FACTORS INFLUENCING CONTRACTUAL FARMING IN KENYA: A CASE OF BUURI CONSTITUENCY, MERU COUNTY, KENYA

Fridah Kagwiria
University of Nairobi, Kenya

Prof. Nathan Gichuki
University of Nairobi, Kenya

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ABSTRACT

The purpose of this study is to establish the factors influencing contractual farming in Kenya a case of Buuri Constituency, Meru County. The objectives of this study are to examine the influence of food pricing on contractual farming, the influence of production cost on contractual farming, the influence of marketing competition on contractual farming and the influence of farming systems on contractual farming. The research study used a descriptive research design and the target population for this study were farmers, agricultural officers, fresh produce companies, county government officials and national government officials. Primary data was obtained using self-administered questionnaires. The questionnaire was made up of both open ended and closed ended questions Reliability coefficient of the research instrument was assessed using Cronbach's alpha (α). Descriptive statistics analysis was employed to establish the factors affecting contract farming in Buuri Constituency, Meru County. The quantitative data was coded to enable the responses to be grouped into various categories. The analysed data was interpreted in terms of averages and standard deviation using assistance of computer packages especially SPSS (version 21). This study also conducted a correlation analysis to establish the relationship between the variables in the study. Multiple regression analysis was used to establish the relations between the independent and dependent variables. The study endeavoured to investigate the influence of food pricing, production cost, market competition and product pricing on contractual farming in Buuri Constituency, Meru County and concluded that it positively influences contract farming. The study findings established that production cost influenced contractual farming in Buuri Constituency, Meru County positively and significantly. The study findings also found out that market competition influences contract farming in Buuri Constituency, Meru County positively. Further the study concluded that farming systems positively and significantly influences contract farming in Buuri Constituency, Meru County. Based on research findings and conclusion the study recommends that: the farmers and other people involved in contract farming should focus on the price sensitivity since it influences farmer's participation in contract farming and the farmers should also focus on the quality of the products produced. The farmers should ensure that the products are of the required standards to make sure that the consumers who are also the buyers are satisfied.

Key Words: *contractual farming, Buuri Constituency, Meru County, Kenya*

INTRODUCTION

The deprivation of basic need represented by food insecurity and hunger are undesirable in their own right and are possible precursors to nutritional, health, and developmental problems (Bellemare, 2012). Food insecurity is a term used to describe whether people have access to

sufficient quality and quantity of food. Food insecurity is affected by factors such as poverty, health, food production, political stability, infrastructure, access to markets, and natural hazards. Other factors that contribute to household food insecurity in the world include shift to more non-agricultural technology, politics, environmental degradation, insecurity and high population growth (Kelly & Pemberton, 2016).

Improved contract farming is important for global reduction of hunger and poverty, and for economic development (Parekh, 2013). In 2010, world leaders committed themselves to the Millennium Development Goals (MDGs) and one aim of the Millennium Development Goals is to eradicate poverty and hunger, including reducing by half the proportion of people who suffer from hunger between 2010 and 2015. Currently, 820 million people are affected by hunger in developing countries and the numbers of hungry people in the world is growing at a rate of four million a year (Kelly & Pemberton, 2016).

Analysis of contract farming data shows that even though food insecurity and hunger stem from constrained financial resources, many low-income households appear to be food secure, whereas a small percentage of non-poor households appear insecure (Gerlach, & Loring, 2013). The reasons for these differences are not yet well understood, although they probably include unexpected changes in circumstances, variations in household decisions about how to handle competing demands for limited resources, and geographic patterns of relative costs and availability of food and other necessities, such as housing (Welch, 2015). The agricultural production measure provides independent, more specific information on this dimension of well-being than can be inferred from income data alone.

In the United States of America (USA) over 85.7 percent of households is food secure, meaning that they had access at all times to enough food for an active, healthy life for all household members while the remaining households (14.3 percent) are food insecure at least some time during the year. This includes 5.6 percent with very low food security, meaning that the food intake of one or more household members was reduced and their eating patterns is disrupted at times during the year (Coleman-Jensen, Gregory & Singh 2014).

Contract farming refers to an arrangement and commitment between producers and processors to provide inputs and outputs with pre-agreed price, time, quality and quantity. According to Eaton and Shepherd (2011), contract farming is an arrangement between farmers and processing and/or marketing firms to produce and supply agricultural products under forward agreements, frequently at predetermined prices. This arrangement is applied especially for the agricultural commodities that need to be processed, such as vegetables, fruits and dairy (Bijman, 2008). Its applicability and necessity as a tool for achieving agricultural productivity has been recognized and discussed in many empirical studies in the context of its role of linking producers with agricultural markets, especially in developing countries.

There are four models of contract farming arrangements namely centralized model, multipartite model, intermediary model and the informal model (Eaton and Shepherd, 2011). The centralized model involves a centralized processor and/or buyer procuring from a large number of small-scale farmers. The cooperation is vertically integrated and in most cases involves the provision of several services such as pre-financing of inputs, extension and transportation of produce from the farmer(s) to the buyers' processing plant. Multipartite contract farming model arises when a combination of two or more organizations (state, private agribusiness firms, international aid agencies or non-governmental organizations - NGOs) work together to coordinate and manage the cooperation between buyers and farmers (Oya, 2012).

An intermediary model shows many characteristics of a centralized model with the difference that they act as an intermediary on behalf of another firm. Normally, the intermediaries organize everything on behalf of the final buyer starting with input supply, extension service, payment of the farmers and final product transport. Handling several thousands of out growers involves significant management effort and therefore it might be economically attractive for a buyer to outsource this task to an intermediary. Lastly, Informal arrangements involve casual oral agreements between contracting parties and regularly repeated marketing transactions but are characterized by the absence of written contracts or equally binding and specifying documents (Kelly & Pemberton, 2016).

Contract farming has been instrumental in providing farmers access to supply chains with market and price stability, as well as technical assistance, especially in the developed countries. For low-income farmers, production input and farm investment on credit are often provided by firms (Bellemare, 2012). In return, contractors expect delivery of goods in specified quantities, quality and set prices. Market and price certainty for both parties and integrated farm processing enhances the country's competitiveness through improved quality products and efficient supply chain. Well-coordinated contract farming systems assist development in less privileged farming sectors (Oya, 2012).

In many sub-Saharan African countries, there has been no tradition of written farming contracts. Instead, traditional informal agreements were commonly used and are still respected (Devereux, 2009). Application of formal contract farming has now become an option for many African countries such as Kenya as a method of enhancing commercial farming and promoting agricultural production. African smallholder agriculture is characterized by many problems, such as low productivity, natural resource degradation and inadequate basic services for farming. Although contract farming has proved successful in many African countries by enhancing existing income levels, it may not necessarily be a solution for many market failures in agriculture (Doss, 2011).

According to Food and Agriculture Organization (FAO) (2012), contract farming has been gaining popularity in developing countries, especially in specific products, such as French beans

and other horticultural crops (more so in Kenya and Ethiopia), fruits such as pineapples mangoes and passion fruits (Ghana), cotton (Zimbambwe) and poultry (Kenya). Indeed, much of the success in the horticulture industry in Kenya, Zambia and Ethiopia has been attributed to contract farming with producer organizations (Sadler & Magnan, 2011).

In Kenya, both marketing and production contracts as a form of vertical integration are found in livestock and crop production. Livestock contracts are found in the pig, egg and broiler markets. In crop production, contract farming is common in the horticultural sub-sector and also in the field crops sub-sector, such as for sugarcane, tobacco, tea, and cotton production. More than 230,000 households in Kenya were involved in the contract production of tea, sugar, oilseeds, tobacco and horticultural commodities by mid- 1980s (Wainaina, Okello & Nzuma, 2012). It is estimated that by mid-2010s, 1.2 million out of 3 to 4 million farming households in Kenya were contract farmers in the coffee, tea, dairy cattle, barley (for brewing), vegetable, sugar and corn sectors (Oya, 2012). Generally, the agricultural sector contributes tremendously to the Kenyan economy through employment creation. It is also an important source of income and livelihood for many smallholder farmers in Kenya.

STATEMENT OF THE PROBLEM

The world household food insecurity continues to worsen as many communities struggle with daily hunger and starvation despite the growing attention in the world media and expanding aid efforts by many organisations (Nord, 2010). Several factors have been fronted as responsible for the continuing world food insecurity. One such factor is the rise in prices of the world staple foods (wheat, rice and maize). Research has established that inflation of wheat is 120% and rice is 75% (Bartfeld & Ahn, 2011). Poverty has also been pointed out as a key cause. An estimated 100 million people have fallen into poverty in the last two years. For instance in 2013, Afghanistan households were spending 75% of their income on food (Kirkpatrick & Tarasuk, 2010). Dependence on food imports also influences the global food insecurity. A case in point is Haiti where over 80% of staple rice is imported. The result of it is that over half of the country's population is under-nourished and 24% of children suffer chronic malnutrition.

Various countries in Africa have experienced the devastating effects of household food insecurity. For instance, the World Food Programme (WFP) has described Cameroon as a food insecure country, and has further demonstrated that food intake in households is lower now than in the early 1980s. This has resulted in 19% of young children in the country being underweight and child mortality rate rising (Minot & Sawyer, 2016). Egypt is exposed to the escalating food prices due to its wheat imports although it produces half of its demand for wheat. The country is classified as the number one importer of wheat in the world. The country also has a high population growth rate of 2% per annum. Moreover, the desert terrain of the Sahara limits crop production. Ethiopia also experiences acute household food insecurity. Over 7 million people out of Ethiopia's population of 76.9 million people are classified as food insecure and a further 10 million people are identified as prone to drought. Finally, South Africa has been affected by high

food prices in the declining world economy (Maxwell & Fitzpatrick, 2012). High food prices are causing hardship particularly among the poorest family households who spend a huge proportion of their income on food.

In Kenya, contract farming is a sensitive issue because of the magnitude of household food insecurity in the country, especially in arid and semi-arid areas (ASALs) that constitute 88% of Kenya's land area (ROK, 2009). United Nations Human Development report in 2009 noted that almost 52% of Kenyans live below poverty line and therefore are not food sustaining. It is further noted that only 18% of Kenya's territory is suitable for farming without irrigation. Some parts of Meru County and in particular Buuri Constituency have continued to experience frequent household food insecurity. This is despite national food policy of alleviating household food insecurity, especially among small-scale farmers through local agricultural food production (Icheria, 2012).

A number of studies have been conducted in Kenya regarding contract farming. Kokeyo (2013) studied on an assessment of the factors affecting contract farming: the case of sugarcane production in Migori County, Kenya. The study concludes that the main factors influencing farmer participation in sugarcane contracts are: - farm distance to the company sector office, ownership of assets and access to external farm support, risk-averseness, farm household size and education of the household head. A study by Wawire, Kahora, Shiundu, Kipruto &Omolo (2006) revealed that farmers' poor attitude towards contract sugarcane farming was one of the causes of declining trend in cane production. Dindi (2013) studied the managerial factors influencing sugarcane production by farmers of Mayoni Division, Mumias Sugar Company in Kenya. However, none of the reviewed scholars has studied factors influencing contract farming in Buuri Constituency, Meru County. This study will therefore seek to fill this gap.

GENERAL OBJECTIVE

The purpose of the study was to establish the factors influencing contract farming in Buuri Constituency, Meru County.

SPECIFIC OBJECTIVES

1. To determine the influence of product pricing on contract farming in Buuri Constituency, Meru County
2. To establish the influence of production cost on contract farming in Buuri Constituency, Meru County
3. To examine the influence of market competition on contract farming in Buuri Constituency, Meru County
4. To find out the influence of farming systems on contract farming in Buuri Constituency, Meru County.

THEORETICAL FRAMEWORK

This section focuses on the theoretical underpinnings of the study, including the productionist paradigm theory, yield gap theory, governance costs/transaction costs concept and resource dependence theory.

Productionist Paradigm Theory

Productionism paradigm is the move from local small scale production to mechanized, commercial, mass production of food commodities. It hails from the time after the Second World War and the industrialization of agriculture. The food supply chain is lead by the quantity of food and all progress is directed to increasing this output. The productionist model of farming is typically monoculture, this being especially conducive to the high input of energy, pesticides, and fertilizers. The productionist paradigm influences how policy is made and where investment is directed, favouring particular types of farming methods and production. It is through this paradigm that land acquisitions have been seen as a solution (Lang and Heasman, 2014).

Lang and Heasman (2014) predicted the decline of the productionist paradigms and the emergence of two paradigms concerned less with production and more with integrated ecology or life science. However, economic stability, food prices and demand for arable land has changed since the time they wrote their book. The period after the war, in 2008 the globe was suffering from food shortages; prices rose and many countries experienced riots. These events have reaffirmed the dominance of the productionist paradigm for a little while longer (Locker & Gordon 2015). It is also partly because of the productionist paradigm that African governments are willing to open up their local markets to foreign investment. The surplus stock caused by high production rates and strong regional economies could undermine local markets in developing countries by selling their stock at undercut prices.

Yield Gap Theory

Reaching higher yields is part of the strategy for achieving agriculture production while protecting the natural environment. The potential for closing the yield gap has been claimed as the most important factor in improving agriculture in Africa, it is preferable to expanding agricultural land. By closing yield gaps and not expanding cultivated land you can protect areas of biodiversity such as forests and natural ecosystems from being converted into crop land (Foley, *et.al* 2011)

Yield gap is a term which has been used extensively in literature to highlight African farmland as a region which is underused (Delininger *et al*,2011). It is a term referring to the difference between the potential and actual crop yield (production per hectare) of a given area of land, assuming the best technology and agricultural practices are available (Foley *et al,* 2011). This is because biophysical and socioeconomic factors inhibit yields. The gap between the potential yield and actual yield is considered by Widawsky *et al*, (2016) for example, as a loss in

production that is yet to be realized. Yield gap is used often in reference to the gap being closed and identifying how to fix them.

The yield gap theory is placed within the productionist paradigm. There is an understanding that land is not worth anything until it is utilised for production. The potential yield is calculated using all the known agricultural technology and management, and therefore it is assumed that this should be adopted as the method on the ground. According to Deininger *et al,* (2011) in the World Bank report, yield gaps are perceived in respect to investment opportunities.

A large yield gap is defined as an attractive quality for investment due to the possibilities for easy increase in yield. Land acquisitions are thought to bring investment in fertilizers, pest management, irrigation, improved seed varieties, knowledge of farming practices and mechanized practices. However, large yield gaps can be an indicator of problems that land acquisitions cannot easily solve such as political problems. As such, when investment has already been made in the land, sustained large yield gaps are a negative sign as it implies that there are constraints that are difficult for investors to overcome (Borras, 2011).

RESEARCH GAP

This study has reviewed literature relating to contract farming. The study has established that the prices that companies pay to farmers are partly dependent on crop or product quality, which is an additional incentive for farmers to deliver high quality products. The quality difference is only the appearance, taste or texture of the product, even though the other attributes are the same. Crop quality consistency and standards are often the most crucial factors in a contract. Price stability is essential if firms are to continue projects with their growers and growers are to maintain income stability. A number of studies have pointed out that high production costs discourage smallholders to participate in markets.

Decision-making based on prices contrasts with situations where exchange takes place under constraints resulting from contracts. These constraints may transfer decision authority either away or alternatively towards the farm unit. Finally, despite a diversity of extensive farming systems in Sub Saharan Africa, the continent still faces a number of challenges namely declining soil fertility, inadequate use of improved germplasm, limited irrigation that severely limits the production potential, poor extension services to farmers and poor access to markets. Food production systems changes in response to the high population density associated with acute scarcity of agricultural land and intensive work on land yet with very low returns.

A number of studies have been done locally on contract farming. Mikalitsa (2010) analysed gender specific constraints affecting technology use and household food security in Western Province of Kenya. Icheria (2012) studied household food insecurity and coping Strategies among small-scale farmers in Tharaka central division, Kenya. Oya (2012) studied contract farming in sub-Saharan Africa: a survey of approaches, debates and issues. Wainaina, *et al,*

(2012) analysed the impact of contract farming on smallholder poultry farmers' income in Kenya. Gichuhi (2015) studied resilience in the face of starvation: Coping strategies for agricultural production among women in Kenya while Mutinda (2015) investigated the determinants of household food expenditure and agricultural production in rural Kenya. The reviewed literature show a gap in literature in that none of the reviewed researchers has studied the factors affecting contract farming in Buuri Constituency, Meru County. This study will seek to fill this gap.

RESEARCH DESIGN

The research study used a descriptive research design. The design is appropriate because it involves description of events in a carefully planned way (Bryman & Bell, 2015). This approach was suitable for this study, since the study intended to collect comprehensive information through descriptions which was helpful for identifying variables. This research design also portrays the characteristics of a population fully (Teddlie &Tashakkori, 2012). Based on the recommendations of Churchill and Iacobucci (2010) in defining the unit of analysis for the study, the target population for this study were farmers, agricultural officers, fresh produce companies, county government officials and national government officials. A population of 726 respondents was taken from contracted farmers, fresh produce companies' officials under contracts, agricultural extension officers as well as government officials in the constituency. The sample size is a subset of the population that is taken to be representatives of the entire population (Sekaran, 2006). On the basis of the target population, a sample size of 251was computed with a 95% confidence level and an error of 0.05 using the below formula taken from Kothari (2014).

$$n = \frac{z^2 . N . \partial_p^2}{(N-1)e^2 + z^2 \partial_p^2}$$

Where: n = Size of the sample required,

$\quad$ N = Size of the population and given as 726,

$\quad$ e = Acceptable error and given as 0.05,

$\quad$ ∂p = The standard deviation of the population and given as 0.5 where not known,

$\quad$ Z = Standard variation at a confidence level given as 1.96 at 95% confidence level.

The research focused on Primary data that was obtained using self-administered questionnaires. The questionnaires were used in an effort to conserve time and money as well as to facilitate an easier analysis as they were in immediately usable form. A total of 30 questionnaires were administered to the pilot survey respondents who were chosen at random. All aspects of the questionnaire were pre-tested including question content, wording, sequence, form and layout, question difficulty and instructions. The feedback obtained was used to revise the questionnaire before administering it to the study respondents. Instrument reliability on the other hand is the extent to which a research instrument produces similar results on different occasions under similar conditions. It is the degree of consistency with which it measures whatever it is meant to

measure. Reliability is concerned with the question of whether the results of a study are repeatable. Reliability coefficient of the research instrument was assessed using Cronbach's alpha (α) which was computed and presented as follows

The researcher used content validity through industry experts and peers who gave their opinion. The qualitative data collected was subjected to content analysis. On the other hand the researcher used descriptive and inferential statistics to analyse the quantitative data. This study utilized the SPSS version 24 software to perform regression analysis on the collected data. The following multivariate regression analysis model and Pearson correlation on the factors influencing contract farming in Buuri Constituency was adopted and analyzed using the SPSS version 24 software:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$$

Where:

Y= Contract farming

$\beta_0, \beta_{1....}\beta_4$=constants

X_1= Pricing, X_2= Production cost, X3= Market competition, X_4= Farming systems, ε = Error term.

The T-test at 95% (α=0.05) level was used to test the significance of the difference in pre and post-performance of motor repair firms. The analysed data was presented using statistical and graphical techniques. Statistical techniques used were involved measures of central tendency (mean, median and mode) and measures of dispersion such as standard deviation and variance.

RESEARCH RESULTS

Reliability analysis

Cronbach Alpha was established for every objective which formed a scale. This illustrates that all the four variables were reliable as their reliability values exceeded the prescribed threshold of 0.7 (Sekaran, 2006). This, therefore, depicts that the research instrument was reliable and therefore required no amendments.

Table 1: Reliability Analysis

	Cronbach's Alpha	Number of items	Decision
Product Pricing	.819	6	Reliable
Production Cost	.833	6	Reliable
Market Competition	.736	6	Reliable
Farming Systems	.728	6	Reliable

Pearson's Product Moment Correlation

A Pearson's Product Moment Correlation was conducted to establish the strength of the relationship between the variables.

Table 2: Correlation Matrix of Contractual Farming and influencing Factors

		Contract Farming	Product Pricing	Production Cost	Market Competition	Farming Systems
Contract Farming	Pearson Correlation	1				
	Sig. (2-tailed)	.				
Product Pricing	Pearson Correlation	.806	1			
	Sig. (2-tailed)	.029	.			
Production Cost	Pearson Correlation	.714	.522	1		
	Sig. (2-tailed)	.016	.017	.		
Market Competition	Pearson Correlation	.606	.742	.587	1	
	Sig. (2-tailed)	.028	.013	.018	.	
Farming Systems	Pearson Correlation	.881	.543	.723	.521	1
	Sig. (2-tailed)	.056	.008	.003	.016	.

The results reveal that there is a strong, positive and significant correlation between product pricing and contract farming (r = 0.806, p value=0. 029), between production cost and contract farming (r=0.714, p value=0.016), between market competition and contract farming (r=0. 606, p value=0.028) and between farming systems and contract farming (r=0.881, p value=0.056). This implies that all the variables had a positive and significant correlation with contract farming in Buuri constituency, Meru County.

Multiple Regression Analysis

The research study sought to evaluate the factors influencing contractual farming in Buuri constituency, Meru County, Kenya.

Table 3: Summary of Regression Model Output

Model	R	R Square	Adjusted R Square	Std. Error
1	0.926	0.857	0.854	1.287

The study found that independent variables selected for the study (i.e. product pricing, production cost, market competition and farming systems) accounted for 85.4% of the variations in factors influencing contract farming in Buuri constituency, Meru County, Kenya.

Table 4: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1724.82	4	431.205	177.250	0.000
	Residual	416	171	2.433		
	Total	2012.82	175			

The probability value of 0.000 indicates that the regression relationship was significant in predicting the effects of product pricing, production cost, market competition and farming systems on contract farming. The calculated F (177.250) was significantly larger than the critical value of F= 2.4344. This again shows that the overall test model was significant.

Table 5: Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.684	0.123		5.561	0.000
Product Pricing	0.766	0.342	0.676	2.240	0.03
Production Cost	0.681	0.276	0.645	2.467	0.017
Market Competition	0.553	0.187	0.443	2.957	0.005
Farming Systems	0.861	0.156	0.792	5.519	0.000

The established multiple regression equation was expressed as:

$$Y = 0.684 + 0.766X_1 + 0.681X_2 + 0.553X_3 + 0.861X_4$$

The regression equation above has established that taking all factors into account (product pricing, production cost, and market competition and farming systems) constant at zero, contract farming was 0.684.

Product Pricing

The findings presented also show that taking all other independent variables at zero, a unit increase in the product pricing would lead to a 0.766 increase in the scores of contract farming. From the results the study found that product diversification has encouraged participation in contract farming and that price sensitivity influence farmers to participate in contract farming. This was in line with Baumann (2010) who stated that it is easy for a company to manipulate prices when the market is competitive and prices are volatile. Again the study revealed that that market competitiveness discourages participation in contract farming and that quality of produce promotes contract farming. This correlated with Singh (2014) who revealed that most farmers try to sell their produce at market for a better price instead of factories   where farmers must comply with specified conditions and prices companies pay to farmers are partly dependent on quality, which is an additional incentive for farmers to deliver high quality products. Further the study showed that the price fluctuation has not minimized my participation in contract farming and that packaging and branding has not promoted expansion of contract farming. This corresponded to Wiboonpongse, et.al (2006) who claimed that contract organic rice farmers in Payao Province enjoyed high yields and prices 30% higher than ordinary rice.

Production Cost

The study also found that a unit increase in the scores of production cost would lead to a 0.681 increase in the scores of contract farming. From the findings, the study revealed that opportunity costs influence farming contract and that cost of seeds is subsidized through contract farming.

This was similar to Ouma, et.al (2010) who argued that transaction costs raise the prices of inputs and reduce profits from the sale of output by lowering its price. Further, the study found that cost of farm implements influence farmer's engagement in contract farming and that labour cost fluctuation discourage contract farming. This was similar to Silva (2015) who said that firms in particular, while choosing their management style, must consider the factors that are associated with transaction costs given as follows. The study revealed that operational costs are fairly high in contract farming and that transaction costs are fairly minimal through contract farming. This concurred with Williamson (2010) who argued that bounded rationality and opportunism are based on behavioral assumption, on which transaction cost analysis relies on.

Market Competition

Further, the findings shows that a unit increases in the scores of market competition would lead to a 0.553 increase in the scores of contract farming. The study found that market concentration encourages contract farming and that contractual protection policies discourage contract farming. This concurred with Man and Shaffril (2013) who pointed out that prices summarize the workings of an economic system and economize on the need to gather complex and frequently conflicting information. Again the study revealed that that technology promotes contract farming and that market information influence farmer participation in contract farming. This corresponds to Podolny (2013) who compared agribusiness firms with the situations where they produce the same output but without a contract, scope for individual decision-making has been reduced. The study also showed that market prices fluctuation influence contract farming and that production technology dynamics alters contract farming. This was similar to Gershon, (2013) who claimed that exchange involving non-specific assets such as grains of cereals or oilseeds do not benefit from contractual protection other than that provided by classical contracting arrangements.

Farming Systems

The study also found that a unit increase in the scores of farming systems would lead to a 0.861 increase in the scores of contract farming in Buuri constituency, Meru County. The study revealed that land conservation method promotes contract farming and that crop water management increase contract farming profitability. These concurred with Bashir, Schilizzi & Pandit (2012) who argued that the acquisition of knowledge regarding agronomic practices of one crop versus another may be of secondary importance as compared with the acquisition of knowledge of one contractual environment versus another. Further the study showed that integrated pest management minimizes cost of contract farming and that inadequate labour supply discourages contract farming. The study also revealed that mechanized production system fairly enhances contract farming and that soil salinization discourages contract farming. These correspond to Gershon (2013) who claimed that for large agribusiness firms, volume transacted with individual suppliers may be a crucial aspect determining the cost of inputs used in the value chain.

CONCLUSIONS

The study sought to determine the influence of food pricing on contract farming in Buuri Constituency, Meru County and concluded that it positively influences contract farming. From the results the study deduced that product diversification has encouraged participation in contract farming and that price sensitivity influence farmers to participate in contract farming. Further the study established that the price fluctuation has not minimized my participation in contract farming and that packaging and branding has not promoted expansion of contract farming.

Further the study established that production cost influence contract farming in Buuri Constituency, Meru County positively and significantly. From the findings the study revealed that opportunity costs influence farming contract and that cost of seeds is subsidized through contract farming. Further, the study deduced that cost of farm implements influence farmers engagement in contract farming. The study also established that operational costs are fairly high in contract farming and that transaction costs are fairly minimal through contract farming.

The study further concluded that market competition influences contract farming in Buuri Constituency, Meru County positively. The study deduced that market concentration encourages contract farming and that contractual protection policies discourage contract farming. Again the study established that technology promotes contract farming. The study also showed that market prices fluctuation influence contract farming and that production technology dynamics alters contract farming.

Further the study sought concluded that farming systems positively and significantly influences contract farming in Buuri Constituency, Meru County. The study deduced that land conservation method promotes contract farming and that crop water management increase contract farming profitability. Further the study deduced that integrated pest management minimizes cost of contract farming and that mechanized production system fairly enhances contract farming and that soil salinization discourages contract farming.

RECOMMENDATIONS

The study recommends that the farmers and other people involved in contract farming should focus on the price sensitivity since it influences farmer's participation in contract farming. This will take into consideration the sensitivity of the buyers of the products produced such that buyers of luxury goods are often less sensitive than buyers of everyday items. The more options a buyer has, the more sensitive he is to a price change in most cases.

The study recommends that the farmers should also focus on the quality of the products produced. The farmers should ensure that the products are of the required standards to make sure that the consumers who are also the buyers are satisfied. This will ensure raking of high profits hence promoting and encouraging more farmers to participate in contract farming.

The study recommends that the government should assist the farmers by minimising the price of the essential farm input equipment's as well as providing tractors for hire to be accessible to farmers at a cheaper rate. This will assist the farmers and other stakeholders in the contract farming to incur little production costs.

The study recommends that the farmers should also time the farming such that their produce will be ready when the prices are high in order to realise more profits. The government should also intervene in controlling the prices to protect the farmers from being undercharged of their products

The study recommends that farmers should be encouraged to carry out appropriate land conservation measures to protect the soil from the soil denudation. The farmers should also carry out land reclamation methods. This will ensure improvement in amount of production realised hence resulting to more profits.

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