeds and the terms of loan repayment for acquiring and installing the cage system of poultry production. The study pursued to find out the level of satisfaction in all the 23 households who had been allowed to negotiate contract terms during the contract entry. It emerged that 60.9% (14 from a total 23) stated they were “very satisfied” while 39.1% (9 from a total 23) were “satisfied”. A key informant from the feed company mentioned that farmers in formal contract arrangements had been offered a higher fixed buying price for their eggs produce and this could possibly explain why all the 23 farmers in formal arrangement expressed satisfaction in the terms upon contract entry.

Another challenge which emerged upon entry of contract by smallholder farmers was posed by the introduction of new poultry farming technology manifest in the cage system. The study found out that 8 respondents had been introduced to the cage system of poultry farming but they had not been able to acquire and install it in their poultry enterprises. Further probing was done to establish the reasons for not been able to adopt and use this technology despite its inherent benefits discussed earlier on. We found out that 4 of the 8 respondents stated that were

incapacitated because of inability to raise capital required and/or offer any assets as collateral for loan advance from the local bank. Another 2 from the 8 respondents stated that they had not adopted and used the cage system because of the negative experience they witnessed from fellow farmers who had adopted the technology. The remaining 2 respondents stated that the cage system was not appropriate for them and that they were content with the deep litter system they had adopted ever since they started poultry farming. Among all the reasons cited by respondents for not having been able to adopt the cage system, capital and credit incapacitation recorded the highest frequency. These findings indicate that new technology in poultry farming could potentially be out of financial reach of relatively poor farmers and subsequently prevent them from adopting an efficient poultry production system.

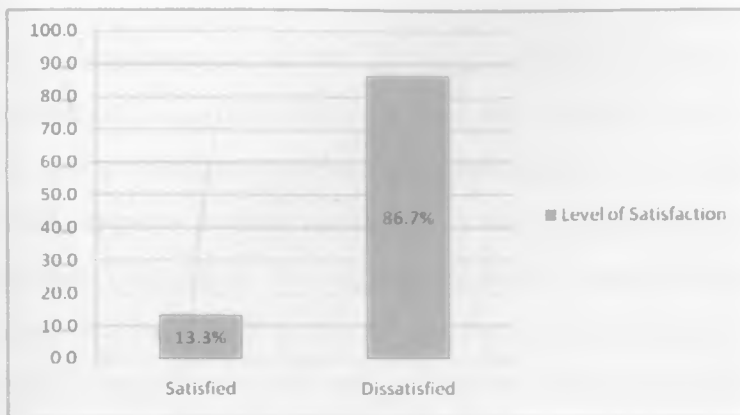
4.5.3.1 Challenges faced during Contract Operation Phase

The challenges experienced in the operation phase related to the roles and obligations which the contracting feed companies were supposed to observe and commit to in the course of engagement with the smallholder poultry farmers. Precisely these were operationalised by identifying whether the contracting feed companies provided suitable channel for addressing issues which the smallholder farmers were not satisfied with and if such channels existed, the study established levels of satisfaction for the smallholder poultry farmers with the terms of resolution. In addition, it was important to find out whether the contractor allowed for revision of contract terms over the course of the contract. Farmer's satisfaction in quality of feeds delivered by the contracting feed companies was also interrogated.

4.5.3.1.1 Resolution of Challenges during Contract Operation Phase

As shown in Figure 4.2, 15 (65.2%) from a total 23 of households engaged in formal contract arrangements stated that the contractor provided a channel to address issues of concern. When the levels of satisfaction was measured for the 15 households, 2 households (13.3%) stated that they were "satisfied" while 13 (86.7%) stated that they were "dissatisfied" with the resolution channels that the contractor used.

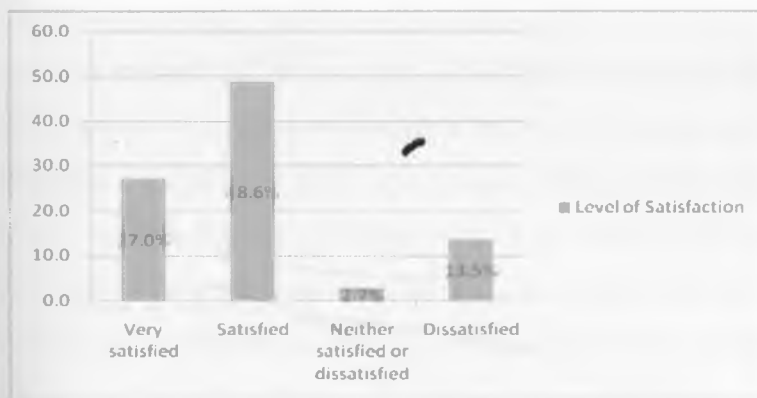
Figure 4.2 Level of Satisfaction with the Contractors Terms of Resolution in Formal Contract Arrangement



Source: Survey Data (2014)

From Figure 4.3, for those households engaged in informal contracts, 34 (91.9%) households from a total 37 stated that the contractor provided a channel to address issues of concern. When levels of satisfaction were measured for the 34 households, 10 (27%) stated that they were “very satisfied”, 18 (48.6%) were “satisfied”, 1 (2.7%) was “neither satisfied nor dissatisfied” while 5 (13.5%) were “dissatisfied”.

Figure 4.3 Level of Satisfaction with the Contractors Terms of Resolution in Informal Contract Arrangement



Source: Survey Data (2014)

The findings reveal that formal contract arrangements provided relatively fewer channels to address issues of concern at 65.2% (15 from a total 23 households) as compared to the informal contract arrangements at 91.9% (34 from a total 37 households). Moreover, when levels of “dissatisfaction” with the terms of resolution offered were compared, households in formal contract arrangements were more dissatisfied at 86.7% (13 households from a total 15) while the households engaged in informal contract arrangements were fewer at 14.7% (5 from a total 34 households). Our earlier finding revealed that households in formal contract arrangement expressed relatively high levels of satisfaction upon entry into the contract arrangement as compared to those households who joined the informal contract arrangements. However, as the contract progressed over time, households in formal contract arrangements expressed relatively higher levels of dissatisfaction than their counterparts. One possible explanation of this phenomenon could be what Glover & Kusterer (1990) in their study of contract farming and smallholder farmers in less developed countries referred to as “agribusiness normalization”. Agribusiness normalization occurs when the contractor offers very attractive incentives in terms of input and output price during contract entry especially in the first few years but later withdraws the incentives gradually with time particularly when the contractor realizes that the smallholder farmer is “held up” (bonded) in the contract and when the costs of extending the incentives to the farmer become unsustainable.

The aspect of contractual farmer hold up became more magnified when the researcher sought to determine which alternatives households in formal contract arrangements resort to especially when the contractor violates their expectations. Majority of the farmers (95.7% or 22 from a total 23 farmers) in formal contract arrangements expressed concern with regards to the inability to change from one contractor to the other since they were tied up by the un-serviced loan balance advanced by the contractor so as to acquire and install the poultry cage system. On the contrary, farmers engaged in informal contracts had no pre-conditions stipulating contract exit since it was based on a relationship of trust as explained earlier in our analysis and they were therefore not bound by any obligation that could affect their exit. This could explain the reason why households engaged in formal contracts were more dissatisfied since they had to unwillingly abide by the contract terms until they serviced their loan in full.

This finding is consistent with Baumann (2000) in his cross-country study of East and West Africa who established that contract farming arrangements had a tendency to lock down the smallholder farmers into inflexible production arrangements especially when they provide advanced credit in kind rather than in cash. The cage system in this case is an example of a credit in kind provided in a tripartite agreement through the contractor. The agreement in turn binds the smallholder farmer to whichever terms that come along over the contract operation phase at the discretion of the contractor. The farmers can only liberate themselves from unfavourable contract terms by servicing the full amount of loan, exit and seek another contractor offering contract terms.

4.5.3.1.2 Revision of Contract Terms

In both forms of contract arrangements, farmers were not accorded an opportunity to revise the terms of contract over time. However, the contracting feed companies had the right to change the price terms for their supply of poultry feeds at their own discretion in both contract forms and manipulate the terms for exchanging and buying eggs of eggs from farmers in the informal contracts. This finding is consistent with Little & Watts (1994) finding in Kenya about contract farming in contracted vegetables and points to unequal exchange relations where the smallholder farmer is simply relegated to abiding to terms stipulated at the discretion of the contracting feed companies.

4.5.3.1.3 Level of Satisfaction with Feed Quality

Provision of inputs such as poultry feeds to the smallholder farmer was a key variable in defining the contract arrangement. The researcher measured the levels of satisfaction in the poultry feeds delivered by the contracting feed companies to assess the contractual relationship. From the total 37 households in the informal contract arrangements, 17 (45.9%) households stated that they were "very satisfied" in the feed quality, 12 (32.4%) were "satisfied" while 8 (21.6%) were "dissatisfied". From the total 23 households in formal contract arrangements, 3 households (13%) were "very satisfied" with the feed quality, 2 (8.7%) were "satisfied", 13 (56.5%) were "dissatisfied" while 5 (21.7%) were "very dissatisfied". The study identified that the levels of dissatisfaction in feed quality between the two forms of contract was much higher for households

engaged in formal contract arrangements as compared to households engaged in informal contracts.

The possibility of this finding lies in our earlier finding that farmers engaged in informal contracts could easily change from one contractor to the other in case they were displeased with the feed quality and further still, if they informed the company of the problem but the company failed to improve on feed quality. Since the informal contract arrangement was based on trust between parties, the contracting feed company had to necessarily improve on feed quality in order to retain the smallholder farmer and prevent them from exiting the contractual relationship. The formal contract arrangements however were based on a legally binding agreement between the smallholder farmer and the contracting feed company and the farmer was restricted to using the specific company's poultry feeds. Subsequently, this category of smallholder farmers had to withstand the poor quality of feeds delivered to them by the contractor unless they serviced their loan in full so that they could liberate themselves and engage with other feed companies otherwise they breached the contractual terms. Further probing was conducted to find out the penalty for breach of contract but the key informants declined to expound on this issue probably due to its sensitivity.

Besides the challenge of poor feed quality, the researcher sought to know whether the two contract forms faced similar or different challenges in poultry farming using an open ended question. From Table 4.19, the score for the other challenges faced were different for each of the two groups. For instance, households engaged in informal contract arrangement faced the challenge of expanding their poultry enterprise (29.7%) since one of the feed companies had seized extending poultry inputs on credit after prior experience where there was a high default rate by farmers as one key informant explained. The company resorted to either exchanging eggs or cash in full for poultry inputs delivered. Participants from the focus group discussion argued that the cost of rearing chicks until they are of laying age is quite high especially if you had to buy every input on cash basis. In addition, they also faced the challenge of high price of poultry feeds. Notably one key informant stated that

“at times high quality of poultry feeds comes at an equally higher price since you have to use high quality raw materials, at times the farmers are unfortunately not ready to pay for the high

quality and they end up purchasing low quality feeds at cheaper prices consequently experiencing more problems in egg productivity”

Farmers engaged in informal contract arrangements encountered the challenge of high feed prices (18.9%) since they had the ability to chose the appropriate high quality feeds (due to ease of contract entry and exit) which bore a higher price unlike those in formal contracts who were restricted to taking up poor quality feeds unless they freed themselves by servicing their loans in full and changing to a different contractor with high quality poultry feed.

For the farmers engaged in formal contract arrangement, the challenge of servicing the loan and managing credit advances (73.9%) by the contractor was of key concern. Further probing identified that with the poor feed quality delivered, egg production was highly affected negatively and this was the main basis for serving the loan through sale proceeds. Other challenges faced by farmers in informal contract arrangements were manifest in poor knowledge of poultry farming and desire for extension services.

Table 4.20 Other major challenges faced by smallholder poultry farmers

	Households engaged in Formal Contract	Households engaged in Informal Contract
Challenge encountered	Percentage of Cases	Percentage of Cases
Inability to obtain credit for expansion of P.E		29.7
Poultry diseases	17.4	
High price of poultry feeds		18.9
Credit management/servicing of loan	73.9	
poultry farming knowledge and extension assistance	13	
Casual labour	4	2.7

Source: Survey Data (2014)

4.5.3 Factors Affecting Sustainability of the Contract farming

The study sought to identify the factors likely to influence the positive relationship between the smallholder poultry farmers and the contractor. The study established that such factors determined the genesis of benefits or challenges to the parties which would eventually reinforce or undermine the sustainability of the contract arrangement. The identified factors included macroeconomic conditions which influenced the price of raw materials for poultry feeds, insecurity due to risk of contract default and the effects of manipulation of contract terms.

4.5.3 Macroeconomic Conditions

Since the challenge of substandard poultry feeds and high cost of poultry feeds was very common among majority of all the sampled households, the researcher put up this theme in the interview guide for discussion with the officials representing the feed manufacturing companies. When asked if they were aware of the complaints regarding high cost of poultry feeds and feed quality, the responses from the two key informants each from one of the two sampled feed manufacturing companies was consistent in two ways. One, the cost of raw materials for processing of poultry feeds was high especially due to tax levy by the government. Over time, the feed companies have passed the cost burden to the SHF's who face the pressure in terms of high prices for their feed quality. This at times would prompt these farmers to resort to purchasing poor quality feeds at low prices. Second, the high cost of raw materials forced the feed manufacturing companies to substitute feed manufacture with low quality raw materials which would subsequently compromise the feed quality. These findings relate to those of Da Silva Junior *et al.* (2011) in Brazil who identified that tax incentives by the government on contracting firms highly enhanced the sustainability of the contract arrangement because a contractor were shielded from the tax burden and this ensured that they did not pass a high cost burden to the contracted farmers.

4.5.3 Contract Default

The study identified that manipulation of contract terms affected the relationship between parties in the contract farming arrangement. In order to assess this attribute the study probed for responses concerning the reasons which would either motivate or prevent the sampled households to continue engaging with the contractor in future. We found out that 53.3% (32 from

a total 60) contracted households stated that they would desire to continue engaging with the current contract farming arrangement in future. The remaining 46.7% (28 households) stated that they would desire to end their relationship with the current contractor. The study probed to establish the reasons which informed the decision to continue or end the contract farming relationship among the contracted households as shown in Table 4.20. It emerged that those who desired to continue to engage with the current contractor were highly influenced positively by extension assistance provided at (56.3%), closely followed by the good quality in poultry feeds delivered at 46.9%. Other incentives that attracted the sampled households in the current contract farming arrangement included a convenient mode of payment of proceeds from sale of eggs (9.4%); timeliness in feed delivery (15.6%) and credit extension on poultry feeds (12.5%).

The results indicate that quality of poultry feeds (46.9% & 53.6%) highly influenced the direction of the contract farming arrangement in future as shown in Table 4.20. This was closely followed by the need for extension service provision (56.3%) which would eventually relate with concern for challenges faced by the smallholder farmers (46.4%). The need to enhance credit on feeds did not feature highly from the smallholder farmers in both categories of contract forms. This is because, for households engaged in informal contracts (See Table 4.16 for households engaged in informal contracts at 23%), the poultry enterprise was less capital intensive and majority had other commercial farming enterprises which could support the poultry enterprise financially. This would therefore reduce their need for credit extension from the contractor. For households engaged in formal contracts, their earlier experience in the challenge to manage their loans and credit (See Table 4.19 for households engaged in formal contracts at 73.9%) would reduce their motivation and desire for credit from the contractor.

Table 4.21 The Desire to Continue Contract Farming Arrangement with the Current Contractor

Reasons for desire to continue engaging in the Contract Arrangement			
	Number of cases	% of cases	
good quality feeds	15	46.9	
extension assistance	18	56.3	
mode of payment	3	9.4	
timeliness in feed delivery	5	15.6	
credit extension on poultry feeds	4	12.5	
Reasons for Non-desire to continue engagement in the Contract Arrangement			
	Number of cases	% of cases	
Lack of concern for challenges faced by the SHF	13	46.4	
Poor quality of feeds	15	53.6	
Lack of extension services	2	7.1	

Source: Survey Data (2014)

4.5.4 Need for Legislation

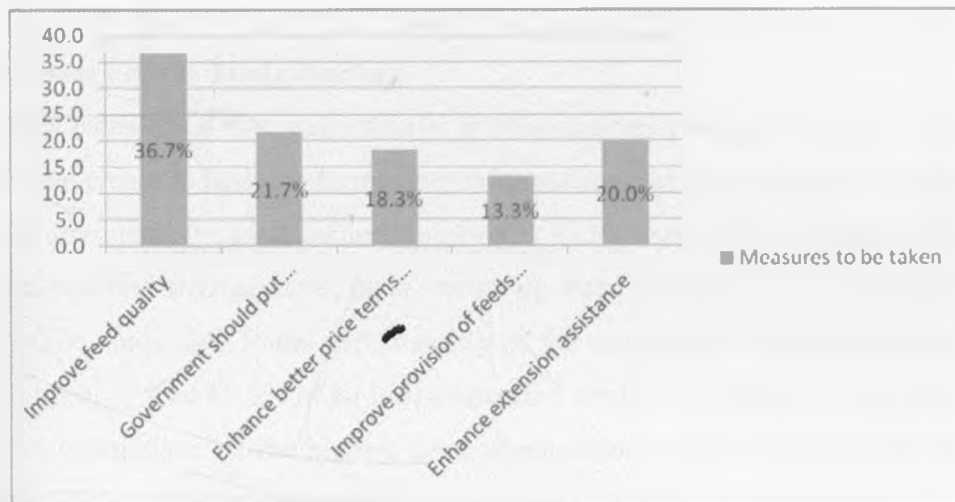
Following an interview with the two key informants from each of the feed manufacturing companies, it became clear that the presence or absence of laws and regulations governing the conduct of parties in the contract farming arrangement was very vital in explaining the sustainability of the contract farming relationship. For instance one feed company explained that it used to deliver poultry feeds on credit to smallholder farmers within their contract farming arrangement 2 years ago, however the management of the feed company decided to end credit extension on feeds after incurring heavy losses due to default by the smallholder farmers. When asked why they choose to take this particular action, the official argued that there were no binding legal institutions in Kenya with respect to contract farming. The official stated

“we were left with no option but to end the beneficial credit extension programme on poultry feeds to farmers because they were not repaying and even if you sought legal redress, it will take

too long and this will not even compensate our time value for money, furthermore it is least helpful to the company for instance when eventually through the legal process the farmer reveals that they can only repay a KShs 80,000 debt at the rate of KShs 2,000 per month....when will they ever finish repaying...at this rate, we can only close our operations because of inefficiency”

Weakness in the legal structure guiding the conduct of parties became more evident during the course of household surveys when the researcher asked the farmers to suggest the measures which they anticipated would enhance a cordial contract farming relationship with time. From the Figure 4.4, 21.7% suggested that the government should put checks to ensure that the feed companies do not manipulate the terms manifest in price and quality of poultry feeds and price for their eggs produce. There was a major emphasis with regards to the concern to improve feed quality from the smallholder farmers. The need for legislation to govern the conduct and further enhance sustainability of the contract farming arrangement was reinforced during a focus group discussion where participants reinstated that the feed companies should be regulated by the government with regards to the feed quality.

Figure 4.4 Measures to Enhance a Cordial Contract Relationship



Source: Survey Data (2014)

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The overall objective for the study was to assess the influence of contract farming arrangement on smallholder poultry farmers in Thika District. In order to do this, five specific research objectives were set which included establishing characteristics of the contracted smallholder poultry farmers, describing the organization of the contract farming arrangement and finding out how the smallholder poultry farmers benefit as a result of the contract farming arrangement. The fourth specific objective was identification of the major constraints facing the smallholder poultry farmers within the contract farming arrangement. The last specific research objective examined the factors that contribute to sustainability of the contract farming arrangement among smallholder poultry farmers. This chapter presents a summary of the study findings based on these specific research objectives, conclusions and recommendations for policy and further studies.

5.2 Summary of the Study Findings

The study established that male ownership of contracted poultry enterprises was higher than the female ownership in both the formal and informal contract arrangements. For instance, in formal contract arrangements, male ownership stood at 56.5% compared to female ownership at 13%. In informal contract arrangements, male ownership stood at 40.5% while female ownership stood at 21.6%. The study also found that majority of the contracted smallholder poultry farmers were middle aged, in deed 63.3% of all (60) contracted smallholder farmers fell in the age group 31-50 years. A comparison of the highest level of education attained between the owners of poultry enterprises engaged in contract and those not on contract arrangements using the Mann Whitney U Test however revealed that education level was not significant in influencing the likelihood of the smallholder farmer participation in the contract farming arrangement. The study established that a vast majority of the poultry farmers joined the contract arrangements 2-3 years ago. For instance 62.2% of those engaged in informal contracts and 60.9% of those engaged in formal contracts joined the contract arrangements 2-3 years ago.

Findings on flock sizes showed that 86.7% of all the sampled households under contract reared between 100-900 birds with a mean flock size of 634 birds. However the mean flock size for farmers not under contract was relatively higher at 1,191 birds. An independent t-test showed that the difference in mean flock sizes between contracted and non contracted farmers was significant at 5% level of significance. The study also established through a chi square test at 5% level of significance that there was no significant relationship between household size and labour participation within the contracted poultry enterprise. Overall findings for the study indicated that of all the contracted smallholder poultry farmers sampled, only 6.7% (4 from a total 60) had gained prior poultry farming experience independently without having participated in any contract form. The other 93.3% (56 from a total 60) stated that they never had gained any prior poultry farming experience and if they had some experience before joining the current contract they had gained this experience by having participated in other contract arrangements before joining the current contract arrangement. The study also found out that 95.7% and 100% of households engaged in formal and informal contracts respectively stated that they practiced other commercial farming activities. Further findings indicated that of all the other commercial farming activities practiced, dairy farming was the most practiced commercial farming activity since 96.7% of all the households engaged in contract arrangements practiced it.

Chi square tests revealed that road infrastructure significantly influenced activities within the contracted smallholder poultry enterprises at 1% significance level. In terms of level of dissatisfaction with the road infrastructure, 91.3% of households engaged in formal contracts expressed dissatisfaction while 81.9% of households engaged in informal contracts also expressed dissatisfaction with road infrastructure. A further 98% of those who expressed dissatisfaction with the road infrastructure also stated that it affected their poultry farming enterprises. Although 80% of the those farmers who practiced poultry farming independently expressed dissatisfaction with the road infrastructure, they were able to manage their poultry activities with ease in comparison to the contracted farmers since they were equipped with means of transport such as own vehicles or their children delivered inputs and sold their eggs on their behalf. This helped deal with the challenge of road infrastructure greatly since they had the means unlike the contracted farmers who did not own such transport. With regards to access to government extension services, 93% of all the farmers under contract arrangements did not have

access to government extension services. In contrast, 80% of the farmers in the control group did have access to government extension services which was relevant to the poultry farming enterprise. These findings show that access to government extension services, and having own means of transport effectively increases the capacities of farmers to practice independently rather than rely on the contractor. This is in line with the capabilities approach which presumes that when people's capacities defined by their functionings are addressed, they are exposed to the freedom to choose what they value independently.

With respect to organization of the contract, formal contract arrangements were largely defined by a written tripartite agreement between the smallholder poultry farmer, the contractor and the local bank providing the loan to purchase and install the cage system. In addition the formal contract arrangement restricted the smallholder farmer to several conditions. For instance, the smallholder farmer would only sell/exchange the eggs produce to the contractor who facilitated the loan access from the local bank, the smallholder farmer was restricted to using poultry feeds from the contractor and that the smallholder farmer could only disengage with the current contractor upon clearing the loan advanced and other charges that had arisen thereon. These conditions relate to the postulations of the center-periphery model where the farmer becomes dependent on the contractor for supply of inputs, outlet for eggs all exchanged at terms expressly determined by the contractor. The farmer is taken to be a mere participant in the contract relationship and unless they fulfill a certain condition such as servicing the loan in full they will always be vulnerable to the terms offered by the contractor.

In the informal contract arrangements however, a verbal agreement based on trust between parties existed and the only binding condition was that either the smallholder farmer would only access feeds on credit if they exchanged an equal amount of eggs produce equitable to the cost of poultry feeds or that the smallholder farmer would pay for the full cost of poultry feeds delivered.

Another key difference between the formal and informal contract arrangements was manifest in the price terms of eggs. In the formal contract arrangements, eggs were exchanged at a special premium price which was fixed and always higher than what other middlemen or competing

contractors offered. In the informal contracts, the exchange price of eggs produce was not fixed but fluctuated depending on the market trends.

The study found out that female ownership of poultry enterprise in both contract arrangements was highly influenced by the opportunity for off-farm employment opportunity for the male counterpart. For instance, in all households where women owned the poultry enterprise, their male counterparts had an off-farm employment opportunity in both forms of contract arrangements. It was also revealed that women contributed 51% of labour in formal contract arrangements and 44.4% in informal contracts. On the flipside women received only 17.4% of the income from the poultry farming enterprise in formal contracts and 37.8% in informal contract arrangements. In comparison, men contributed 25.7% and 24.3% of labour towards the poultry enterprise while they received 82.6% and 54.1% of income from the poultry enterprise.

When the major reasons for joining the contract arrangement were examined, 27% in informal contracts joined so that they could obtain poultry inputs on credit while all 100% in formal contracts joined so that they could obtain poultry inputs on credit. In addition all 100% in formal contract arrangements joined so that they could market their eggs while 89.2% in informal contract arrangements joined so that they could market their eggs. In both contract forms, all the (100%) households joined so that they could obtain inputs at farm gate. Majority of the households in formal and informal contract arrangements expressed satisfaction in timeliness of input supply which stood at 95.7% and 97.3% respectively. However, when increase in income was considered, only 56.5% of households engaged in formal contracts stated that their incomes had increased compared to 94.6% of households in informal contract farming arrangements. The benefits realized by the smallholder farmers show that contract farming relationship has the potential to improve the income generation capacity of households which would possibly have the potential to eventually improve the welfare of the household.

There were a greater proportion of households who received free extension service from the contractor in informal contract arrangements at 70.3% compared to 34.8% in formal contract arrangements. The study also established that 41.4% of all the sampled households engaged in the two forms of contract had been introduced to a new form of poultry farming technology known as cage system. Of the households who had been introduced to the new technology,

31.4% had been able to adopt and use it in their poultry enterprises and they cited various benefits such as reduced labor input in watering, reduced egg breakage and ability to monitor progress birds effectively unlike in the deep litter system.

Failure to involve smallholder poultry farmers engaged in informal contract arrangements was a major challenge upon contract entry since 48.7% expressed dissatisfaction with the terms which were offered for poultry inputs and eggs produce. This was in contrast with households engaged in formal contract arrangements who were involved by the contractor in negotiation of contract terms upon entry and of whom none was dissatisfied with the terms offered for poultry inputs and price of eggs. The introduction of new poultry farming technology posed a challenge in its adoption and use to those farmers who were not able to access the means of credit from the local bank. Half of those who stated that they were unable to adopt and use the cage system in their poultry enterprises attributed their problem to credit incapacitation although the system had several potential benefits in comparison to the deep litter system.

The study established that there was a higher level of dissatisfaction with the terms of resolution offered by the contractor for households engaged in formal contract arrangements at 86.7% as compared to 14.7% level of dissatisfaction with the terms of resolution offered by the contractor for households engaged in informal contract arrangements. While all the households engaged in informal contract arrangements could choose to change from one contractor to the other, the ease of exit for households engaged in formal contract arrangements was much lower, in fact 95.7% of households engaged in formal contract arrangements could not be able to exit from the current contract engagement since they had not serviced their loan in full which was a pre-condition for contract exit. Poor quality of poultry feeds was a major challenge common for households engaged in both formal and informal contract arrangements. However the challenge of poor quality feeds was more rampant for the households engaged in formal contract arrangements than for those households engaged in informal contract arrangements as the study found out.

Interestingly, households engaged in formal contract arrangements expressed higher levels of satisfaction with the terms of contract but expressed higher levels of dissatisfaction during the contract operation phase as compared to households engaged in informal contract arrangements.

This indicates that contractors strategically entice the smallholder farmers to contract entry by providing very good terms initially but later on renege on the terms especially upon ensuring that the smallholder farmer cannot opt out and has to continue engaging in the contract unless they satisfy a certain condition such as full servicing of the loan as in our study with regards to households engaged in formal contract arrangements.

Another major challenge which was apparent from the study related to households engaged in formal contract arrangement that experienced the difficulty of servicing their loan advances. This challenge was particularly as a result of the poor quality of feeds delivered to these farmers which highly affected the egg production capacity which was the main basis for servicing the loan through the sales proceeds generated. The study also revealed that a good number of households engaged in informal contract arrangements encountered the challenge of inability to obtain credit for expansion of their poultry farming enterprises. This was because the profit margins generated could not enable expansion since the households had other competing needs such as food, education health and the fact that the contractor only provided poultry inputs on credit if the farmers exchanged their eggs equitable to the cost of inputs delivered.

With regards to sustainability of the contract farming arrangement, the study found out that government levies taking the form of taxes on raw materials used in production of poultry feeds highly influenced the price and quality of poultry feeds. The burden of high feed prices and poor quality of poultry feeds was eventually passed on to the smallholder poultry farmers; this was a disincentive towards the sustainability of the contract arrangement. It was also evident from the study that provision of free extension services relevant to poultry farming enterprise coupled with concern for the challenges faced by smallholder farmer was a major incentive towards defining a sustainable relationship between the contractor and the smallholder farmer. Lastly, it was a common sentiment from both the contractor and the smallholder poultry farmers that absence of legislation specific to poultry farming governing the conduct of parties with respect to the stipulated terms and conditions highly influenced the behaviour of parties and eventually affected the sustainability of the contract arrangement.

5.3 Conclusions

Based on the findings, conclusions were arrived at which were centred on the objectives of the study. Household and poultry enterprise characteristics such as previous poultry farming experience, road infrastructure and access to government extension services significantly influenced the likelihood of the household to participate in the contract farming arrangement. For instance, road infrastructure was significant in explaining the reason why all the contracted smallholder poultry farmers joined contracts so as to obtain poultry inputs at the farm gate.

However education levels of the owner of poultry farming enterprise was not significant in explaining the likelihood of the smallholder poultry farmer participating in the contract farming arrangement. Household size did not necessarily translate to sharing of labour burden for the contracted households; this explains why most of the labour burden was apportioned between the man and the woman within the household as compared to that shared by children within the household. It is also evident how macroeconomic factors such as import of cheap eggs from Uganda can potentially influence the likelihood of smallholder farmers to join contract arrangements so that they can deal with the risk of marketing of egg produce.

Moreover, male ownership of contracted poultry enterprises was much higher and female ownership of poultry enterprises only occurred when their male counterparts were engaged in other off-farm employment opportunity. Women's limited ownership and access to productive assets has relegated their position to that of sharing a disproportionately higher share of labour burden while receiving very little income for their efforts in the contracted poultry enterprise within the household. This could potentially compromise the sustainability of the contracted poultry enterprise and spark gendered internal dissent and tension within the household due to inequality.

With regards to organization of the contract, formal contract arrangements were defined by a written tripartite agreement while informal contract arrangements were largely verbal and based on trust between parties. Ease of contract entry in the formal contract arrangements was determined by the ability to purchase and install the cage system through full amount of cash or the ability to access a loan which was mediated by the contractor. This precondition for contract

entry could potentially pose a barrier to the less financially empowered individuals since the contractor chooses individuals to contract selectively based on their history of contract performance and financial viability which is reflected by the asset ownership for collateral purposes. The study revealed that there is relative ease in entry and exit for households engaged in the informal contract arrangements. This had the effect of prompting the contractor to abide to the terms such as good feed quality otherwise they would lose customers since any feeling of dissatisfaction implied that the smallholder farmer would move to another contractor offering better terms. This partly explains why a higher proportion of households would choose to continue with the current contractor in the informal contract arrangements as opposed to the formal contract arrangements.

On the benefits of the contract arrangement to the smallholder poultry farmers, it is evident that the challenge of poor road infrastructure has prompted households to enter into contract arrangements since they do not have their own means of transport which poses a major cost in farming especially in obtaining poultry inputs and marketing output. It is also evident that the eggs produce poses a major production risk to farmers due to its perishability. These smallholder farmers have therefore joined the contract arrangements so that they can be able to market their produce at farm gate. The contract arrangement thus guarantees a ready market which is at best more favourable than what middlemen offer. Another major conclusion relates to initiative by the contractor to provide free extension services relevant to the poultry enterprises for the smallholder farmers; this highly ensures sustainability of the contract farming arrangement. This is because majority of these smallholder farmers rarely receive extension services from government agricultural officers as the study revealed. From our findings, most respondents stated that they would wish to continue engaging with the current contractor because they receive free extension services and further that the contractor provided a platform to address issues of concern coupled with satisfactory terms of resolution.

The new technology manifest in cage system has several benefits to the poultry enterprise such as reduction of egg breakage, reduced labour input in watering and ability to monitor birds efficiently. These benefits would be highly advantageous to the smallholder farmers who are preoccupied with other farming activities which limit their time for fully engaging in the poultry

enterprise. However, the difficulty that comes up in servicing the loan is a major disincentive which discourages other smallholders from adopting the system. This difficulty is partly as a result of poor quality of feeds which affects egg productivity hence reducing sales proceeds which are used to clear the loan balance. The study postulates that the cage system is beneficial and its adoption can be popularized if only farmers receive good quality feeds so that their egg production is enhanced and they would be subsequently be able to service the loan conveniently with the higher sales proceeds generated.

The study identifies that poor quality of poultry feeds can potentially weaken the contract farming arrangement and lead to its eventual downfall as evident in the findings. Failure of the contractor to involve the smallholder farmers in designing the contract terms as well as revising the contract terms at their own discretion could potentially sideline the smallholder farmers within the contractual arrangement and render them as mere spectators. This would increase the likelihood in the rate of contract default since the contractor and the smallholder farmers are not aware of their capacities and limitations beforehand.

With regards to sustainability of the contract farming arrangement, the study concludes that absence of legislation specific to contract farming in poultry which would govern the behaviour of parties over time increases the rate of contractual default because there are no checks on establishment and/or breach of contract. Besides, this would increase the likelihood of contractors acting as private agents and eventually exploiting smallholder farmers or acting in a manner that would be disadvantageous to the vulnerable smallholder farmers such as the case of compromise on the quality of feeds.

5.4 Recommendations

The findings of this study could potentially lead to significant improvement in the nature and conduct of contract farming arrangements in poultry farming as well as other types of commercial farming. In addition, the findings also provide directions for further research.

5.4.1 Recommendations for Policy

This study recommends enactment of legislation specific to contract farming especially in poultry farming so that the conduct of parties can be put on check. On one hand, this legislation would ensure that smallholder farmers do not default on the contract over time and on the other hand, it would ensure that the contractors as private agents do not exploit or take advantage of the vulnerability of smallholder poultry farmers who have joined the contract arrangements as a result of the challenges they have been facing. The legislation would also provide an efficient mechanism to the satisfaction of both the contractor and the smallholder farmers in case there is a disagreement or dispute as compared to the national legal system which is time consuming and not as efficient and specific.

The study also recommends that contractors could enhance sustainability of the contract arrangement by facilitating training not only on issues relating to poultry farming but also on gender transformative approaches with regards to sharing of the labour burden and receipt of income so that inequality in the two aspects is minimised between the man and woman within the household. This is particularly important since women who share the largest labour burden and minimal receipt of income can choose to abscond their duties and this can weaken the poultry enterprise within the household which would imply reduced business for the contractor whose main motive is to sell poultry feeds. Importantly, this would possibly also result to disintegration and eventual collapse of the poultry enterprise which would affect the income generating ability of the household.

There is a great need for government agricultural extension officers to put concerted efforts towards training the smallholder poultry farmers on how to integrate their farm activities and offer "home made" solutions to the problems that these farmers face. For instance, government agricultural officers can train the farmers in groups on how to manufacture feeds using the appropriate raw materials since they only need to provide the right mix of formula ratio. This would eliminate the challenge of poor feed quality that farmers encounter when dealing with contractors. However, this initiative calls for organization of farmers into groups for efficiency in terms of training, purchase and transport of raw materials to a convenient location. It also calls for government financial support in terms of credit advance to purchase the raw materials and the

means of transport to the study area. This initiative taken wholly would improve the capacity of smallholder farmers and reduce their dependency on the contractor who may close business overnight or exploit their vulnerable position.

The study further recommends the need for the farmers to unite and establish farmer groups since they are engaged in a common activity and face almost similar challenges. This would increase their bargaining power in case they fail to be satisfied with the terms the contractor offers and accord them a higher platform of demanding for better terms rather than acting individually which denies them the power to act accordingly.

The study also recommends that the national government should take responsibility in ensuring that the welfare of smallholder farmers is enhanced and their efforts are recognized and appreciated by preventing the import of cheap egg imports from neighbouring countries since this erodes confidence necessary for production locally. In deed, the effect of cheap egg imports leaves the farmer discouraged and kills their morale to continue with the poultry enterprise. Other side effects can be seen in the decline in business for the contracting feed companies since the smallholder farmers are prompted to dispose or reduce their flock size due to insolvency. In relation to this point, the government should subsidize the cost of raw materials used in manufacture of poultry feeds and further put a check on the maximum price that the contractor should sell their poultry feeds to the farmer. This would ensure that the smallholder farmer is sheltered from high feed prices and compromised feed quality as seen in the study.

5.4.2 Recommendations for Further Research

The study was limited in its ability to find out whether increase in incomes as a result of contracted poultry farming necessarily translates to an improvement in welfare of the household in terms of health, food and nutrition, education and savings for other varied household uses. In light of this, it would be particularly important to conduct further research to unearth the intrinsic benefits to the household as a result of increased incomes from contracted poultry farming. The study further recommends that further studies be conducted to establish whether those who receive income from the poultry farming enterprise spend it for the benefit of the entire family's interests or welfare.

The study also recognizes that the households in the control group were first identified through snowball sampling which is a non-random sampling method with the potential to introduce selection bias. In addition, the sample size of these non-contract farmers was relatively very small. The study therefore recommends that a random sampling method be employed to sample the non-contract farmers and their sample size be increased in future for generalizability of the findings.

The study focus was on contract poultry farming. It is important to bear in mind that there are other forms of contract relationships in other farming enterprises such as pig farming, fish farming as well as fruits and horticulture. Research should be done on such contract relationships to study the same variables and possibly establish the differences or similarities with this study of poultry farming.

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APPENDIX 1

Survey Questionnaire for Households (On Contract)

Hello. My name is Kevin King'e, an M.A student at the Institute for Development Studies in the University of Nairobi. I am carrying out a study on the influence of contract farming on smallholder poultry farming enterprises. You have been selected for this study because of your participation in C.F arrangement. The information collected through this study will be used for academic purposes only to write my M.A Project Paper and all information collected will be treated with utmost confidentiality. I kindly request if you would spare a few minutes to answer the following questions. Thank you in advance for your cooperation.

Questionnaire Details

1. Date of interview
2. Questionnaire number
3. Name of administrative location

Background Information of the Respondent

4. Name of the respondent
5. Sex of the respondent (*Don't ask*)
 1. Male
 2. Female
6. Age of the respondent (*In complete number*)
7. What is your highest level of education?
 1. None
 2. Primary Complete
 3. Primary Incomplete
 4. Secondary Complete
 5. Secondary Incomplete.
 6. Other (Specify)
8. What is your spouse's highest level of education?
 1. None
 2. Primary Complete
 3. Primary Incomplete
 4. Secondary Complete
 5. Secondary Incomplete
 6. Other (Specify)

Household and Poultry Enterprise Characteristics

9. Who is the owner of the poultry farming enterprise?
 1. Husband
 2. Wife
 3. Joint
 4. Other (*specify*)
10. What is your current flock size?
11. When did you join this contract farming arrangement? (*Specify year and/or month*)
12. How did you learn about this contract farming arrangement?
 1. From a friend/neighbour
 2. From the contractor
 3. From a government extension officer
 4. From a group meeting/seminar

13. Have you been practising poultry farming previously before joining this contract farming arrangement?

1. Yes 2. No

14. If YES, were you practising non contract farming poultry farming? 1. Yes 2. No

15. If YES please specify (*Number of years or months in full*)

16. Have you been practising any form of farming before joining the contract farming arrangement?

1. Yes (*Specify*) 2. No

17. Currently, do you practice any other farming in other animals and crops? 1. Yes (*Specify*) 2. No

18. How many family members live in your household?

19. Do any of your household family member(s) participate in labour towards the poultry enterprise? 1. Yes 2. No

20. If YES, how many family members participate in labour towards the contract farming poultry enterprise?

21. Who performs the following husbandry activities within the contract farming poultry farming enterprise?

Husbandry Activity	Husband/Man	Wife/Woman	Children	Hired labour	Other (Specify)
Booking and transport of chicks					
Brooding of chicks					
Feeding and watering					
Collecting eggs					
Vaccination of flock					
Manure disposal & cleaning poultry house					
Repairs to poultry house					

22. Do you earn any off-farm income on a monthly basis?

	Yes (<i>Specify Occupation</i>)	No
Husband/Man		
Wife/Woman		

23. If YES what is your household's total monthly off-farm income? (*Approximate Value in KShs*)

24. Are you satisfied with the state of the roads from your household to Thika Town?
1. Yes 2. No
25. Does the transport system from your household to Thika Town affect your contract farming poultry enterprise?
1. Yes 2. No
26. Do you receive any form of extension assistance from government agricultural extension officers?
1. Yes 2. No
27. If YES, explain

Organization of the Contract

28. What form of contract agreement are you engaged in?
1. Formal/Written 2. Informal/Verbal
29. Does the contract arrangement require that you meet certain minimum requirements before entry into the agreement? 1. Yes 2. No
- 29a. If YES, specify
30. What type of price determination does the contract arrangement stipulate for each of the following?

	Inputs/ Chicken Feeds	Output/Eggs
Fixed (1)		
Fluctuating (2)		

Benefits of the Contract Arrangement to the Smallholder Farmer

31. Which is the main reason(s) why you entered this contract farming arrangement?
- A. To be able to obtain poultry inputs on credit 1. Yes 2. No
 - B. So that I could be able to market my produce 1. Yes 2. No
 - C. To be able to obtain inputs at the farm gate 1. Yes 2. No
 - D. To enable me reduce my production risks through extension services provided 1. Yes 2. No
 - E. Because practising poultry farming independently proved difficult (*probe*) 1. Yes 2. No
 - F. Other reasons (*Specify*)
32. Are you satisfied about the timeliness in supply of poultry inputs by the contractor?
1. Yes 2. No

33. Do you receive any form of extension assistance from the contractor?
a) Yes 2. No
b) If Yes, please specify the form of extension assistance provided
34. Has any of the above extension assistance contributed to improving your poultry production capacity?
1. Yes 2. No
34a. If Yes, explain
35. Has this contract farming agreement enabled you to sell all eggs destined for the market?
1. Yes 2. No
36. Has your income increased since you joined this contract farming agreement?
1. Yes 2. No
37. Has the contract agreement introduced any technique of poultry production you would consider as new?
1. Yes 2. No
38. If YES, please describe the technology
39. Have you been able to adopt and use this technology poultry farming enterprise?
1. Yes 2. No
40. If NO, please specify the reason(s) why you have not been able to adopt and use the technology.
41. If YES to Qn 40, has the technology benefited you in your normal poultry production activities?
42. If YES, please explain the benefits you have discovered as a result of adopting the new technology
43. Which other benefits apart from the ones you have described above would you attribute to the contract arrangement?

Constraints of the Contract Arrangement to the Smallholder Farmer

44. Did the contractor allow negotiations of the contract terms with you when joining the contract?
1. Yes 2. No
45. If NO, how satisfied were you satisfied with the terms the contractor offered?

1. Very satisfied 2. Satisfied 3. Neither satisfied nor dissatisfied 4. Dissatisfied 5. Very dissatisfied

46. If either 3, 4 or 5 (to Qn45), please explain the reason(s) you went ahead and joined the contract agreement

47. Has the contractor ever violated any of our expectations since you joined the contract to date as agreed? 1. Yes 2. No
If YES please explain

48a. How did you resort to the above violation during that period?

48. If YES (to Qn 45), please specify which particular contract terms did you negotiate?

49. How satisfied were you satisfied with these terms of contract after the negotiation?
Very satisfied 2. Satisfied 3. Neither satisfied nor dissatisfied 4. Dissatisfied 5. Very dissatisfied

50. If (either 3,4 & 5 to Qn 49), please explain the reasons you went ahead and joined the contract arrangement?

51. On your part, have you ever ended your relationship with the current contractor at any given moment?
1. Yes 2. No

52a. If YES, which were the reasons that led to this?

52. At this moment, how satisfied are you with the feed quality delivered by the contractor?

1. Very satisfied 2. Satisfied 3. Neither satisfied nor dissatisfied 4. Dissatisfied 5. Very dissatisfied

53. How timely does the contractor pay for your eggs produce?

1. Immediately upon collection 2. Within a week 3. Within two weeks 4. Within three weeks
5. Within a month 6. Other, specify

54. Which member of your household receives payment from the sale of eggs? 1. Husband 2. Wife
3. Either the Husband or wife
55. Which member of your household decides on how to spend the income from the poultry enterprise? 1. Husband 2. Wife 3. Either the Husband or wife
56. Does the contractor provide a channel for addressing issues which you are not satisfied with as per the contract terms?
1. Yes 2. No * If YES, please the explain the terms
57. If YES, how satisfied are you with the terms of resolution?
1. Very satisfied 2. Satisfied 3. Neither satisfied nor dissatisfied 4. Dissatisfied 5. Very dissatisfied
58. If NO (to Qn 56), please explain the alternatives that you would/or you normally opt/resort for?
59. Does the contractor allow for revision of the contractual terms?
1. Yes 2. No
60. Are there any other challenges which you face in this contract farming arrangement you would wish to discuss about?

Sustainability of the Contract Farming Arrangement among Smallholders

61. Have you ever joined other poultry contracts prior to this current one?
1. Yes 2. No
62. If YES, please explain the reasons for exiting from the previous contracts
63. What was your initial flock size upon joining this contract arrangement?
64. Given your relationship with the (present) contractor, do you have any plans of increasing your flock size/ poultry enterprise? 1. Yes 2. No
65. If YES, which are the main reasons that encourage you engage with the current contractor?

66. If NO, which are your reasons for avoiding engaging with the current contractor?
67. In your opinion, what should be done to enhance a positive relationship within the current contract farming arrangement?
68. Are you a member of any farmer organization?
1. Yes 2. No
69. If YES, has it influenced your relationship with your contractor within the contract arrangement?
1. Yes 2. No
70. If YES (to Qn69), please explain your answer
71. If NO to Qn69, do you have any suggestions on what your farmer organization do to influence a positive relationship with your contractor?
1. Yes 2. No
72. Please explain your answer.

THE END
THANK YOU FOR YOUR PARTICIPATION

APPENDIX 2

Survey Questionnaire for Households (Not on Contract)

Hello. My name is Kevin King'e, an M.A student at the Institute for Development Studies in the University of Nairobi. I am carrying out a **study on the influence of contract farming on smallholder poultry farming enterprises**. You have been selected for this study because you practice commercial poultry farming. The information collected through this study will be used for academic purposes only to write my M.A Project Paper and all information collected will be treated with utmost confidentiality. I kindly request if you would spare a few minutes to answer the following questions. Thank you in advance for your cooperation.

Questionnaire Details

1. Date of interview
2. Questionnaire number
3. Name of administrative location

Background Information of the Respondent

4. Name of the respondent
5. Sex of the respondent (*Don't ask*)
 1. Male
 2. Female
6. Age of the respondent (*In complete number*)
7. What is your highest level of education?
 1. None
 2. Primary Complete
 3. Primary Incomplete
 4. Secondary Complete
 5. Secondary Incomplete
 6. Other (Specify)
8. What is your spouse's highest level of education?
 1. None
 2. Primary Complete
 3. Primary Incomplete
 4. Secondary Complete
 5. Secondary Incomplete
 6. Other (Specify)

Household and Poultry Enterprise Characteristics

9. Who is the owner of the poultry farming enterprise?
 1. Husband
 2. Wife
 3. Joint
 4. Other (*specify*)
10. What is your current flock size?
11. Have you ever practised poultry farming through contract farming arrangement?
 1. Yes
 2. No
12. If YES please specify (*Number of years or months in full*)

13. Currently, do you practice any other farming in other animals and crops? 1. Yes (*Specify*) 2. No

14. How many family members live in your household?

15. Do any of your household family member(s) participate in labour towards the poultry enterprise? 1. Yes 2. No

16. If YES, how many family members participate in labour towards the poultry enterprise?

17. Who performs the following husbandry activities within the poultry farming enterprise?

Husbandry Activity	Husband/Man	Wife/Woman	Children	Hired labour	Other (Specify)
Booking and transport of chicks					
Brooding of chicks					
Feeding and watering					
Collecting eggs					
Vaccination of flock					
Manure disposal & cleaning poultry house					
Repairs to poultry house					

18. Do you earn any off-farm income on a monthly basis?

	Yes (<i>Specify Occupation</i>)	No
Husband/Man		
Wife/Woman		

19. Are you satisfied with the state of the roads from your household to Thika Town?

1. Yes 2. No

20. Does the transport system from your household to Thika Town affect your poultry farming enterprise?

1. Yes 2. No

21. Do you receive any form of extension assistance from government agricultural extension officers?

1. Yes 2. No

22. If YES, explain

Operation of the Poultry Enterprise

23. How do you ensure supply of poultry inputs to your poultry enterprise?

24. How do you ensure the sale of all your egg produce destined for the market?

25. Which are the benefits you have realised in your poultry farming enterprise

Constraints to the Smallholder Farmer

26. On your part, why did you end your relationship with the contractor back then?

(Only ask if the farmer had been engaged in a contract at one point in time)

27. How satisfied are you with the feed quality that you currently use?

1. Very satisfied 2. Satisfied 3. Neither satisfied nor dissatisfied 4. Dissatisfied 5. Very dissatisfied

28. Which member of your household receives payment from the sale of eggs? 1. Husband 2. Wife
3. Either the Husband or wife

29. Which member of your household decides on how to spend the income from the poultry enterprise? 1. Husband 2. Wife 3. Either the Husband or wife

30. Are there any challenges which you face in this poultry farming arrangement you would wish to discuss about?

31. How do you deal with these challenges in order to ensure your poultry enterprise is successful?

Sustainability of the Smallholder Poultry Enterprise

32. What was your initial flock size when you started practicing poultry farming?
33. Which are the main reasons that motivate you to practice poultry farming independently rather than on contract basis?
34. Which are your reasons for avoiding engaging in a contract relationship?
35. Would you consider joining a contract arrangement if these reasons (in Ques 34) were addressed appropriately? 1. Yes 2. No
36. In your opinion, what should be done to enhance a positive relationship within the current contract farming arrangement?
37. Are you a member of any farmer organization?
1. Yes 2. No
38. If YES, has it influenced your relationship with your contractor within the contract arrangement?
1. Yes 2. No
39. If YES (to Qn69), please explain your answer
40. If NO to Qn69, do you have any suggestions on what your farmer organization do to influence a positive relationship with your contractor?
1. Yes 2. No
41. Please explain your answer.

THE END
THANK YOU FOR YOUR PARTICIPATION

APPENDIX 3

Interview Guide for Key Informants

Hello. My name is Kevin King'e, a student at the Institute for Development Studies in the University of Nairobi. I am conducting research **on the influence of contract farming on smallholder poultry farming enterprises**. The findings of this study will be used for academic purposes only to write my M. A degree Paper and all information collected will be treated with utmost confidentiality. I will be grateful if you could spare a few minutes to answer the following questions.

Target Population

- Officials representing the Feed Manufacturing Companies/ Contractors (2)
- District Agricultural Officer (Thika)
- District Livestock Production Officer (Thika)
- Chiefs of the respective Locations (2)
- Two officials of NGO/CBO for each of the two locations

Background Information

1. Date of Interview
2. Name of respondent, designation, sex,

Officials representing the Feed Manufacturing Companies/ Contractors (2)

1. Describe the contract farming arrangement

1. Explain your prime reason(s) to contract with these smallholder poultry farmers?
 - To sell chicken feeds and other poultry inputs
 - To ensure source of eggs
 - Other reason(s) *(Please Specify)*

2. Describe the criteria you observe in contracting smallholder poultry farmers if any?

3. Explain the challenges you think these smallholder poultry farmers face

4. Describe how the contract farming arrangement has benefited these smallholder poultry farmers to cope with such challenges

5. Explain the challenges you face/ you have faced in contracting these smallholder poultry farmers if any

6. Explain the measure you have taken to address such challenges in future to avoid recurrence
(Dependent on response from Qn6)

7. In your opinion which other measures do you think would enhance a sustainable contract farming relationship between your company and the smallholder farmers? *(probe whether there would be need to engage any other particular stakeholders to enforce the CF arrangement)*

District Agricultural Officer & District Livestock Production Officer

8. In your opinion, which challenges/constraints face the smallholder poultry farmers in this area?

9. Has there been any intervention by the government to address these challenges that you know of?
 1. Yes 2. No
 * If YES, Please explain

10. In your opinion, do you think the contract farming arrangement has helped address any of the problems facing the SHF you have stated above?
 1. Yes 2. No * If YES, Please explain
11. Are there any shortcomings that contract farming arrangements pose to smallholder poultry farmers in this area that you are aware of?
 1. Yes 2. No
 * If YES, Please explain

12. Give some suggestions on what can be done to ensure a positive relationship between the smallholder poultry farmers and the contracting feed companies.

13. Do you think there is a need to encourage more smallholder poultry farmers to enter into contract farming arrangements?
 1. Yes 2. No
 If No, Please explain your answer.

14. If YES to Qn13, what should be done to ensure more farmers enter into contract farming arrangements?

Area Chief/ Sub Chief

15. Have you received any complaints from smallholder poultry farmers engaged in contract farming arrangements?
1. Yes 2. No
16. If YES, which have been the reasons leading to the complaints?
17. Based on your recollection, what is the number of complaints presented on a monthly basis yearly basis
18. How have you addressed the complaints presented to your office?
19. Give some suggestions on how to improve the occurrence of complaints within the contract farming arrangements in this area.

THE END

THANK YOU FOR YOUR PARTICIPATION

APPENDIX 4

Interview Guide for Focus Group Discussion

Hello. My name is Kevin King'e, a student at the Institute for Development Studies in the University of Nairobi. I am conducting research **on the influence of contract farming on smallholder poultry farming enterprises**. I am interested in your ideas, comments and suggestions. In this session, there is no right or wrong answer. The findings of this study will be used for academic purposes to write my M. A Project Paper and all information collected will be treated with utmost confidentiality. Please feel free to participate.

Target Population

8 Contracted smallholder poultry farmers

Background Information

1. Date of Interview
2. Name of respondents, designation, sex, age, level of education, location

Issues related to Poultry Farming and the CF arrangement

3. What reason(s) lead you to start poultry farming?
4. Discuss the challenges you have encountered in poultry farming prior to entering the contract farming arrangement?
5. Explain the reasons for entering contract farming arrangement
6. Describe how the contract farming arrangement has benefited your poultry farming enterprise
7. Discuss the challenges/constraints you have faced within the contract farming arrangement
8. How have such constraints/challenges been addressed (by both the contractor and yourself)?
9. Give some suggestions on what can be done to enhance sustainability/positive relationship of the contract farming arrangement

THE END

THANK YOU FOR YOUR PARTICIPATION