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SOCIO-ECONOMIC CHALLENGES FACING SMALLSCALE FARMERS: THE CASE OF CONTRACTED TOBACCO FARMERS IN GIAKI, MERU

BY

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DECLARATION

This research project is my original work and has not been presented for a degree in this or any other university.

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APPROVAL

This research project has been submitted for examination with my approval as university supervisor

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Dr. Robinson Ocharo

Date:…….....

DEDICATION

To my loving parents Mr. Dismas J. O. Oyieko and Mrs. Grace Kwamboka, and my beloved siblings Lydia, Nancy, Newton, Emmanuel and the late Immaculate. God bless you all for being there for me always.

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ABSTRACT

Tobacco is consumed worldwide and has been cultivated in Africa since the end of the 16th century though commercial cultivation began around the 19th century. The expansion of tobacco farming has been encouraged and financed by major cigarette companies around the world especially in developing countries. In Kenya, tobacco is currently grown for commercial and non-commercial purposes in Nyanza, Western, Central and Eastern Provinces supported by BAT (K) and Mastermind K, which are the leading cigarette companies (Kibwage et al, 2009).

While there are many advantages to tobacco farming such as salaries and wages for employees and farm workers, and government revenue through taxes; it may also have adverse effects. According to Effroymson and FitzGerald (2002), tobacco growing not only provides funds for basic existence but keeps the poor entrenched in a cycle of poverty.

The objectives of this study was to identify socio-economic challenges faced by contracted smallholder tobacco farmers in Giaki, coping mechanisms employed by contracted tobacco farmers in dealing with tobacco farming challenges in Giaki and to establish contracted smallholder tobacco farmers who re willing to stop tobacco farming in Giaki. A total of 86 respondents were sampled from the study using snowball sampling. Structured interview schedules and focus group discussions were used to gather data.

The main socio-economic challenges identified during processing and cultivation of the crop was tobacco pests and diseases, labour shortages and health problems. Among the problems faced during marketing of tobacco crop, the most mentioned problem was that the tobacco company charged exorbitant prices for farm inputs like seeds, fertilizers, chemicals and even firewood; delayed payments, low prices and poor tobacco leaf grading system.

Tobacco farmers in this area engage in other off-farm activities to boost their tobacco cultivation earnings. Also, farmers have diversified their farming to enable them sustain food for the household. Most farmers would prefer to shift from tobacco farming and adapt other alternative crops as tobacco cultivation is both time and labour intensive.

The study recommends that the contracting tobacco company should be encouraged to renegotiate the contract given to farmers so that farmers can purchase inputs for themselves. Also, farmers should be trained on better methods of processing and cultivation of tobacco crop to improve the grade of the harvested crop. As most farmers engaged in tobacco farming due to availability of loans and ready market, this study also recommends diversification for loan options for other businesses like small scale industries.

More sociological research should be done on the extent to which Tobacco companies are willing to help smallholder tobacco farmers solve socio-economic challenges faced in Giaki, Impact of tobacco farming on livelihood of contracted tobacco farmers in comparison with non-tobacco farmers in Giaki; and the role played by the government in solving socio-economic challenges of small scale tobacco crop farmers in Giaki.

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CHAPTER ONE: INTRODUCTION

1.0 Background of the Study

Tobacco is a cash crop grown widely in developing countries in the world. It is consumed worldwide and has been cultivated in Africa since the end of the 16th century though commercial cultivation began around the 19th century. The expansion of tobacco farming has been encouraged and financed by major cigarette companies around the world, especially in developing countries. In Kenya, tobacco is currently grown for commercial and non-commercial purposes in four provinces, namely, Nyanza (Migori, Kuria and Homa-bay), Western (Bungoma, Bumula, Malakisi, Sirisia, Busia, Teso, and Mount Elgon), Central (Thika) and Eastern (Meru). Tobacco farming in these provinces is supported by BAT (K) and Mastermind K, which are the leading cigarette companies in Kenya (Kibwage et al, 2009).

Tobacco growing in the country was introduced in the late 1930s and has increased tremendously over the years. There are approximately 35000 small scale farmers in Nyanza, Western, Central and Eastern provinces, whereby, 4500 hectares of land is devoted to tobacco farming, representing 0.19% of total arable land (Patel et al 2007). Smallholder tobacco farmers are contracted to tobacco companies who buy the dried (cured) leaf from them. BAT (K), for instance, has a contractual arrangement with around 20000 of these small scale farmers. It offers them crop inputs and advice, and buys leaf from them once dried (cured). The crop inputs provided are usually given to farmers as loan which would later be deducted from their final earnings. The price farmers receive for their tobacco leaf is dependent on the tobacco companies' evaluation of its quality.

The Kenyan government, as most other developing countries treasures the tobacco firms because of the revenues generated by the tobacco firms through taxes remitted. In fact, between the tobacco firms, the farmers and the government, it is the government that is the greatest beneficiary (Oongo, 2002). It is for this reason that the Kenyan government has a long standing stake in BAT (K), being its largest shareholder with 20% holding (Patel et al, 2007).

While there are many advantages to tobacco farming such as salaries and wages for the employees and farm workers, and government revenue through taxes; it may also have adverse effects. Efroymson and FitzGerald (2002), noted that although tobacco growing provides funds for basic existence, it keeps the poor entrenched in a cycle of poverty. Example can be seen from smallholder tobacco farmers in Western Province, Kenya, interviewed by Kenya Tobacco Control Alliance (KETCA) complained that they are intimidated by the tobacco companies to accept any amount paid to them. This has created a situation where farmers sell tobacco at very low prices. As a result, farmers are barely making a living, producing a crop that is labor and input intensive and at the same time brings with it health and environmental dangers (WHO, 2004, 2008a and 2008b).

On the other hand, land under tobacco has continued to grow rapidly at the expense of traditional food crops and livestock activities, with high demand on wood-fuel, serious health issues, and demanding in terms of the farmer's time. The main reason for this is more farmers are drawn to tobacco farming due to availability of inputs that are being offered by the companies (Kibwage et al, 2009). These tobacco issues have led to increased poverty levels in regions where tobacco farming is practiced. For example, Mayanja, Bumula District has been growing tobacco for over three decades where three quarters of the population grow tobacco, and today they are still languishing in poverty. It is for these reasons that smallholder tobacco farmers in Bumula

District can barely afford three meals in a day, decent shelter, or send their children to school (Anaya, 2010). Further, tobacco farming has been seen as a less profitable crop in comparison to the time spent in its production. According to Oongo (2002), earnings from tobacco are not commensurate with the input by the farmers. This was also concluded by Ochola et al (2007) that tobacco farming is not only labor intensive, but also involves the entire family including school children. This not only makes the tobacco households less educated, but also leaves little time to plant food crops.

In addition to the land issues, food security has been worsening because of the ways tobacco companies have been marketing themselves over the years. According to Kimani (2006), BAT (K) entices farmers to grow tobacco in place of traditional food and spend money on feeding their addictions rather than their families. South Nyanza region, for example, faces food shortages because of tobacco production since farmers spend most of their time in tobacco farming at the expense of food crops, which they eventually buy from surrounding districts at very high prices (Kibwage et al, 2009).

In response to globalization of tobacco epidemic, The Framework Convention on Tobacco Control (FCTC) was developed and entered into force on 27th February, 2005 (WHO, 2005). It asserted the importance of tobacco demand reduction strategies as well as its supply issues. Article 17 and 18 undertakes that signatories to the treaties will reduce tobacco production through introduction of alternative crops to tobacco. In connection to the FCTC, in Kenya, The Kenya Tobacco Control Act (KETCA) 2007 came into force on 8th July 2008 to control the production, manufacture, sale, labeling, advertising, promotion and sponsorship of tobacco products. This act was later suspended after the leading players in cigarette, Mastermind K and BAT (K) mounted legal bid against the government (Patel et al, 2007).

1.1 Statement of the Problem

There are several occupational risks related to tobacco growing which are well known, including green tobacco sickness that results from dermal absorption of nicotine, which is exacerbated during the handling of wet leaves. According to Efroymson and FitzGerald (2002) tobacco cultivation has defeated the very purpose of agriculture which is to provide food and enhance quality of life; instead it causes disease, disability and premature death.

Although tobacco companies provide inputs to the contracted farmers, earnings from tobacco farming are not commensurate with the time and effort that the farmer has put to make sure there is good harvest of the crop. This is because tobacco cultivation is monitored from seedbed preparation all the way till the curing process. The affected farmers are, therefore, not in a position to feed, educate or cloth their families adequately.

Snell (2003), in his report on 'Economic and Social Impact of Leaf Tobacco Production' stated that tobacco farming involves severe, arguably irreversible costs to farmers and their families, all which are leading to worsen and perpetuate the conditions of poverty of the farmers. Smallholder tobacco farmers are also trapped in debt cycles providing them no option but to keep cultivating the crop irrespective of the long-term, veiled hazardous consequences and questionable economic gains. It is because of these reasons that tobacco contributes to poverty of individuals and their families more than it benefits them (Kibwage et al, 2007).

It is evident that despite the studies done on the negative impact of tobacco cultivation, a good number of farmers still cultivate this cash crop. This study therefore identified the socio-economic challenges that tobacco farmers faced during and after cultivation of the tobacco crop in Giaki, Meru. The study also looked at the coping mechanisms employed by tobacco farmers in

Giaki, Meru and established the contracted tobacco farmers who would stop tobacco cultivation and adapt alternative crops to cultivate.

1.2 Research Questions

The general research question for the study was: Are there socio-economic challenges faced by contracted smallholder tobacco farmers in Giaki, Meru?

Specifically the study addressed the following research questions:

1. What are the socio-economic challenges faced by contracted smallholder tobacco farmers in Giaki, Meru?
2. What are the coping mechanisms employed by contracted smallholder tobacco farmers in dealing with the socio-economic challenges in Giaki, Meru?
3. Are contracted smallholder tobacco farmers willing to stop tobacco farming in Giaki, Meru?

1.3 Objectives of the Study

The general objective of the study was to identify whether there are socio-economic challenges faced by contracted smallholder tobacco farmers in Giaki, Meru.

Specific objectives of the study included:

1. To identify socio-economic challenges faced by contracted smallholder tobacco farmers in Giaki, Meru.
2. To find out coping mechanisms employed by contracted smallholder tobacco farmers in dealing with tobacco farming challenges in Giaki, Meru.

3. To establish contracted smallholder tobacco farmers who are willing to stop tobacco farming in Giaki, Meru.

1.4 Scope of the Study

The research was carried out in Giaki, Meru in Eastern Province which is one of the tobacco growing areas in Kenya.

Tobacco companies contract farmers to grow tobacco and later when the farmers harvest the crop they sell the dried (cured) leaf to these companies. This study therefore, targeted smallholder tobacco farmers who were contracted by one of the leading tobacco companies in Giaki, Meru. Contracted smallholder tobacco farmers were to provide information on the terms and conditions that the company operated on, how they were contracted and also the nature in which one was contracted.

According to Oongo (2002) earnings from tobacco are not commensurate with the input by the farmers. As a result, farmers are barely making a living, producing a crop that is labor and input intensive and at the same time brings with it health and environmental dangers (WHO, 2004, 2008a and 2008b). This study therefore, identified the socio-economic challenges among smallholder tobacco farmers in Giaki, Meru.

Rural development entails growth which should be increase in certain capacities both qualitative and quantitative aspects. Because of this, the study looked at the cost-benefit analysis. Here the researcher concentrated on farmers' input to overall product (cured tobacco leaf). Input here was the cost, labor and also time that a tobacco farmer had to put to ensure he or she had a productive harvest at the end.

From studies done earlier, tobacco farming was said to bring no profits to tobacco farmers and that people still languish in poverty even after cultivating the crop for decades. The study therefore focused on the sources of income of contracted tobacco farmers in Giaki, Meru; and frequency of getting money from these sources. This enabled the researcher to know how the smallholder tobacco farmers in the area of study coped with the issue of tobacco farming not providing them enough money to cater for their living.

The tobacco farmers' willingness to stop tobacco farming and adapt alternative crops to tobacco was a concern in this study; hence, the study looked at the reasons why tobacco farmers planted the crop and whether they would adapt alternative crops and stop cultivating tobacco.

1.5 Justification of the Study

This study would help Government, Non Governmental Organizations and donors to formulate and design policies, strategies and enact laws that could alleviate food insecurity and maintain adequate household food security enabling other affected areas to embrace the skills to solve the problem of food insecurity and living conditions of farmers.

The findings of this study would also help in providing information that FCTC could use in formulating strategies that could be used in ensuring that there is reduction in tobacco demand and supply in the region and also other places where tobacco is highly cultivated.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

This chapter aimed at giving a clear understanding of tobacco farming and the socio-economic challenges that earlier researchers had pointed out. The chapter is divided into three sections. The first section is based on research works and books written in relation to the topic of study. The second part is the theoretical framework which points out two sociological theories that aid in better understanding of the research study. The third part is the conceptual framework that explains specific terms that the study will be based on and what the study will focus on.

2.1 Relationship between agriculture and poverty

In most developing countries, especially in Sub-Saharan Africa, large majorities of the population live in rural areas, and earn their livelihoods primarily on agriculture. As a result, any serious discussion of growth and poverty reduction in Africa must begin with a look at the role played by agriculture in development.

Agriculture accounts for large fractions of economic activity, measured in value terms. In many countries, 30 percent or more of GDP comes from agriculture, and in a few countries, agriculture's share of output reaches 50 percent. For Sub-Saharan Africa as a region, between 15 and 20 percent of GDP has originated in agriculture (Gollin, 2009).

Often, it is argued that agricultural crop production has an important role in economic development and poverty reduction. In that, crop production can contribute to economic growth through different channels such as provision of food and employment generation (Asia-Pacific Development Journal, 2009). For this reason, agricultural growth can result in a remarkable reduction in poverty (Thorbecke and Jung, 1996). Gitau et al (2009) also noted that agriculture

development is key to sustaining the first MDG which is eradicating extreme poverty and hunger.

However, agriculture is not always a panacea for poverty reduction since it is associated with economic and natural risks. Poor farmers especially in developing countries are most vulnerable to these risks. For example, a country that relies on agricultural export can be adversely affected by global economic shocks (Asia- Pacific Journal, 2009; and Agricultural economics Review, 2010). This is mainly due to sudden decrease in prices of agricultural outputs that can quickly push the poor households who are in tradable agriculture into losses and poverty. Agricultural export crops are mainly cash crops.

Cash crop farming is the biggest form of crop farming in Kenya today. This is probably because of the increased need to earn money from any possible activity. Cash crops are crops that are grown for the purpose of generating money rather than as food, example tobacco. This type of farming can bring important sources of income from exportation.

However, cash crop farming is one of the agricultural sectors that are affected by the global economic shock, in terms of price of output and input. This means that a sudden decrease in the price of crop output can quickly push the households who produce crops into losses and poverty. An example is coffee growing in Viet Nam whereby in the late 1990s the price of coffee was very high in the world market, and many households in Tay Nguyen Province (in Viet Nam) grew it. However, afterwards when the price suddenly dropped, it affected many households as 80 per cent of the poor households grew coffee (World Bank, 2004).

2.2 Smallholder Farming in Kenya

There are more than 5 million smallholders engaged in different types of agricultural activities in the country. Estates and plantation farms of various sizes are fewer in number and make up a

smaller part of the sector. Kenya's agriculture is predominantly small-scale farming mainly in the high potential areas (Republic of Kenya 2010). Production is carried out on farms averaging 0.2-3 ha, mostly on commercial basis. Small scale production accounts for 75 per cent of total agricultural output and 70 percent of the marketed agricultural produce. For instance, small scale farmers produce over 70 per cent of maize, 65 per cent of coffee, 50 per cent of tea, 80 per cent of fish and 70 per cent of beef and related products (Republic of Kenya, 2010). However, adoption of improved inputs and technologies by these farmers has been low in the country.

Smallholder farmers rely heavily on domestic inputs and family labor. Their activities are labor intensive, use capital equipments sparingly and earn low incomes from crop and livestock activities. The farmers are characterized by economies of scale, use of family labor, subsistence consumption, use of self grown inputs, simple technologies and machinery and weak linkage with the market (Heyer, Maitha and Senga, 1976; Spenser, 2001).

Kenya's economic performance from independence to 1980 was rooted in the growth of the agricultural sector especially with increased cropping area especially after the opening up of commercial production opportunity to smallholder African farmers (World Bank 2004). An example is the increased output of cereals by 69 per cent from 1960 to 1969 with cropped area growing by 61 per cent (FAO 2006). Smallholder production has increased considerably relative to commercial production since independence. For example, tea production rose from 13,000 metric tons with 1 per cent grown by smallholder farmers in 1960 to 20,000 metric tons with 5 per cent being grown by smallholders in 1965 to 40,000 metric tons with 20 per cent being grown by smallholders in 1970. The current share of tea production by smallholder farmers presently is 50 per cent (Winter-Nelson and Gem Argwins Kodhek , 2009).

Most of the smallholder farms are situated in climatic conditions that vary from cold-wet to warm-wet in the highlands and warm-dry climate in the lowlands and semi-arid zones. The highlands are zones of high agricultural potential with comparatively better physical infrastructures. They are relatively better served by roads, piped water, communication network, extension services, farmer education and input distribution channels (Gathiaka 2010).

In the semi-arid zones, farming activities pose serious soil conservation measures problems. Through over grazing and inappropriate cultivation methods, soil erosion is accelerated, reducing the agricultural productivities in these areas.

Many smallholder farmers are efficient users of resources. The labor employment per acre and use of appropriate technology in small farms is said to be impressive going by empirical evidence, but this evidence is contestable (Hyder, Maitha & Senga, 1976). What is not contestable is that returns to smallholder farmers in Africa are low and that this sub-sector has many poor families and households (Lipton, 2005).

Adequate home production of food and/or adequate economic and physical access to food are touted as major means through which household food security could be guaranteed. However, smallholder farming in less developed countries which is based on low-input and inefficient traditional farming practices have impacted negatively on sufficient food production. There is a general consensus from research findings and among policy makers that the future of food security and poverty eradication in both the developing and less developed countries is hinged on commercialization of smallholder agricultural production (Jaleta et al., 2009; Massanjala, 2006; Nyaga and Doppler, 2006; Bouis and Haddad, 1990; Kennedy, 1988; Kennedy and Cogill, 1987; Braun et al., 1991; Govereha and Jayne, 2003).

2.2.1 Exploitation of Small Scale Farmers

Small scale farmers in Africa were introduced and incorporated into the international trade during the colonial period. However, they were not directly incorporated into the international markets in a manner that helps them reap maximum benefits from the market. Independent African governments intensified small scale farmers' participation in international trade as a strategy for earning foreign exchange and accumulating local wealth. For example, in Kenya in 1963, 43,788 metric tons of coffee was grown on a total hectarage 45,538. In 1989 this had increased to 170000ha (Njeru, 2009). Unlike large scale farmers, small scale farmers are not able to access information and opportunities in international markets. Implicit in the organization of international trade between small scale farmers and the international buyers is the assumption that small scale farmers have no agency to carry out business transactions, engage in international marketing or carry out research and development (Sender, 1990).

For a larger majority of small scale farmers, intermediaries play the role of linking the small scale farmers and markets, but they increase transaction costs which affects the small scale farmers' earnings. To begin with, price fluctuations are always explained in terms of international markets, which small scale farmers do not understand. Besides, small scale farmers also trade blindly because they do not know or understand the rules and regulations governing international markets. Uganda Coffee Development Authority (UCDA), for example, is concerned with supply issues in coffee production as no education is given to small scale farmers on trade issues related to coffee (Kinyanjui, 2002)

The effects of cash crop farming begin to be felt deeply after harvest, when, for example, coffee, tea, cotton and tobacco are taken to the factory. In the case of tea in Kenya, farmers take the green leaves to buying centres, the leaves are then taken to the factory by the Kenya Tea

Development Authority where processing and marketing takes place. The small scale farmers cannot sell their products to other companies or organizations, nor sell directly to consumers.

Small scale farmers are disadvantaged by their low levels of education. According to Sen (1999), education provides individuals with agency in negotiations and making decisions. Most small scale famers have primary education and only a handful have some post-primary school education (Kinyanjui, 2002). Education imparts values and positive attitudes towards work, opens up individuals to broad networks of operation, and provides the ability to interpret and analyze information received. Because of this, small scale farmers should be educated since small scale farmers with higher levels of education are more likely to lobby government and negotiate their terms of trade with agents, intermediary firms and companies. They are also more likely to interpret and predict markets and organize production processes on the basis of information they receive.

Small scale farmers have no idea of who determines prices of products. Farmers assume that prices are determined by organizations such as ginneries, cooperatives or government-appointed agencies and brokers. According to Kinyanjui (2002), price determination of cash crops is a buyer-driven process, in which many of the small scale farmers are not participants. The prices are not based on costs incurred in production or profit margins. As a result of this the process lacks justice because farmers are not represented in the negotiation and bargaining process.

2.2.2 Tobacco Farming in Kenya

Tobacco grows well in a variety of climates and topographies. The plant grows luxuriantly on any soil where vegetables grow. In recent decades, the growth in world tobacco production has come primarily from low-income and middle-income countries. Between 1975 and 1998,

production in developed countries fell by 31%, while production in developing countries rose by 128% (Rowena et al, 2007).

In Kenya, the history of tobacco production dates back to the year 1907 when British-American Tobacco (BAT) set up a marketing organization with its base at Mombasa. . The company introduced the concept of contract farming in the 1960's and has continued to maintain this system to date. Until 1975, BAT (K) depended largely on Tanzanian and Ugandan Tobacco for the production of local brands. BAT (K) has since pursued a policy of promoting tobacco in appropriate areas by small-scale farmers; the growing areas being Migori, Kuria and Homa-bay (in Nyanza Province), Bungoma, Bumula, Malakisi, Sirisia, Busia, Teso, and Mount Elgon (in Western Province), Thika (in Central Province) and Meru (in Eastern Province). Three varieties of tobacco leaf are grown: flue cured Virginia, dark fire cured and air-cured burley.

Tobacco growing increased with the entrance of Mastermind and Cut Tobacco into the market in the late 1980s. Despite being the country's largest manufacturer, by 2002 the market share of BAT(K) had dropped from 90% to 71%, Mastermind had progressed to 22%, followed by Cut Tobacco at 7 % (Patel et al 2007). The Kenyan government has a long standing stake in BAT (K), being its largest shareholder with 20% holding. Having a stake means that apart from receiving revenue in the form of taxes from its operations, the government also receives dividends from the company in addition to playing part in appointments to the board.

Tobacco requires continuous nursing for an average period of nine months from planting to delivery to the leaf buying centers. Seed beds are normally prepared in October; farmers usually have one month, September for other activities. Seed beds must be watered twice a day to maintain the right level of moisture levels. They must also be guarded against damage by birds and other animals. Planting, which usually begins in mid-March often goes on until mid-May.

First, the land is “ridged”, followed by actual planting. Leaf-by-leaf checks are required and the problems requiring pesticides, herbicides or fertilizer application must be diagnosed.

The value-added production chain of tobacco is composed of sub-sectors, that is, the farmers who produce (cultivate the crop), specialized companies who are the first processors and lastly, the cigarette manufacturers that prepare blends from different tobacco varieties and qualities and then manufacture the cigarettes and other tobacco products. The business model is a vertical integration of the smallholder tobacco farmers. This is so in that, the first processors buy ready-cured tobacco leaves from the farmers under a contractual arrangement, delivering all necessary inputs and providing loans for cropping. This can negatively influence farmers if tobacco harvest fails, in that they may find themselves with huge loans and without the resources needed to purchase the food they otherwise would have grown (Efroymson and FitzGerald, 2002).

On average, the smallholder tobacco farmers use an acre of their land holding to grow tobacco (Kibwage et al 2007). Tobacco Companies offer the farmers crop inputs and advice, and buys leaves from them once dried (cured). The price the farmers receive for their tobacco leaf is dependent on the companies’ evaluation of its quality. Under BAT (K) contracts, crop inputs such as seeds, pesticides and fertilizers are given to the farmers at a loan, which is then deducted from their final earnings (Patel et al 2007).

Over the past three decades, Kenya has attained self-sufficiency in tobacco production, leaving surplus for export (Kweyuh, 1997). Supported by over 300 extension officers, BAT (K) supplies production inputs including pesticides, fertilizers, seedlings and loans for production. However, since the inception of tobacco by BAT multinational, its culture, use, health and economic implications have become issues of social and academic inquiry (Chacha, 2000).

2.2.3 Socio-Economic Conditions of Tobacco Farming

Tobacco is grown in more than 120 countries on more than 4 million hectares of the world's agricultural land. While the amount of tobacco cultivated in developed countries is steadily decreasing, cultivation in developing countries has increased significantly with hundreds of thousands of small scale farmers encouraged and supported by tobacco industry to take up cultivations of a crop that is labor and input intensive. Tobacco farming requires continuous nursing for an average period of nine months from the time of planting to delivery to the leaf-buying centres. During this nine-months period, a lot of activities are required to take place in order to have a good quality harvest of the crop. Continuous monitoring is required, which involves sleepless nights during curing process as a small delay or inappropriate fire might result to heavy losses. This usually causes serious strain in the family (Kweyuh, 1997).

Several occupational risks related to tobacco growing are well known, including green tobacco sickness, pesticide intoxication, respiratory and dermatological disorders and cancers at certain sites. Green tobacco sickness is specifically related to tobacco growing which results from dermal absorption of nicotine, which is exacerbated during the handling of wet leaves.

Tobacco companies are also to blame for some of the challenges smallholder tobacco farmers have to go through in cultivating the cash crop. This is because farmers who cultivate tobacco adhere to rules that are given to them pertaining the farming of tobacco by tobacco companies. World Health Organization (WHO) (2000), indicate that tobacco companies are "strangling the growers" and each year they come up with a new way to squeeze them tighter while attempting to put a "human face" through corporate social responsibility program. This is well explained by the way the tobacco companies market themselves to farmers by providing incentives that draw a lot of farmers in the tobacco cultivation. According to Claude (2003), incentives in the form of

farm inputs and loans have led to the allocation of more land for tobacco cultivation. This causes a negative effect on household food security given that in times of poor yields most farmers cannot pay back their loans and end up with basically no cash to buy food unlike a situation where variety of food crops are grown. In some cases, farmers with smaller holdings plant all their land with tobacco, relying on tobacco income to buy food.

Tobacco farming requires a lot of fertilizer, pesticide and herbicide application. These chemicals affect the soils negatively that it becomes almost impossible for other crops apart from tobacco to grow in the same area. According to Abila (2006), the production of food crops such as cassava, sorghum and millet has gone down in Kuria district, Kenya in recent years as tobacco output increased. In addition, Kibwage et al (2008) revealed that 50.4% of the farmers attribute low maize production to massive cultivation of tobacco.

Farmers spend most of their time in their tobacco farms doing leaf-by-leaf check to avoid any kind of attack on the plant. This also is done to maintain the right moisture level for the leaf plant. This leads to farmers spending a lot of time on this cash crop leaving no time to check on the food crops grown. In Migori, Nyanza Province, Kweyuh (1997) pointed out that village leaders complained that while a lot of food crops including maize, beans, sweet potatoes sorghum, cassava and millet are still cultivated, their quality has suffered due to these crops being neglected as efforts are largely concerned on tobacco. This contributes to increased food insecurity since maize is a staple food crop in the area. The reason for these crops not doing well is because of competition for farmland and labor between these crops and tobacco.

Smallholder tobacco farmers are slaves of tobacco due to the debts to leaf companies who try to reduce the price of tobacco. For example, smallholder tobacco farmers in Uganda receive lower earnings from tobacco, experience food insecurity but continue to grow tobacco because of debts

to tobacco companies (Otazes, 2008). The low level of investment practiced by poor small-scale smallholder tobacco farmers do not attract economies of scales but makes them remain in constant debts and this incapacitates household's ability to afford adequate food. It is for this reason that Shah and Vaite (2002) noted that smallholder tobacco farmers are left with no option but to keep cultivating the crop irrespective of the long-term, veiled hazardous consequences and questionable economic gains.

Poor buying coordination is also a major problem when it comes to tobacco farming. For example, Kweyuh (1997) noted that in Malakisi, Western Province it is rare for a farmer to earn anything above sh. 10000 per acre of tobacco when the profits are worth that amount; "from the preparation of seed beds to curing of leaf, BAT staff is usually present to supervise the process but once the crop is ready for delivery they disappear; only after deductions a farmer is told that his crop is not worth anything more than sh. 7000." Apart from farmers being exploited when it comes to grading of their tobacco when selling to tobacco companies, they forced to incur unnecessary losses that benefit the tobacco companies. For example, in Nyanza Province,, it was claimed that farmers sometimes had their produce rejected as low quality, but when they dumped it in frustrations, BAT employed casuals to pick and grade it, and then bought it at virtually no cost (Kweyuh, 1997).

For rural development to improve the economic and social life of the rural poor in this case the smallholder tobacco farmers, there should be benefits of development among those who seek livelihood in the rural area. According to Oongo (2002), earnings from tobacco farming are not commensurate with the input by the farmers. The affected farmers are, therefore, not in positions to feed, educate or cloth their families adequately. Okoth (2009) argues that for meager return of sh.70000 per harvest, smallholder tobacco farmers are paying heavier prices in poisoned soils

and food shortages, which have transformed them into perpetual beggars. In some regions of Kenya, tobacco contributes to the poor food supply due to the fact that valuable land space and quality time are allocated to tobacco growing at the expense of food production.

Tobacco as a cash crop has replaced food crops and livestock, and threatens the food security of every family. Yet tobacco is not yielding enough money for the farmers to buy food for subsistence and viable livelihoods leave alone education and quality health care (Christian Aid, 2002). Kibwage et al (2009), captured household livelihood assets and strategies used by tobacco farmers in comparison to non-tobacco farmers in South Nyanza, Kenya in a study conducted to give basic information for local enforcement of the World Health Organization Framework Convention on Tobacco Control. The study concluded that although tobacco farming is carried to improve their living standards, there is a marked difference in income earned and expenses incurred by the tobacco farmers when compared to non-tobacco farmers. The tobacco farmers were found to be worse off.

2.2.4 Coping Mechanisms for Small Scale Farmers

To overcome the lack of agency of small scale farmers in the main markets, African governments have encouraged the formation of cooperative societies. These cooperative societies constitute an accumulation of social capital whereby farmers organize themselves and regulate crop quality as well as carry first stage processing of products before sale. The cooperatives serve as collection points for farmers who bring together small quantities of farm produce (Mbithi, 2009). The cooperative societies representing small scale farmers and agents in the local market, comply with the government's regulation (Mbithi, 2009).

Kinyanjui (2002) suggests that one way to assist farmers to get out from the situation of trade injustices is to promote small scale farmers activism. In this area farmers can learn from the Self

Employed Women's Association (SEWA) of India which is an organization of self-employed women that has captured local and international influence and has managed to represent the interests of self-employed women in India.

Another strategy that can be considered in empowering small scale farmers is by looking on ways how small scale farmers can transform their businesses to become micro agribusinesses that will be able to negotiate with international buyers and add value to their products. The micro agribusinesses would be flexible enough to meet demands of international markets. In the case of cotton, for example, agribusinesses could be formed to process sanitary and surgical cotton wool, mattresses, rugs and soft furnishing. In the case of tea and coffee, the agribusinesses could process or blend exotic tea and coffee (Kinyanjui, 2002).

In tobacco farming, a targeted effort is needed in order to replace tobacco cultivation with beneficial crops. For example in India, the black soils where Virginia Tobacco is grown are very fertile and good for cotton as well as certain vegetables and grain crops. The planting of fruit orchards, or diversifying towards floriculture, are also possible where tobacco is grown (Efroymson and FitzGerald, 2002). Also in Kenya, for example, One Acre Fund which is an NGO- based organization that operates in Western and Nyanza Provinces targeting tobacco farmers. It uses markets to improve incomes and food security of smallholder farmers by distributing seeds and fertilizer to a network of market points in the districts where it operates. The organization provides a complete functioning market system making it possible for even the poorest and most rural farmer to generate more income, and permanently solve their own hunger problems. The One Acre Fund NGO provides farmers with a complete service model which includes inputs, financing, training, farm and market education and insurance that helps them to

increase their farm incomes per acre. Multiple alternative crops will lead to higher economic gains.

2.3 Cost-Benefit Analysis

Cost-Benefit Analysis (CBA) is a technique for systematically estimating the efficiency impacts on policies (Weimer and Vining, 1999). It is expressed as the relationship between cost and outcome or benefits. For example, when calculating the cost-benefit analysis of tobacco farming, cost will include farm input in terms of fertilizers, pesticides, herbicides, labor cost and transportation cost which will be compared with the output that is, money earned after selling the dried tobacco leaf. Usually both the cost and outcome are measured in monetary terms. While assessing benefits, one has to look at tangible benefits, direct and indirect benefits. Cost benefit is usually computed by doing a benefit-to-cost ratio where benefits are divided by costs; or benefits minus costs.

CBA considers all benefits and costs to a society as a whole, that is, social costs and benefits hence it is referred to as a social cost benefit analysis (Boardman et al, 2006). Social cost benefit analysis is a process of identifying, measuring and comparing the social benefits and costs of a project or program. The broad purpose of CBA is to help in social decision making and more specifically to facilitate efficient allocation of a society's resources (Boardman et al, 2006).

CBA aids in decision-making as one is able to tell whether a program or project is bringing any benefits or not. When costs are higher than benefits, then the program or project in question is not bringing any profits which determine economic development as a whole.

2.4 Theoretical Framework

The study was based on two theories, namely, Karl Marx's conflict theory and Martin Seligman's theory of Learned Helplessness in an attempt to explain exploitation of smallholder tobacco farmers by tobacco companies.

2.6.1 Conflict Theory

According to conflict theory private property (market) is controlled by a small minority of the population (tobacco company) which leads to two opposed classes: the owners of capital (bourgeoisies) and the workers (proletariats). Owners (tobacco company that controls the tobacco market) are seen as making profits by paying less than what the worker (smallholder tobacco farmers) is worth, thus exploiting them. Because the smallholder tobacco farmer is exploited he or she becomes a commodity or product which for Marx, means anything used for the purpose of exchange. The smallholder tobacco farmers have to sell the dried (cured) leaf to tobacco companies who have direct access to the market, hence when they are exploited they become disconnected from product and the process of trade.

The study therefore attempted to find out the nature in which the tobacco company (bourgeoisies) exploited farmers (proletariats).

2.6.2 Learned Helplessness Theory

Learned Helplessness is the state of mind created when an animal or human being learns to behave helplessly, even with the means to escape or avoid an unpleasant situation. Learned helplessness theory talks of animals and humans being subjected to restraining conditions that make them see it is futile to make changes from what they are undergoing. According to Martin

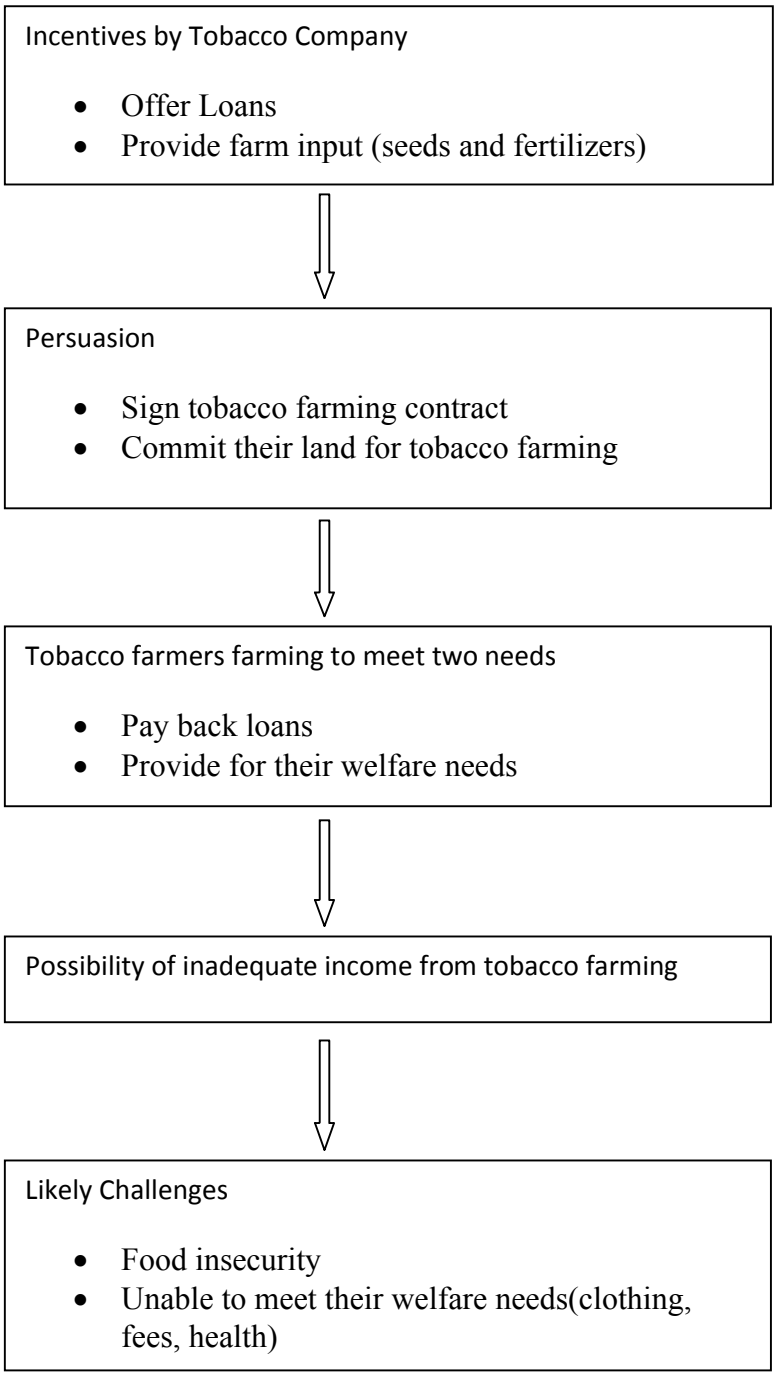
Seligman (1965), people become the way they are because they learned to be helpless and whatever they do is futile.

Earlier researches done seem to point out on the negative effects of tobacco farming yet many farmers still get themselves contracted to tobacco companies to grow the crop. Based on the theory of Learned Helplessness, the researcher hoped to find out the conditions that had been subjected to tobacco farmers in order to grow the crop and whether they were the same conditions that were making them continue to grow tobacco. The researcher looked at whether the farmers were aware of tobacco farming conditions and if they were aware, what actions they had taken to empower themselves.

Using these two theories, the researcher suggested recommendations on how to create awareness and empowerment to these farmers who appeared to be exploited by tobacco companies.

2.7 Conceptual Framework

Tobacco Company targets small scale farmers to practice tobacco farming. The company entices small scale farmers to grow tobacco by providing them with loans and farm inputs like seeds and fertilizers. As a result, small scale farmers get persuaded to practice tobacco farming hence sign contract with the tobacco company. These farmers commit their land to tobacco farming by putting up most of their land if not the whole portion, under tobacco. By doing so the small scale tobacco farmers hope to make enough income from tobacco in order to pay loans that they owe the tobacco company as well as use the profits gained to cater for their welfare needs such as food, school fees and clothing. It is evident that despite there being studies done on how tobacco farming leads to food insecurity, ill health, absenteeism from school for school-going children due to inadequate income from tobacco farming, a good number of farmers still practice tobacco farming as others also get contracted.


Incentives by Tobacco Company
Offer Loans
Provide farm input (seeds and fertilizers)
Persuasion
Sign tobacco farming contract
Commit their land for tobacco farming
Tobacco farmers farming to meet two needs
Pay back loans
Provide for their welfare needs
Possibility of inadequate income from tobacco farming
Likely Challenges
Food insecurity
Unable to meet their welfare needs(clothing, fees, health)

CHAPTER THREE: RESEARCH METHODOLOGY

3.0 Introduction

The aim of this chapter was to describe the methodology that was used in the study. Specifically, this chapter describes the research design, study area, target population, sampling procedures, methods of data collection and techniques of data analysis.

3.1 Study Design

This study was exploratory in nature and it was used to give results that provided a significant insight into the objectives of the study. It aided the researcher to draw definitive conclusions. This study assessed the socio-economic challenges contracted tobacco farmers faced, coping mechanisms and the tobacco farmers' view on whether they would stop tobacco farming and adapt alternative crops. The study used both qualitative and quantitative techniques in collecting the data. The study targeted households that were contracted to farm tobacco within the study area.

3.2 Study Area

3.2.1 Location

The study was carried out in Giaki, Meru County in Eastern Province. Meru is located at 0.047035 north and 37.649803 degrees east, on the Northeast slopes of Mount Kenya. It is populated mainly by the Ameru people. Meru is a business, agricultural and educational centre. It has banks and hotels, market and transportation terminals. Giaki is one of the 7 locations that form Miriga, Meru East Division of Meru Central District. Giaki boarders ABO-East Division to the south, Nkabune Location to the West, Tigania District to the East and Thuura Location to the

North. The Location is divided into four sub-locations namely Kirimaitune, Kanjagi, Mbeu and Kambereu.

The land tenure is individual ownership for the farmers. There are public lands, especially forest, veterinary farm and Trust land. The squatter problem is not pronounced and 99% are either living on own/ relative/ hired land. The average farm size is 5 acres.

Land is the main source of livelihood for Giaki community. The residents are basically mixed farmers but with emphasis on crop production. Land ownership is a male domain; however, both men and women work on it. Male children inherit land from their parents.

Crops grown in the area include cereals (maize, sorghum, millet), pulses (beans, cowpeas, pigeon peas), oil crops (ground nuts), fruits (mangoes, citrus, guava, pawpaw, bananas, melons), vegetables (tomatoes, kales), Root crops (Cassava, Sweet potatoes) and tobacco.

There are two tobacco companies (BAT and Mastermind Kenya) that operate in Meru. BAT was the first tobacco company in the area which started in 1978 then Mastermind Kenya followed in the year 1999. BAT Company has a leaf centre in Giaki which supports growing and selling of tobacco as well as provides "mobile" markets. Giaki Leaf Centre belongs to BAT Company while Mastermind Kenya has an office in Kagaene though there are "mobile" markets in Kunati, Kagaene, Kamu and Gaitu.

The type of tobacco grown in Giaki is flue cured which is cured using direct fire from pipes. The crop is usually planted in the 8^{th} and 9^{th} month of the year. Tobacco farmers in this area are either contracted to BAT or Mastermind and only few are not contracted to these tobacco companies. Mastermind picks on any tobacco farmers in the region whether recruited by them or not, unlike BAT which only contracts tobacco farmers recruited by them. The not contracted tobacco

farmers can only sell their tobacco to BAT through the contracted farmers but cannot be given accounts as they have not been recruited by BAT.

3.3 Study Population and Unit of Analysis

The targeted population in the study included smallholder tobacco farmers in Giaki. These farmers were contracted with one of the leading tobacco companies in the area. All these contracted tobacco farmers in Giaki are smallholder farmers hence homogeneity type of population.

The respondents included households who practiced tobacco farming, that is, both men and women from all ages who were contracted smallholder tobacco farmers.

3.4 Sample and Sampling Procedures

Purposive sampling was used to select Meru County as the study area since it was the only area that practiced Tobacco Farming in Eastern Province. In Meru, Giaki had been purposively selected as the study location. This was because Giaki had the majority number of contracted smallholder tobacco farmers in the area. Also, Giaki has two leaf centres, one from BAT and another from Mastermind Kenya which operate in Eastern Province. Most tobacco farmers in this area were contracted to these companies to sustain the farming. BAT was purposively selected as it strictly has farmers recruited by the company. The company also has a leaf centre in Giaki and has operated for a longer period of time in the area.

Given that the tobacco company does not disclose information about their farmers, the researcher used snowball sampling where the researcher identified one BAT contracted tobacco farmer who recommended other BAT contracted farmers.

3.4.1 Sample Size

Given that snowball sampling was the sampling method used to identify the contracted tobacco farmers, the researcher used 86 respondents since the population was saturated. In addition to the above reason, the total population of contracted tobacco farmers in Giaki was not known. Therefore, the 86 respondents were a fair number to yield fair results. The 86 respondents also took into account natural bias and budgetary constraints.

3.5 Sources of Data

The study used both primary and secondary sources of data. Primary sources of data were through direct communication with the contracted small scale tobacco farmers, with focus group discussion and interviews as the methods of data collection. Primary data provided first hand information which also assisted in filling the identified gaps and supplemented the secondary data. Secondary source of data was gotten from the District Agricultural Report (2011).

3.6 Methods of Data Collection

Focus group discussion was carried out. This method of data collection was used to collect qualitative data that explored some of the issues that the research was interested in. The focus group discussion involved fifteen contracted tobacco farmers. These tobacco farmers were invited during the pretesting of interview schedule. Attention was given to the tobacco farmers to give room for a free discussion. This activity was an active event rather than passive hence allowed farmers to give their views, conditions faced in the farm production and the food situations in the area.

This method was convenient as it aided the researcher to collect information from several people at a very short time.

Interviews were done, whereby the researcher initiated the interviews and collected the information directly from the interviewees (contracted tobacco farmers). The researcher followed a system of pre-determined questions and standardized techniques of recording information. This method was convenient as it considered the illiteracy of most tobacco farmers in the area.

3.7 Research Tools

Semi-structured interview schedule with closed and open-ended questions was used. The semi-structured interview schedule focused on tobacco farming situation in the area. The researcher was also able to interpret questions to respondents where necessary. Pretesting of the schedule was done with 5 respondents who were part of the population study sample. This aided in knowing how well the respondents would respond and react to the questions in the interview schedule.

Focus group discussion guide was used to carry out the focus group discussion. The researcher acted as the moderator of the focus group (contracted tobacco farmers). The researcher introduced the topic to be discussed and helped the group participate in a lively and natural discussion among themselves. This provided an insight on how the contracted tobacco farmers think about tobacco farming and its benefits to the farmers.

3.8 Data Analysis, Interpretation and Presentation

All the interview schedule and field notes were edited to validate the data. The data obtained was coded and clustered for subsequent statistical analysis using Statistical packages for Social Sciences (SPSS) version 18 computer program.

Both qualitative and quantitative techniques were utilized in the processing, analyzing and presentation of data. This is because qualitative methods tend to be strong in reliability but weak

in validity. By combining the use of both, social scientists believe that this will possibly balance the strengths and weaknesses of the two and achieve a higher degree of reliability and validity compared with the use of only one method (Medina, 1998).

Content analysis, Ethnographic summaries and direct quotations for Focus Group Discussions were used as methods in qualitative data analysis. Descriptive analysis was also used to analyze data gotten from the observation checklist of the researcher respectively.

The findings were shown in text and frequency tables, using percentage distribution and frequencies. Results obtained were organized according to the main sections of data with an intention of highlighting and achieving the objectives of the study.

3.9 Research Ethics

The purpose of the study was explained verbally and written to the eligible respondents. Confidentiality and anonymity was assured to the respondents.

CHAPTER FOUR: DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter presents the results obtained from the field research. The findings are based on the interview schedule and the focus group discussion (FGD) administered by the researcher. Both interview and FGD were held in line with the objectives of the study. The main research objective was to identify the socio-economic challenges faced by contracted smallholder tobacco farmers in Giaki, Meru. A total of eighty-six interview schedules were filled while fifteen respondents from the tobacco company selected participated in the FGD. Content analysis and inferential statistics were utilized in data analysis. Also, descriptive statistics were used to analyze the data with the results being summarized in tables and percentages.

4.2 Demographic Analysis

This section will focus on respondents' gender, age, marital status, education and income generating activities as per the filled interview schedules. The data on the above variables are factors the researcher used to assess the livelihood of contracted tobacco farmers in the area.

4.2.1 Gender

The study sought to establish gender of respondents who were farming tobacco in Giaki, Meru County. A study done by Kibwage et al (2007) reported that BAT Company contracts farmers who own land. According to The Land Ownership Laws of Kenya, for one to legally own land he or she has to have a title deed. The researcher therefore sought to find out how many male and female farmers own land in Giaki. The findings are as per table 4.1 below.

Table 4.1 Gender of the respondents

Gender	Frequency	Percent
Male	78	90.7
Female	8	9.3
Total	**86**	**100.0**

This study found that out of the 86 respondents, 90.7 percent were male with only 9.3 percent being female. This imbalance in gender distribution could largely be attributed to the fact that farmers who are contracted to the tobacco company are required to be the holders of the land title deed. Also, due to cultural reasons land is largely inherited by males from their parents, therefore, most of the land owners in Meru are bound to be men (Njogu, 2005; Kenya Bureau of Statistics Report). Also, during the researcher's field visit, it was confirmed that male children inherit land from their parents. This is evidenced from the excerpt below recorded in the FGD. For these reasons, there are more male contracted tobacco farmers than females in the area.

> "Sons are the ones who inherit land here. Daughters get married and settle with their husbands in their new home.

4.2.2 Age

In the African traditional society, land was owned through inheritance of ancestral land (Kabaka, 2012). Male children would inherit land from their parents once they undergo initiation as this was a sign of adulthood and permit for them to start a family. In cases of death, customary inheritance practices were patrilineal. Land was divided equally among the deceased's sons (Dolan, 2002). According to the Land Ownership Laws of Kenya, land is legally owned by

persons above eighteen years of age and a title deed is given to show ownership. Land ownership for persons under 18 years is usually trusted to parents or guardians but once someone reaches 18 years he or she has permit to land ownership. The researcher therefore sought to establish the ages of contracted tobacco farmers in this area who are owners of land. The total number of respondents who responded to this question was 80. The remaining 6 did not know their ages. Table 4.2 below shows the results of the findings.

Table 4.2 Age of the respondents

Ages	**Frequency**	**Percent**
25-39	25	31.2
40-54	32	40.0
55-69	20	25.0
›70	3	3.8
Total	**80**	**100.0**

From the above findings, 31.2 percent of the eighty respondents who responded were between ages 25-39 while 40.0 percent were between 40-54 years old. It was also established that 25.0 percent were farmers between ages 55-69 and the remaining 3.8 percent were above 70 years old.

The findings show that the youngest contracted tobacco farmer was 25 years old. This shows that land ownership in Giaki meets both the African traditional system and the legal system of land ownership. Ages 25-39 are still considered as youth and due to rural-urban migration, most of them engage in formal employment. Majority of the respondents (40.0 %) were in their middle

ages (40-54). This could be because most of the people living in the rural areas are in this age bracket and the economic activity that most of them engage in is farming. The respondents who were above 70 years of age were the least (3.8%). This could be because of the traditional aspects of land ownership and inheritance of ancestral land where land is subdivided according to all the sons in the household (Kabaka, 2012). Also, life expectancy for Kenyans was reported by the United Nations Population Fund Report to be 58 years (Siringi, 2011).

4.2.3 Marital Status

Land ownership comes with security and status. Status here is acquired by one entering into a legal marital union with another. This can be achieved by way of customary, religious, or civil marriage. As per the constitution of Kenya chapter four, marital partners are accorded with material security which makes them have equal rights over property, including land. For this reason, the researcher sought to find out the marital status of the respondents, who in this case are contracted tobacco farmers. Total respondents who responded to the question were 80 as the remaining felt uncomfortable sharing this information. Table 4.3 below shows the findings.

Table 4.3 Respondent's marital status

Marital status	**Frequency**	**Percent**
Married	73	91.3
widowed	6	7.5
Separated	1	1.2
Total	**80**	**100.0**

Majority of the contracted tobacco farmers (91.3%) were married. This means that some of them could have gained rights to own land through marriage. Also from the findings, there were cases of respondents who were widowed (7.5%) and separated (1.2%). This could be because Meru culture does not prevent women from using land inherited from their deceased husbands as it is matrimonial property (Dolan, 2002; Gaita, 2011).

4.2.4 Level of Education of Household Members

Ochola et al (2007) revealed that tobacco farming involves the entire family including school-going children making tobacco households less educated. However, when President Mwai Kibaki took power in 2002, primary education was made compulsory and free of charge. This has led to many school age children getting primary education. The government also reduced the amount of school fees charged for secondary level education in the year 2008. This has created more opening for Kenyans especially school age children who have been able to attend school up to secondary level over the past ten years than before the year 2002 (Glennerster et al, 2012). For these reasons, the study sought to establish levels of education among tobacco household members. The findings are shown in table 4.4 below. Percentage of household members has been calculated out of the 86 respondents interviewed.

Table 4.4 Education Levels of Household

Level of education	Frequency	Percentage
None	11	12.8
Primary	38	44.2
Secondary	29	33.7
College/university	8	9.3
Total	**86**	**100.0**

This study found that majority of the households (44.2%) had members who had reached primary education level. This could be as a result of free primary education that the government introduced in Kenya. Also, earlier findings in this study (section 4.2.3 above) shows that majority of the respondents were married. According to Wilcox (2012), married people are usually financially better off hence can afford to provide formal education to the members of the household. Another 33.7 percent had secondary education level while 12.8 percent had no formal education background. The study also showed that college or university level of education had the least household members (9.3%). The reason for a small number of people having university or college level of education could be attributed to a number of factors. Firstly, as Ochola et al (2007) had argued, tobacco farming tends to involve everybody in the household including school-going children. This might be the cause of people dropping out of school system before they reached university and college levels. Secondly, the culture of the Meru, circumcision symbolizes adulthood and the transformation of one from a youth to an adult. The initiates are normally teenagers, in most cases, school-going youths. Circumcision therefore tends to give the initiates rights to marry hence dropping out of school before attaining higher levels of education (Jens, 2003).

4.2.5 Type of House of the Respondent

According to a study carried out in Mayanja, Bumula District, tobacco farming was seen to increase poverty as the tobacco farmers could barely afford decent shelter for their families (Anaya, 2010). This could be because despite the effort put into farming, the farmers barely earn enough to enable them afford good shelter (Kweyuh, 1997). The study, therefore, sought to establish whether the situation was different in Giaki among the contracted tobacco farmers by finding out the type of house of the respondents. The findings are in table 4.5 below. Among the interviewed respondents only one did not respond and the house was not next to the farm.

Table 4.5 Type of House of the respondents

Type of house	**Frequency**	**Percent**
Traditional grass thatched/Mud walled house	1	1.2
Iron-sheet roofed with mud walls	3	3.5
Semi permanent House(Iron roofed, mud walls but plastered)	30	35.3
Permanent House(Bricks/Stones/Tiles/Iron-roofed)	51	60.0
Total	**85**	**100.0**

This study found out that 60 percent of the respondents who responded had permanent houses with either bricks or stone walls with tiles or iron roof. Also in the findings, 35.3 percent of the respondents had semi-permanent houses that were iron-sheet roofed with mud walls but plastered. On the other hand, the findings indicate that 1.2 percent of respondents had traditional grass thatched houses while 3.5 percent of the respondents had semi-permanent houses that were iron-sheet roofed with mud walls. From the findings, contracted tobacco farmers in Giaki do not have housing problems. Unlike Mayanja, contracted tobacco farmers in Giaki afford decent

housing. This could be explained by the fact that Meru County has got diverse agricultural activities besides tobacco farming (District Agricultural Report, 2011).

4.2.6 Main Occupation

Meru County being on the North-eastern slope of Mount Kenya has fertile soils making agriculture the primary means of sustenance. The residents are basically mixed farmers but with emphasis on crop production (Dolan, 2002). Farmers who engage in the agribusiness can either engage in full-time farming or be absentee farmers, managing the farm but have people working in the farms. The researcher therefore sought to find out the main occupation of the respondents. The findings were as per table 4.6 below. The total respondents who responded to this question were 83 as the others had miscellaneous responses.

Table 4.6 Main Occupation of the respondents

Main Occupation	Frequency	Percent
Farming	59	71.2
Informal sector employment	9	10.8
Retail business	9	10.8
Formal sector employment	6	7.2
Total	**83**	**100.0**

From the findings, it was seen that majority of the respondents (71.2%) had farming as their main occupation. This could be because land is the main source of livelihood in Meru. Another 10.8 percent of the respondents had informal sector employment as their main occupation while those who had retail business were 10.8 percent. Also, it was established that 7.2 percent of the

respondents were in formal sector employment. This 7.2 percent who were in formal sector employment could be the young people (section 4.2.2) who engage in rural-urban migration. This means that most of the youths are more likely to be engaged in other occupations in urban centres instead of farming.

4.2.7 Off-farm Income

This study also sought to find out whether tobacco farming is a reliable source of income for Meru farmers. The reliability of farming as a main source of income is normally indicated by the extent to which people engage in off-farm income activities (Kijima et al., 2006). For this reason, the researcher sought to find out whether the respondents had off-farm income. The findings were as per table 4.7 below. Only 69 respondents out of the total 86 respondents interviewed responded to this. The others chose not to respond to the asked question.

Table 4.7 Farmers' response on their access to off-farm income

Off-farm income	Frequency	Percent
Yes	55	79.7
No	14	20.3
Total	**69**	**100.0**

From the findings, 79.7 percent of the respondents who responded had off-farm income while 20.3 percent had no off-farm income. This could be as a result of off-farm income being an important component of livelihood strategies among rural households in most developing countries (Ruben and Van den Berg, 2001). The findings could also be according to a study

done by Kijima et al (2006) that saw off-farm incomes as reasons for declining farm incomes and the desire to insure against agricultural production.

4.2.8 Source of Off-farm Income

Babatunde and Qaim (2009) in their study on the driving forces for income diversification and household access to different off-farm activities in Nigeria found that almost 90 percent of all households sampled had at least some off-farm income; on average, off-farm income accounts for 50 percent of total household income. Sixty-five percent of the households were involved in some type of off-farm employment, 44 percent in agricultural wage employment, 40 percent in non-agricultural wage employment, and 50 percent in self-employed non-farm activities. Self-employed activities were the dominant source of off-farm income, accounting for almost one-fourth of overall household income.

The above study also established that the share of off-farm income is positively correlated with overall income. The relatively richer households benefit much more from the off-farm sector. The share of off-farm income also increases with farm size, suggesting that there are important complementarities between farm and off-farm income. Households with little productive assets and those who are disadvantaged in terms of education and infrastructure are constrained in their ability to participate in more lucrative off-farm activities (Babatunde and Qaim, 2009). The researcher therefore sought to find out the sources of the off-farm income from the respondents who had. The results are shown in table 4.8 below. From those who had off-farm income, only 55 respondents confirmed their sources of off-farm income.

Table 4.8 Sources of off-farm income

Source	**Frequency**	**Percent**
Personal Salary	10	18.2
Micro-enterprise(Posho mills, shop, kiosk)	11	20
Income/Salary from family member/Remittances	19	34.5
Local merry-go-rounds	10	18.2
Micro-finances/banks	2	3.6
friends	3	5.5
Total	**55**	**100**

This study found out that 18.2 percent of the respondents who had off-farm income were from personal salary such as government related employment they were involved in. Also, 20 percent got their off-farm income from micro-enterprises such as shops and posho mills while 34.5 percent said they got their off-farm income from their financially well-off children and siblings. On the other hand, 18.2 percent got their off-farm income from local merry-go-rounds while 3.6 got from micro-finances such as banks. Also, 5.5 percent of those who had off-farm income said they got from friends. Reason for fewer farmers having micro-finances such as banks as their source of income could be because the financial institutions hardly give funds to farmers as they see it as lack of collateral and high risk (Magati, 2009). Most people living in rural areas rely on their educated and financially stable children and siblings to assist and this also applies to majority of the contracted tobacco farmers in this area. This is because most of the families that engage in off-farm activities are usually the most well-off families who probably have highly educated members too (Babatunde and Qaim, 2009).

4.2.9 Regularity of the Off-farm Income

Given that off-farm income is mainly meant to increase the household income (Babatunde and Qaim, 2009), the researcher sought to establish the regularity of the off-farm income for those respondents who had. Table 4.9 below shows the findings.

Table 4.9 Regularity of respondents' off-farm income

Regularity	Frequency	Percent
Regular	20	36.4
Irregular/Occasional	29	52.7
None	6	10.9
Total	**55**	**100.0**

From the findings, 36.4 percent of those that had off-farm income said their off-farm income was regular while 52.7 percent said their off-farm income were irregular or occasional. 10.9 percent of those who had sources to accessing off-farm income said their off-farm income was neither regular nor irregular. The regularity of the off-farm income could be determined by the source of one's off-farm income. As indicated in section 4.2.8 above, only ten people (18.2%) did have a regular salary as an off-farm income. The rest of the people had off-farm income coming from irregular sources such as entrepreneurship and handouts from family members.

4.3 Factors that Influenced Tobacco Cultivation

In order for farmers to select any type of crops to farm it requires some thought and planning. According to Kain (2006) more farmers are likely to take up a crop that has been grown in the area for a long time as this means there is equipment and the climatic conditions are favorable. The above study also reported that other factors that farmers should always consider before

taking up a crop include the labor pool and access to market. Labor pool here refers to access to reliable and productive labor. The researcher therefore, sought to find out the factors that influenced farmers to start tobacco cultivation in the area. This was to enable the researcher compare the extent to which the original intentions of the farmers to take tobacco farming had been realized.

The interview schedule sought to find out the factors that drove tobacco farmers into this activity. The findings are presented in table 4.10 below. Each factor is presented out of the total 86 respondents who were interviewed.

Table 4.10 Factors that Influenced Tobacco Cultivation

Factor	**Frequency**	**Percent**
Incentives from Tobacco Company	47	54.7
Anticipated ready market	56	65.1
Promotion from Government Agricultural Officers	5	5.8
Culture/inheritance	9	10.5
Availability of land	28	32.6
There was no other cash crop by then	20	23.3

From the findings, 54.7 percent of all the responses got from those who were interviewed said that they started tobacco farming because of incentives from tobacco companies while 65.1 percent were because of anticipated ready market. Also 5.8 percent was because of promotion from government agricultural officers while 10.5 percent was because of inheritance of the farm land. On the other hand, 32.6 percent of the total responses from the respondents interviewed

said they started tobacco farming because of availability of land while 23.3 percent said there was no cash crop by then that was promising. The findings corroborate a study done by Kein (2006) that stated most farmers would be attracted to a given crop if it has market. In addition, Kato (2009) reported that many farmers are too poor to afford seeds, fertilizer and other inputs to improve yields. From the findings it could be said that the tobacco company then was aware of the needs of farmers on farm inputs and market for their produce hence used it as strategy to influence more farmers in growing the crop.

4.3.1 Portion of land allocated to tobacco farming

From a study done by Kiriti (2002), the portion of land allocated to food crops has been declining as the farm size increases while the proportion of land allocated to non-food cash crops rises as the size of farm increases. She further reported that this usually poses a threat to food sufficiency given that farmers prioritize non-food cash crops yet they don't bring much revenue commensurate with the amount of land allocated to them.

According to the District Agriculture Report (2011), the average farm size of Giaki residents is only five acres. In order to establish the extent of the prevalence of this practice, the researcher first sought to find out the portion of land allocated to tobacco farming in the respondents' farms. The results are presented in table 4.11 below. The percentage findings are out of 75 respondents, the rest had miscellaneous responses.

Table 4.11 Portion of land allocated to tobacco

Acres	Frequency	Percent
Up to 1	11	14.7
2-4	56	74.7
Up to 5	8	10.6
Total	**75**	**100**

From the findings, 14.7 percent of the respondents had allocated tobacco farming on one acre of their land which is 20 percent of the average farm size (i.e. 5 acres) of residents in Giaki. A whole 74.7 percent had tobacco farming on (2-4) acres of their land.

The remaining 10.6 percent had allocated tobacco farming on five or more acres of land. In case any of the farmers in the 10.6 percent had only five acres of land, then all his/her land was placed under tobacco cultivation.

Also from the evidence collected from the FGD indicated that the tobacco company ensured that tobacco farming was given priority over other crops. For example, the evidence collected during FGD indicated that contracted tobacco farmers were usually given tree seedlings to plant by one of the tobacco company operating in the area so that once the tobacco was ready to be harvested farmers would use the trees to provide firewood for curing tobacco in readiness for the market. To make matters worse, instead of inter-cropping the trees with tobacco crop, the company preferred the trees to be allocated a separate portion of farm land thereby prioritizing tobacco farming related activities in their land allocation. This meant that contracted tobacco farmers had less farm land allocated to other activities such as food crop farming and livestock keeping as it was recorded during the FGD in the excerpt below.

"I have 2 acres of land in which, I have planted tobacco in one acre and trees that have been provided by the tobacco company am contracted to in a quarter acre. The remaining I have put up my house and a shed for my two cattle".

4.3.2 Reasons for prioritizing tobacco farming in land allocation

The researcher sought to establish the reasons why the farmers prioritized tobacco farming in their land allocation. During the FGD, majority of the farmers said that they had dedicated a better percentage of their farms to tobacco cultivation because of the incentives provided to them by the tobacco company in the form of farm inputs and loans, and also the ready market.

"I have 3 acres of land in which I have tobacco growing in 2 acres of the farm and the other acre is where my house, cowshed for my two cows, and poultry are. I have also planted few vegetables and bananas on the one acre. Given that the tobacco company am contracted to provides the seeds, fertilizers and other agrochemicals required for tobacco farming, and also market for the harvested product makes it easier for me to manage the 2 acres of tobacco in my farm."

This could lead to negative effect on household food security especially in times of poor yields as corroborated by the findings of a study done by Claude (2003) on the negative effects of tobacco farming.

4.3.3 Compulsion to source farm inputs from the tobacco companies

Previous research had established that tobacco companies have a tendency to compel farmers to source farm inputs from them. This had the effect of making the farmers to buy the farm inputs at an unnecessarily high cost (Patel et al, 2007). This study therefore sought to establish how the

farmers got their farm inputs. Data was collected through interview schedules with individual farmers and the findings are as per table 4.12 below.

Table 4.12 Farm inputs and their sources

		self	Tobacco Companies	Local shops	Other tobacco farmers	Total
Fertilizer (DAP)	Frequency	13	58	6	1	78
	Percent	16.7	74.3	7.7	1.3	100.0
Fertilizer(CAN)	Frequency	13	60	4	1	78
	Percent	16.7	76.9	5.1	1.3	100.0
Fungicides (Blue Copper)	Frequency	11	52	7	1	71
	Percent	15.5	73.2	9.9	1.4	100.0
Seeds	Frequency	16	57	2	2	77
	Percent	20.8	74.0	2.6	2.6	100.0
Pesticides (orthene)	Frequency	12	55	4	1	72
	Percent	16.7	76.4	5.5	1.4	100.0
Pesticides (Lannate)	Frequency	12	54	4	1	71
	Percent	16.9	76.1	5.6	1.4	100.0
Hessian bag for transporting tobacco	Frequency	17	46	3	0	66
	Percent	25.8	69.7	4.5		100.0
Labour	Frequency	72	1	4	0	77
	Percent	93.5	1.3	5.2		100.0
Fire wood	Frequency	72	1	2	0	75
	Percent	96.0	1.3	2.7		100.0
Water pump	Frequency	40	8	7	0	55
	Percent	72.7	14.6	12.7		100.0
Water can	Frequency	51	4	7	0	62
	Percent	82.3	6.4	11.3		100.0
Furnace and pipes	Frequency	29	37	1	2	69
	Percent	42.0	53.6	1.5	2.9	100.0

The data indicated that the tobacco company provided the farmers with farm inputs in form of loans which they were supposed to repay them immediately they sold their produce to the company that had contracted them. Majority of the farmers received their fertilizers, agrochemicals, the hessian bags and seeds from the company that contracted them. The labor, firewood, water pumps and water cans were largely acquired by the farmers themselves. Whereas a reasonable percentage of the farmers (42.0%) provided themselves with the furnace, a sizeable majority (53.6%) got this service from the company.

4.4 Main Findings

The study sought to establish the socio-economic challenges of tobacco farming in Giaki, Meru. Given that research done on tobacco cultivation had reported a number of socio-economic constraints facing tobacco farmers, the study sought to find out whether the same applied in Giaki, Meru.

The study had three objectives. The first objective was to identify socio-economic challenges faced by contracted tobacco farmers in Giaki, Meru. The second one was to find out the coping mechanisms employed by contracted tobacco farmers in dealing with socio-economic challenges in Giaki, Meru. The final objective was to establish the contracted tobacco farmers who were willing to stop tobacco farming and adapt alternative crops to cultivate in Giaki, Meru. Below are the findings of the objectives of the study.

4.4.1 The Socio-Economic Challenges Faced by Smallholder Tobacco Farmers in the Study Area

Prior literature showed that farmers usually face a number of economic and social challenges in this industry (Oongo, 2002; Patel et al, 2007; Kibwage et al, 2005, 2009; Kweyuh, 1997; Otazes,

2008). These challenges have led to increased poverty levels in regions where tobacco farming is practiced. For example, Mayanja, Bumula District has been growing tobacco for over three decades where three quarters of the population grow tobacco, and today they are still languishing in poverty (Anaya, 2010). For these reasons, the researcher sought to find out whether there were any socio-economic challenges faced by contracted tobacco farmers in Giaki, Meru. The study findings are presented in table 4.13 below.

Table 4.13 farmers' response on whether they experience socio-economic challenges

	Frequency	**Percent**
Yes	69	80.2
No	17	19.8
Total	**86**	**100.0**

From the findings, 80.2 percent said they faced socio-economic challenges while 19.8 percent said they did not face any socio-economic challenges. This study therefore sought to establish the socio-economic challenges faced by farmers.

Tobacco Farming Challenges

Prior research had established that cash crop farming, tobacco included, had the tendency to lead to a number of economic challenges in the society (Sen, 1999; Kinyanjui, 2002). According to a study done by Shah and Vaite (2002) smallholder tobacco farmers do not attract economies of scales due to the low levels of investment they practice which makes them in constant debts. In addition to this, Kweyuh (1997) reported that continuous monitoring of tobacco involves sleepless nights especially during curing process causing serious strain in the family

relationships. The health of tobacco farmers is also put at risk as tobacco farming requires a lot of fertilizers, fungicides and pesticides that could cause diseases, disability and premature death (Efroymson and FitzGerald, 2002).

This study therefore sought to find out whether tobacco farmers in Giaki faced similar problems as those discussed above. The findings are presented in table 4.14 below. Each challenge mentioned is presented out of the total respondents who responded to the question.

Table 4.14 Socio-economic challenges faced by tobacco farmers

Problems encountered in processing and cultivation processes	**Frequency**	**Percent**	**Problems encountered in marketing**	**Frequency**	**Percent**
Total Respondents	**61**	**100**	**Total Respondents**	**60**	**100**
Conflict/ dispute among farmers and tobacco companies	4	6.5	Low prices	37	61.7
Poor soil fertility	14	22.6	Delayed payment	51	85.0
Floods	4	6.5	Delayed / late procurement of tobacco	23	38.3
Drought	7	11.5	Inadequate extension services	13	21.7
Wild animals	6	9.7	Poor classification or grading	38	63.3
Tobacco pests and diseases	53	85.5	Transportation problem	15	25.0
Time constrains	27	43.5	Theft from tobacco godowns	6	10.0
Labour shortages	41	66.1			
Health problems	28	45.2			
Hail stones	3	4.8			
Fire outbreaks	11	17.7			

From the findings, there were numerous problems during tobacco farming. Disputes among farmers and the Tobacco Company (6.5%), poor soil fertility (22.6), floods (6.5%), drought (11.5%), wild animals (9.7%), hailstones (4.8%) and fire outbreaks (17.7%) affected the least number of respondents during processing and cultivation of tobacco crop. On the other hand, the most mentioned problems during processing and cultivation of the crop was tobacco pests and diseases (85.5%), time constrain (43.5%), labour shortages (66.1%) and health problems (45.2%).

Among the problems faced during marketing of tobacco crop, the most mentioned problem was that the tobacco company charge exorbitant prices for farm inputs like seeds, fertilizers, chemicals and even firewood. The respondents also expressed their dissatisfaction with delayed payments that had 85.0 percent of the respondents, low prices (61.7%) and tobacco leaf grading system (63.3%) which tobacco farmers felt should be revised and closely monitored by government agencies. Lack of participation of farmers in the grading exercise led to serious exploitation by the tobacco company.

Conflicts due to the Burden of Debts Owed to the Tobacco Company by Farmers

A study by Kweyuh (1997) showed that farmers get very little from their produce once the cost of the farm inputs is deducted. From the above findings (table 4.14), tobacco farmers complained of conflicts with the tobacco company, low prices and delayed payment which were mentioned by 6.5 percent of the respondents, 61.7 percent of the respondents and 85.0 percent of the respondents respectively. The researcher therefore sought to find out the reasons why tobacco farmers mentioned the above as challenges they faced.

From the FGD tobacco farmers reported that tobacco farming involved a lot of work yet the earnings tobacco farmers got were little compared to the effort the farmers used to ensure a quality harvest. Below are some of the responses recorded during FGD.

> "In the first stage of the growing process, tobacco seeds are sown in special constructed seedbeds. At the same time, farmers carefully prepare the soil in their fields. After two months in the seed beds, the seeds will have grown into plants approximately 15-20 centimeters high and ready to be transplanted to the field. The plants grow in the field for a further two to three months. Throughout the growing process, the plants are examined to maximize yield and quality, the soil is tended regularly, and care is taken to protect the plants from pests and disease. There is usually a need for continuous application of fertilizers.
>
> Harvesting is either done leaf by leaf in the case of Virginia and oriental tobacco, or by the whole plant in the case of burley. All these types are grown in this area. Harvesting has to take place when the leaves are mature (or ripe) and in prime condition for the next stage, the curing process.
>
> Curing plays a major role in contributing to the final leaf quality for the flue cured tobacco in this area. During the curing process there is usually a high demand for firewood and constant supply of labor. Once the leaves are cured, the farmers sort them according to their quality and stalk position. The leaves are then tied and packed into bales ready to be transported. Tobacco bales are moved to the buying station where they are assessed and subsequently purchased by leaf buyers (agents from the tobacco companies)."

All these processes were labor intensive. From the description given by some of the farmers during the FGD it seemed that tobacco farming was a high cost agricultural investment and yet the earnings from it were not necessarily commensurate with the investment costs.

During the FGD, it was noted that low prices and delayed payments were also reasons why farmers were not satisfied with prices of selling the harvested tobacco. This was recorded from one of the farmers.

> "the contracting company has the tendency of delaying payments to farmers and yet they are usually too fast to take away farmers' property which includes all the tobacco in the farms and also their house's iron roof, if loans are not repaid in time".

In order to corroborate the farmer's complaints about meager earnings from their tobacco farming investment, the researcher sought to establish how much the respondents got from sale of tobacco in the previous season. The findings are presented in table 4.15 below.

Table 4.15 Gross earnings from tobacco in the last season

Amount (ksh.)	**Frequency**	**Percentage**
10000-100000	49	57.0
100000-200000	23	26.7
200000-300000	8	9.3
Above 300000	6	7.0
Total	**86**	**100.0**

The findings show that 57 percent of the respondents earned between Kshs. 10000-100000 while 26.7 percent earned between ksh.100000-200000. Also 9.3 percent of the respondents earned between Kshs. 200000-300000. The remaining seven percent earned above Kshs. 300000.

When these earnings were interpreted in the light of a study by Kweyuh (1997), the net earnings were indeed a small percentage of the gross. For example, a farmer who was able to earn a gross income of Kshs. 10 000 remained with a net income of not more than Kshs. 7 000 after deducting the inputs. This was only 70% of the gross income.

This situation was not even helped by the fact that one had a high number of acreage under tobacco farming. The more the acres under contract the more money one got and the more money one paid for the farm inputs. It was therefore not more profitable having more acres since accountability of the farm inputs provided were given for each acre of farm under tobacco cultivation. In case of any cost and possible surcharges, they were usually calculated per acre. Therefore in situations where a farmer had more than one acre, the costs were calculated cumulatively.

From the FGD, it was confirmed that most farmers were aware that most of the time, fertilizers went to waste and farmers incurred losses.

> "In most cases, the company usually supplies us with more farm inputs than we require carrying out tobacco cultivation activities especially if your land is less than an acre or an acre point something. This means that by the end of the planting season we are left with extra fertilizer yet the cost is surcharged on our produce as we utilized all their farm input."

Similar findings were recorded by Oongo (2002) who reported that the earnings from tobacco farming are not commensurate with the input of farmers yet they are still compelled to repay the loans they owed the companies. For example, it was noted during the FGD that the tobacco company was not lenient with farmers who were not able to repay their loans as one of the farmers complained in the excerpt below.

"the tobacco company takes the farmers' property if anyone fails to repay their loans regardless of the reason the farmer has for doing so. The company can either decide to take all the tobacco in the barn or if that is not enough, they take the iron sheet roof of the house. Also the tobacco company does not allow farmers to grow other crops in the same farm with tobacco, and if one is caught his or her tobacco will not be bought".

Source and High Cost of Labor

One of the problems mentioned by the contracted tobacco farmers in table 4.14 above was that they had labor shortages as tobacco farming was labor intensive. Also a lot of time was spent on cultivation of the crop. The researcher therefore sought to find out the estimated number of days spent and costs incurred to ensure one got a good harvest from the crop. The number of days spent and costs incurred were calculated per acre of farmland since this was the minimum size of land contracted by tobacco companies. The labor type has been specified according to the people involved in the operation being carried out. Some operations were carried out by the family or household members, while others required hiring people to assist in the operations.

The findings are presented in table 4.16 below. According to the study by Nyaga (2007) in order to totally account for the production cost of a crop, it is important to treat family labor as if it was hired and cost it. Therefore in order to fully account for the total cost of tobacco production, family labor should be treated as if it was hired and given cost.

Table 4.16 Estimated number of days and costs spent in carrying out tobacco farming activities

Operation and Labor type	Source of labor	No. Of Days	Cost per unit (Kshs)	Total cost(Kshs)
Nursery Management	Family	15	-	-
Land preparation	family	9	-	-
Ridging	family	3	-	-
Planting	family	16	-	-
	Hired	20	60.00	120.00
Weeding	Family	73	-	-
	Hired	17	60.00	1020.00
Applying fertilizer	Family	5	-	-
-	Family	2	-	-
Manual de-suckering	Family	1	-	-
	Hired	1	300.00	300.00
Manual pest control	Family	10	-	-
Harvesting	Family	4	-	-
	Hired	9	130.00	1170.00
Preparation for curing (Tying on curing sticks)	Hired	10	180.00	1800.00
Transporting to the barn	Family	2	-	-
	Hired	3	60.00	180.00
Curing	Family	12	-	-
Grading	Family	12	-	-
Balling	Family	2	-	-
Packing	Family	3	-	-
Total	**Family**	**169**		**-**
	Hired	**60**		**4590.00**
	Total	**227**		**4590.00**

From the findings, tobacco farming occupied a lot of the farmer's time in terms of days spent working to ensure good harvest. To be precise, it occupied 227 days a year. Those farmers who

settled for family labor incurred less costs. This was because instead of paying someone else to do the work, the household members worked on it together. This meant that work was done at no material cost, but some of the family members ended up missing out on other important opportunities in life. For example, a study by Ochola et al (2007), reported that tobacco farming tends to involve the entire family thereby denying the children the opportunity to comprehensively attend school.

Some farmers from the FGD complained that hiring labor was expensive in that sometimes the farmers did not have that money to pay for labor. One of the farmers' lamentation is recorded in the below excerpt.

> "...because we cannot involve our school-going children in the tobacco farming activities since it is against the law to make them skip school when we need their help in the farms makes it expensive hiring other people to work in the farm".

Tobacco Farming on People's Health

The findings in table 4.14 above had 45.2 percent of respondents that mentioned health as one of the problems encountered during tobacco cultivation. The researcher therefore sought to find out the hazardous health conditions that were likely to afflict tobacco farmers as a result of tobacco farming. Just as reported in the Brazilian study by Efroymson and FitzGerald (2002), during the FGD it was found that the farmers were aware of some of the health hazards associated with tobacco farming as presented in the excerpt below.

> "Because of the work involved in tobacco processing, we usually get a number of health problems. During curing, there is a lot of smoke and this causes headaches, chest problems, and eye problems. Especially curing period, we

> have to spend the night awake to tend to the harvested leaves and this leads to fatigue and headaches."

These findings were largely corroborated by a study done in Brazil which stated that tobacco farming leads to a number of health hazards by Efroymson and FitzGerald (2002) and Maxwell and Fernando (1989).

Pricing of Tobacco Farm Inputs by Tobacco Company

Findings from this study (table 4.14) indicated that tobacco farmers had a problem with the prices of tobacco farm inputs that were sourced from the tobacco company. Bearing in mind that farmers were usually compelled to source their inputs from the tobacco company (section 4.3.3), it was noted that all the farm inputs given to farmers by the contracting company were all surcharged from the sale of their produce as presented in the excerpt of the interview below.

However, this amount was never calculated when farmers were issued with the fertilizers and other inputs provided by the contracting company. The most unfortunate part of the whole transaction was that even though the tobacco company usually sold the farm inputs indirectly to farmers, most of them saw it as a good deal when they received the inputs only to get shocked at the exorbitant amount that was surcharged on their earnings from the crop regardless of whether they had some of the inputs that remained from the preceding season or not.

> "The tobacco company usually sends their agents with the fertilizers and other farm inputs needed for the cultivation. After curing and taking the dried leaf to the market centre, the agents come for the tobacco and they carry it for grading.

> We are informed of the pay day that time. It is during the pay day that calculations are done and deductions made. Most of the time the amount the tobacco company deducts for costs of farm inputs is more than expected".

Having established that tobacco farmers complained about the exorbitant prices of farm inputs, the researcher therefore sought to establish the actual cost of farm inputs per acre at the price at which the tobacco company supplied the tobacco farmers. Table 4.17 below shows the findings with regard to cost of inputs per acre.

Table 4.17 Estimated quantities per acre and costs of tobacco farm inputs

Item		**Unit**	**Unit price**	**Total price**
Fertilizer	NPK	3	1895.00	5685.00
	CAN	1	2300.00	2300.00
Agro chemicals	Confidor (350mls)	1	2250.00	2250.00
	Copper sulphate	1	75.00	75.00
	Pyagro (300mls)	1	920.00	920.00
	Offshoot- T (5 litres)	1	2000.00	2000.00
Firewood used for curing harvest from 1 acre			4000.00	4000.00
Curing pipes			138.80	138.80
Cotton twine for tying sacks for harvest from 1 acre			480.00	480.00
Hessian bags for transporting tobacco			180.00	180.00
Sprayer		1	625.00	625.00
Total				**18653.80**

It was recorded that farmers spent a total of Kshs. 18654 per acre on the farm inputs provided. The reason tobacco farmers cited for being dissatisfied with the prices of tobacco farm inputs

was that prices were far too high. For example, the price of fertilizers in the local markets was lower than the prices the company supplied the farmers at. In addition to that, the regular fluctuation of prices in the market was also cited as one of the reasons why the respondents had a problem with prices of tobacco farm inputs.

Grading System used to Calculate Farmers' Earnings

Dried tobacco was classified into grades and thereafter priced according to those grades by the contracting company. From this study's findings (Table 4.14), 63.3 percent of the respondents complained of the classification or grading system that the tobacco company used to determine the prices of the dried tobacco.

According to the participants of the FGD, grading of tobacco leaf was done by the tobacco company. Pipe tobacco is composed of several different kinds of raw tobacco, and in each raw tobacco there are different grades. The names of the raw tobacco were common knowledge, but the grades were decided by the tobacco company. As explained by the farmers in the FGD, the grades were based on the tobacco leaves position on the plant, the leaf's degree of ripeness, the colour of the leaf and the smoke from the leaf; its strength, aroma, roundness and purity.

The researcher established that tobacco farmers had a problem with the grading system done by the tobacco company because of the number of grades present, lack of training of farmers on proper grading, the prices per grade were very poor and the farmers never participated fully in the exercise. There is likelihood that the tobacco company used this to their advantage since they decided the farmers' dried tobacco grades; they had the freedom to decide on the amount to pay the farmers whether fairly or unfairly to suit their wishes.

Documentation of Contract Agreement

Given that tobacco farmers had signed contracts, the researcher sought to establish the conditions given to farmers in the contracts. From the FGD, it was confirmed that farmers were familiar with the conditions given by the tobacco company operating in the area. As indicated in the excerpt below, the farmers said that they were not self reliant and were answerable to the tobacco company. They further said that they did not have the freedom to sell tobacco to whoever they wanted. Planting of tobacco was not by choice but a must because the company demanded that the farmers should be reliable suppliers of the tobacco leaf.

> **"**The tobacco company am contracted to ensures that one has enough land to cultivate the crop. The company through the agents comes to assess the farm and one is not allowed to plant any other crop on the piece of land that is under tobacco cultivation. Also, once a farmer is contracted, he or she is expected to plant tobacco in all seasons and not intercrop as one would like.

Although the respondents were aware of the rules and that the conditions for farming tobacco were on contract basis, the researcher established from the interview schedules and FGD that on signing contracts with tobacco companies, the farmers were not left with any copy of the signed contract. Instead the only original contract form signed was kept at the tobacco company leaving the farmer with no legally binding document he/she could hold the company accountable with. From the findings, there is a likelihood that the terms that tobacco farmers were aware of might not be the exact terms written on the contract. Also, most farmers confirmed not to have read the contract by themselves and had the tobacco company agents interpreting to them.

Cost-Return Analysis of Tobacco Compared to Other Crops

The District Agricultural Report (2011) of Meru County showed that even though farmers in Giaki were still practicing tobacco farming, it was not one of the most profitable crops in the area. Table 4.18 below shows the results obtained of gross margins per acre of selected crops that are grown in the area.

Table 4.18 Gross margins of selected crops ranked by average earning to a farmer per acre

Crop	Rank of the Crop	Gross Margin
Vegetables – Watermelons	1	180,950
Bananas	2	165,750
Vegetables – Tomatoes	3	134,900
Sweet Potatoes	4	97,600
French Beans	5	72,800
Vegetables – Onions	6	67,850
Tobacco	7	67,635
Vegetables - Cabbages	8	61,450
Maize	9	35,450
Beans	10	27,000
Ground Nuts	11	18,510
Pigeon Peas	12	13,650
Cow Peas	13	10,520

Source: the District Agricultural Report, 2011

When the above data in table 4.17 was compared to tobacco whose estimated gross earnings per acre was Kshs. 67 635 per acre per year, it was seen that tobacco does not even rank among the

top six earners in crop farming in Meru. For example, water melon farming was the most profitable earning a farmer Kshs 180,950 per acre. This was followed by bananas at Kshs 165,750; tomatoes Kshs 134,900; sweet potatoes Kshs 97,600; French beans Kshs 72,800, and onions at Kshs 67,850 then tobacco at Kshs 67,635 respectively.

This means that in order to calculate the net benefit of tobacco farming, the incurred costs of tobacco cultivation were deducted from the gross benefits or income:

Net Benefit = (Gross Income – Costs). Where: Cost= (costs of labor + farm input prices).

The labor cost was the overall amount that a farmer spent in the hired labor.

In this case the cost of farming tobacco on an acre amounted to Kshs. 23 244.00. This was the sum of the cost of farm inputs (table 4.17) and the labor costs (table 4.16). The estimated gross benefit of tobacco per one acre in Giaki was Kshs. 67 635.00. Therefore, the net benefit of farming one acre of tobacco was Kshs. 44 391.00. Bearing in mind that tobacco was only cultivated once a year yet farmers have to work for 227 days a year, if we divide the net earnings of Kshs. 44 391 by 227, it means that a farmer only earns Kshs. 195.50 per day. At the current exchange rate of 1US Dollar to 85 Kenya Shilling, the farmers were actually earning US$2.30 a day from tobacco farming. Due to the fact that in most poor countries in Africa majority of the people subside on less than US$1 a day (UN Report on Poverty, 2010), these farmers in Giaki were not any richer at all. Unless that income was subsidized by off-farm activities, such a farmer was actually living in poverty. These findings corroborated the findings of an earlier mentioned Nigerian study by Babatunde and Qaim (2009) on off-farm income.

Tobacco Farmers' Ability to Sustain Themselves from their Tobacco Earnings

From the demographic analysis, all the contracted tobacco farmers had families meaning responsibility regarding finances. Tobacco farmers needed school fees for their school-going

children, household requirements such as food, utensils, clothes and also farm tools. The researcher, therefore, sought to establish the expenditures of specific items in the household in order to know whether their earnings from tobacco were enough to sustain their livelihood needs. The estimated expenditure costs are presented in table 4.19 below.

Table 4.19 Estimated household expenditures per month of respondents

Amount	**Frequency**	**Percentage**
1000-1499	57	66.3
1500-2999	21	24.4
3000-4499	5	5.8
4500and above	3	3.5
Total	**86**	**100.0**

The findings show that majority (66.3%) had an estimated household expenditure of between Kshs. (1000-1499) while the least (3.5%) had an estimated household expenditure of Kshs. 4500 and above per month. Yet as explained above, the farmers who solely depended on tobacco only earned Kshs. 195.50 per day. This translated to Kshs. 5 865.00 over a period of 30 days. It meant that most of the farmers had limited their monthly expenditure to within the Kshs. 5 865.00 of their monthly tobacco income on their daily needs.

However, the researcher sought to find out from specific necessities, whether farmers stayed within their budget from tobacco earnings. The findings are indicated in table 4.20 below.

Table 4.20 Average estimated expenditures of items per month

	clothes		utensils		Farm tools		Education		Food	
< 999	44	51.2%	71	82.6%	78	90.7%	0	0%	25	29.1%
1000-2999	32	37.2%	7	8.1%	5	5.8%	5	5.8%	56	65.1%
3000-4999	5	5.8%	8	9.3%	2	2.3%	15	17.5%	5	5.8%
Above 5000	5	5.8%	0	0%	1	1.2%	66	76.7%	0	0%
Total	86	100%	86	100%	86	100%	86	100%	86	100%

From the above findings, majority of the farmers who spent their earnings within the limits of their monthly tobacco farm earnings of Kshs. 5 865.00 used this money on daily consumable goods such clothes, utensils, farm tools and food. The only time a majority of the farmers spent more than Kshs.5000 on consumable goods was on education where 76.7% percent of the 86 respondents yet this was way above their monthly earnings from tobacco. This meant dependence on tobacco farming as an economic activity only facilitated hand-to-mouth kind of living without making any savings at all.

4.4.2 Coping Mechanisms Exploited by Smallholder Tobacco Farmers

A study done by Anaya (2010) in Bumula District, Bungoma County of Kenya, reported that tobacco farmers can barely afford three meals a day. Instead they languish in poverty because they spend most of their time tending their tobacco farms at the expense of other crops. As already mentioned above in section 4.3.1, this is coupled with the fact that a simple small scale farmer had a low bargaining power against the multi-national tobacco companies that operate in their regions. This leads to a situation where farmers end up being exploited by being paid less than the efforts they put into production. This situation poses a great challenge in terms of sustainability for the households of the farmers.

In order to address their coping mechanisms, the researcher first sought to find out why the farmers still engaged in tobacco farming despite the enormous challenges they faced. The above data analysis in section 4.3.1 of this study had identified a number of factors that encouraged tobacco farmers to start the practice despite its difficulties such as incentives from tobacco companies, availability of land and ready market among others.

The researcher sought to find out the reasons why tobacco farmers were still engaging in tobacco growing in Giaki despite the above mentioned challenges. Each of the 86 respondents was asked to identify the reasons that still drove him/her into tobacco farming. The results are shown in table 4.21 below.

Table 4.21 Reasons why farmers currently grow tobacco

Reasons	**Frequency**	**Percent**
Availability of loans	58	67.4
It has ready market	55	64.0
Repay/ clear loans from tobacco company	51	59.3
Favorable climatic conditions	40	46.5
Financial benefits are high	34	39.5
Availability of land	31	36.0
Availability of cheap labor	8	9.3
Culture/ inherited from forefathers	5	5.8

The study found that majority of the farmers was currently farming tobacco due to availability of loans at 67.4 percent of the 86 respondents, followed by 64.0 percent who were planting because

of the ready market. Out of the 86 respondents, 46.5 percent said that the climate was favorable while 39.5 percent of the total respondents attributed it to the high financial benefits. Another 36.0 percent of the 86 respondents claimed that the availability of land was a key factor while 59.3 percent of the total respondents said it was because they had to repay their loans. Of the 86 respondents, only 9.3 percent and 5.8 percent of the respondents attributed their persistence in the tobacco farming practice to the availability of cheap labor and tobacco farming as a cultural activity they had inherited from their forefathers respectively.

From the above findings it could be said that most farmers were not in tobacco farming for financial benefits but because of the incentives provided by the tobacco company which included contracting company loans and the ready market. As per a study by Magati (2009) in South Nyanza, Kenya, tobacco farmers had difficulty accessing loans from other financial sources to support farming in the area. However, since contracting companies gave them the opportunity such as loan facilities, they always took the offer.

Most farmers also had to repay their loans and therefore they were compelled to continue cultivating the crop. These findings were corroborated by a study done in Uganda that reported that even though farmers received low earnings from tobacco they still continued growing tobacco because of the debts they owed tobacco companies (Otazes, 2008).

In response to these challenges, a study by Mbithi (2009) reported that African governments encouraged the formation of cooperative societies so as to increase their bargaining power in the main markets. Earlier on, Kinyanjui (2002) had recommended that small scale farmers could be economically better off by transforming their businesses to become agribusinesses that will be able to negotiate with international buyers and add value to their products. As explained above, it

was noted that most of the farmers have diversified their sources of income to include off-farm activities. For these reasons the researcher sought to know the coping mechanisms employed by tobacco farmers in this area.

Diversified Farming

From the researcher's field visit, it was observed that the tobacco farmers who had bigger farms had a portion of land allocated to food crop farming. They were growing the food crops for household consumption although some of it was sold. Those who did not have a portion of land allocated to growing food crops planted vegetables like kales along the edges of the tobacco farms.

The researcher sought to establish the type of crops that tobacco farmers in this area regarded as very important and the ones they have grown to boost their income. The findings are presented in table 4.22 below from a total of 62 respondents. The remaining respondents had miscellaneous responses.

Table 4.22 Crops grown by respondents

Crop	Frequency	Percent
Maize	14	22.6
Beans	10	16.1
Ground nuts	7	11.3
Sweet Potatoes	2	3.2
Tobacco	12	19.4
Cassava	3	4.8
Bananas	5	8.1
Kales	4	6.5
Sorghum	2	3.2
Tomatoes	3	4.8
Total	**62**	**100**

From the above findings, tobacco farmers practice intercropping. The most important crop in Giaki is maize which had 22.6 percent of respondents followed by tobacco (19.4%) then beans that had 16.1 percent of the 62 respondents.

The problem that was also observed by the researcher was that although some of the food crops grew into healthy crops others did not. During the FGD, the farmers said that this happened due to the fertilizers applied to tobacco plants.

Tobacco uses a lot of fertilizers that affect the cultivation of other crops in the same soils. The only crop that can do well in a tobacco farm is maize though the tobacco company does not allow us to mix maize and tobacco in the same portion of land.

The above observation during FGD was corroborated by Kibwage et al (2009) study where it was documented that excessive use of fertilizer on tobacco farm was a factor that led to inability of the soil to sustain the growth of other crops. Those who did not grow food crops bought from the local market.

As explained earlier, tobacco farming is not a highly profitable venture (section 4.4.1). During interview with one of the farmers, the researcher was told that one of the coping mechanisms some tobacco farmers employed in this area was being tobacco brokers for non-contracted farmers. These non-contracted tobacco farmers only grow tobacco in small portions of land that are less than an acre. This means that they cannot enter into a contract with tobacco companies. Therefore after harvesting, they usually do not have market for their produce. In order to market their produce the brokers bought tobacco from other non-contracted tobacco farmers at lower prices then sold it together with theirs at a higher price thereby making a profit to supplement their tobacco earnings. The brokers also sold their fertilizers that were supplied by the tobacco companies to non-contracted farmers. These extra earnings were used to buy surplus food for household consumption.

> "Apart from selling tobacco from my farm am also a broker, in that, I buy tobacco from other farmers at a lower price then sell it to tobacco companies making profit. I have managed to construct myself a permanent house in less than two years and bought a motorbike that I use to do business. I also sell some of the fertilizer I get from tobacco companies to some non-contracted tobacco farmers. Tobacco cultivation has improved my economic status".

Apart from food security, the researcher also sought to establish other ways by which tobacco farmers coped with the issue of potential exploitation by the tobacco company. During the FGD it was established that there was a tobacco farmers' cooperative society in the area. This was managed by the officials democratically elected by farmers themselves. Unfortunately, the members' participation in the co-operative management was poor. For example, in the excerpt below, it was noted that the contracted farmers who were members in the cooperative had never attended any meeting neither had they gotten a chance to air their issues and concerns.

> "Officials chosen in the cooperatives do not discuss anything with other farmers. We suspect that the contracting company have bribed them to defend the rights of the company instead of the members"

4.4.3 Farmers willing to quit tobacco farming and adapt alternative crops

As a result of the socio-economic challenges described above as well as the efforts that farmers had to go through in order to cope with the socio-economic challenges, the researcher sought to find out whether farmers would venture in other alternative crops rather than tobacco which may be more profitable and easier to manage. Article 17 and 18 of the Framework Convention on Tobacco Control (FCTC) demands the introduction of alternative crops to tobacco as a way of

reducing the dominance of tobacco cultivation in developing countries such as Kenya (WHO, 2005). This study therefore sought to establish the farmers who were willing to stop tobacco farming and adapt alternative crops. The respondents were asked whether if given a chance they would stop growing tobacco and plant different crops. The findings are presented in table 4.24 below.

Table 4.24 Farmers who are willing to stop farming tobacco

	Frequency	**Percent**
Yes	72	83.7
No	14	16.3
Total	**86**	**100.0**

The findings indicate that 83.7% of the respondents answered that if they had a chance they would stop growing tobacco for other food crops while 16.3% of the total farmers interviewed answered that if they were given a chance they would still be growing tobacco other than other crops. The reasons given by those who would prefer to plant different crops included regular conflicts between farmers and the tobacco company, poor soil fertility, time constraints, health problems, low prices, inadequate or late procurement of tobacco, poor classification and grading and delayed payments. Others included transportation problems and theft of tobacco from the storage (Section 4.4.1 above). This was also confirmed during the FGD in the excerpt below.

"As much as tobacco cultivation comes with access to farm inputs and loans, I would switch to other crops because the tobacco company that has contracted me sometimes deducts a lot of money for inputs compared to the harvest I have made. Also the curing process is very tiring which makes me have frequent headaches and chest problems. If there were other alternative contracting companies to other crops, I would replace tobacco with maize, beans, bananas or ground nuts as they also do well in this area."

On the other hand those who would prefer not to grow other crops if given a chance cited a number of reasons including cheap labor, availability of land, availability of loans in form of seeds and other inputs.

In response to majority (83.7%) of the farmers in Table 4.24 above saying they would grow alternative crops rather than tobacco, the researcher sought to find out the crops these farmers would prefer growing. The crops mentioned included maize, beans, French beans, bananas, ground nuts, sweet potatoes, tomatoes and onions as indicated in table 4.25 below.

Table 4.25 Alternative Crops Farmers would prefer to grow rather than tobacco

CROP	FREQUENCY	PERCENTAGE
Maize	65	90.28
Beans	65	90.28
French beans	32	44.44
Bananas	25	34.72
Ground nuts	23	31.94
Sweet Potatoes	23	31.94
Tomatoes	20	27.78
Onions	15	20.83

From the table above, 90.28 percent of the total 72 farmers who responded they would stop growing tobacco and grow different crops mentioned maize and beans as their preferred alternative crop. French beans were mentioned by 44.44 percent of the 72 respondents and bananas had 34.72 percent of the respondents who would switch from growing tobacco. Sweet potatoes, tomatoes and onions were also mentioned, which had 31.94 percent, 27.78 percent and 20.83 percent of respondents respectively. Crops mentioned above were probably based on how marketable they were in Giaki, Meru as they were also of importance in generating their household income.

From the findings the crops mentioned by these farmers were all food crops showing that the contracted tobacco farmers preferred to divert to food crop farming. These findings are in line with the former UN Secretary General, Kofi Annan who advised farmers in Kenya and other African countries to grow food crops rather than cash crops to boost their income and feed a hungry world. According to Annan, the market within Africa for staple food crops is estimated at US$150 billion (Sh10 trillion) which exceeds the revenue Africa receives for internationally traded cash crops (Jamah, 2011).

CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of findings of this study together with conclusion and recommendations. The findings were based on the interview schedule and the focus group discussion (FGD) administered by the researcher. Both interview and FGD were held in line with the objectives of this study. The data was analyzed by use of SPSS package. Frequency tables were used to describe the data and draw conclusions on the findings.

5.2 Summary

This study found out that majority (90.7%) of the contracted tobacco farmers in Giaki, were male. Only 9.3 percent of the total 86 contracted tobacco farmers interviewed were female (Table 4.1). This imbalance in gender distribution could largely be attributed to the fact that farmers who were contracted to the tobacco company were required to be holders of the land title deed. Also, it was recorded in the FGD that sons were the ones who inherited land while daughters would settle in their husbands' homes (pg. 32)

Findings of this study corroborated with a report done by Kain (2006) which stated that farmers always considered access to market before taking up a crop. From this study, the factors that mostly led farmers to start tobacco cultivation included anticipated ready market (65.1%), incentives from Tobacco Company (54.7%) and availability of land that had 32.6 percent of the total 86 respondents (Table 4.10).

5.2.1 Socio-economic challenges faced by contracted smallholder tobacco farmers in Giaki

This study found out a number of challenges that contracted tobacco farmers faced during cultivation of tobacco. Among the challenges mentioned by most farmers included tobacco pests and diseases (85.5%), followed by labour shortages (66.1%), health problems (45.2%) and then time constrain which had 43.5 percent of the respondents who experienced challenges during cultivation (Table 4.14). These finding corroborated with a study done by Kweyuh (1997) that reported tobacco farming as labour intensive due to continuous monitoring which involved sleepless nights especially during curing process causing serious strain in the family. Also on health issues, Efroymson and FitzGerald (2002) recorded that health of tobacco farmers is put at risk as tobacco farming requires a lot of fertilizers, fungicides and pesticides that could causes diseases and disability.

In addition to the above challenges faced during cultivation of tobacco, this study also found out challenges that were faced during marketing of tobacco crop. The most mentioned challenges were low prices which had 61.7 percent of respondents who responded to having challenges, delayed payment (85.0%) and poor classification which had 63.3 percent of the respondents who experienced challenges (Table 4.14). From the FGD, it was noted that low prices and delayed payments were reasons why farmers were not satisfied with prices of selling the harvested crop (pg. 53).

A study done earlier by Kibwage et al (2009) stated that although tobacco farming is carried to improve farmers' living standards, there is a marked difference in income earned and expenses incurred by the tobacco farmers. According to findings of this study, the cost of farming tobacco

on an acre amounted to amounted to Kshs. 23 244.00. This was the sum of the cost of farm inputs (table 4.17) and the labor costs (table 4.16). The estimated gross benefit of tobacco per acre in Giaki was Kshs. 67 635.00 (table 4.18). Therefore, the net benefit of farming one acre of tobacco was Kshs. 44 391.00. Bearing in mind that tobacco was only cultivated once a year yet farmers have to work for 227 days a year, if we divide the net earnings of Kshs. 44 391 by 227, it means that a farmer only earned Kshs. 195.50 per day. At the current exchange rate of 1US Dollar to 85 Kenya Shilling, the farmers were actually earning US$2.30 a day from tobacco farming. Due to the fact that in most poor countries in Africa majority of the people subside on less than US$1 a day (UN Report on Poverty, 2010), these farmers in Giaki were not any richer.

The findings of this study corroborated with a study by Otazes (2008) that stated how tobacco farmers in Uganda earn very low earnings from tobacco and experienced food insecurity but still continued to grow tobacco because of debts to tobacco companies. Acording to this study, three reasons that had been mentioned by most farmers to why the still grew tobacco included availability of loans (67.4%), ready market for the harvested crop (64%) and to repay or clear loans from tobacco company had been mentioned by 59.3 percent of the respondents (table 4.21).

5.2.2 Coping mechanisms employed by the contracted small-scale tobacco farmers in Giaki

According to Babatunde and Qaim (2009), most families who practice farming as well as engage in off-farm activities are usually most well-off families. Although not many tobacco farmers in Giaki engaged in off-farm activities, majority had acquired coping mechanisms. From the researcher's field visit, it was observed that the tobacco farmers who had bigger farms had a portion of land allocated to food crop farming. They grew the food crops for household consumption though some sold too. Those who did not have a portion of land allocated to

growing food crops planted vegetables like kales along the edges of the tobacco farms. This diversification of farming worked in favor of tobacco farmers in the area as it helped boost the tobacco farming earnings and also issues of food security for the household.

Also, it was established from the study that some tobacco farmers acted as tobacco brokers. They bought harvested tobacco from other non-contracted tobacco farmers, at lower prices then sold it together with theirs making a profit.

5.2.3 Contracted tobacco farmers willing to quit tobacco farming and adapt alternative crops

The study found out that majority of the farmers at 83.7 percent would stop growing tobacco if given a chance while 16.3 said they would not switch from tobacco as it comes with benefits like loans to farmers, market and inputs are provided. The 83.7 percent who would switch to an alternative crop was because of the time and labor constraints, health problems, low prices, delayed payment and poor classification or grading of tobacco by the tobacco company.

The respondents who would switch from tobacco to other alternative crops said the crops they would prefer cultivating instead of tobacco included maize, beans, French beans, bananas, ground nuts, sweet potatoes, tomatoes and onions in that order (table 4.25). All the mentioned crops were food crops. The crops mentioned might have been based on how marketable they were in Giaki, and Meru in general. According to the District Agricultural Report, 2011 (Table 4.18), the crops that were ranked as having high gross margins in Meru included vegetables (watermelons, tomatoes and onions), French beans and bananas.

5.3 Conclusions

This study shows that farmers in Giaki would prefer growing a crop that has ready market and the inputs are accessible. This was evidenced from the findings as most farmers engaged in tobacco cultivation due to provision of inputs and reliable extension services by the tobacco company. Although tobacco farmers experienced socio-economic challenges, some had engaged in ways of dealing with the less earnings and food security issues by acting as brokers to those farmers who were not contracted and also allocated portions of their land to grow food crops. From the findings, farmers would embrace alternatives that would be of benefit to the household in terms of consumption and generating income. This was evidenced as farmers only mentioned food crops as crops they would prefer growing.

5.4 Recommendations

Based on the study findings and conclusions, the researcher proposes the following recommendations:

- The contracting tobacco company has control on the procuring, costing and supply of farm inputs to farmers. To reduce the cost burden on farmers, the contracting company should be encouraged to renegotiate the contract given to farmers so that purchase of farm inputs like fertilizer and seeds can be purchased by farmers themselves, for example, through cooperatives.
- The tobacco farmers were not satisfied with pricing of the dried tobacco which depended on the grade of their crop as defined by the contracting company. By training farmers on better methods of processing and cultivation of the crop, grade of the harvested tobacco will be better hence improve on price of the dried tobacco.

- The contracting tobacco company should be encouraged to pay farmers as soon as they take the dried tobacco. This is because there is no harm paying on delivery and also this will motivate farmers.
- Most farmers engaged in tobacco farming due to availability of loans and ready market. Diversification for loan options for other businesses like small scale industries will be of benefit to the farmers as they showed potential through some engaging in other income-generating activities to boost their tobacco income.

5.5 Recommendations for further research

The study recommends that further research to be undertaken on the following:

- The extent to which Tobacco companies are willing to help smallholder tobacco farmers solve socio-economic challenges faced in Giaki, Meru.
- Impact of tobacco farming on livelihood of contracted tobacco farmers in comparison with non-tobacco farmers in Giaki.
- The role played by the government in solving socio-economic challenges of contracted small scale tobacco crop farmers in Giaki.

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APPENDIX

FOCUS GROUP DISCUSSION GUIDE

1. When was tobacco introduced in the area and which companies support the farming?
    - Has the number of tobacco farmers been increasing or decreasing since the introduction of tobacco farming in the area?
    - What are the reasons for the increase or decrease of tobacco farmers in the area
2. Enumerate on the stages of tobacco farming from planting to selling of tobacco leaf to tobacco companies?
    - Compare activities of tobacco farming with those of two other crops grown in the area from the time of planting to harvesting and selling.
3. How is the grading of tobacco leaf done and which grade is produced by most farmers? Are farmers satisfied with the grading system done by Tobacco Company?
4. What conditions are farmers given when being contracted by the tobacco company?
    - What happens when farmers do not live by the conditions given to them by the tobacco company?
5. Are farmers aware of any dangers associated with tobacco farming?
6. Would farmers switch to another crop other than tobacco if given a chance? Explain your answer.

INTERVIEW SCHEDULE
SECTION A: PERSONAL DATA

1. Gender (Tick) Male ( ) Female ( )

2. Age _____

3. Marital status (tick)

Married ( ) Single ( ) Widowed ( ) Separated ( ) Divorced ( )

4. Educational levels of household members

Household members	Educational level			
	None	Primary	Secondary	College/University

5. Type of house of respondent:

[ ] Traditional grass thatched house

[ ] Semi-permanent house (Iron-sheet roofed with mud walls)

[ ] Permanent house (bricks/ stones/ tiles/ iron-roofed)

6. i) What is your main occupation? …….

ii) For how long have you been involved in the occupation? (Tick)

Less than 1 year ( )1-5 years ( ) 6-10 years ( ) Over 10 years ( )

7. a) Do you have any off-farm income? [ ] Yes [ ] No

b) If yes, what source?

[ ] Personal salary [ ] micro-enterprise (posho mills, shops/kiosks etc) [ ] income/salary from family members [ ] others (specify) _____

c) How is the regularity of your off-farm income?

[ ] Regular [ ] Irregular/Occasional [ ] None

SECTION B: SOCIAL AND ECONOMIC IMPACT OF TOBACCO FARMING

I) SOCIAL AND ECONOMIC IMPACT FACED BY SMALLHOLDER TOBACCO FARMERS

8. What factors influenced you to start tobacco cultivation? (Tick where applicable)

Incentives from Tobacco Company	
Anticipated ready market	
Promotion from Government Agricultural Officers	
Culture/inheritance	
Availability of land	
There was no other cash crop by then	
Others (Specify)	

9. What portion of your land is under tobacco? _____acres

10. As a smallholder tobacco farmer do you face any social and economic challenges? (Tick)

Yes ( ) No ( )

b. If yes what are the challenges faced?

i) Social Challenges

a) ……

b)…….

c)…….

d)…….

e) ……

ii) Economic Challenges

a) ……

b)…….

c)…….

d)…….

e) ……

10. Does tobacco farming compensate your effort adequately? (Tick)

Yes ( ) No ( )

11. Estimate quantities per acre and costs of each of the following tobacco farming inputs

Input used	**Quantity used (in the last season)**	**Cost per unit**	**Total cost**
Seeds (gms)			
NPK fertilizer (Per 50kg bag)			
CAN fertilizer (Per 50kg bag)			
Agrochemicals -Confidor (350mls)			
-Coppersulphate (500g)			
- Pyagro (300mls)			
- Offshoot- T (5litre)			
-Orthene (Kg)			
- Lannate (kg)			
Firewood (Average cost per acre of tobacco)			
Water can- purchased/hired			
Water pump -purchased/hired			
Curing barn- Hired?			
labor - Paid labor (working days)			
- Unpaid labor (working days)			
Cotton twine (for tying sacks)			
Hessian bags for transporting tobacco			
Others (specify)			

12. Are you satisfied with the prices of the tobacco farm inputs? [ ] Yes [ ] No Give

reasons_____

_____

_____

_____

_____

_____

13. Compensation and benefits from tobacco farming

What was your gross financial reward from tobacco farming in the last season?

Kshs. _____

14. What are the estimated expenditures for the following items in your Household? Specify the average cost.

Items	**Amount(Ksh)**	**Duration. (Tick)**
Food items		[per Day/Month/Year]
Medical/Health care		[per Month/Year]
Education		[per Term/Year]
Clothing		[per Month/Year]
Household utensils		[per Month/Year]
Farm tools		[Per month/ Year]
Others (Specify)		

II) COPING MECHANISMS EMPLOYED BY SMALLHOLDER TOBACCO FARMERS?

15. What are the reasons why you are currently growing tobacco? (Tick where applicable)

It has ready market	
Availability of loans	
Favorable climatic conditions	
Financial benefits are high	
Availability of land	
Culture/inherited from the forefathers	
Repay/Clear loans from tobacco company	
Availability of cheap labor	
Others (Specify)	

16. How have you managed to continue farming tobacco from the time you started growing the crop?

a) …….

b)…….

c)……..

d)…….

e) Other (Specify) …….

III) FARMERS' OPINIONS ON ADAPTING ALTERNATIVE CROPS

17. If given a chance would you stop growing tobacco and plant a different crop? (Tick)

Yes ( ) No ( )

Reasons

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18. What alternative crops would you prefer to grow as opposed to tobacco?

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