THE ECONOMIC IMPACT OF CONTRACT FARMING FOR SMALLHOLDERS' TOBACCO PRODUCERS IN URAMBO DISTRICT, TABORA REGION

By

Ashura Urassa Kassim

A Research Report Submitted in Partial/Fulfillment of the Requirements for Award of the Master of Procurement and Supply Chain Management of Mzumbe University

2015

Certification

The undersigned certifies that the has read and hereby recommends for the acceptance by the Mzumbe University the research report entitled **The Economic Impact of Contract Farming for Smallholders Tobacco Producers in Urambo District, Tabora Region,** in partial/fulfillment of the requirements for award of the degree of Master of Procurement and Supply Chain Management of Mzumbe University in Morogoro.

……..
Major Supervisor

…….
Internal Supervisor

……
External Supervisor

Accepted for the Board of School of Business

……

DEAN/ DIRECTOR/SCHOOL/ BOARD

DECLARATION AND COPYRIGHT

I, ***Ashura Urassa Kassim*** hereby declare that the proposal is my own original work, that all reference sources have been accurately reported and acknowledged, and that this document has not previously, in its entirety or in part been submitted to any University in order to obtain an academic qualification.

Signature.....

Date ……

ACKNOWLEDGEMENT

Special thanks should go to the Almighty God who gave me strength, wisdom and vision to undertake MSc Procurement & Supply Chain Management. Secondly, I would also like to acknowledge with appreciation to many people who contributed their time, skills and expertise in taking the report from a mere idea through the report process to this final form.

Thirdly, I would like to thank my supervisor Dr. Paul Nsimbila Kabelele for his advice, guidance, valuable comments, constructive challenges and close supervision up to successful completion of this study.

The fourth thanks should go to the entire team of POLICOFA Project, Mzumbe University management and MSc Procurement and Supply Chain Management for their moral and material support.

Fifthly, I would like to extend sincere gratitude to my parents (Mr. & Mrs Urassa) who brought me to this world. Lastly but not least I would like to thanks my beloved husband Mr. Christopher Mhagama and our daughter Delicia whose love, support and patience encouraged me to pursue this course. They indeed endured all forms of inconveniences caused by my absence in the whole period of my study. Since this work has benefited from suggestions and comments from innumerable sources and persons, the errors, shortcomings and patches of ignorance remain the responsibility of the author.

ABBREVIATIONS AND ACRONYMS

AOTTL	Alliance One Tobacco Tanzania Ltd
ATTT	Association of Tanzania tobacco traders
CDC	Common Wealth Development Corporation
CETCU	Central Tobacco Cooperative Union Ltd
CHTUCU	Chunya Tobacco Growers Cooperative Union Ltd
FAO	Food and Agriculture Organisation
GMA	Gross Margin Analysis
IFC	International Finance Corporation
KACU	Kahama Cooperative Union Ltd
LATCU	Lake Tanganyika Tobacco Cooperative Union Ltd
MSC	Master of Science
MU	Mzumbe University
NGO	Non-governmental Organisations
PSCM	Procurement and Supply Chain Management
SONAMCU	Songea and Namtumbo Cooperative Union Ltd
TLTC	Transforming Learning for a Third Century
TLTC-TS	Tanzania Leaf Tobacco Company - Top Serve
TTB	The Tanzania Tobacco Board
TTCA	Tanzania Tobacco cooperative Apex Ltd
USA	United State of America
USAID	United States Agency for International Development
WETCU	Western Zone Tobacco Growers Cooperation Union Ltd

ABSTRACT

This study aimed at assessing the economic impact of contract farming for smallholders' tobacco producers in Urambo District. The study was guided by three specific objectives: examining the cost and return of tobacco smallholders' farmers under contract farming scheme, examining the resource use efficiency of smallholders' tobacco farmers under the contract farming, and analysing yield and price uncertainties involved in the tobacco production and marketing by the smallholders' contracts farmers.

The study employed a cross –sectional design with a sample of 94 respondents selected using simple random and purposive sampling techniques. A mixed approach was used in studying the phenomena. Quantitative data from questionnaire were analysed using Statistical Package for Social Science (SPSS).The Cobb Douglas production function was used to determine the impact of factors of production and contract farming characteristics. The qualitative data from interview guide were analysed descriptively using content analysis procedure.

Findings of this study revealed the following: there is a positive return in tobacco contract farming; resources utilisation was efficient with family being a major source of labour. It was also revealed that yield were affected limits in amount to be produced, whereas price being affected by existence of so many grades of tobacco leaves.

In the light of above findings it is recommended that: the Primary Cooperative Society should reduce the interest imposed on the farmers, farming implements should reach farming at right time and right quantity. There is a dare need of reducing number of grades for tobacco leaves from 72 to at least 35. WETCU should remain as supervisors of Primary Societies and not supplier of farming implements

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER ONE

INTRODUCTION

1.0 General Overview

This chapter contains background of the study, statement of the problem, objectives of the study, research questions, and the significance of the study.

1.1 Background to the Problem

It is obvious that contract farming increasingly plays an important role in good earning, income stability, and access to credit for the developed countries, particularly USA, Japan and Germany where the large scale is dominantly present (Smalley, 2013 p4). Contract farming is considered as one of the most prominent strategies to enhance agricultural production (Oya, 2012). In fact, it has become important for agricultural production especially in cash crops under forward contracts (Sambuo, 2014).

Tobacco is one of the cash crops in the world that has profound impact in economic growth and in provision of income, employment, government revenue, food expenses as well as adding foreign currency in the economy (Food and Agriculture Organisation [FAO], 2003). Irrespective of the overwhelming role of contracting farming in many of the developed countries, yet are increasingly with challenges for smallholders in much of the developing countries (Phoumanivong, 2013). Typically, contract farming operates at predetermined price which increasingly affect the farmers income and livelihood. It is highly practiced in India and Thailand as among of the developing countries with various cash crops (Barret *et al.* 2012).

In Tanzania as one of the developing countries where legal frame work is weak, tobacco is produced under contract farming by small holders. In fact, it has widely confronted a number of challenges in marketing especially for Tobacco smallholder farmers in rural areas.

It is clear that smallholders in tobacco production are confronting difficulties in price negotiation with large scale producers that are already supplying the input in tobacco production process.

Tobacco in Tanzania is highly limited to the areas with large plantation such as Iringa and Tabora region. The smallholders Tobacco producers have too diverse limitation in market expansion to benefit from such a transaction (Tobacco and Trade Bureau [TTB], 2006).The transaction as indicated in the contract farming predominantly favours the large scale Tobacco producer. Thus the large scale Tobacco producer normally expand in terms of market and farm size while the small holders Tobacco producer still face challenges concerning the fulfillment of the contractual agreement at pre-determined price.

Urambo smallholders Tobacco producers are increasingly with less attention on the income and market access, this however, provided the need for contract farming (Henningsen *at al.,* 2015). Typically on the price, market and cultivation environment are over the discrimination of large scale producers who often has processing industry. This study seeks to go farther on assessing the economic impact of contract farming for smallholders' tobacco producers at Urambo District.

1.2 Statement of the Problem

Contract farming is currently gaining popularity in both developed and developing countries. Henningsen *at al.,* (2015) are of the view contract farming is a tool to increase agricultural productivity in developing countries by solving problems such as improving access to knowledge, better technologies productivity-enhancing inputs, and credit and by providing more predictable output prices and guaranteed market access. This is also supported by (Oya, 2012) who noted that contract farming has the potential to substitute for the state in the wake of reforms in the agrarian sector in developing countries.

It is very astonishing that despite the role which is supposed to be played by contract farming to farmers in Tanzania very little has been done to examine economic impacts of contract farming to the farmers. The study done so far are those of Mwaselle (2010) who did economic analysis of contract farming in small scale tobacco production. Henningsen *et al.,* (2015) worked on effect on contact farming on the productivity of small scale sunflower farmers. Sambuo (2014) who viewed contract farming participation and income in Urambo. Gabagambi (2014) who examined the contract farming and small holders in the global economy.

The above studies indicate that little has been done in an attempt to address impacts of contract farming among small holders' tobacco producers in Tanzania. It is after examination of the said inadequacies that the researcher decided to face the problem head on by conduction this study. The economic impacts of contact farming therefore are the focus of this study.

1.3 Objectives of the Study

Objective of the study summarises the planned results or scope of the study that the researcher intend to have on the related issue that are explained in the background to the study. This study is guided by two types of objectives namely: general objective and research specific objectives as stated below:

1.3.1 General Objectives

The overall objective of this study is to assess the economic impact of contract farming for smallholders' tobacco producers in Urambo District.

1.3.2 Specific Objectives

In the course of conducting this study the following three specific objectives were defined:

i. To examine the cost and return of tobacco smallholders' farmers under contract farming scheme with respect to types of tobacco cultivated in Urambo district.
ii. To examine the resource use efficiency of smallholders' tobacco farmers under the contract farming.
iii. To analyse yield and price uncertainties involved in the tobacco production and marketing by the smallholders' contracts farmers.

1.4 Research Questions

This research was guided by the following research questions:

i. What are the costs and return of tobacco smallholders' farmers under contract farming gets with respect to types of tobacco produced in Urambo District?
ii. Are resources used efficiently by smallholders' tobacco farmers under the contract farming?
iii. What are the yield and price uncertainties involved in tobacco production and marketing by the smallholders' tobacco producers?

1.5 Significance of the Study

This study is worth doing. It has the following significance:

- This study will contribute to this growing literature by providing both theoretical and empirical understand about the economic impact of contract farming for smallholders' tobacco producers in Urambo District.
- This research paper will be used as the part of the requirements for the award of the Masters of Science in Procurement and Supply Chain Management (MSC PSCM) offered by Mzumbe University (MU).
- This study will give suggestions for future practices. The suggestions given in this study will be useful to farmers, processers/traders/Cooperative societies and

other stakeholders to enable them to strengthen the contract farming practice specifically on tobacco production in Tanzania.

- The study will help other researchers as a starting point to go further research study.

1.6 Scope of the Study

Delimitations or delimitation are those elements the researcher can control. They are those characteristics selected by the researcher to define the boundaries of the study. In this study the researcher made conscious exclusionary and inclusionary decisions regarding the sample including such information as geographic location, the variables that were studied, the theoretical perspectives, the instruments and the generalizability. This study was delimited since it was conducted only in district (Urambo) that is engaged in tobacco contract farming and the conditions in Urambo might be unique and different from other districts producing tobacco in Tanzania hence, the findings of this study should therefore be generalized to the rest of districts producing tobacco under contract farming with caution. This study focused on the economic impact of contract farming for small scale holders' tobacco in Urambo district, therefore other aspects of tobacco farming was not part of this study.

1.7 Limitation of the Study

Limitations are those elements over which the researcher has no control. In the course of conducting this study, the researcher anticipated that it is not possible to control the attitudes of the respondents. The researcher had also a problem of shortage of time as she had only six (6) months which is not enough for carrying out an extensive scientific study. The financial constraints was also another limitation since the researcher was partial sponsored by POLICOFA project, since a such a study would require a lot of money the researcher has to subsidize the shortage. Despite of all these limitations, the researcher worked at winning the confidence of those who were involved in this research by giving them the reasons for the research and assuring them of confidentiality.

CHAPTER TWO
LITERATURE REVIEW

2.0 Introduction

This chapter reviews theoretical basis and application of contract farming system starting with theoretical framework that comprised the origin, definitions of contract farming, the principal agent theory and transaction theory as it is practiced in contract arrangements in tobacco farming and reviews of empirical studies (success and failure) of contract farming schemes and the conceptual framework of contract farming as is practiced in the study area.

2.1 Contract Farming Background

2.1.1 Definition of contract farming

Prowse (2012) defines contract farming as a form of vertical integration within agricultural commodity chains, such that the firm has greater control over the production process, as well as the quantity, quality, characteristics and the timing of what is produced. In view of that contract farming recognised as an agreement between farmers and processing and/or marketing firms for the production and supply of agricultural products under forward agreements frequently at predetermined prices (Eaton & Shepherd, 2001). Also, Asokan and Singh (2003) similarly defined contract farming as the production and supply of agricultural produce under advance contracts, the essences of such contracts being a commitment to provide an agricultural commodity of a type, at a time and a price, and in the quantity required by a known buyer. It involves four things: pre-agreed price, quality, quantity or hectareage (maximum/minimum) and time.

Contract farming is offered as a vehicle for transfer of technology and the modernization of peasant's small holder holdings (Asokan & Singh, 2003). Contract farming is fundamentally a way of sharing risks between the firm and the farmer;

however the distribution of risk depends heavily on factors like bargaining power, availability of alternatives and access to information. Warning and Hoo (2000) take the small-growers project in the lake Naivasha area of Kenya, as a case of remarkable example of contract farming project. Each year 400 million fresh flowers are produced through contractual arrangements between large agro-industrial firms and peasant farmers, flowers are graded, packed and cooled where they are produced and then taken to Nairobi for export to Europe and North America. But regardless of typology the general term "Contract farming" refers to a particular form of supply chain governance adopted by firms to secure access to agricultural products, raw materials and supplies meeting desired quality, quantity, location and timing specification (Silva, 2005).

2.1.2 Contract farming origin

Contract farming has, so far been, in existence for many years in organising the commercial agricultural production of both large-scale and small-scale farmers. Contracting in farming existed from time immemorial, in the ancient Greece, it was seriously practiced by the specified crops percentage purposely to pay rents and debt (Morrissy, 1974).

Contract farming over the years has been enthusiastically promoted by the international development agencies like the World Bank, the United States Agency for International Development (USAID), the International Finance Corporation (IFC) and the Common Wealth Development Corporation (CDC). The system has considerable potential to contribute to the institutional organisation and improving a mechanism for integrating small scale growers into the modern agriculture that ensures self-sustained development for small scale growers who are the target of poverty reductions programs (Matthew & Wendy, 2000).

Its experience in developing countries is indicated to be dominated by social problems in the community where it operates (Porter and Phillips-Howard 1997.P7). Particularly, in India, contract farming was highly dominated by tendency of power indifference between the farmers and producers (Singh, 2002). Farmers increasingly with the problems of information about production methods for new crops and varieties,

Contract farming has been increasingly practiced in developing countries; for example in Brazil 75% of poultry production is coordinated via contracts, where as in Vietnam there is indication that 90% of cotton and fresh milk, 50% of tea and 40% of rice are being purchased by traders through contracts (Silva, 2005). In Mozambique all cotton and tobacco are produced by contract farming, in Zambia 100% of paprika, tobacco and cotton are produced by contract farming system likewise in Kenya 60% of tea, sugar, and all the country tobacco are in contract farming system. Warning and Hoo (2000) and, Kirsten and Sartorious (2002) see contract farming as potential substitutes for the state in the wake of neoliberal reforms in the agrarian sector: as the state disengages itself from the provision of inputs, extension services, credit and price support, private firms can enter to fill the same roles and do more efficiently.

2.1.3 Types of contract farming

According to Simmons (2003), Baumann (2005) and Silva (2005), contract farming can take different arrangement but it can be classified into three modalities namely “market specification”, “resources provision” and “production management”.

2.1.3.1 Market specification contract

Marketing contract refers to oral or written agreement between a contractor and a grower that sets a price and an outlet for the commodity before harvest or before the commodity is ready to be marketed, that is future purchase agreements which determine quantity, timing and price of commodities to be sold (Key & Runsten 1999). Most management decisions remain with the growers since they retain ownership until the

final disposal of the commodity. In this type of contract, the producer has full autonomy regarding production decisions, hence the producer bears all the risks of production but share price risks with the contractor.

2.1.3.2 Resource provision contract

In resource providing type of contract arrangement the firm may supply selected inputs to the growers including on occasions land preparations (Key & Runsten 1999). Contract firm specifies the sorts of crops to be cultivated, production practices, quality and standardisation of the crop through the provision of extension services and input credits. In this context the producer agrees to produce the raw commodity under some degree of company control and specification, as well as to sell the commodity to the processor at an agreed price, quality and time.

2.1.3.3 Production management contract

Production management type of contract; company has full control as well as provision of inputs, in this regard firm supplies and manages all the inputs and the farmer becomes just a supplier of land and labour (Silva, 2005). The firm closely monitors the quality produced and the production practices it followed, tends to dominate the terms of contract. Associated with large out grower and nucleus-estate schemes, the contractor directly shapes and regulates the production; and labour processes of the grower. Production contract specifies in detail the quality and quantity of a particular commodity to be procured and the compensation that the producer for the raw commodity would receive for his efforts at a pre-agreed price (Key & Runsten 1999).

2.1.4 Production costs of Tobacco smallholders farmers under contract farming

In most cases under contract farming the production cost excludes all inputs provided under contract arrangement by tobacco companies such as seeds and extension services except labour charges. This evicts the costs of human labour, fertilizers and on farm management costs (Smalley, 2013).

The average size of the household for farmers engages six people; the tobacco farmers include many individuals in the family that can be engaged in farming production (Abdallah, 2006; Mutakubwa, 2007). In fact, the small holders' tobacco farmers use family members as source of labour mostly due to the easy gathering of family members who were capable of working in tobacco farms (Mwambi *et al.*, 2013).

Mathania (2007) who observed that tobacco farmers incurred high labour cost of Tsh 13 1591.7, that comprises about 40% of the total variable cost while proportion of labour costs for farmer cultivating Burley and VFC tobacco mostly composed of 32% and 31.5% of all production cost. However the figures of labour costs are lower compared to that obtained by Mathania (2007) which were far beyond the average amount of about Tsh 100 000 usually paid for hired labour at the end of a season. This cost of labour mostly become affordable by the large scale tobacco farmers due to capital and improved management technique.

Under the contract farming in tobacco production invariably input provided by the company under contract also depend on the input demanded and production capacity. The costs for companies of providing inputs, credit and extension services and carrying out product collection and grading are disincentives for firms to contract with small-holders. In fact prefer to engage with medium or large-scale farmers; the fact is that smallholders have less tobacco production that cannot fulfill tobacco firm demand (Gabagambi & Lymo, 2005).

According to World Bank analysis of investments in large-scale land acquisitions notes that "in put supply tended only to be accessible to larger, better-off small-holders. Under contract farming the investors invariably stipulated a minimum landholding as well as sometimes small-holders' own access to transport especially during the harvest time. Many companies that operate under tobacco contract farming have not inclusive of the

poorest farmers and require public sector support to lower the transaction costs of working with smallholders farmers (Kalamata, 2006).

The production cost in most case hinders the farmer productivity and capacity under contract farming. The fact is that tobacco smallholders producers fail to meet the cost such as of labour and input supply. The experience indicates that high cost hinder farmers income and further tobacco productivity. Also, the smallholders farmer income tend to be low expectation due to high production cost connected to fulfillment of contractual agreement in tobacco contract farming (Runsten, 2002).

Measures have been put in place to enhance tobacco farmers' especially of small scale operator to access markets through low production cost. In fact cooperative in tobacco cultivation and local government support of inputs with low cost, on the other hand globalisation has become an effective engine to create new opportunities for tobacco smallholders to improve their position in the international market place. However, it has been noted that globalisation favours tobacco large scale farmers who are considered reliable business partners and generate lower transaction costs (World Bank, 2008). The smallholders farmers in contract farming tend to incur more cost in production process such as required to meet the contractual agreement in the whole transaction process. The main factor that influences cost of production is high transaction cost in tobacco contract farming. The Tobacco smallholders' farmers have less technique in marketing and low ability to search for customers yet incur more cost, in fact contract farming is an agreement that favour mostly large scale producers, this indicated in the low transaction cost incurred comparison with tobacco smallholders farmers (Mwanselle, 2010).

2.1.5 The resource use efficiency of smallholders' tobacco farmers under the contract farming

The resource provision basically attached to market arrangements in such a way that a buyer agrees to supply selected inputs, including on occasions land preparation and

technical advice. With efficiency resource use contract farming is a means to develop markets and to bring about the transfer of technical skills in a way that is profitable for both the sponsors and farmers. The approach is widely used, not only for tobacco contract farming but, increasingly, market for smallholders' tobacco producer. Indeed, contract farming is characterized by its "enormous diversity" not only with regard to the resource use efficiency but the management under the resource control and its planning for both parties the sponsors and the farmers (Chimbwanda & Chikukwa, 2013).

The resource use efficiency in tobacco contract farming has also in relation to the many different ways in which it can be carried out. The contract farming system should be seen as a partnership between agribusiness and farmers in terms of resource and input supply currently and the farmers obligated to meet the future agreement (Madola, 2005). In fact the tobacco contract farming to be successful it requires a long-term commitment from both parties (Masango, 2002).

Exploitative arrangements to tobacco smallholders' farmers by contracting firm are likely to have only a limited duration and can jeopardize tobacco investments. Similarly, smallholder farmers need to consider that honouring contractual arrangements is likely to be to their long-term benefit. Also, the firm should consider that supplying important resources in tobacco farming to smallholder farmers provide future benefits. Generally it becomes an increasingly important aspect of agribusiness (Miyata and Dingau, 2007).

The resource use efficiency by smallholder farmers under tobacco contract farming does not regard whether the tobacco are purchased by multinationals, smaller companies, government agencies, farmer cooperatives or individual entrepreneurs. As noted above, the approach would appear to have considerable potential in tobacco contract farming where small-scale holders continues to be widespread, as in many cases tobacco small-scale farmers can no longer be competitive without access to the services provided by contract farming companies (Fernando, 2006).

It must be stressed, however, that the decision to use the contract farming modality must be a commercial one and should base on the resource use efficiency. It is not a development model to be tried by aid donors, governments or non-governmental organisations (NGOs) because other rural development approaches have failed. Contract farming to smallholder farmers under tobacco farming that are primarily motivated by political and social concerns rather than economic and technical realities will inevitably fail (Mwanselle, 2010).

There is a wide range of organisational structures that are embraced by the term "contract farming". The choice of the most appropriate one to use depends on the product, the resources of the company, the social and physical environments, the needs of the farmers and the local farming system (Mathania, 2007).

2.1.6 Appropriate technology under resource use efficiency in Tobacco Contract Farming

New techniques are often required to upgrade tobacco farming for markets that demand high quality standards. New production techniques are often necessary to increase productivity as well as to ensure that the tobacco meets market demands. However, tobacco small-scale farmers are frequently reluctant to adopt new technologies because of the possible risks and costs involved. They are more likely to accept new practices when they can rely on external resources for material and technological inputs. Nevertheless, the introduction of new technology will not be successful unless it is initiated within a well-managed and structured farming operation. Contract farming through private companies will usually offer technology more diligently than government agricultural extension services because it has a direct economic interest in improving farmers' production. Most of the larger sponsors prefer to provide their own extension rather than rely on government services. But the private companies under the tobacco contract farming have more opportunities to improve technology that expected to create room for resource use efficiency (Gabagambi & Lymo, 2005).

2.1.6.1 Skill transfer

The skills the farmer learns through contract farming may include record keeping, the efficient use of farm resources, improved methods of applying chemicals and fertilizers, knowledge of the importance of quality and the characteristics and demands of export markets. Farmers can gain experience in carrying out field activities following a strict timetable imposed by the extension service. In addition, spillover effects from contract farming activities could lead to investment in market infrastructure and human capital, thus improving the productivity of other farm activities. Farmers often apply techniques introduced by management (ridging, fertilizing, transplanting, pest control, etc.) to other cash and subsistence crops.

Harvesting of the contracted crop may fall at the same time as the harvesting of food crops, thus causing competition for scarce labour resources. As contract farming grows in importance governments should perhaps reallocate development resources towards its promotion. The contract farming under tobacco farming in small holder farmers operation mostly connected to the resource specification, both parties under contract need clearly to specify the type, amount and quality of resources. The allocation of appropriate quotas that reflect the different levels of resources and skills of the tobacco smallholder farmers and, at the same time, permit a wide range of tobacco smallholder farmers to have contracts will add to the stability of tobacco contract farming ventures (Mboma, 2006).

For all smallholders' farmers under tobacco contract farming the most convenient method of payment is usually cash-inhand immediately following delivery of tobacco. However, this is not always possible, particularly if the sponsor has limited resources, where payment depends on the total production after processing, or where the payment is based on the price the sponsor obtains. Also, the company may have the obligation to repay loans advanced by banks to farmers using the contract as collateral. In the majority of cases payments are made periodically throughout a season, perhaps two to four times,

with the final payment after the last harvest. Any material and cash advances given to farmers during the season are normally deducted from the final payment (Eaton & Shepherd, 2001).

2.1.7 Yield and price uncertainties in tobacco production and marketing by smallholders' contracts farmers

The contract farming under tobacco production use incentives rather than enforcement. The focus is on benefits and incentives instead of penalising. It is planning to reward and recognise performance in terms of quality and quantity but also in terms of taking advantage of technology. The farmers performance recorded in terms of years, when the previous performance is high the farmer get into a higher technological and higher yielding production process, by being supplied improved inputs. If a farmer misses a payment or default (s) he drop down one level or stays at the same level (Silva, 2005).

Similar to many other developing countries, most of the tobacco smallholders do not have access to important inputs and technologies such as fertilizers and improved seeds. The accessibility of smallholder farmers mostly related to market uncertainty that create a condition for price and yield uncertainty over the market. The situation of price and yield uncertainty is increasingly difficult in inputs accessibility to smallholders' tobacco farmers to manage production in terms of volume, quality standards and marketing. The cooperatives buy tobacco from smallholders, to cope with problems such as side-selling by cooperative members and management failure. Moreover, government interference in the work of cooperatives is considered unfavorable (Wijnands *et al.*, 2007). On top of this, in the case of contracting, there is a lack of contract enforcement mechanisms that created with the condition of the buyer under contract operation especially due to yield and price uncertainty.

The contractor in tobacco production is mainly done by trading in spot (open) markets which entails high transaction risks and costs arising from uncertainty of quality, quantity and price. In fact, the spot market dominated by large number of buyers and sellers which meet at a certain time and place with imperfect information about product quality, quantity and price, which gives rise to opportunistic behaviour (Williamson, *et al.*, 2004).

Yield and price uncertainty arises due to various uncontrollable factors: acts of nature, change in technology and consumer taste. Behavioural uncertainty mainly manifests itself in spot markets where commitment and enforcement is absent, market participants can show opportunistic behaviour by distorting information, cheating on quality standards and so on. In addition, price uncertainty influenced by major risks for tobacco whose price is determined on the international market. Furthermore, uncertainty can be compounded by bounded rationality' which in turn increases the costs of searching, screening, negotiation and monitoring (Cole & Cole, 2006).

Uncertainty is also connected by climate conditions that can create harsh (long periods of drought), increasing uncertainty. The climate tends to affect tobacco production that in turn creates an uncertainty in the agreements due to renegotiation that create unforeseen events emerge.

In fact, the prices uncertainty tends to violate the production of tobacco that poses a transaction risk to smallholder farmers in the sale of produce after harvest. Contract farming under tobacco production expected to offer more stable prices to producers. In fact need to be connected to good pricing system that reduces price risk for both producers and buyers. It mainly requires the effective control mechanism in the contract formation and capacity development of smallholders' farmers in tobacco farming.

The experiences indicate that price and yield uncertainty contributed to poor operating under contract farming for both buyers and producers to minimise coordination risks. The price and yield uncertainty under contract farming highly affected in the provision of inputs and technical and other services at the right time. Also the price and yield uncertainty increase the risk due poor asset specificity under the market uncertainty that created in small scale farming system under contract farming. The high transaction cost that farmers incur in the agribusinesses under contract farming can be incurred due to unreliable supply and opportunism under tobacco production (Melese, 2010).

2.2 Theories governing contract farming

There are many theories that govern contract farming principal-agent theory and transaction cost theory, these theories are discussed below.

2.2.1 Principal-Agent Theory

Contract farming is a vertically integration form of production between the growers of an agricultural product and buyers or processors of that product (Harvey *et al*., 2005). In fact, contracts directs the productions inputs, credit and extension services to the growers in return for market obligations, method of production, the quantity delivered and the quality of the product (Warning & Hoo, 2000). Contracting farming scheme can be modelled as a principal-agent game between a firm and a grower of which the firm acts as the principal and a grower as the agent. In contract farming farmers find a means to manage risk in production and marketing, as contract farming being fundamentally a way of allocating risks between growers and firms Baumann (2005). The two works together to produce and market the crop. The firm chooses growers to contract and sets the contract terms. The growers in turn choose whether to participate or not to participate in the contract. In view of that the combination of these choices describes the selection process for the contract-farming scheme. The benefits participants view on the terms of the contract and their own characteristics (Warnings and Hoo, 2000).

Baumann (2005) argued that suitable environment in contract farming has the potential advantages to farmers and agribusiness firms. To the extent that the benefits from a contract-farming scheme accrue more to larger growers than to smaller growers; the scheme will reinforce income stratification (Warnings and Hoo, 2000). It is further argued that firms and growers will choose to contract with one another based on the gains they accept to obtain from the contract. Moreover, the transaction costs and information costs in the market environment in which production takes place jointly influences both processes (Baumann, 2005).

2.2.2 Transaction cost theory

In economics a transaction cost is a cost incurred in making an economic exchange (restated: the cost of participating in a market) (Dahlman, 1979). It is mainly divided into three broad categories; Search and information costs are costs such as in determining that the required good is available on the market, which has the lowest price, Bargaining costs are the costs required to come to an acceptable agreement with the other party to the transaction, drawing up an appropriate contract and so on. Policing and enforcement costs are the costs of making sure the other party sticks to the terms of the contract, and taking appropriate action (often through the legal system) if this turns out not to be the case (Williamson,1979).

In the tobacco production to smallholders farmers the transaction cost basically attached on the bargaining cost between the tobacco smallholders producers and the contracting firm on the best price. Also, the transaction cost acknowledges the enforcement cost of contract under tobacco production. In fact, in the agreement of parties to contract cost is an avoidable. The parts in contract mainly wish to negotiate at the lowest cost possible to manage the contract terms and condition. The transaction cost wish to provide solution through negotiation and bargaining power, however the contracting firm mainly with more power to dominate the contract in case contracting with smallholder farmers with less power and input.

Also, the contract with smallholder farmers increase the advantage to be dominated by large scale contract firm such as farmers have less bargaining power and low knowledge and skills, due to low education of majority smallholders farmers with regard on contracting matters. In fact the large scale firm has ability in term of expert and professional on matter of contract. On the other hand the small holder farmer has not. The contract enforcement mainly affected the smallholders' farmers in terms income, price and market.

2.3 Contract Specifications under tobacco farming by small holder farmers

The contract under tobacco farming is basically a mutual understanding between the contracting parties, in these context small holder farmers under tobacco cultivation (Eaton & Shepherd, 2001). The smallholder farmers and contracting firm sign agreements in the form of written contract that create understanding in both parties. The contract in tobacco farming usually covers the responsibilities and obligations of contracting firm and smallholder farmers. In fact, the small scale farmers in tobacco farming are highly attached by the agreement that enforce and provide remedies that basically took place in the situation of contract breaks down. As in many countries a high proportion of small holder farmers under tobacco farming are illiterate and more particularly the management must ensure that agreements are fully understood by smallholder farmers in tobacco farming (Phoumanivong, 2013).

One aspect which needs to be considered in tobacco farming contracts is the legal framework; terms and conditions entered in the tobacco smallholder farmers that are written down for independent examination to relevant government agencies (Eaton & Shepherd, 2001). A tobacco farming contract it is basically comply with the minimum legal requirements that apply in local practices to influence the detailed contract in terms of formal contract or a more simple registration (Phoumanivong, 2013). In Tanzania about 92 000 tobacco growers are registered primary cooperative societies

who are in formal contracts with the buyers TLTC and Alliance One as required by tobacco industry regulations (Mwansele, 2010).

2.3.1 Pricing arrangements in Tobacco

Pricing and payment arrangement in tobacco farming mostly connected in the challenging of price arrangement in tobacco farming contracts (Phoumanivong, 2013). The choice on tobacco pricing structure is mainly influenced by local or export market. However, the local firm tend to set price in terms of contractual agreement, in fact, the seasonal nature of production and the degree of competition in the marketing systems tend to provide price in the contractual agreement in tobacco farming. It is clear that the contract farming tend to be affected in the arrangement of price especially with the farmers that operate at small scale farming system. It is essentially important to control price in mutual understand in the contractual agreement. Various literatures pointed out that price arrangement in contract farming in tobacco production.

Application of transparent formula is crucial for creating clear understand of both parties more specifically the smallholder farmers. In fact the drafting of clear pricing structure and the organisation of a practical method of payment encourage confidence and goodwill. According to Eaton and Shepherd (2001) argued that several ways by which prices offered to smallholders farmers can be calculated. These include: fixed price which is the most common method whereby small holder farmers under tobacco cultivation are offered a set of fixed prices related to the specified grades at the beginning of each season. The smallholder farmers likely to be negatively affected under the price arrangement,

Payments based on the spot-market prices individual small-scale developers in tobacco production act as brokers under informal contracts with farmer groups to sell their produce. The tobacco production at the farm gate price to small scale producers increase the chance of economic performance under the agreed base price is paid out at the time

of purchase or at the end of the harvesting season. It provides the room in final price is calculated once the sponsor has sold the commodity depending on the prevailing market price (Smalley, 2013).

2.3.2 Payment procedures to small holder tobacco producers

The most convenient method of payment to smallholder farmers in tobacco is usually cash-in hand immediately following delivery of any part of tobacco, in majority of cases payments are made periodically throughout a season, perhaps two to four times, with the final payment after the last harvest of tobacco. Any material and cash advances given to smallholders' tobacco farmers during the season are normally deducted from the final payment.

2.4 Empirical Studies on Contract Farming Schemes: Success and Failure

Contract Farming is one system that has considerable potential for providing a way to integrate tobacco smallholders' farmers in developing countries in export and processing market and into the modern economy (Silva, 2005). In Africa, contract farming is believed to help farmers providing new technology, ready markets and secured inputs and prices under tobacco contract farming by smallholders; with offering a mechanism that ensures self-sustained development (Kirsten & Sartorius, 2002). Contract farming under tobacco production have also been a component of the most successful income-generating projects for smallholders' farmers, as well as important earner of foreign exchange in developing countries.

Asokan and Singh (2003) studied performance and problems in tobacco contract farming scheme in the Indian Punjab. The study revealed that contracting system increased employment to smallholders' farmers under tobacco production. It is especially helped to create and generate income especially to smallholder producers also the number of smallholders' farmers under contracts farming having increased. The

main benefits as perceived by tobacco smallholders' farmers being better and reliable income; stable price; and effective and assured market.

Chang *et al*. (2006) in the survey study of efficiency and profitability of contract farming under tobacco farming in Taiwan used regression model to analyse farmer's decision on contract participation and profit performance. The contract farming under tobacco production more clearly generated profit and increase return in the production in comparison to its cost demand. Estimated results indicated that on average a contract farm under tobacco production is 20% more efficient especially practiced with smallholders' farmers.

While Kalamata (2006) pointed out that contract farmers under tobacco farming in Urambo district, Tabora region were getting more yield per hectare whereby the researcher compared tobacco contact farmers to non-contact farmers due to their accessibility to extension services provided by the tobacco companies (the researcher failed to find information about non contract farming).

Dileep *et al*. (2002) revealed that the cost incurred, yield and gross return obtained by the contract farmers in tobacco small scale operation were almost increased more than forty percentage, it is clear that contract farming under small scale operation create income and profit to contracting firm. The result concluded that contract arrangement under tobacco small scale farming mostly connected to effective institutional arrangement to increase profitability and competitiveness for tobacco smallholders. The experience shows that contract farming that are undertaken to smallholders' farmers in tobacco production generate more profit to contracting firm.

Mshiu (2007) assessed the economic impact of contractual arrangement in tobacco farming in Morogoro and Tabora in Tanzania. The study revealed that tobacco farmers accrued more profit under contractual arrangement, though the study concluded that

there is an absence of clear guidelines as to how contract farming should be framed. In fact, tobacco farmers questioned the grower's power to bargain input and output prices. The study concluded that the existence of monopoly buyer in tobacco contract farming lead the contract scheme not to be competitive to farmers.

The study conducted by Mbwana (2007) on the institutional and economic analysis of contract farming in Manyara, Tanzania. The findings revealed that contract farmers had low number of selling and high asset specificity which led to reduction of transaction costs. Also the results showed that contract farming had significant positive influence in increasing farm productivity. Mathania (2007) assessing the potential of crop alternative to tobacco in Urambo district revealed that paprika production under contract farming was the more profitable enterprise compares to tobacco production.

According to Guo *et al.* (2005) in China along with system of subsidies, infrastructure investment and reforms in rural credit institutions, contract farming under tobacco farming is perceived as innovations in creating new ways of doing business and also plays an important role in attempts to modernize China and improves rural incomes. However the study argued that without adequate competition among contracting firms, informed farmers and rule of law, contract farming can lead to economic serfdom for peasant farmers a production system that only meets the economic objectives of power elites.

Kirsten and Sartorious (2002) concentrated on the link between agribusiness and small-scale farmers' contract under tobacco farming in developing countries. This study argued that small holders' farmers in tobacco farming lost autonomy due to centralized control system in contracting farming. Also, the increase of farmer production risk tends to diversify from traditional to nontraditional tobacco. The study cautioned the decreasing in tobacco production and increased tobacco production in developing countries as the results of concentrating in contracts farming. Furthermore, the findings

pointed out that tobacco farmers income were reduced due to revenues and cost structure changes as a result of additional cost in contract farming].

2.5 Tobacco Contract Farming System in Tanzania

2.5.1 Tobacco Small-scale growers

Smallholders' farmers in tobacco production in Tanzania are operating under the umbrella of primary cooperative unions in their area of locations. Similarly, under the contract farming also depend on the large scale producer to manage the contract. However, the larger scale producers are mainly attached to various limits in expansion of smallholders in terms of expansion such as market, income and production capacity. The estimated 344 cooperatives unions in Tanzania are operating under six major zonal unions (TTB, 2006). These are the Western Zone Tobacco Growers Cooperation Union Ltd (WETCU) which include tobacco growers in Tabora and Kigoma regions, The Kahama Cooperative Union Ltd (KACU) which involves tobacco growers in Shinyanga region, the Chunya Tobacco Growers Cooperative Union Ltd (CHTUCU) which involves tobacco growers in Mbeya region, the Lake Tanganyika Tobacco Cooperative Union Ltd (LATCU) which involves tobacco growers in Rukwa region, Songea and Namtumbo Cooperative Union Ltd (SONAMCU) which involves tobacco growers in Songea and Namtumbo districts, Ruvuma region and the Central Tobacco Cooperative Union Ltd (CETCU) which involves tobacco growers in Manyoni district, Singida region (TTB, 2006).

2.5.2 Smallholder tobacco Farmers cooperative societies

Tobacco Cooperative Unions in Tanzania more particularly involves all small producers/farmers that cannot compete in the market as traders. (Tanzania Tobacco cooperative Apex [TTCA], 2007). Tobacco primary cooperatives societies are institutions formed by tobacco farmers themselves with the purpose of selling their agricultural products.

Their main responsibilities are:-

i. To register the number of tobacco growers from their particular primary association.
ii. To prepare estimates of inputs needs for each cooperative association with regards to each farmer needs.
iii. To look for efficient sources of inputs and distribute the inputs to their members. To keep records of input costs, receipt and use of inputs.
iv. To monitor the use of delivered inputs with help of extension services.
v. To monitor tree plantations and other environment protections.
vi. To prepare for centers of tobacco marketing with help of tobacco board and buyers.
vii. To collect payments for the inputs debts and tobacco farmers sells due to their particular cooperatives unions.

2.5.3 Tanzania tobacco board

The Tanzania Tobacco Board (TTB) is a government organisation which was established by the division II, act 3-(1) and (2) by the parliament act No 24 in year 2001 (TTB, 2006 and TTC, 2007). The tobacco board is an instrument through which the government regulates the industry. All individual farmers in particular smallholders need to be registered to the tobacco board pre to start tobacco productions. The board monitors, evaluates the contracts between growers and the tobacco companies; and sees through good practices of tobacco cultivation; and protection of environment. The TTB head quarter is located in Morogoro region TTB, (2006). It mainly intends to empower smallholders in tobacco production to manage the market ant its transaction process especially in contract farming. This clearly provides difficult to smallholders especially to prevailing discrimination related to contract farming in the process of marketing. This especially limit the increase in capital of smallholders production also capital and various farming input becomes hardly to be accessed and applied in the tobacco production process.

2.5.4 Tobacco companies

Improving the availability of market due to free market economy there are three big companies, which are participating in tobacco buying more consideration placed to contract farming inside the country and selling to domestic cigarettes manufacturing companies and exporting. The companies are Tanzania Leaf Tobacco Company - Top Serve (TLTC-TS) which is the agency of Universal Leaf Co from USA, Alliance One Tobacco Tanzania Ltd (AOTTL) which was known as Dimon Morogoro Tobacco Processors Limited and Wood Slide Company Limited, which is agency of Son-leaf from Britain (TTB, 2006; TTC, 2007). There are three tobacco processors industries in Tanzania which are capable of processing 78 000 tons of tobacco, these industries are Tanzania Tobacco Processors Limited, Alliance One Tobacco Tanzania Ltd and Tabora Tobacco Processors Company Ltd. These companies operate under large scale and the small holders are necessitate to contract in tobacco production and later on sell to contracting price, it mainly hinders the increase of smallholders producers in terms of capital and income (TTB, 2006).

2.5.5 Association of Tanzania Tobacco Traders under contract farming

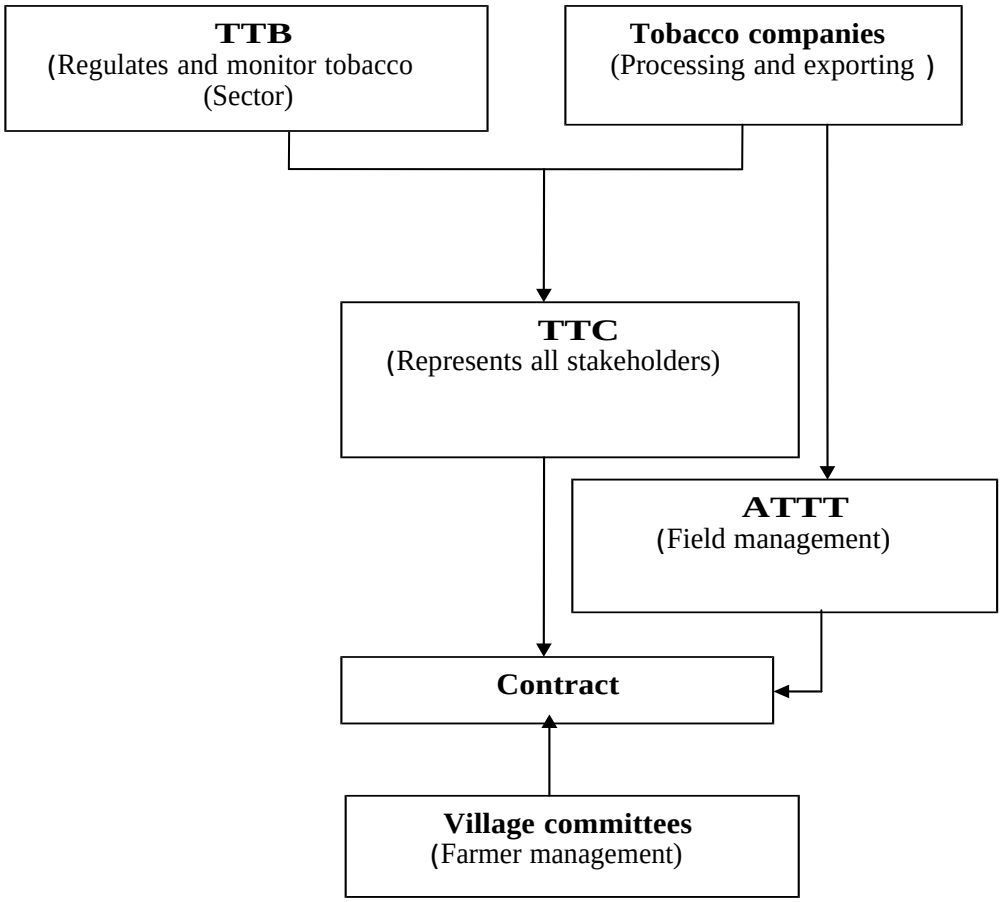
The marketing system procedure is designed to ensure effective control and efficiency in input supply, green tobacco procurement and timely payment to the producers. It mainly intends to boost smallholders' tobacco producers to share domestic and international market rather than the contract the discriminate the smallholders in the whole transaction process. To achieve this goal, the major tobacco companies formed association of Tanzania tobacco traders (ATTT). These tobacco dealers intended to ensure the inputs supply and accessible to smallholders' farmers who are large in numbers. The inputs are handed to ATTT, which distributes them to smallholders' tobacco producers through the primary cooperative societies. It mainly accessible to smallholders under tobacco production on credit, the credit mainly stipulates the contract farming that cover in the time of selling green tobacco. The contract farming in tobacco production mainly hinders the capacity of smallholders' farmers under tobacco

industry. In fact, the price under tobacco contract farming in the smallholders perspective is pre-determined and already formulated to favour the contracting firm while affect the production and capacity of smallholders.

2.6 Contract Farming Conceptual Framework

The conceptual framework presented in figure 1 is adopted from multipartite project in China by Eaton and Shepherd (2001), illustrates that contract farming acts as an institutional framework for delivering incentives, technology and agricultural inputs to the smallholders' farmers. The structure of framework which is in practice in Tanzania tobacco contract farming is a multipartite model which aid farmers group to attain economies of scale and sell their produce collectively (Kalamata, 2006; Mbwana, 2007). According to Eaton and Shepherd (2001), the term "multipartite arrangement" is used to emphasize the participation of several factors; multipartite model usually involves statuary bodies and private companies jointly participating with farmers. Multipartite contract farming may have separate organisations responsible for credit provision, production and management, processing and marketing.

Figure 1: **A Multipartite model contract farming framework**



Source: Kalamata, 2006; Mbwana, 2007

In Tanzania, tobacco growers and tobacco companies have formed a forum known as Tanzania Tobacco Council (TTC), for tobacco stakeholders to negotiate various matters concerning the tobacco sector. Alliance One Tobacco Tanzania Limited Company (AOTLL) which is operating in Urambo district is an international firm having a branch in Tanzania. The latter is responsible for getting into contract with tobacco growers through their cooperatives society in Urambo district while AOTLL is in contracts with farmers' cooperative society through an association known as Association of Tanzania Tobacco Traders (ATTT). ATTT represents tobacco buying companies and it is

responsible for implementing and maintaining the terms and specifications of the agreement while assisting in managing the farmers in the fields through their agronomists and field technicians. There are formal contracts between the AOTLL and ATTT; and written contracts between the ATTT and the farmer cooperatives societies; but only a verbal understanding between farmers and their respective cooperative societies (TTC, 2007). Farmer cooperatives in principle are the ideal institution for integrating all stages of the production process and marketing of members produce while ensuring farmers are fully represented in the entire process. Although farmer cooperatives face setbacks due to poor management skills, multipartite arrangement schemes in general are welcomed by small scale farmers, as they significantly reduce both the risks in production and marketing while reducing the company's cost of dealing with individual farmers with less extra-contractual marketing (Baumann, 2005).

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter presents the overall research design, location of the study, sample of the study, sample size, sampling techniques used to select respondents, nature of the study, data collection techniques used to collect relevant information and data analysis as well as sources of data collection techniques.

3.1 Type of the Study

3.1.1 Research Design

Research design is about how the study was conducted practicalities of the study and the way the objectives were operationalised and choice of methodological solution. The research design was a cross –sectional as described by Kothari (2008). In this design data were collected at a single point in time to allow looking at numerous variables at a time. Also, this design is suitable for description purposes and in establishing relationships between variables.

3.1.2 Research Philosophy

The researcher used both quantitative (positivism) and qualitative (Interpretivism) techniques for data analysis. Positivism emphasizes objectivity approach to studying social phenomena gives importance to research method focusing on quantitative analysis. Similarly, Interpretivism stresses on subjectivity approach to study social phenomena, it gave importance to a range of research techniques focusing on qualitative analysis, for example personal interviews, and observations.

3.1.3 Research Approach

This study involved deductive approach as it engages scientific principles, explaining causal relationship between variables, structured approach and collection of quantitative data from selected samples of sufficient size on order to generalize conclusion.

3.2 Study Area

Urambo district is located in the mid-western part of Tanzania on the central plateau, covering an area of 21,299 km2 with an elevation varying from 1,000 to 1,500 m. The researcher chooses to conduct this study at Urambo District for several reasons. Firstly, Urambo district has been the leading flue-cured tobacco producer in Tanzania since its independence and this is proved by (Waluye, 1994) this make the area to be a suitable for this study. Secondly, the district is one of the areas deemed suitable for practicing tobacco small scale contract farming by tobacco companies operating in Tanzania, similarly this enabled the researcher to obtain relevant information for the is study. The Potentials and Limitations of Contract Farming (POLICOFA) project which is the sponsor of the researcher has for a long time earmarked Urambo district as an area for implementation of tobacco contract farming in Tanzania. The researcher has therefore to adhere to the project wishes and regulations which accompanied the sponsorship conditionality. Thirdly and finally the district is occupied by large number of tobacco small scale farmers which were the target respondents of the study.

3.3 Study Population

Tobacco production at Urambo was mainly cultivated under contract, whether an independent farmer or smallholder farmer. The different being that an independent farmer enter into contract direct with the tobacco companies, while smallholder farmers enter into contract with tobacco companies through their Primary Cooperative Societies. Therefore, the study targeted 1450 smallholders' tobacco farmers under contract farming at the district.

3.4 Sample Size

The sample size was calculated by using the following formula;

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

Where n= sample size, N=Total population, e= acceptable error, (Yamane, 1967).

Hence:

$$n = \frac{1450}{1 + 1450(0.1)^2}$$

$$n = 94$$

The above formula used to avoid errors that may occur in calculating the sample size also it is acceptable due to its closeness to reality.

3.5 Sampling Techniques

The study employed purposive sampling to key informant, who were the chairmen of primary cooperative societies, and random sampling used to select the smallholders' tobacco farmers from their respective primary cooperative societies.

3.5 Data Collection

Data were collected from primary sources.

3.5.1 Primary data

Primary data were collected by using questionnaire for smallholders Tobacco producers, to obtain quantitative and relevant information concerning the economic impact of contract farming for smallholders' tobacco producers in Urambo District. Also, interview were administered to key informant to obtain qualitative data concerning the economic impact of contract farming for smallholders' tobacco producers. The survey was involved personal interviews using pre-tested questionnaire. The information

collected was included socio-economic data, cost and return of tobacco smallholders' farmers under contract farming, resource use efficiency and price uncertainties in tobacco production and marketing by the smallholders' contracts farmers.

3.6 Tools for Data Analysis

Data were analysed using statistical package for social scientists (SPSS version 16) computer program both descriptive and quantitative analysis were carried out. The statistical procedures to be used in the analysis of the each of the three research questions are described in each of the respective research question in chapter four.

3.6.1 Descriptive statistics

Descriptive statistics were used as part of the data exploration to describe the characteristics of studied population. Statistics such as means, frequency distribution, percentage, average and cross tabulation were computed. Cross tabulation analysis was used to segregate respondents characteristics based on a type of tobacco and primary cooperatives in order to determine whether or not the variable was statistically independent.

3.6.3 Quantitative analysis

3.6.3.1 Gross margin analysis

The gross margin analysis was applied to analyse the first objective concerning analysis of the cost and returns of the contract tobacco producers (Mwansele, 2010). Gross margins are determined by deducting total variable costs from the gross farm income of a crop. They are not precise measures for farm profits as they do not include fixed costs. However they provide a useful tool in terms of farm budgeting and estimating the likely returns or losses of a particular crop. Rweyemamu (2003) employed gross margin analysis in order to establish the relative economic profitability of tobacco and maize; while Mathania (2007) used gross margin analysis to compare production and marketing potential of paprika as an alternative to tobacco production and Mshiu (2007) used gross

margin analysis to determine and compare the profitability of tobacco and cotton under the contract farming arrangement.

Gross margin model:

$GM = \sum TRi - TVCi$ …..…….…..... (1)

Where: GM= Gross margin per hectare.

TR= Total revenue per hectare.

TVC = Total variable costs per hectare. Whereby

i = ith a grade of tobacco leaves

3.6.3.2 Regression analysis

Regression analysis was applied to assess the significance of responsiveness of production yield to the factor of production and contract farming characteristics for the tobacco farmers in contract farming. This study employed the production function from Eaton and Shepherd (2001), and Dileep *et al.* (2002). The regression coefficients equal the elasticities of the output with respect to various input used in the production. The elasticities are also independent of the unit of measurements.

$Y = AX_i^{b}{}_i \lambda^{\mu}$ ……. (2)

Where

A=constant term of regression

Y_i = total output of tobacco of the i^{th} farm (Tshs)

b_i = elasticity of production with respect to the i^{th} input

X_i = i^{th} input used in the production process

μ= is the error term

λ= Euler's constant

To analyse the estimated production yield, Cobb-Douglas production model was adopted as the best fit over linear to estimate the production observation by the tobacco growers who are in contract farming.

The following is the general form of the Cobb-Douglas production function that was adopted in this study. For the sake of the equation was log transformed to become a linear form. The model is therefore, a linear regression and is derived from the basic assumption. That the error term satisfies the basic stochastic assumption μ is E (μ) =0; E (μ^2) =δ^2 μ constant variance (Homoskedasticity) E (μj) =0 (i≠j) serial independence. Transforming the equation into the logarithmic form helped to adjust for the effect of heteroskedasticity problem, Gujarat (1995) cited by Mwansele (2010). The following linear model was specified for the purpose of statistical estimation of the parameter of the Cobb-Douglas production function.

lnY= ln A + $\beta_1$lnAge + $\beta_2$lnED + $\beta_3$lnEX + $\beta_4$lnFERT + $\beta_5$lnLA + $\beta_6$lnFL + $\beta_7$lnHL $\beta_8$lnEXT + $\boldsymbol{\beta_9}$lnCP + LC + U …….....(3)

Where;

ln	= natural logarithms
Y	= Yield production of tobacco (kilogram per acre)
Age	= Farmers age
ED	= Farmers education level
EX	= Farmers experience
FE	= Fertilizers (Tshs for number of bags per acre)
LA	= land size (acre per land)
FL	=Family labour (Tshs per season)
HL	= Hired labour (Tshs per season)
EXT	= Extension services (Number of training per season from an extension officer)
CP	= Contracted price (Tshs per kilogram)

With company in contract (LC) as dummy variable and U is error term while β_i are regression coefficients of factors inputs.

3.6.3.3 Marginal value productivity

The resource use efficiency was judged basing on the marginal value productivity (MVP), which indicates the increase in the gross return from the use of additional unit of a given input while keeping the level of other inputs constants. Objective (ii) of the study (To examine the resource use efficiency for the tobacco growers under the contract farming) will be analysed using the marginal value productivity (MVP). The marginal value product (MVP) of the i^{th} input factor was estimated by using the following formula:

$MVP=b_i [\bar{Y} / X_i] Py$ ……..….. (4)

Whereby:

$\bar{Y}$ = Average yield of tobacco per hectare at geometric mean levels of all inputs.

X i = Geometric mean level of i^{th} resource,

bi =Production elasticity of i^{th} input

Py= Price of the product

The resources use efficiency was studied by comparing the MVPs of each resource with corresponding factor costs at which each resource was procured.

3.6.3.4 Yield and price uncertainty ratios

The yield and price uncertainties ratios were applied for analysis of objective (iii) of the study (To analyses the yield and price uncertainties involved in the tobacco production and marketing by the small-scale contracts farmers). The method is adopted from Dileep et al. (2002) and will be modified to fit in this study. The yield uncertainty ratios (YUR) and price uncertainty ratios (PUR) were calculated as follows;

Yield uncertainty ratio (YUR) = AHPEY−ALPEY/ AMPEY …..... (5)

Price uncertainty ration (PUR) = AHPEP−ALPEP/ AMPEP…….. (6)

Whereby

AHPEY-Average Highest Probable Expected Yield,

ALPEY-Average Lowest Probable Expected Yield,

AMPEY-Average Maximum Probable Expected Yield,

AHPEP-Average Highest Probable Expected Price,

ALPEP-Average Lowest Probable Expected Price, and

AMPEP-Average Maximum Probable Expected Price.

Whereby the production ratio under contract farming are supposed to be zero or less than 0.5 as production risks are shared between farmers and contract companies with price uncertainty ratio or marketing risks supposed to be nil as farmers in contract are assured with pre-agreed marketing prices at the start of each season (Eaton and Shepherd, 2001; Dileep et al., 2002).

CHAPTER FOUR
FINDINGS AND DISCUSSION

4.1 Introduction

In this chapter the results of the data analysis are presented. The data were collected and then processed in response to the research problems posed in chapter one of this dissertation. The chapter covers the cost and return of tobacco smallholders' farmers under contract farming scheme with respect to types of tobacco cultivated in Urambo district. The resource use efficiency of smallholders' tobacco farmers under the contract farming and yield and price uncertainties involved in the tobacco production and marketing by the smallholders' contracts farmers. Moreover, this study first, it presents respondents profile and then after that the findings are presented and discussed based on the objectives of study as follows:

4.2 Respondents Profile

Although it was not part of the purpose of the study, this set of data was intended to describe demographic variables of the sample and to assess for any influence on the research findings. The demographic data consisted of sex, marital status, age, educational level and economic activities. Below are the findings:

4.2.1 Sex of respondents

Respondents were asked to tick the sex category appropriate to them (see Table 4.1 below). All the participants responded to the question (94 responses or 100%). The findings indicated that 80 (85.1%) of the tobacco farms were owned by male farmers. The rest of the farms that is 14 (14.9%) were under female's ownership. The small percentage of female owned tobacco farms is explained by the fact that in the study area and Tanzania generally men still control most of the resources of the family.

Table 4. 1: Sex of respondents

Sex	Frequency	Percent
Male	80	85.1
Female	14	14.9
Total	**94**	**100.0**

Source: Field Data 2016

4.2.2 Marital status Distribution

The researcher included this variable in order to find out if marital status has effect on contract farming. The findings are as presented in Table 4.2 below. Majority of the respondents that is 66 (70.2%) of tobacco farmers were married, 20 (21.3%) were single, 5 (5.3%) of respondents were widows, whereas 3 (3.2%) of the respondents were divorced. This indicates that respondents with marital status effectively engaged in contract farming as compared to other categories in this variable. This group is followed by singles with 20(21.3%).

Table 4. 2: Marital status of respondents

Category	Frequency	Percent
Single	20	21.3
Married	66	70.2
Widows	5	5.3
Divorced	3	3.2
Total	**94**	**100.0**

Source: Field Data 2016

To support findings in Table 4.2 above, the researcher held an in-depth interview with two cases, one of married tobacco farmers and second case of single tobacco farmer to find out why married are highly involved in contract farming than the other categories. The respondent had the following remarks:

Case one: Married respondent: *"…we are highly involved in tobacco contract farming because in the primary society where we do secure loan we are supposed to be in a group of three up to five. In this case two families (with a husband and a wife) can form a group. A group with two families can easily follow up crop production in farms as compared with a group with unmarried, divorced or widows. Married tobacco contract farmers can easily repay the loan secured at the end of the season".*

Case two: single respondent*:* The respondent had the following to say: *"…it is very difficult to form a trusted and efficient small scale group of tobacco farmers with three to five single, widow or divorced farmer to engage in contract farming. I have witness groups with single or unmarried small scale tobacco farmers failing to repay their loan at the end of the season due to low grade their tobacco yield. The reason behind is that some of us are not fully committed."*

4.2.3 Age of respondents

Age is one of the research variable which influence decision, options and perceptions. This variable was involved in this study so that the researcher can extract information from respondent on how it can affect small scale tobacco farmers on whether to engage in contract farming or not. The findings of this study revealed that 56 (56.4%) of the small scale tobacco farmers are above 46 years old. This implies that there was little involvement of youth in small scale tobacco farming. A total of 38 (40.4%) of respondent were in the active age group ranging from 31-45 years. The smallest age group was 3(3.2%) falling in the age range of 15-30 years. The implication is that the most active age group is not engaged in small scale tobacco farming.

Table 4. 3: Age of respondents

Age (Years)	Frequency	Percent (%)
15-30	3	3.2
31-45	38	40.4
46 and above	53	56.4
Total	**94**	**100.0**

Source: Field Data 2016

To supplement the findings above which was collected through questionnaire, the researcher conducted an in-depth interview with one of the Tobacco Extension Officer. The interview was focused on why young and active population is not highly involved in small scale tobacco farming. The following was his comment:

> *"… the tobacco production land is traditionally under the ownership of elders/parent whom majority of them fall in the age group between 46 and above. This means that population in age group 15-30 have no access to land. Additionally, most of youth or active parts of the population in Tanzania have negative perceptions that; farming is not an enterprising /rewarding economic activity. This has been a reason for most of them having tendency of shunning from farming. Young people therefore prefer involving themselves with off-farm activities or migrate to urban areas."*

4.2.4 Respondents' education level

Education of an individual can have important implications on decision to adopt or engage into small scale tobacco contract farming. This being the case the education variable was included in this study. The findings are portrayed in Table 4.4 below. Surprisingly enough the small scale tobacco contract farming was dominated by 49 (52.1%) who are the primary school leavers. Form four and six levers formed 35 (37.2%). A total of 5(5.3%) of all respondents were those with informal education. Respondents with diploma level were 3 (3.2%), whereas 2 (2.1%) were those respondents with university level of education. The result implies that most respondents are those with low level of education (i.e. informal to form six levels).

Table 4. 4: Respondents' education level

Education level	Frequency	Percent (%)
Informal education	5	5.3
Standard seven leavers	49	52.1
Secondary form four and six	35	37.2
Diploma level	3	3.2
University education	2	2.1
Total	**94**	**100.0**

Source: Field Data 2016

An interview with one of the small scale tobacco contract farmers on the reasons for the farming being dominated with respondents of low level of education revealed the following:

> *"… the farming is dominated by small scale tobacco contract farmers with low level of education because this is the only economic activity in which this category can fit in. Similarly, they do not have other means of securing funds/loan other than entering into contract with primary societies where they can secure funds for farming which will ultimately provide them with funds for supporting lives"*

4.2.5 Respondents' economic activities

Respondents were asked several close-ended and open-ended questions regarding their main economic activities. The intention was to find out the impacts of such activities on the small scale tobacco contract farming. The findings are presented on Table 4.5 below. The findings revealed that crop production is the main economic activity, with 56 (59.6%) of respondent cultivating tobacco. The second economic activity ranked by respondents was cultivating food crops and practicing livestock husbandry with 24 (25.5%). The casual employment was raked the third with 12 (12.8%). The least ranked economic activity was permanent employment with 2 (2.1%). The result indicates the importance of crop production to majority in the study area as for most of respondent crop production is their only source of income needed to raise up their standard of living hence escaping poverty.

Table 4. 5: Respondents economic activities

Economic activities	Frequency	Percent
Tobacco farming	56	59.6
Livestock and Food cropping	24	25.5
Casual Employment	12	12.8
Permanent Employment	2	2.1
Total	**94**	**100.0**

Source: Field Data 2016

4.3 The cost and return of tobacco smallholders' farmers under contract farming scheme in Urambo district

The researcher sought to establish the cost and return of tobacco smallholders' farmers under contract farming scheme in Urambo district, basically presented the existence of return in tobacco production under contract farming, the return generated per season from Tobacco production, the benefits obtained in contract farming as small holders producers of Tobacco and the production cost.

4.3.1 Existence of return in Tobacco production under contract farming

The researcher intended to extract information on the return under tobacco contract farming. The respondents were provided with option to rank in the questionnaire administered to them. The findings revealed the following: a large proportional of the respondents that is 61 (64.9%) ranked the item which shows that there is some return in tobacco contract farming under contract farming. An item which reads "no return in contract farming was ranked by 33 (35.1%) of all respondents. These findings imply that tobacco farming under tobacco farming generate return to small holders tobacco producers.

Table 4. 6: Existence of return in Tobacco production under contract farming

Category	Frequency	Percent
Yes	61	64.9
No	33	35.1
Total	94	100.0

Source: Field Data 2016

In one of in-depth interviews with a small scale tobacco farmer on his/her knowledge in the existence of tobacco contract farming. The farmer had the following remarks:

> *… we do not get remarkable return since the Tobacco Primary Society (PS) do impose high interest in all resources used in the in farming. Generally primary society enter into contract with tobacco companies on behalf of small scale farmers, the problem with that type of tobacco contract farming it does not benefit the small scale tobacco farmers, due to the fact that tobacco company pay the PS then the PS tend to mobilize those payment to finish the loan first before small scale farmers after that the remaining portion is paid to small scale farmers if any.*

4.3.2 The return generated per season from Tobacco production under contract farming

Respondents were provided with items in the questionnaire for them to rank the possible return per season which can be accrued by small scale tobacco contract farmers. The respondents were given five items to rank as indicated below. The findings indicates that 61(64.9%) of small holders tobacco farmers reported to obtain return of Tsh below 500,000/=. Followed by 25 (26.6%) of small holders tobacco farmers who reported to obtain return of Tsh 500,000 - 1,000,000. Whereas 5 (5.3%) of the respondents ranged between the return of Tsh. 1,000,000 and 1,500,000. Other 2 (2.1%) of smallholder tobacco farmers ranged between Tsh. 1,500,000 – 2,000,000. Lastly, 1 (1.1%) of the respondents ranked above Tsh. 2,000,000 respectively (See Table 4.7 below). From

these findings tobacco small holders producers generate a small return that enable them to cover the significant proportional of production cost.

Table 4. 7: The return per season from Tobacco production under contract farming

Return in Tsh	Frequency	Percent
Below 500,000/=	61	64.9
500,000 - 1,000,000/=	25	26.6
1,000,000 -1,500,000/=	5	5.3
1,500,000 - 2000,000/=	2	2.1
2,000,000 above	1	1.1
Total	94	100.0

Source: Field Data 2016

The return generated by small scale tobacco farmers is about Tanzanian Shilling one million Tsh. 1,000,000/= that is generated by the cost of five million per season. The sentence supported by an in-depth interview with one of the small scale tobacco contract farmer, who also revealed the following:

> *…tobacco cultivation under contract farming expected to be good if such a contract signed or entered between a single farmer and primary society. Loan provided under contract farming to small scale tobacco farmers have high interest rate since every 100,000 Tsh the small scale receive should in turn pay 129,000 Tsh, which is addition of 29000 Tsh. This interest rate is very high for a poor small scale tobacco contract farmer.*

4.3.3 The benefits obtained in contract farming for small scale Tobacco farmers

In order to extract information/data from the respondents on benefits they gain from contract farming, the respondents were provided with possible categories of the said benefits for them to opt. The findings on Table 4.8 presented the benefits obtained in small scale tobacco farmers; a large proportion 45 (47.9%) suggested that contract

farming in tobacco production is said to promote market assurance, followed by 21(22.3%) who reported to manage tobacco farming cost and 17 (18.1%) who reported to obtain farming implements through tobacco contract farming, small proportional 11 (11.7%) reported to facilitate tobacco production through contract farming. From these observations tobaccos farming in contract promote market assurance especially to small scale farmers with low production capacity.

Table 4. 8: The benefits obtained in contract farming for small holders producers of Tobacco

Category	Frequency	Percent
Farming implements	17	18.1
Market assurance	45	47.9
Facilitate tobacco farming	11	11.7
Manage tobacco farming cost	21	22.3
Total	94	100.0

Source: Field Data 2016

4.3.4 Production cost

Production costs are one of the most important aspects to any type of economic activities. It includes a variety of expenses, but not limited to, labour, farming implements, farm management cost and other general overhead. It experienced that the calculation of tobacco production cost tends to exclude all inputs provided under contract arrangement by tobacco companies. Such as seeds and extension services, but includes the labour charges, it essentially focuses on the total variable cost, which comprised of human labour, fertilizers and on farm management costs. The findings summarised on Table 4.9 below indicate that variable cost for small holders tobacco farmers were: Tsh. 727,141/= (Flue- Cured tobacco). The variable cost become high in proportion due to the existence of high fertilizers cost that small scale tobacco farmers incurred. In that respect fertilizers cost incurred were Tsh 301,084/=. The small holders

tobacco farmers also incurred high cost of labour Tsh 208,057/= (Flue- Cured Tobacco), followed by High farm management cost Tsh. 218,000 (Flue- Cured Tobacco.

Table 4. 9: Urambo District: Gross Margin Analysis (GMA) of Flue Cured Tobacco by growers

Particulars	Flue- Cured (Tsh.)
1. Revenue = (a.b)	838,268.2
(a)Production yield (kg)	375.4
(b) Price Tsh/kg	2,233
2.Variable Cost =(c+d+e)	727,141
(c) Fertilizer cost	301,084
(d) Farm management cost	218,000
(e)Labour cost	208,057
Gross margin = (1-2)	111,127.2

Source: Field Data 2016

4.4 The resource use efficiency of smallholders' tobacco farmers under the contract farming

The objective number two sought to examine the resource use efficiency of smallholders' tobacco farmers under the contract farming. First presented the resources distribution and uses by respondents that included human labour in terms of family and hired labour, Availability of fertilizer and seeds to growers, inputs distribution and sufficiency to farmers, extension services that basically includes: provision of extension services, types of extension services provided to tobacco farmers, efficiency of extension services provided.

4.4.1 Resources Distribution and Uses by Respondents

The section presents human labour in terms of family and hired labour, availability of fertilizer and seeds to growers, inputs distribution and sufficiency to farmers and extension services.

4.4.1.1 Human Labour

The proportion of family and hired labour used by farmers growing per season for flue cured tobacco in 2015/20016 season. Human labour was based on the number of people recorded from the household members and hired laborers per acre, who were employed to work on various stages of tobacco cultivation.

Family labour

One of the labour forces used in tobacco farming is 'family labour". Respondents were provided with four (4) options to rank in the questionnaire provided to them. The findings are as summarised on Table 4.10 below. A range of 1-3 family labour was ranked by 29 (30.8%). The predominant range of Labourers was 4-6 this with opted by 44 (46.8%) of all respondents. The range of 7-9 was ranked by 12 (12.8%) whereas range of 9 and above was ranked by 9 (9.6%) of the total respondents. The findings indicate that family members are most important labour in tobacco production due to its easy gathering and organising.

Hired Labour

This study, as part of one of its objective intended to find out resources that small scale tobacco contract farmers use. It has sometimes been a tradition for small scale tobacco farmers to use hired labour in production activities. The respondents were requested to indicate extent of hired labour usage. The findings are as portrayed in Table 4.10 below. The highest ranged which was preferred by most of the farmers was 1-3 with 48 (51.1%), followed by 4-6 which was ranked by 27 (28.7%). The category with hired Labourers ranging from 7-9 was supported by 14 (14.9%). The least category with nine (9) and above hired Labourers was ranked by 5 (5.3%) of all respondents. The finding indicates majority of small scale farmers prefer a category of hired labour with 1-3 Labourers per acre.

An interview with one of the small scale farmers as to why they prefer 1-3 laborers per acre, the respondent had the following to say:

> *…the three hired laborers are normally assigned to the farm in this way: one of the three is hired for the whole farming season and is usually a farm supervisor. The rest of the two are casually hired in the busiest time in the season e.g. weeding and harvesting times. We also prefer 3 hired laborers per acre per season because it is easy to manage and pay them.*

Table 4. 10: Urambo District: Proportion of labour allocation in tobacco farms of flue cured tobacco per acre

Labour	**Family labour**		**Hired Labour**	
	Average		**Average**	
	F	%	F	%
1-3	29	30.8	48	51.1
4-6	44	46.8	27	28.7
7-9	12	12.8	14	14.9
9 and above	9	9.6	5	5.3
Total	94	100	94	100

Source: Field Data 2016

4.4.1.2 Availability of fertilizer and seeds to flue cured growers

Fertilizer and seeds are one of the farming implement that are used by small scale tobacco farmers. This study intended to find how these resources are used by small holders' tobacco farmers. The findings revealed the following:

Land on farming was 178.5 acres, this require 893.5 bags of fertilizer with 536.1 bags of seeds. The farmers were supplied with 875.6 bags of fertilizer which is 17.9 less than required bags. On the part of seeds, the area under cultivation required 536.1 bags of tobacco seeds. The supply was 500.4 bags which is less by 35.7 of the total amount required (see Table 4.11 below).

The implication of the above findings is that farmers will not be able to produce to the required standards. This is vividly shown by less supply of both fertilizers and seeds which are contrary to required standards.

Table 4. 11: Availability of fertilizer and seeds to flue cured growers

Characters	Amount
Number of farmers	94
Land on farming (acres)	178.7
Input Required	
Amount of fertilizers (5 bags)	893.5
Amount of seed 3bags	536.1
Input supplied	
Amount of fertilizers (4 bags)	875.6
Amount of seed 2.8 bags	500.4
Differences Fertilizers %	-17.9
Difference seeds %	-35.7

Source: Field Data 2016

An interview was carried out to supplement the above collected quantitative data. The interviewed farmer had the following remarks:

> *… Supply of inadequate seeds and fertilizer is primary caused by the facts that the two implements are supplied by two different entities/organs. Tobacco company supply seeds whereas fertilizers are supplies by Primary Societies. To us supply of seed is not a major problem to as Tobacco Companies supply high quality seeds. The major problem is supply fertilizer which is being supplied by WETCU through Primary Society who do not supply at right time and in right quantity. This affects the production and quality of tobacco produce.*

4.4.1.3 Inputs distribution and sufficiency to farmers

Input distribution is one of the essential factors in tobacco contract farming that affect farmer's growth and production. Table 4.12 shows proportion of inputs distribution to respondent by tobacco contract companies. The result shows that 74 (78.7%) received enough inputs of which 50 (53.2%) supplied inputs at the start of season on time basis of the new season while 33 (35.1%) reported to experience shortage of inputs due to lateness by their Primary Societies through WETCU who act as a supplier of inputs to smallholders farmers and 44 (46.8%) was due to farmers overdue debts from the previous seasons. A total of 10 (10.6%) respondents mentioned shortage of stock, whereas 7(7.4%) of remaining study respondents ranked shortage of stock caused by late distribution of inputs to growers.

Table 4. 12: Proportion of respondents with sufficiency and shortages of inputs supply

Inputs supply	Frequency (N=94)	Percent (%)
Yes	50	53.2
No	44	46.8
Input sufficiency		
Yes	74	78.7
No	20	21.3
Shortage of Input		
Poor estimates	33	35.1
Farmers overdue debts	44	46.8
Shortage of stock	10	10.6
Late distribution of inputs to grower	7	7.4
Total	94	100.0

Source: Field Data 2016

To support the above quantitative data, the researcher conducted an in-depth interview with one of the chairman of small scale tobacco contract farmer where the following were revealed:

> *'....except for seeds and extension servicers which are offered freely by the tobacco companies, other inputs which we receive as loan from bank through our Primary Societies (PS), which later on leads to high interest because usually banks and the Primary Society charged the interest, as a result cause some of us to fail to repay the loan at the end of the season. On other hand, inputs supplied by WETCU i.e fertilizer and pesticides were late, this cause the farmers to produce tobacco of low quality.'*

4.4.1.4 Extension services

Extension services are one of the farming implement that is used by small scale tobacco farmers. This study intended to find how small holders' tobacco farmers obtain the on farm extension services. Below are the data collected from the respondents.

Provision of extension services

The respondents were provided with option to rank in the questionnaire administered to them. The options contained questions on the frequency at which they receive extension services. The findings on Table 4.13 revealed that majority of the respondents that is 79 (84%) received extension services. A total of 15 (16%) indicated that they have not managed to access extension services in the flue-cured tobacco production. These findings indicate that tobacco companies provided extension services to large number of small scale tobacco growers.

Apart from the above extension services, small scale tobacco farmers are expected to be provided with trainings. The respondents were provided with items containing frequencies of times they were provided with trainings: About half of the respondents that are 45 (47.9%) indicated to have received training more than five (5) times per seasons. A total of 29 (30.9%) respondents received training 6-7 times per seasons. The respondents who received training between 4-5 times per season formed 12 (12.8%) of

the total respondents. Those who had chance of receiving trading once per season were 5 (5.3%) whereas those who managed to receive training for 2-3 times per season constituted 3 (3.2%) of the total respondents. The picture portrayed by these findings is that at least majority of small scale tobacco farmers had more than five (5) trainings per season.

Table: 4. 13: Training provision per season

Tobacco farmers received training	Frequency	Percent %
Yes	79	84
No	15	16
Total	94	100
Training provision per seasons		
Once per season	5	5.3
2-3 times per season	3	3.2
4-5 times per season	12	12.8
6-7 times per season	29	30.9
More than 7 times	45	47.9
Total	94	100.0

Source: Field Data 2016

The above findings in Table 4: 13 show categorically that farmers do receive trainings. One would wonder why tobacco production under contract farming is not rewarding. The researcher had an interview with one of the farmers who clarified the situation by the following comments:

> *"…training on how to grow tobacco is not enough to make a farmer produce high quality produce. Training should be supplemented by supply of quality seeds and fertilizers at right time and right quantity."*

Types of extension services provided to Tobacco farmers

Extension services can play a role in empowering poor small scale tobacco farmers to gain access to capital either through savings or credit. Since they are well trained in terms of local organisational development, they can build and improve small scale tobacco farmers' institutions, organising farmers into associations and commodity groups and other forms or co-operative activities.

The findings in Table 4.14 indicates that 73 (77.7%) of respondents received training on managing on tobacco farms management 15 (16.0%) received training on tobacco leaves grading before delivering to the market floors; and 6 (6.4%) were imparted with marketing skills. Also, the findings indicates that overall 54 (57.4%) of respondents received training at their respective own plot 23 (24.5%) received training on the demonstration plot purposely to gain knowledge and experience to practice for their own plot, 10.6% received training during meetings and 7 (7.4%) received training at the respective training centre. It can be realised that training and its respective location have impact on the crops and farming practices as far as Tobacco farming is concern.

Table 4. 14: Extension services delivery to tobacco farmers

Training on	**Frequency (N=94)**	**Percent**
Tobacco crops and its management	73	77.7
Tobacco grading	15	16.0
Tobacco marketing	6	6.4
Location of extension services	**(N=94)**	
Farmers Plot	54	57.4
Training centre	7	7.4
During meetings	10	10.6
Demonstration plot	23	24.5

Source: Field Data 2016

Efficiency of extension services provided

Respondent were requested to provide their views on the benefit of extension services received from tobacco companies which are contracted for. The findings summarised on Table 4.15 indicates that 64 (68.1%) of respondents managed to obtain quality tobacco harvests. A bout quarter of the respondents, 25 (26.6%) reported to have gain crop management skills and 5 (5.3%) of respondents reported to have timely accessibility of extension services. These findings indicate that at least farmers were exposed to the extension services on various issues. The expectations here is that high quality produce would be expected from these farmers.

During interview with cooperative officer,

> "…h*owever acknowledged existence of poor provision of services as the latter were not delivered on time and insufficient while some of instruction were misleading for example farmers said that the guidelines which were provided by the extension officers on grading and bailing tobacco leaves were contrary to those which are considered in the market floor during grading and selling raw tobacco (researcher- cooperative officer interview).''*

Table 4. 15: Advantages of extension services

Category	**Frequency (N=94)**	**Percent**
Quality tobacco	64	68.1
Crop management skills	25	26.6
Timely accessibility	5	5.3
Total	94	100

Source: Field Data 2016

4.5 The yield and price uncertainties involved in the tobacco production and marketing by the smallholders' tobacco contracts farmers.

The third objective was on the estimation of production function in tobacco production and uncertainty in tobacco contract farming as follows:

4.5.1 Estimation of production function in Tobacco Production

The model summary presented in Table 4.16 shows the linear regression results of the Cobb-Douglas production function for tobacco farmers studied. The production model was used to determine the impact of the factors of production and contract farming characteristics on tobacco yield.

Table 4. 10: Regression analysis results for sampled tobacco farmers

Variables	Unstandardised Coefficients		Standardised Coefficients		t- Values	Sig.
	Coefficients	Std. Error	Beta	Std. Error		
(Constant)	.563	.198			2.838	.006
Age	.096	.073	.162	.123	1.316	.192
Education	-.153	.043	-.368	.104	-3.545	.001
Experience	.115	.041	.269	.097	2.776	.007
Fertilizer	.303	.069	.450	.102	4.400	.001
Land	.074	.053	-.130	.093	-1.401	.005
Family labour	.009	.074	-.012	.097	-.125	.001
Hired labour	-.008	.018	.057	.125	.455	.216
Extension services	-.007	.090	-.008	.097	-.086	.002
Contracted price	-.159	.060	.289	.108	2.674	.009

R-square=0.642 F=21.23 Σb_i=1.335

Note: Dependent variable is output per acre
Source: Field Data 2016

The R-square of the production function shows that observed independent variables were able to explain about 64.2% of the factors that determine tobacco yields under contract farming. Also the return to scale parameter which is summations of coefficients for all variables (bi) in the production model was 1.3 and is significant more than a unit which indicated increasing returns to scale, implying the efficiency of variables included in the contract farming production function. The results indicates the value of the constant–intercept in the analysis being very high that is .563 and significant implying the predicted mean level of tobacco production if units of independent variables used in tobacco production were valued to zero.

4.5.1.1 The Age of farmers in Tobacco cultivation

The age of farmer engaged in tobacco cultivation had a positive effect on amount of yield produced as expected and was statistically significant ($P<0.01$). This implies that older farmers performed better compared to young farmers due to experience in tobacco farming and respective ability to solve challenge and access to resources to practice farming activities under contract farming. The experience indicates that young people always prefer off-farm activities and farming practices.

4.5.1.2 Education of the farmers

Education: The findings indicated that the number of years in education by a farmer had a positive influence on the amount of tobacco in that respect a farmer produced and was statistically significant ($P<0.05$). The results show that majority of tobacco farmers had attained a necessary and basic education for managing tobacco farming technologies and its respective contract farming, can effectively manage extension officers supplied to them than illiteracy one. This becomes recognised as an appropriate ingredient in output increase and tobacco productivity of contract farming.

4.5.1.3 Experience in tobacco productivity

Experience: The number of years tobacco farmers being engaged in tobacco productivity has profound impact in contract farming and being statistically significant and had positive influence to the amount of yield produced by tobacco farmers ($P<0.01$). This shows that the number of years and experience owned by tobacco farmers in tobacco production had a significant effect on increasing production yields. This further expected to increase the income of tobacco farmers and assets ownerships.

4.5.1.4 Amount of fertilizers in tobacco production

Amount of fertilizer used by tobacco farmers in tobacco production had a positive significant influence on amount of yield produced by tobacco farmers under contract farming ($P<0.01$). The result indicates that as amount of fertilizer used increases the yield of tobacco. From the regression model a unit percent increase in fertilizer amount accounts for 30.3 % increases in yield harvested by tobacco farmers under contract farming.

4.5.1.5 The size of land for Tobacco production

Area; the size of land used by farmer for tobacco production had a positive impact as expected and was statistically significant in determining the amount of yield obtained by tobacco farmer under contract farming ($P<0.05$). The result indicates that increasing the area of cultivation by one acre will results into 7.4% increase in amount of output.

4.5.1.6 Family labour

Family labour; in fact the family members practicing in farming activities had a positive influence in tobacco production and recognised as insignificant ($P>0.05$). It is clear that a constant number of family members gathered to participate in tobacco production had been recognised to increase productivity.

4.5.1.7 Hired labour

Hired labour; cost of hired labourers had a negative influence on tobacco production and was statistically insignificant (P>0.05). The coefficient was expected to be either negative or positive. Probably the results imply inefficient use of hired labour as tobacco farmers in the study incurred higher labour costs due to tobacco being 21.6% hired labours. The remaining percentages being captured by family labour, this indicates that contract farming under tobacco production is highly labour intensive.

4.5.1.8 Extension services

Extension services provided to tobacco farmers by tobacco companies in contract had a negative sign but statistically significant on tobacco production (P<0.01) contrary to the expected results. The negative sign it indicates existence of equipment shortage, shortage of unskilled extension officers and poor linkage between tobacco farmers and extension officers as a result low accessibility of extension services to tobacco farmers under contract farming.

4.5.1.9 Contract price

Contract price; as expected in contract farming the price is predetermined between tobacco farmers and companies had positive influence on tobacco production and was statistically significant (P<0.05). Farmers may become in position of premium price understandings before the marketing period and harvest as a result encourage to cultivate more to attain the price and then high profit in the long run encourage efficient production of tobacco under contract farming.

4.5.2 Uncertainty in tobacco contract farming

The respondents were provided with likert scale item to rank. The items were prepared to show uncertainty in expected tobacco yields. The findings on the said yield uncertainty ratios for flue- cured tobacco are presented on Table 4.17 below. The uncertainty level describes the probability that growers fails to attain the specific

expected yield or the contracted price. From the findings the flue cured tobacco indicates the highest expected yield of 761, followed by 622 most expected and 556 lower expected. The calculated average yield uncertainty level for the farmers of flue cured tobacco indicated on Table 4.15 Flue- Cured was (0.55) Tobacco farmers are more familiar with flue cured tobacco production.

Table 4. 11: Urambo district: Yield uncertainties ratios for the tobacco varieties

Tobacco Varieties	**Average expected yield (kg/acre)**			
	Highest expected yield	**most expected yield**	**lowest expected yield**	**Uncertainty Ratio**
Flue- Cured	761	622	556	0.55

Source: Field Data 2016

Interview with one of the WETCU staff on the yield and price uncertainty revealed the following:

> *"…companies only set target for the yields required per season. The farmers normally are given season's production quota which they have to abide by. The season production quota is always in terms of tonnage. The limited production affects us since a farmer who is able to produce more are limited as s/he will not get a place to market extra produce"*

A second small scale tobacco farmer who was interviewed had the following complaints:

> *"…the price uncertainty almost is a result of tobacco leaves being classified into a number of classes. There are 72 grades of tobacco leaves, which are assigned has different price that reflect their qualities. Most of us fall are able to produce moderate and lower grades at the time of selling our tobacco. This automatically means we will get low returns at the end of the season. Some of abled farmers normally bribe tobacco leaves classifiers so as their produce can be given high grades which means high price. While others who have relationship with classifiers use that opportunity to get their produce been graded highly. Another alarming issue which crated price uncertainty unavailability of government tobacco classifiers who can defend poor small scale tobacco farmers.*

CHAPTER FIVE

DISCUSSION OF THE FINDINGS

5.1 Introduction

The purpose of this study was to explore the economic impact of contract farming for small holders' tobacco producers in Urambo District. The purpose of this chapter is to discuss the findings which have emerged from the selected case study.

5.2 Respondents Profile

The respondents profile in this study revealed that there is a small proportional of female small scale tobacco farmers. The reason behind is rooted to the traditions in Tanzania where land and cash crops are still under ownership of men. These findings concur with those of (Kalamata, 2005) who found out that in Urambo district 96.6% of tobacco growers are male.

The study also revealed that tobacco farming mainly dominated with married categories with 66 (70.2%) followed by single with 20 (21.3%). The reasons from the findings were it is easy to form groups which are prerequisite for the contract farming (see Table 4.2). These findings are supported by those of Mathania (2007) noted that married respondents are reported to be committed and tied with family responsibilities, in that respective for them is economical in contract tobacco farming practice than single counter party.

The study findings showed that small scale tobacco farming was dominated by age group 46 and above years with 53(56.4%) of all respondents. The reason was that those in this age categories are the owners of farming resources including land. Young population 15-30 years were only 3(3.2%) they were said to involve themselves with off-farm activities or migrate to urban areas. The findings also revealed that young

people's perception was that farming in no longer enterprising activities. These finding are similar to those of Kalamata (2006).

Primary education was the main level of education attained by most of the farmers 49 (52.1%). The reasons from interview conducted by the researcher were that farming is the only economic activity which this category could fit. The dominance of this category created a lot of problems in especially adoption of new methods of farming. The findings concurs with those of Mc Falls (2003) who argued that population that is comprised of old people coupled with low level of education tends to resist change and lack initiatives. This situation creates particular problems in offering advisory service like extension services consequently declines of total farm output. Similarly, Asfaw and Admassie (2004), and Nyasatu (2006) education is essential to farmers in capturing innovation skills and knowledge of good farming and crop management practices needed by farmers to improve crop production as well as managing their enterprises more profitable.

5.3 The cost and return of tobacco smallholders' farmers under contract farming scheme in Urambo district

Findings on the cost and return indicated that tobacco farming under contract farming generate return to small holders tobacco producers. It was also revealed that the tobacco small holders' producers generate small return for minimum coverage of production cost. The tobacco contract farming was noted as a tool for market assurance to the farmers with low production capacity. These finding are supported by that of Oya (2012) who emphasised that contract farming under tobacco production enhance farming practice through market assurance of the produce.

5.4 The resource use efficiency of smallholders' tobacco farmers under the contract farming.

The data collected revealed that family members are most important labour in tobacco production due to its easy gathering and organising. A total of 44 (46.8%) of all respondents ranked family as a source labour. Phoumanivong (2013) had similar results that small holders in tobacco contract farming are organised in most cases with a large proportional of family labour than hired labour in developing countries. One of the reasons for the preference of family labour was low resources and poor organisation of farming business.

The findings revealed that inputs distribution and sufficiency were not made available to the farmers at right time and right quantity. The delay was had negative impacts such as overdue debts, poor estimates, shortage of stock and late of distribution of inputs to grower/farmers. A study by Smalley (2013) on contract farming in Tanzania concurs with the findings of this study. Smalley (ibid) emphasised that tobacco contract farming is highly affected with poor legal framework that affects the terms and even associated with delay of necessary inputs to small scale farmers who are weak to stand and enforce the contract with more resourceful companies and corporation.

The findings reveled that tobacco companies provided extension services to large number of small scale tobacco growers. These findings are supported by previous study by Kalamata (2006) whose findings showed that extension services being regarded as special catalysts in agricultural production and its productivity increase.

5.5 The yield and price uncertainties involved in the tobacco production and marketing by the smallholders' contracts farmers.

The data collected revealed that the number of years and experience owned by tobacco farmers in tobacco production had a significant effect on increasing production yields. This further expected to increase the income of tobacco farmers and assets ownerships. Runsten (2002) is of the view that the increase in production among the small holders

tobacco farmers has much profound on the respective farmers income increase, similarly Warnings and Hoo (2000) noted that the increase in benefits from a contract-farming scheme accrue more to larger growers than to smaller growers it is expected to reinforce income stratification.

The result indicates that the amount of fertilizer used increases the tobacco yield, the farmers extent and frequency application fertilizer has highly associated with yield increase in tobacco contract farming, this related to that of Kalamata (2006) who pointed out that contract farmers under tobacco farming in Urambo district, were getting more yield per acre due to the application of fertilizers and accessibility of extension services.

The result indicates that increasing the area of cultivation by one acre will results into 7.4% increase in amount of output. This finding is related to that provided by Mkude (2003) that as yield increases are directly related to increase in farm size.

It is clear that a constant number of family members gathered to participate in tobacco production had been recognised to increase productivity. As Mutakubwa, (2007) family members have been regarded as support farming practices and increase in yield. Uncertainties being recognised from the ground of future events based on the parameters of probability distribution cannot be determined empirically or quantitatively (Dileep et al., 2002).

It has been observed that uncertainty level describes the probability that growers fails to attain the specific expected yield or the contracted price. Tobacco farmers are more familiar with flue cured tobacco production as it has been cultivated since the time of colonials in Tanzania (TTC, 2007). The finding is highly related to the fact that agricultural practices are more risk and full of high degree of uncertainty (Eaton and Shepherd, 2001).

CHAPTER SIX
CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

The previous chapters (four and five) dwell on findings and discussion and discussion of findings respectively. The purpose of this chapter is to present summary of the study findings and to draw conclusion and make recommendations for the present and future research based on the findings.

6.2 Conclusion

The overall objective of the study was to assess the economic impact of contract farming for smallholders' tobacco producers in Urambo District, Tabora region. Specifically the study analysed the cost and return of tobacco smallholders' farmers under contract farming scheme with respect to types of tobacco cultivated in Urambo district, the resource use efficiency of smallholders' tobacco farmers under the contract farming and the yield and price uncertainties involved in the tobacco production and marketing by the smallholders' contracts farmers. The study conclusion is arranged in the following themes: production cost and returns, resource use efficiency and yield and price uncertainty.

6.2.1 Production cost and returns

The study shows that there is enough evidence to conclude that the average production costs and returns to tobacco growers under contract farming are not statistically different ($P>0.05$). The findings indicated that the tobacco farmers also incurred high cost of labour Tsh 208,057/= (Flue- Cured Tobacco). Followed by High farm management cost Tsh 218,000/= (Flue- Cured Tobacco), it can be deduced that tobacco farmers in contract farming incurred higher costs of production due to extreme cost of fertilizer and labour costs.

Therefore, smallholder's tobacco farmers were affected by high interest rates from the Banks and their Primary Societies (PS), this automatically affect their returns which they gain per season.

6.2.2 Resource use efficiency

The findings noted that a farmer has been practicing contract farming, had significant economic impact on tobacco production. Based on the result the contract-farming characteristics (extension service, fertilizer, education, experience and contract price) are essential in tobacco production but still the factors of production (labour, land and capital) statistically had significant influence in tobacco production ($P>0.05$). The production of tobacco under contract farming expected to rise through the effective and efficiency utilisation of input.

Therefore, the resource used by the smallholders tobacco farmers were efficiently used especially in land, human labour and extension services except for the supply of farm implements which were delayed .

6.2.3 Tobacco yield and price uncertainty

The findings pointed out that tobacco farming under contract farming are not with degree of certainty based on the production and marketing of their tobacco. Tobacco farmers experienced high level of production, there is existence of high degree of uncertainty Flue-Cured (0.55), this indicated that tobacco farmers under contract farming had less degree of certainty in tobacco farming due to technical issues, price which affected by the tobacco leaves grades and knowledge on the farm management and marketing issues.

6.3 Policy Implication

Based on the findings this study basically makes recommendations on the basis of tobacco farming towards the economic impact of contract farming for smallholders' tobacco producers in Urambo District. The study recommendation is arranged in the following themes: contract farming practices, production cost and returns, resource use efficiency and yield and price uncertainty.

6.3.1 Contract farming practices

There is increasingly a need to engage into tobacco contract farming with a clear and open contract between farmers and companies, unlike the contract existing now between the primary societies and the tobacco companies. This could help the farmers to attain what the market needs since the tobacco companies will supervise and supply the input on time to smallholders' tobacco producers.

6.3.2 Production Cost and Returns

The banks and the primary societies should reduce the interest, so that the smallholders' tobacco farmers can get more returns and reduce costs.

The government should be more responsible to monitor, facilitating and encouraging growers in contractual arrangement to work hard to produce more return also have to deal with tobacco companies under contract farming to support and encourage small scale producers in the more and efficiency use of resources.

6.3.3 The resource use efficiency

WETCU should stop being used as agent in supplying tobacco farming implements to the Tobacco Primary Society and remain with a task of receiving the cooperation fees from the Tobacco Primary Cooperative Societies. This is because they do deduct some percent which become a burden to the smallholder tobacco farmers.

The clear supply of input should be well organised between the supplier (WETCU), company and primary cooperatives societies. This need to be well organised to promote the efficient supply of fertilizer, improved seeds and pesticides to small scale tobacco farmers under contracting farming. The tobacco companies under contract farming should take special consideration on shortage and delays of inputs noted by tobacco farmers in order to improve production and reduce production uncertainty due to inputs shortages.

The tobacco council to be well organised so that to solve the problem of shortage of extension officers to small scale tobacco farmers. That almost contributed to low yield and late plantation essentially increases the cost and low production capacity of small scale producers in tobacco farming.

The respective efforts should on the increase of extension officers on both side of the tobacco companies and the government, this will reduce the differences in yield and return for smallholders' tobacco producers in Urambo District.

6.3.4 The yield and price uncertainty

Government and tobacco board need to enforce guidelines for proper practices of contract farming to small-scale farmers in such a way that the companies under contract with small scale tobacco farmers have to support small scale farmers in terms of input on time and seeds to encourage early plantation to reduce different in yield.

The government should reduce tax imposed to the tobacco companies. So as to reduce the burden which is always directed to the smallholders tobacco farmers by the companies. Since they charged low price to their raw tobacco produce.

Also the tobacco council should review the 72 grades of tobacco leaves to enable the smallholders' tobacco farmers to get the reasonable price from the quality produced. Since the highest price which is offered to the farmer with the highest quality grade is 3 dollars and none of farmers can get this price.

6.4 Areas for further research

From this study observation anyone who interested to conduct a study on the economic impact of contract farming for smallholders' tobacco producers in Urambo District, should concentrate on the variables that incompletely explored including;

i. The production of Tobacco and small holders' tobacco producers' profitability
ii. The impact of tobacco farming on contract farming
iii. The efficiency resource utilisation in contract farming and tobacco productivity

REFERENCES

Abdallah, J. M. (2006). Economic and productive efficiency analysis of tobacco and Impact on the Miombo Woodlands of Iringa Region in Tanzania. Thesis submitted for the Degree of Doctor of Philosophy at Sokoine University of Agriculture, Morogoro, Tanzania, and 252 pp.

Arthur, C. (2005), The Growing Role of Contract Farming in Agri-food System Drivers, Theory and Practice; Agricultural Management, Marketing and Finance Service: FAO, Rome at http;//ww.tanrpan.org.document /doo96/contract farming /Malawi. Accessed on (6 November 2015)

Asfaw, A., & Admassie, A. (2004). The role of education on the adoption of chemical fertiliser under different socioeconomic environments in Ethiopia. Agricultural Economics, 30(3), 215-228.

Asokan, S. R., & Singh, G. (2003). Role and constraints of contract farming in agro-processing industry.

Asokan, S. R., & Singh, G. (2003). Role and constraints of contract farming in agro-processing industry.

Barrett, C. B., Bachke, M. E., Bellemare, M. F., Michelson, H. C., Narayanan, S., & Walker, T. F. (2012). Smallholder participation in contract farming: comparative evidence from five countries. World Development, 40(4), 715-730.

Baumann, P. (2005). Equity and efficiency in contract farming schemes. The Experience of Agriculture Tree Crops. Overseas Development Institute Working Paper. [http://www.odi.org.uk/publications/ working papers] site visited on 15/11/ 2016

Chang, C., Chi, C., Chin, M. and, Wei, C. (2006). Is Contract Farming More Profitable and Efficient than Non Contract Farming. A Survey Study of Rice Farms in Taiwan. Selected paper prepared for Presentation at the American Agricultural Economics Association Annual Meeting, Long Beach, California, July 23-26, 2006. 21pp.

Chimbwanda, F., & Chikukwa, H. (2013). A simulation analysis of policy and institutional factors affecting growers'choice of tobacco marketing arrangement in Zimbabwe (Mashonaland Central Province). International journal of Innovative Research in Management, issue 2 volume 5,

Cole L and Cole S (2006). Tobacco research and development. In: Rukuni M, Tawonezvi P and Eicher C. Zimbabwe's agricultural revolution revisited. University of Zimbabwe Publications. Harare. pp. 403-414.

Dahlman, C. J. (1979). The problem of externality. The Journal of Law & Economics, 22(1), 141-162.

Dahlman, C. J. (1979). The problem of externality. The Journal of Law & Economics, 22(1), 141-162.

Dileep, B. K., Grover, R. K. and Rai, K. N. (2002). An economic analysis of contract farming in Tomato. Indian Journal of Agriculture Economics 57 (2): 197-210

Distribution: Theory and Evidence", Paper presented at the Western Economics Association International Annual Meetings.

Eaton, C. and Sherphed, A.W. (2001). Contract Farming Partnership for Growth. A Guide. Food and Agricultural Organization of the United Nations. Agricultural Service Bulletin 145. Rome, FAO. 165pp.

Eaton, D. J. F., Meijerink, G. W., & Bijman, W. J. J. (2008). Understanding institutional arrangements: Fresh Fruit and Vegetable value chains in East Africa. Wageningen UR.

FAO (2001). Contract Farming Partnership for Growth. A Guide. Agricultural Service Bulletin 145. Rome, FAO [http//www.fao.org] site visited on 12/07/2015

FAO (2003), Issues in the Global Tobacco Economy: Selected case studies; Economic and Social Department[www.fao.org/docrep/006/y4997e/y4997e00.pdf] visited on 13/07/2015

Fernando, S (2006) ,Contract Farming in Costa Rica: Opportunities for smallholders

Gabagambi, D. M. and Lymo-Macha, J. G. (2005). Tobacco marketing in Tanzania, background paper for the situation analysis of tobacco control policy and research in Tanzania. (Unpublished). 13pp.

Gabagambi, R. M. (2014). Contract Farming and Smallholder Farmers in a Global Economy: The Case of Mtibwa Cane Growers in Mvomero Tanzania (Doctoral dissertation, The Ohio State University).

Graham, J. R., Harvey, C. R., & Rajgopal, S. (2005). The economic implications of corporate financial reporting. Journal of accounting and economics, 40(1), 3-73.

Guo, G., Jolly, W. R. and Zhu, J. (2005). Contract Farming in China: Supply Chain or Ball and Chain? Selected paper prepared for the presentation at the Minnesota International Economic Development Conference, University Of Minnesota, 29-30 April, 2005. 52pp.

Harold D (2003) "Ownership and the Externality Problem." In T. L. Anderson and F. S. McChesney (eds.) Property Rights: Cooperation, Conflict, and Law. Princeton, N.J.: Princeton University Press

Henningsen, A., Mpeta, D. F., Adem, A. S., Kuzilwa, J. A., & Czekaj, T. G. (2015). The Effects of Contract Farming on Efficiency and Productivity of Small-Scare Sunflower Farmers in Tanzania. In International Conference of Agricultural Economists (ICAE).

Kalamata, S. (2006). Performance assessment of extension service under contract farming arrangement: A case study of Flue cured-Virginia Tobacco growers in Urambo District. Dissertation for Award of MSc Degree at Sokoine University of Agriculture. Morogoro, Tanzania, 150pp.

Key. N. & Runsten, D. 1999. Contract farming, smallholders, and rural development in Latin America: the organization of agro processing firms and the scale of out grower production. World Development, 27(2): 381-401.

Kirsten, J., & Sartorius, K. (2002). Linking agribusiness and small-scale farmers in developing countries: is there a new role for contract farming?. Development Southern Africa, 19(4), 503-529.

Kothari, C, (2008), Research Methodology, methods and Techniques, Dharmesh Art Process Delhi.

Madola M (2005), The status of contract farming in Malawi. Available

Masango W.T. (2002) The impact of FDT on the production of tobacco by smallholder farmers.Unpublished B.Sc. Agriculture Research project faculty of Agriculture, University of Zimbabwe, Harare

Mathania, A. J. (2007). Analysis of production and marketing potential for paprika as an alternative crop to tobacco in Urambo district, Tabora Tanzania (Doctoral dissertation, Sokoine University of Agriculture).

Matthew W & Wendy S (2000), "The Impact of Contract Farming on Income

Mboma, G. (2006). How tobacco companies are discouraging tobacco growers in Tanzania [http//www.ippmedia.com/] site visited on 15/08/2015.

Mbwana, M. (2007). Institutional and economic analysis of small farmers contract farming. A case study of Manyara region Tanzania. Dissertation for Award of Msc Degree at Sokoine University of Agriculture, Morogoro, Tanzania, 144pp.

Mc falls Jr, J. A. (2003). Population: A lively introduction. 4th Edition Population Edition Bulletin 58(4): 44pp

Melese, T (2010) Contract farming in Ethiopia An overview with focus on sesame

Miyata,S and Dingau, H(2007). Impact of contract farming on income,linking smallholder farmer, packers, and super markets in China. International food policy institute, Washington

Mkude, C. D. (2003). Economic analysis of smallholder cashew nuts production and marketing under market liberalization. A case study of Coast Region (Doctoral dissertation, Dissertation for Award of MSc Degree at Sokoine University of Agriculture, Morogoro, Tanzania, 155pp. for Award of Msc. Degree at Sokoine University of Agriculture, Morogoro, Tanzania).

Morrissy, J. D. (1974). Agricultural modernization through production contracting: the role of the fruit and vegetable processor in Mexico and Central America. New York, Praeger.

Mshiu, L. S. (2007). Comparative analysis of contract farming modalities in Tanzania. A case study of Mtibwa sugarcane farming in Morogoro Region and tobacco farming in Tabora Region. Dissertation for Award of MSc Degree at Sokoine University of Agriculture, Morogoro, Tanzania, 100pp.

Mutakubwa, E. B. (2007). Production and marketing analysis of cassava in the Coast Region of Tanzania. Dissertation for Award of MSc Degree at Sokoine University of Agriculture, Morogoro, Tanzania, 96pp.

Mwambi M, Oduol J, Mshenga P, and Saidi M (2013) Does Contract Farming Improve Smallholder Farmers Income? The Case of Avocado Farming in Kenya

Mwanselle, A (2010) Economic Analysis of Contract Farming for Small-scale Tobacco producers in Songea District, Ruvuma Region

Nyasatu, D. P. (2006). The Role of on Farm Processing in Generating Farmers Income. The case of oilseeds in Kongwa District, Dodoma Region. Dissertation for Award of MSc Degree at Sokoine University of Agriculture, Morogoro, Tanzania, 81pp

Oya, C (2012), Contract Farming in Sub- Saharan Africa: A Survey of Approaches,Debates and Issues; Journal of Agrarian Change, Vol. 12 No. 1, January 2012, pp. 1–33

Oya, C. (2012). Contract Farming in Sub- Saharan Africa: A Survey of Approaches, Debates and Issues. Journal of Agrarian Change, 12(1), 1-33.

Phoumanivong, S (2013) The Impacts Of Contract Farming On Rural Farm Households, Lao Pdr.

Porter, G., and K. Phillips-Howard. (1997). Comparing contracts: An evaluation of contract farming schemes in Africa. World Development 25 (2): 227–238.

Prowse, M. (2012). Contract farming in developing countries: a review. Agence Française de Développement A Savoir.

Prowse, M. (2012). Contract farming in developing countries: a review. Agence Française de Développement A Savoir.

Runsten, D., (2002). Transaction costs in Mexican fruit and vegetable contracting: Implications for association and participation. Paper Presented at the XVIII International Congress of the Latin American Studies Association, Atlanta.

Rweyemamu, D. C., Kimaro, M. P., & Urassa, O. M. (2003). Assessing micro-finance services in agricultural sector development: A case study of semi-formal financial institutions in Tanzania. Economic and Social Research Foundation, 1-46.

Sáenz-Segura, J. F. (2006). Contract farming in Costa Rica: opportunities for smallholders? PhD Thesis,Wageningen University

Sambuo, D. (2014). Tobacco Contract Farming Participation and Income in Urambo; Heckma's Selection Model. Journal of Economics and Sustainable Development, 5(28), 230-237.

Sambuo, D. (2014). Tobacco Contract Farming Participation and Income in Urambo; Heckma's Selection Model. Journal of Economics and Sustainable Development, 5(28), 230-237.

Silva, B (2005) "The growing role of contract farming in agri-food systems development: drivers, theory and practice." FAO, Agricultural Management, Marketing and Finance Service, July.

Simmons, P., 2003. Overview of smallholder contract farming in developing countries.

Singh, S. (2002), "Contracting Out Solutions: Political Economy of Contract Farming in the Indian Punjab" World Development 30, no. 91621-1638

Smalley, R (2013) Plantations, Contract Farming and Commercial Farming Areas in Africa: A Comparative Review

TTB (2006). Tanzania Tobacco Sector Performance Analysis Report for 2000/01 to 2004/05, Tanzania Tobacco Board. Morogoro, Tanzania.17pp.

Waluye, J., 1994. Environmental impact of tobacco growing in Tabora/Urambo, Tanzania. Tob. Control, 3: 252-254.

Warning, M., & Hoo, W. S. (2000, June). The impact of contract farming on income distribution: theory and evidence. In Presentation at the Western Economics Association International Annual Meetings (Vol. 30).

Wijnands, J., J. Biersteker, and R. Hiel (2007) Oilseeds business opportunities in Ethiopia, Ministerie van LNV, pp. 36.

Williamson, O (2004) Transaction cost economics and agriculture: an excursion, Elsevier, pp. 19-35.

Williamson, O. E. (1979). Transaction-cost economics: the governance of contractual relations. The journal of law & economics, 22(2), 233-261.

World Bank (2008) World Development Report, 2008, Agriculture for Development. Available online at siteresources.worldbank.org/INTWDR2008/.../WDR_00_book.pdf

Yamane, T. (1967). Elementary sampling theory, Englewood Cliffs: Prentice Hall

APPENDICES

Appendix 1: Questionnaires for Tobacco smallholders' producers

SECTION I. Characteristics of respondents

1. Sex of the respondent

(a) Male ( )

(b) Female

2. Marital Status of the respondent

(a) Single

(b) Married ( )

(c) Widow

(d) Divorced

3. Age

(a)15-30

(b)31-45 ( )

(c) 46-above

4. Level of education

a. Informal education
b. Primary standard seven
c. Secondary form four and six ( )
d. Diploma level
e. University education

5. Respondent main economic activity

a. Tobacco farming b. Livestock and Food cropping

c. Casual Employment d. Permanent Employment

(6) Are you practicing contract farming under tobacco production?

a. Yes

b. No

7. If yes, name the tobacco company you are in contract with……..

8. Farmer period in growing tobacco.

a. Less than 3 season b.4-6 seasons c.6-8 seasons

d.8-10 seasons e. More than 10 seasons

SECTION II. The cost and return of tobacco smallholders' farmers under contract farming scheme with respect to types of tobacco cultivated in Urambo district.

1. What type of tobacco you cultivate?

……..

……..

2. Do you obtain return in Tobacco production under contract farming? a. Yes ….b. No…..

3. If yes, how much generated per season from tobacco production under contract farming

……

4. Do you manage to cover the whole cost of production under contract farming?

a. Yes …….
b. No……..

5. If No/Yes how do you overcome the situation?

……..

……..

6. What are the benefits obtained in contract farming as small holders producers of Tobacco?

……..

……..

……..

SECTION III. The resource use efficiency of smallholders' tobacco farmers under the contract farming.

(a) Land acquisitions

1. What is the size of the land owned by small holder farmer under tobacco farming…(Hectares)

2. How did you obtain it?

a. From Inheritance. b. Bought. c. Hired. d. Bushes clearing

e. Given by village government.

3. The size of land used for tobacco cultivation……. (Hectares)

(b) Labour availability and use

4. Show the number of laborers used in tobacco cultivation under contract farming

Age group	Sex		Total
	Males	Females	
<10 years			
10-14 years			
15-18 years			
19-50 years			
> 50 years			

(c) Labour use

5. Indicate labour use for input used in tobacco productions

Activity	Family labour	Hired labour	Total payment (Tsh)
Firewood collection			
Barn constructions and maintenance			
Land preparations& ridging			
Transplanting			
Fertilizer and pesticides Application			
Topping & desuckering			
Harvesting			
Curing			
Sorting, grading, bailing and marketing Other works			

6. Types of inputs supplied by the tobacco company

Types of inputs	Source	Quantity required	Quantity supplied	Price/unit	Total costs
Tobacco seed(packets)					
Fertilizer NPK(Bags)					
Fertilizer(CAN)					
Insecticides					
Firewood					
Tractor services					
Hired labour					

7. Does the company under contract farming supply the input in time?

a. Yes

b. No

8. If no, provide the reasons for input delay

……
……
……

9. Does the input supplied by the company under tobacco contract farming sufficient?

a.Yes

b.No

10. If no what was the shortage provide list

……
…….....
……

11. Reasons for shortage supply of inputs

a. Poor estimates b. Limited stock by the company

c. Farmers overdue debts d. Late distribution of inputs to grower

e. Other specify……..

(b) Extension Services

12. Do you access any extension service under tobacco contract farming ?

a. Yes b. No

13. If No why ……..

14. If yes name the provider of extension services

……..

…….

15. If yes, how many times you access extension services

a. Once per season b.2-3 times per season c. 4-5 times per season
d. 4-5 times per season e. More than 5 times

SECTION IV. The price uncertainties involved in the tobacco production and marketing by the smallholders' contracts farmers

1.What was the amount of yield obtained in the given seasons and their expectations?

Years (season)	Area cultivated (hectares)	Actual output in (Kg)	Highest expected output (kgs)	Lowest expected output (kgs)
2013/2014				
2015/2016				

2. How is production capacity after engaging in contract farming?
a. Increased b.Decreased c.Moderate
d.Satisfactory

3. What are the views about contract farming arrangements?
a. Good b. Excellent c. Bad d. No effect

4. How do you classify your tobacco for marketing (rank the criteria).
a. Colour b.Size c.Weight d. Moisture contents

5.What are your concerns about classification procedures?
a. Reasonable b.Good c.Favorable d.Discouraging

6.Tobacco price schedule

Years (season)	Contracted price in kg	Highest expected price (Kgs)	Lowest expected price (kgs)
2013/2014			
2015/2016			

7.Whose is responsible for determining tobacco market prices?

a. Farmer b. Primary cooperatives societies c. Leaf dealers

d. Classfiers

8. What are your views about the prices?

a. Reasonable b. Good c.Favourable d. Discouraging

9. Comments on the economic impact of contract farming to smallholders Tobacco producers?

…….

…….

……

Appendix 2: Interview Guide

Dear Sir\Madam,

I ……..kindly requesting you to take few minutes to answer this questionnaire .The main aim of the researcher on providing this interview is to collect data on the ***The economic impact of contract farming for smallholders' tobacco producers in Urambo District***, the data will be confidential and used for academic purpose as the one of the point of reference among the users concerning the subject matters and not otherwise.

1. What type of tobacco cultivated under contract farming at your area?

……..

……..

2. Do you support the tobacco small holder farmers in terms of input at your area?

…….

…….

3. Do you provide land for tobacco cultivation under contract farming?

……..

4. Does the input supplied by the company under tobacco contract farming sufficient?

…….

…….

5.What are your concerns about classification procedures?

……..

……..

6.Whose is responsible for determining tobacco market prices?

……

……

7. Do you help the tobacco farmers under contract farming to stabilize the price of tobacco