MIDLANDS STATE UNIVERSITY

FACULTY OF COMMERCE

DEPARTMENT OF BUSINESS MANAGEMENT

EVALUATING THE EFFECTIVENESS OF CONTRACT FARMING PRACTICE ON PRODUCTION OUTPUT IN COTTON INDUSTRY, CASE OF COTTCO (THE COTTON COMPANY OF ZIMBABWE).

BY

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APPROVAL FORM

The undersigned certify that they have supervised R10476R dissertation entitled; evaluating the effects of contract farming practice. A case of Cottco (The Cotton Company of Zimbabwe); submitted in partial fulfilment of the requirements of the Bachelor of Commerce Business Management Honours degree at Midlands State University.

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DEDICATION

For all the effort that they put in ensuring that I continued with my studies, I dedicate this work to my brother Danboy.

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I would like to express my sincere appreciation to my supervisor who has guided, supported and given me feedback throughout this research. Without his continuous support and encouragement, it would have not been possible for this research to be complete. I would also like to express my sincere gratitude to Dr. D. Gandanhamo for the most needed financial support throughout my college struggle. I would also like to thank the following for all the material and moral support in particular Gerald, Tapiwa, C. Mbirimi, C. Joni, Lennar and Shumba.

To my family members, mummy and daddy your wishes for me will live on in my memory and is a language known to my heart.

ABSTRACT

The researcher focused on the effects of contract farming practice on production output in cotton industry. The cotton companies of Zimbabwe has experience a decline in production output. The study also gives the challenges faced by the companies in cotton sector and this was done by focusing on the Cotton Company of Zimbabwe (Cottco). The researcher attempt to answer objectives like the effects of contract farming on production output on production output as well as challenges affects cotton production output. The literatures were reviewed to give the interpretations evaluating of various theories and schools of thoughts regarding contract farming practice. Due to the quantitative of the study, an explanatory survey was used as research methodology with questionnaires and interviews being the major research instruments and a sample size of sixty elements was used. The participants included the departments' staff of Cottco (pvt) ltd and farmers in contract farming. Both probability and non probability sampling techniques was used in selecting a sample. The data collected was analysed and presented in form of tables and graphs to make substantial interference. The findings from the research were that there is significant positive relationship between contract farming practice and production output. The recommendations such as horizontal integration, large scale contract farming, and seeking government support, competitive based pricing strategy and legal action against side marketing was made. Conclusions on the findings were drawn as per the objectives met. Suggestions for further studies were made to allow future research of the case under study as well as to other cotton companies.

DEFINITION OF KEY TERMS

Contract farming – is an agricultural production system involving an agreement between a buyer and farmers, which establishes conditions for the production and marketing of farm products.

Side marketing – is when a farmer decides to sell their output outside the contractual agreement after being given production inputs with another company.

Production - is a process of converting inputs or raw-materials into outputs or finished goods.

Practice –is to do something again and again in order to become better at it.

LIST OF ABBREVIATION

COTTCO – Cotton Company of Zimbabwe

CFP – Contract Farming Practice

CPO – Crop Procurement Officer

UNFCCC – United Nations Framework Convention on Climate Change

PCPB - Pesticides Control Produce Board

ZFC – Zimbabwe Farmers Company

ISO – International Standards Organisation

FAO – Food and Agricultural Organisation

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CHAPTER ONE

GENERAL INTRODUCTION

1.0 Introduction

This chapter contains the background of the study which serves to reveal and give reason for the need to carry out the research. It also extends to highlight the statement of the problem, research objectives, and statement of hypothesis, significance of the study, assumptions, delimitations and limitations of the study.

1.1 Background of the Study

The manufacturing companies in Zimbabwe are operating below 40 percent. However, some few are operating between 40 and 60 percent (Zimtrade 2012) and these are mostly those with contracts to supply in foreign countries. The cotton industry in Zimbabwe is one of the industries that has been adversely affected by the macroeconomic environment which has seriously affect the country in 2008.The economic situation was characterised by hyperinflation with inflation over 3.000.0000% (Monetary Policy, 2012), shortage of foreign currency and very high interest rates, lack of skilled labour, lack of inputs and other raw materials.

Some cotton companies in Zimbabwe like Zesa Cotton Company, Agricom, Modzone, Bartco and Mothering care closed because of the economic downturn which prevailed during the year 2008 (Zimtrade 2008). However, there are some companies that have screwed the time and manage to survive. These companies include Cottco Zimbabwe, Cargill, Olam Zimbabwe, Grafax, Insing, dynamic, Tarafen and Alliance.

Taking a wide view beyond the cotton sector, Mlambo (2008), highlighted that previous strong

cotton farmers have been replaced by weaker farmers currently lacking capital and technical knowledge. He further highlighting that the strong commercial farmers have been switched from cotton into other cash crops. Large scale commercial exited cotton crop for more profitable alternatives such as horticulture. Large scale farmer in Zimbabwe has been negligible and accounting for less than 1% of national cotton output, (Crop Forecasting Cotton and CSO 2008).

Herald 24 June (2012), highlighted that cotton companies and farmers continue to violet contract agreement through side marketing of cotton. The Herald newspaper continues added that although cotton level has been rising over the past few years, side marketing has becoming a major threat to the capability and production output of the cotton companies. The challenge of side marketing is caused by some non contracting companies which deliberately paying higher prices to farmers including growers holding crops contracted by other ginners and genuine contractors like The Cotton Company of Zimbabwe (Cottco) end up losing their crops to other merchants.

The decline of cotton output volume by the companies has forced most of the companies within the industry to train and develop the farmers through workshops as a way of improving contract farming output. Training and development process was not effective due to shortages of skilled labour such as the crop procurement officers to train the farmers (R. Hejela 2012). Shortages of skilled labour affect cotton company's production intake volumes in Zimbabwe. The emergency of globalisation has also resulted in the change in methods of farming in cotton industry such as the uses of advanced equipment by contracted farmers, new variety of cotton seed with better yield, the uses of fertilizers, insecticides, fungicides and better growth management technology (Dr. Fatma and Dr. Ahmet 2010). As the company tried to copy up with globalization technology in 2009, lack of finance to bought equipments, inputs and chemicals become the major constraint. The negative aspects of side marketing has forced all companies practicing contract farming to sign contracts with individual growers, specifying support by the contractor and volume expected and then registered with Agricultural Marketing Authority (AMA) in order to get law protection (Herald 26 July 2012). After the registration, AMA proving to be a toothless bulldog because it fail to protect contractors against side marketing due to lack of government support

The cotton companies requires a large contracted volume base to rise output but large contracted volume base cannot achieved due to lack of capital to finance the inputs and credit schemes in Zimbabwe and these forces cotton companies to purchase free cotton of poor quality in low volumes. Also, some farmers have no enough equipment and technical knowledge and these affect cotton production output as well.

Cotton Company of Zimbabwe (Cottco) is one of the giants in the cotton industry in Zimbabwe which was adversely affected as well by the following hardships (hyperinflation, high interest rates, flight of skilled labour, side marketing, shortages of inputs, loss market, poor quality inputs and shortage of foreign currency) in 2008 which resulted in poor production volumes.

Like most of the companies in cotton industry, Cottco purchase seed cotton from farmers as contracted cotton and free cotton and export lint to other countries. Cottco obtain inputs like seed from Quton. The company was experiencing lack of qualified staff, lack of capital and lack of inputs to increase contract farming base. It was in 2009 when the company contract 181 000 farmers and fail to achieve its budgeted output by 28 421 tonnes from 204 816 tonnes to 176 395 tonnes, leaving the company with very poor production intake capacity (Cottco procurement and production statement 2009).

Although the company did not affected to a larger extent, this poor production intake volume level affects much of the company production capacity. The problem continued in 2010 when the company contract 188 000 farmers but the output does not increase and the budgeted output was less than actual output. According to the procurement and production statements (Dec 2010), the total budgeted output was 196 415 tonnes and the total actual output was 165 988 tonnes. Below is a table 1.1 giving the summary of budgeted against actual output for 2009 and 2010 respectively in tonnes.

Table 1.1a Showing Budgeted against Actual Output for 2009 and 2010 respectively

Year	Contracted farmers	Expected intake	Actual intake	Variance
2009	**181 000**	**204 816 (tns)**	**176 395 (tns)**	**(28 421) (tns)**
2010	**188 000**	**196 415 (tns)**	**165 988 (tns)**	**(30 427) (tns)**
Total	**369 000**	**383 231 (tns)**	**332 383 (tns)**	**(50 848) tns**

Source: ***Cottco Procurement and Production Department 2009- 2010***

The Cotton Company of Zimbabwe (Cottco) increase number of contracted farmers in 2010 by 2 000 farmers but the output remain stagnant. The production actual output decline from 176 395 tonnes to 165 988 tonnes and the company also fail to achieve its budgeted output as well in 2010 by 15%.

In December 2010 the board of directors was given a light by the head of operations and procurement department and become worried about the failure of the company in achieving its budgeted volume of output and a slight decline in production output. In January 2011 the Managing Director comes up with new ways to increase production intake volume (Cottco Review Hand Book, 2011). Firstly, the Cotton Company of Zimbabwe (Cottco) suggested to increase contracted volume base by 65% from 188 000 farmers to 310 200 farmers seeking to boost its output. The company realise that they don't have enough funds to increase the credit and inputs scheme and in March (2011) Cottco has decided to sign up a deal with a Chinese cotton company (Sinotex) to form a joint venture and funded by the China Development Bank to provide inputs support to the additional growers contracted by Cottco in Zimbabwe.

After the implementation of the above strategies of increasing the contracted volume by 65% and setting up a joint venture with Sinotex, Cottco Company continues failing to achieve its budgeted production intake volume and experience a decline in production output in 2011, 2012 and 2013. Below is a table 1.2 giving the summary of budgeted against actual output for 2011, 2012 and 2013 respectively in tonnes?

Table 1.2 Showing Budgeted against Actual Output for 2011, 2012 and 2013 respectively

Year	Contracted farmers	Expected output	Actual output	Variance
2011	**188 000**	**191 211(tns)**	**161 900 (tns)**	**(29 311) (tns)**
2012	**310 200**	**235 532 (tns)**	**151 231 (tns)**	**(84 301) (tns)**
2013	**309 123**	**201 423 tns**	**73 400 tns**	**(128 023) tns**
Total	**807 323**	**628 166 (tns)**	**398 531 (tns)**	**(229 635) tns**

Source: ***Cottco Procurement and Production Department 2011- 2013***

Although the company increased its contracted volume base in 2011. Its production intake volume decline by 6% in 2012 and 52% in 2013, this means a company record a decline production intake volumes in these periods in the present of new strategies. However the company was expecting its output to increase by more than 30% in 2012 and 2013 but this was not so. The company also fail to achieve its budgeted intake volume in 2011, 2012 and 2013 by 16%, 36% and 64% respectively.

However, according to S. MacDonald (2011) cotton yield in Brazil have risen at a faster rate from 2006 to 2007. The cotton production in Brazil rose by 42% from 4767 (ib bales) 2006 to 7 360 (ib bales) in 2007 because there was an improvement in inputs and credit schemes by the Brazilians companies. S. MacDonald (2011) further indicated that the Brazilians cotton companies increased their contracted farming base by 30% and realise a 42% increase in cotton production volumes. The researcher noted that Cotton Company of Zimbabwe (Cottco) can increase its cotton production output if they implement contract farming practice effectively.

1.2 Statement of the problem

The Cotton Company of Zimbabwe (Cottco) has seriously failed to achieve its budgeted production output within the periods 2012 and 2013 where budgeted output volumes were less than actual output volume by 36% and 64% respectively. The actual output volumes also declined by 6% in 2012 and 64% in 2013 after the increase in contract farming base. The research therefore seeks to evaluate the effectiveness of the contract farming that was

implemented by the management in 2011 and their effect on production output volume within the Cotton Company of Zimbabwe (Cottco).

1.3 Statements of the hypothesis

- H_0 – contract farming has no effect on production intake volume.
- H_1- contract farming has an effect on production intake volume.

1.4 Research Objectives

- To identify the challenges faced by companies in the cotton industry in increasing their output volumes with specific reference to Cottco in Zimbabwe.
- To establish the effect of contract farming practice on company production output.
- To determine other strategies that can be used by the cotton companies to improve production output volume.

1.5 Significance of the Study

The research shows that there are many scholars who researched on this topic (the effectiveness of contract farming) but there are some gaps which the researcher wants to fill. Different scholars researched on the topic and came up with different contributions of which some are only relevant to the cotton industry of countries they were targeting and thus some of the findings cannot be applied in the cotton industry in Zimbabwe which in this case is the researcher's area of study

Gruere and Armella (2009) analysed the effectiveness of contract farming in Brazil. Their findings mainly include the recommendation on the use of mechanical method such as combined harvests in large scale commercial farms. However, this cannot be applied to the cotton industry in Zimbabwe and thus the researcher needs to further dig into other contract farming practices that can be employed in cotton sector in Zimbabwe.

In addition to the literature significance, the study is also important to the following;

To the student-The study will help the student to apply theory learnt at college and link it to practice to determine its relevance. More importantly, the research will help the researcher to fulfil the requirements of the University that all students in their final year have to come up with an approved area of study.

To the organisation-The Cotton Company of Zimbabwe will benefit from the research findings and correct the loose ends if any with regard to productivity and other utilization strategies will be recommended to the company.

To the University-The study will be put in the library by the University and assist future students who shall carryout their researches related to this area of study and therefore it will act as source of information for other students in future.

1.6 Delimitation of the study

- The researcher will look at the effectiveness of contract farming practice at Cottco as from 2009-2013. Also, this period may enable the researcher to improve the quality of findings through the use of same currency (USD).
- The research shall take place at the Cotton Company of Zimbabwe in Gokwe and Sanyati Business Units were the researcher worked as an accounts clerk from 2006-2009. The researcher has got a deep understanding of the activities of this company.
- The literature review shall look at effectiveness of contract farming practice.

1.7 Limitations of the study

- The respondents may not be readily available. However the researcher will make prior appointments.
- Some companies may not release other information which think is secret and confidential. However, the researcher shall produce a letter from the department which seeks permission for the researcher to carry out his research.
- The research time frame will be short. However, the researcher will be able to work under pressure and manage time effectively by using a diary and research plan in order to come up with fundamental information required to a concrete research.

1.8 Research Assumptions

It is the assumption by the researcher that;

- Some other uncontrollable factors that affect cotton production will remain unchanged.
- The sample shall represent a true sample of the Cotton Company of Zimbabwe staff.
- The respondents shall provide true information throughout the research.
- The study shall be descriptive and explanatory in order to describe and explain the relationship between the variables

1.9 Chapter Summary

The chapter covered the background of the study, statement of the problem, research objectives, and statements of hypothesis, significance of the study, research assumptions, delimitations and limitations of the study. Chapter 2 is on literature review.

CHAPTER TWO:

LITERATURE REVIEW

2.0 Introduction

This chapter reviews concepts, developments and findings by several authors on contract farming effectiveness. The literature specifically reviews the challenges faced by the companies in cotton industry and the evaluation of contract farming practices that was applied by Cottco (The Cotton Company of Zimbabwe).

2.1 Challenges faced by the companies in cotton industry

2.1.1 Side Marketing by Farmers

Henry (2009) defines side marketing as when a farmer decides to sell their output outside the contractual agreement after being given production inputs with another company. Mlambo and Poulton (2004) highlighted that cotton companies feel the effects of increased side marketing of seed cotton by farmers whom it was supporting with the input credit scheme. The scholars added that most of the contracted farmers in Africa side market their produce because of the lower prices being offered by the cotton contractors during the cotton season. Talk, (2012) highlighting the issue of side marketing as a major constrain in cotton industry that depend on contract farming and some farmers having their properties attached while others have been fined after failing to pay their credits. Zimbabwe Farmers Union (ZFU) (2013) said that high rate of side marketing has been caused by low prices and some dishonest contractors who want to by a crop financed by other companies. However, Henry (2009) argues that in contract farming, farmers ended up side marketing their produce because ginners fail to act in accordance with contractual agreements and ended up offering prices less than those agreed upon. In addition, Henry (2009) pointed out that most the farmers in contract farming side market their produce because costs of inputs in contract farming are above income after sales.

With regard to the contributions made by the above scholars on side marketing as the challenge in cotton business, the researcher feels that contracting company should act in accordance with terms and conditions of the contractual agreement so that they can eliminate the problem of side marketing by the farmers. Considering the above views, one would conclude that side marketing is a major constraint in cotton business because it reduces the company's production capacity volume and profitability.

2.1.2 Climate changes

A study about the impact of climate change on cotton production under rain fed conditions carried by Gwimbi and Mundoga (2010) in Gokwe explained that climate variability and change is a major threat to cotton production because cotton farmers in this area depends on rainfall. The scholars added that cotton production levels declined as rainfall decreased and temperature increased across this region and this affect cotton companies negatively. Climate change is a major constraint on agriculture output like cotton throughout much of Sub-Saharan in Africa (Burke et al, 2009). Moreover Muller, (2009) outlined that the increasing temperature and decrease rainfall amounts and patterns negatively affects the cotton industry in the world. Southern Africa is highly exposed to extreme unpredictability of rainfall given its high dependence on rain-fed agriculture and natural resources for livelihoods, limited knowledge on climate change and limited resources for adaptation (Manase, 2008).

According to United Nations Framework Convention on Climate Changes (2008), the cotton production areas in Brazil and Western Brazil are mainly affected by climate changes. The board further highlighting cotton as a rain fed crop which is negatively affected by climate in low rainfall areas of Latin America like Brazil. It also added that in Brazil cotton is grown in arid and semi arid areas which receive less rainfall due to climate changes leading to low cotton production by the cotton companies in Brazil.

The researcher however noted that the scholars have the same issue of climate changes in common. All of the four scholars explained about the negative impact of climate changes on

cotton production yield. But however, R.T.Manasa (2008) added the issue of limited knowledge and lack of adaptation resource to climate as the major problem and (UNFCCC 2008) outline climate changes in arid and semi-arid areas in Brazil. .The researcher also agreed that in the case of Cottco, climate changes can affect cotton production volume.

However basing on the above literature from different scholars on climatic change as the constrain in cotton industry, the researcher noted some gapes on the work and contribution by these scholars. Most scholars managed to concentrate on the issue of low rainfall and high temperature only as the major causes of low output in cotton industry. They overlook the issues of high rainfall like floods and low temperatures that also affects cotton production.

2.1.3. Inadequate infrastructure

Mariga (2004) noted that late marketing of seed cotton is caused by poor transportation in Zimbabwe and this result in late purchase of outputs, late planting which reduces cotton production yield. Salama, Kamara and Brixion (2010) also identified infrastructure as one of the major challenge in cotton industry because of inadequate and poor conditions of the market services and transportation system problems such as roads and rail. The scholars went on indentifying that the road system is the most for marketing and development in terms of distribution of inputs and outputs to and from farmers and road transport seen as the most infrastructure blockage facing the cotton sector. The scholars added that farmers ended up use poor traditional means of transport such animals to transport their products to the market. In addition Brixion (2010) highlighted that the irrigation facilities are poor in most of the area especially the smallholders contracted farm areas. Regarding the contributions made by above scholars on inadequate infrastructure as the challenge in cotton sector, the researcher noted that the scholars are similar in the sense that they all mention the issue of transport as the major infrastructure problem. However Brixion (2010) further highlighted the issue of poor irrigation infrustructure facilities in smallholder's farms.

Basing on the above challenge of inadequate infrastructure, the researcher however noted that in Cottco Company there is an issue of buying points were farmers deliver their seed cotton to sub

buying point and receive cash on delivery basis. The company also practice mobile buying strategies where by the company buy cotton at home using their own trucks. This strategy eliminates the transport problem at Cottco.

2.1.4 Distribution of substandard agro-chemicals

Hesbon and Olweny (2008) highlight the issue of poor or completely fake agrochemicals especially pesticides which are often sold to farmers in Kenya as one of the major problem in cotton industry. The Pesticides Control Produce Board (PCPB) in Kenya is not able to ensure that all products sold are genuine due to lack of government support. This problem affects cotton production in Kenya every season. Furthermore the use of poor fertilizers can reduce the natural nutrients on the soil surface (Fred, 2001). Moreover Fred added that poor quality fertilizer is more resistant in the environment because if it combines with other chemicals it may cause are harm on soil fertility because most of the microorganism decrease following the increase of the poor chemical fertilizers used and this will end up reduce quality and quantity of harvest in the long run.

Regarding the above literature on the issue of substandard chemicals as a challenge in cotton industry. Both scholars highlighted the negative aspects of using poor chemical like pesticides and fertilizers in cotton industry. However the scholars are different in such a way that Hesbon and Olweny (2008) focused more on the issues of fake agrochemical while Fred (2001) concentrated on the negative impact of poor fertilizers on soil fertility in the long run. In general the researcher noted that most of cotton companies in Zimbabwe including Cottco bought chemicals from recognised institutes such as Windmill and ZFC which meet the ISO standard requirements.

2.1.5 Lack of technology

A study carried out by Thirthe et al (2002) shows that general agricultural production in cotton industry especially in small scale commercial farms is affected by poor technology. He added that the determinants variables that shift the production function were assumed to be the

Research and Development and the extension technology. The scholar went on highlighted that poor technology like absolute equipments and traditional farming method affects the production level in cotton industry. Tijaji and Ogundari (2012) shows that poor technological methods of controlling pests and other crop diseases affect output. They went on added that the development of advanced pest management in Nigeria improves production and increase returns to farmers.
The difference between the above view is that Thirthe et al (1990)'s original idea is about the negative effects of poor technology in cotton industry focuses more on the uses of poor traditional farming methods and variables that shifts the production like the research development and extension technology services. Tijaji and Ogundari (2012) however shaded more light focusing on poor technological methods of controlling pests and other diseases as the major problem affecting production output in farming business. From the above literature, it can be concluded that poor technology such as the use traditional equipment and poor methods of controlling pests and diseases affects production volumes in cotton industry.

The researcher noted that all the scholars were putting more emphasis on poor technological issues like poor equipment, poor methods of controlling pests, traditional methods of farming and the variables that shifts the production level. However the researcher noted that the major issues which contribute to poor technology are lack of capital and lack of knowledge. From the above literature, it can be concluded that poor technology such as the use traditional equipment and poor methods of controlling pests and diseases affects production volumes in cotton industry.

2.1.6 Poor quality on Market

ISO (2008) defines quality as the totality of characteristics of an entity that bear on its ability to satisfy stated and implied needs. The board added that quality cotton is one that meets the needs and expectations of its customers and buyers expect to receive the quality they bought. ISO board highlighted quality as the major challenge in cotton agricultural sector. Furthermore Sukume and Guveya (2009), noted that the intense competition that came because of new entrants (often small, most of which do not grade cotton) led to a collapse of the quality control system, with farmers being paid fixed prices for seed cotton irrespective of quality. The damages

on the quality of Zimbabwean cotton on international markets lead to poor export (Leresche and Much 2009). Moreover, G. Estur (2008) identified quality as the major determinant of lint cotton price in the market that affects many organisations in cotton industry. He added that spinners pay a higher price for longer, finer and stronger cotton lint that is white and fully mature. However, Stevensson (2004) argues that apart from farming methods, ginning methods can affect lint quality. And he added that gin stand, whether saw or roller pulls the fiber from the seed and is the heart of the ginning system. The capacity of the system and the quality and potential spinning performance of the lint depend on the operating condition and adjustment of the gin stand. If gin stands are operated above the design capacity, the quality of the cotton may be reduced. Short fiber content increases as saw speed increases, causing yarn imperfections.

2.2 Contract farming practice defined

Vermeulen and Cotula (2010) define contract farming as a pre-agreed agreement between farmers and buyers which basically involves collection of separate contracts between a company and groupings of local farmers. The scholars added that contract farming practice vary widely from country to countries, crop to crop and company to company. They went on added that local farmers grow and deliver agricultural produce for specified quality at an agreed date and in exchange, the company provides inputs, such as cash advance credit, seeds, quantity fertilisers, pesticides and technical advice, all of which may be charged against the final buying price and agrees to buy the output at a specified price. They also noted that price is usually fixed through an amount indicated in the contractual agreement, but is in some cases determined by the markert forces. In addition, Nadi (2011) define contract farming as an agricultural production system involving an agreement between a buyer and farmers, which establishes conditions for the production and marketing of farm products. He added that the farmer agrees to provide certain produce of a particular agricultural product which should meet the quality standards and be supplied at the time determined by the purchase. The buyer commits to purchase the product at agreed prices and in some cases, to support production through, the supply of farm inputs, land preparation and the provision of technical advice.

Basing on the above definitions of contract farming, the researcher however noted that the

scholars are explaining and viewing the aspects of contract farming in common. This because there are some similarities that are come from the contributions made by these scholars. All the scholars identified the issue of agreement between the buyers and suppliers in contract farming. However the researcher also noted some key differences highlighted by the above scholars Vermeulen and Cotula (2010) further highlighted that the contractual terms provisions in contract farming practices depending on countries, crops and companies.

Eaton and Shepherd (2001) define contract farming as an agreement between farmers and marketing firms for the production and supply of agricultural products under forward agreements mostly at a predetermined price. The arrangement often involves the buyer in providing a degree of production support through the supply of inputs and the provision of technical service. The scholars point out that in this arrangement, the farmers commits themselves to provide a specific product in quantities and at quality standards determined by the contractor. The company on the other hand also agrees to give enough support to farmers in production and to purchase the product.

Basing on the above definitions on contract farming, the researcher noted some similarities and key intersecting terms by several scholars to define contract farming. Several scholars explained the contract farming as an agreement between a buyer and farmers, which establishes conditions for the production and marketing of farm products. However Vermeulen and Cotula (2010) further expanded his definition of contract farming by highlighting the major issue of price fixing through an amount indicated in the contract or determined by reference to spot-market prices.

The researcher however, support the contribution made Vermeulen and Cotula (2010), of price being determined by the market forces because price of cotton in Zimbabwe is determined by the world market not contractual agreement. The researcher also argues that the issue of price fixing through an amount indicated in the contract is not relevant in cotton industries of Zimbabwe especially to Cottco

2.3 Roles of third parties and of policy support in contract farming

Silva (2005) cited that contract farming is primarily a direct arrangement between agribusiness and smallholder farmers and the government can play a key role as well. He added that in order to make contract farming work effectively government should provide enabling legal framework, including appropriate laws of contract, and legal institutional mechanisms for local groups to get organised and be recognised as a legal entity. The organisation of farmers in associative forms and proper support to farmers is a key step to address two success factors for contract farming namely, the need to balance asymmetries in negotiating power between the parties, and the need to reduce the transaction costs of dealing with large numbers of farmers (Silva2005). Furthermore, Guo et al. (2007) also shows that where local capacity is weak, governments and development parties can play an essential role by support the business, managerial and others skills of local organisations to improve productivity and production capacity. He also highlighting that government should also play a key role by developing and distribute correct contract model for key crops and by monitoring the perform contracts so as to protect the rights of both parties in order to improve productivity output. Guo et al. (2007) further highlighted that training, credit support, subsidies, tax benefits and other policy incentives can encourage companies to engage in contract farming and appropriate pricing of land in agricultural investments would also create greater incentives for contract farming arrangements.

Regarding the above explanation of the roles played by government as a third party in contract farming. The researcher noted that there are some essential components which were cited by all the scholars who contributed on the roles of third parties and policy support in contract farming. Both scholars highlighting the aspect of implementing legal framework by the government and monitoring of contract performance to protect the right of the parties by the government in order to improve production capacity. However basing on the suggestions the researcher found that Guo et al. (2007) added that credit support policy, tax benefits policies and other policies incentive can improve production levels in contract farming.

The researcher however support the contribution made by Guo et al. (2007), on government and other parties in helping CFP through managerial and technical skills. This is because in Cottco Company, the third party like government plays a role of monitoring the contract farming

exercise and protecting the parties if there is a breach of contract as well as offering training services.

2.4 Advantages of Contract Farming

Contract farming is a risk management system which reduces the risk in agriculture through sharing between farmer and buyers Bauman (2000). According to Ramaswami, Ravi Guo et al. (2007) and Chopra (2003) there are three types of risk which in contract farming practice which are, production, price and input. The scholars added that production and price are two major risks in agriculture that confront farmers. Ravi (2003) further highlighted that technological changes, legal and social concerns, and the human factors itself also contribute to the risk environment for agriculture producers. Furthermore CFP gives access to additional sources of capital and a more certain price by shifting part of the risk of adverse price movement to the buyer (Hill and Ingersent, 2007).

The above scholar seems to be in agreement on the fact that contract farming brings the benefit of risk sharing and transfer. Bauman (2000) identified the issue of risk reduction through sharing between farmers and contractors. These views seem to be in agreement with (Hill and Ingersent, 2007) concept of shifting part of the risk of adverse price fluctuating to buyers. However, Ramaswami, Ravi, Guo et al. (2007) and Chopra (2003) further highlighted three types of risks survive in agricultural sector which are production, price and market.

Rusten, (2009), highlighting that at a more macroeconomic level contract farming can help to remove market imperfections in production, and can also help in reducing transaction costs and improve output. A survey carried by Goldsmith (1985) also suggested that contract farming has a positive effect on rural incomes and in these cases led to increase productivity and production capacity on both buyers and contracted farmers if practiced effectively. Furthermore, the sponsoring firm can facilitate in the transfer of technology by having a contract with the farmers to purchase the output produced by the farmers at pre-defined prices and in this process, farmers can get access to production services and credit as well as knowledge of new technology to boost output (Banerjee, 2002 and FAO 2001).

The researcher however noticed that the above advantages for contract farming by different scholars can only become valid if the process has been carried out effectively. All the scholars mentioned about an increase in production level. The scholars highlighted that if the contract farming process has been carried out properly with great assistance of inputs, new technology and other extension services by the buyers; farmers can increase productivity and production capacity. Grosh, (2004), Key and Rusten, (2009) also added that contract farming practices helping in reducing transaction costs.

Gulati (2006) noted that a company practicing contract farming can produce large volume of output because they supplying need inputs to the producers (contracted farmers). Furthermore, Singh (2005), also highlighted that contract farming can provide cost efficient inputs, such as extension advice, mechanized services, seeds, fertilizer and credit to guarantee their profitable markets for output and quality. The scholar added that contract farming is a substitute to the market system under conditions of incompletely formed markets by providing these forward and backward linkages to farmers as to appropriate the gains from trade. Another advantage of contract farming is that a company ensures more output and quality of products without taking any risks (Tiffen and Mortimore 2000). In addition Contract farming improves efficiently infrastructural management and removing bottlenecks at market and it also ensures better storage of farmers produce before sales to ensure quality because other perishable agricultural products become bad due to lack of adequate storage and can be destroyed by fire (Rao, 2004 and Gill 2005).

In view of the above literature on the advantages of contract farming, the scholars highlighted quantity and quality outcome as the major benefits of contract farming. All the scholars meet on the sense that contract farming ensures better quantity and quality of outcomes. However, Singh (2005) added the issue of cost efficient inputs exercise, through extension advice, mechanized services, seeds, fertilizer and credit. Rao, (2004) and Gill (2005) also add the advantage of infrastructure management and the removal of bottlenecks in the market. Silva (2005) also cited that for high value labour intensive crops, contract farming may promote efficiency and effectiveness in farming. The scholar further explain that evidence indicates that family farming

units tend to achieve comparable or even better productivity and production capacity, when compared with larger, commercially managed units.

Regarding the above views on overall advantages of contract farming, the researcher however noted that contract farming increase production capacity, ensures economies of scale, reduces risk in agriculture, reducing transaction costs, firm can even get access to unpaid family labour, farmers can produce better quality crops, ensures better storage of farmers produce and can promotes better prices of agricultural products. The researcher noted that contract farming brings more advantages in many cotton companies including Cotton Company of Zimbabwe (Cottco) and therefore there is a great need to manage contract farming effectively since contract farming benefits the firm to a lager extent.

2.5 Drawbacks of contract farming

Glover and Kusterer (2000) cited that contract farming may be difficult to enforce because farmers may be tempted to sell produce on the open market if market prices rise above contract prices (side marketing) and this will affect budgeted output of the company. Furthermore from a company's perspective a degree of supply risk may remain particularly linked to insufficient or inconsistent quality and quantity or even default by contract growers (Glover and Kusterer 2000). The transaction costs may be high, particularly when large numbers of farmers are involved and this may results in poor organisational performance (Silva 2005). Moreover Inputs provided by the company such as technical assistance may be of poor quality which affects production levels in the long run (Kusterer 2000). Furthermore Tiffen and Mortimore (2000) highlighted that if the company advances credit and deducts payments from purchase prices, grower's risk may become locked into debt. Eaton and Shepherd (2001) supports the disadvantage made by Tiffen and Mortimore said that the risks of indebtedness are higher for long-term investment like tree crops or where contract farming introduces the new crop to the area as yields may turn out to be lower than expected.

The researcher however noted some dissimilarity on the drawbacks of contract farming as explained by different scholars. Kusterer (2000) noted the issue of poor quality and low

production outcome caused by contract farming exercise, (Silva 2005) highlighting that contract farming may rise transaction costs of a company and (Glover and Kusterer 2000) explain side market by farmers as the major drawback if the market price rise above the contractual agreement price. Eaton and Shepherd (2001) come up with a disadvantage of the risks of indebtedness as higher in long-term investment like tree crops. But however the scholars points of view seems to be similar in the sense that they all mention the issues of low production level in contract farming practices.

The researcher supports the contribution made by Glover and Kusterer (2000) because most of the cotton companies in Zimbabwe are failing to effectively increase their output due to side market problem. The researcher also agreed with (Kusterer 2000) about the issues of poor quality and low production capacity obtained through contract farming in Zimbabwe.

2.6 Ways to improve cotton production in contract farming

2.6.1 Uses of irrigation

Dr.Fatma (2003) highlighted that the use of better irrigation techniques may improve the production of cotton in large scale contract farming. In his study Dr.Fatma found that the use of irrigation facilities in Turkey improves cotton productivity in contract from 128 kilograms per hector to 1700kilogamms per hectors. The scholar added that the construction of dams by the cotton companies in cotton farming regions of Turkey for irrigation purposes have improved cotton production in contract farming by more than 100%. Dr Fatima recommended the use of high advanced irrigation equipments as the major factor to improve cotton production to the contracted farmers. According to Sankaranarayanan (2007), irrigation system is important and can positively affect cotton yield in contract farming. The scholar added that cotton plant requires high irrigation facilities during the flowering and boll stage to avoid flowers shedding. The scholar recommended the use of skip row planting system in order to make it easy for irrigating between the two planted rows. A study carried out by Sankaranarayanan (2007), shows that the adoption of skip row planting system in cotton industry results in productivity of 1900kgs per hector of seed cotton in commercial farms.

Regarding the contribution made by the above scholars on the use of irrigation as away to improve cotton production in contract farming, the researcher noted that although all the scholars were aiming on the use of irrigation to improve cotton production in large scale contract farming the approaches are different. Dr. Fatima (2003) put more emphasis on the construction of dams and uses of advanced irrigation equipment to improve cotton production in contract farming whereas Sankaranarayanan (2007) outlined a cotton plant stage which requires irrigation support and planting system which makes irrigation system easier and effective. The researcher argues that these contribution cannot be applied to cotton companies in Zimbabwe like Cottco because Zimbabwean cotton companies depend on smallholders contract farming not large scale and it is very cost to implement irrigation systems in small scale communal lands.

2.6.2 Training and development

According to Richard (2008), Eaton and Shepherd (2001), training service plays a significant role in cotton industry sector's production capacity. The scholars went on analyzed that training service should be offered to both cotton company's workers and the cotton farmers. Cotton companies who contract farmers should train its extension officers on how to use the weed control systems, how to use pesticides effectively, cotton harvesting systems, quality management, and motivational talk and social economic relating to productivity and social economic well being of cotton farmers (Richard 2008). Richard also added that contracted cotton farmers should be trained on conservative tillage methods, early planting, correct plant population, pest management at all growth stages, cotton harvesting methods and good timing. In addition, Dawes and Sola (2009) shows that when a company enter into contract with a farmer, training program is necessary to ensure that farmers understand the importance of contract farming so that they will avoid breach of contract. The scholars added that government should play a pivotal role in investigating if all contractors are offering training services to the contracted farmers. They also added that training organisations should provide farmers with business skills such as understanding of contract farming, record keeping and cost benefit calculations to improve production capacity.

Eaton and Shepherd (2001), highlighted that management of the companies in contract farming should provide training services to both extension officers and contracted farmers. The scholars added that training programs to the extension officers and farmers should be conducted through the regular lectures and field days as well as through the use of demonstration plots. The scholars went on analyzed that when the extension officers have gained technical knowledge of the cotton product and an understanding of their administrative responsibility, they really in a position to transfer technology to farmers so that they increase production capacity.

The researcher found that all three scholars highlighted that, training program is an effective way to improve production capacity in contract farming. However the researcher noted some key difference among the above scholars, Dawes and Sola (2009) shows that government should play a role to ensure that companies have trained contract farmers. Eaton and Sherperd (2001) added that both company workers like extension officers and contracted farmers should trained in order to improve production capacity. With regards to contribution made by the above scholars on training as a way to improve contract farming output, the researcher feels that effective training system to both extension officers and farmers can positively affects productivity and production capacity.

2.6.3 Crop protection measure by the extension officers

Bourland (2010) identified crop protection methods such as a way of improving production capacity in contract farming. The scholar added that extension officers should taught the farmers on how to implement the integrated pest management system in order to improve their production capacity level. The main objective of IPM is to destroy pests, insects, and pathogens that affect cotton production completely. Bourland (2010) also added that farmers should practice effective diseases and weed control measures to improve production capacity. He added one weed control of crop rotation in cotton industry.

2.6.4 Government intervention

Iikulunga (2005) highlighted that the government should play a role of providing an enabling environment by creating a legislation support to small scale contracted farmers engaged in contract farming practices and other area such as council measures in order to reduces issues like breach of contract and side marketing of crops. The scholar added that the government must ensure good environment for investment, trade and operations of contracted farmers through regulations, taxation and other enabling policies. Huvio (2005) also support Iikulunga (2005)'s concept of government duties to improve contract farming pointing out that the government should create a legislation and legal intuitional such as small claims courts which both contracted farmers and the agribusiness can resort in the case of breach of contract. Guo et al (2007) also pointed out that the government should play an essential role by support the agribusiness through offering training services and managerial skills to extension officers in order to improve production capacity. The scholar also added the issue of monitoring performance in contract farming to improve production levels.

2.6.5 Land assessment by the extension officer

Company official like the CPOs should assess the contracted farmer's lands in order to identify training needs and other extension services. The scholar added that land assessment process is the most significant factor in the better cotton system for improving production capacity. In addition land assessment is done by creating an enabling and motivating process of understanding, planning, doing and leaning. In contract farming, land assessment build a premises that farmers already knows a lot so that they can educate and encourage each other as well as helping each other in effective planning and implementation. The above scholars both agreed to the fact that high level of land assessment by the company extension officers positively impact production capacity in contract farming. A conclusion may be made to say land assessment practice directly affect cotton production in contract farming and therefore effective assessment should be done frequently to identify training needs and other services in contract farming.

2.12.0 Factors affecting cotton production in cotton industry

2.12.1 Age of a farmer

A study carried out by Alan and Buda (2013) in Nigeria about the economic analysis of cotton production highlighted that farmer's age determines cotton production. The scholar gave the age range of 31- 45 years as effective in cotton production. Alan and Buda (2013) went on analyzed that young farmers are more active, aggressive, energetic, and capable of producing decisions and they also have the potential for productivity and production capacity in cotton sector. The findings of Alan and Buda (2013) also supported by Onu and Edom (2009) there is important relationship between age and production output. In addition Wood (2002) explains that there is positive relationship between active age and cotton production capacity. The scholar also added young farmers have better education and technological innovation to improve cotton output. Young farmers are also risk takers in cotton industry. He went on indicated that cotton farmers should be less than 44 years.

The difference between the above literatures is that Alan and Buda (2013) highlighted that young farmers produce more output because they are active and energetic in cotton farming and Wood (2002) added that young farmers produce more output because they have better education. There are some similarities between the above authors because they all mention that there is relationship between age of farmers and production output. Basing on the above literature, one may conclude, the relationship between age and production output exist but its strength however depends on the education and capability of the farmer.

2.12.2 Effective training

Ibrahim (2008) conducted a research about the economic cotton production in Brazil and found that there is relationship between training service and production output. The scholar added that farmers who are effectively trained in cotton industry improve productivity and production capacity. He went on analysed the adoption of new technology such as farming methods and pest management as a way of improving production level in agriculture sector. Furthermore Eaton and Shepherd (2001) added that extension service in cotton industry should have the following

factors; the right plant population, irrigation methods and record keeping. All scholars highlighted that a positive relationship exist between training and production output. With regards to the above scholars, one may come to a conclusion that there exists a relationship between training and production output, therefore effective training should be implemented.

2.12.3 Land Size

A study conducted by Govereh and Jayne (2000) in Zimbabwe Gokwe north highlighted that there is positive relationship between land size and production volumes in cotton industry. The scholar added that the lager the land the higher the production capacity level. In addition, a study carried out by Larsen (2003) in Tanzania noted that the households with large lands or who access cropping lands producing high output because they take advantage of large farm size. According to Daniel (2006) small land size affect cotton production because there is competition for land with other food crops which is likely to limit the increase in cotton production capacity. The above scholars are similar in the sense that they all highlighted land size as a factor determines cotton production capacity. The different between the above scholars is that (Daniel 2006) further explain the issue of competition between cotton and food crops in small holders lands. A conclusion may be made to say that land size affects cotton production.

2.12.4 Family size

According to walusimba (2002), a large family size has better potential to increase production levels in cotton industry because cotton is labour intensive and the large family is an indicator of labour availability. Family size is the number of persons in the household. The scholar also added that the family members above the age of 16 years can work more than six hours a day and those between the ages 12 to 16 years only works for four hours only. This means production capacity in cotton industry depends on age. Furthermore Gidado (2013), pointed out that the family size of more than five active family members is recommended in cotton production. The scholar added that large family size ensures the availability of labour in cotton production. He also highlighted that if the family size is large, the cost of production decrease and hence improve income to the farmers. Basing on the above explanations on family size as a factor of

production, the researcher however noted that some scholars are explaining and viewing other aspects of family size in common. But however there are some differences that emanating from the contributions made by the above scholars. All the scholars highlighted that there is relationship between family size and cotton production. Gidado (2013) recommended the family size of more than five active family members in cotton farming business.

2.13 Contract farming and production capacity

Ramaswami (2006) carried out a research on the effectiveness of contract farming in the case of poultry production in the state of Andhra Pradesh in India. The scholar indicated that there is a positive correlation between the contract farming and production capacity of the organisation. The scholar added that although most of the production efficiency surplus is appropriated by the contractors, farmers will still gain appreciably from contracting in terms of lower risk and higher expected return. He also indicated that there is need for the contractors to identify growers who has better skills, experience and farmers not black listed by other companies to provide with inputs and other extensions services for better production level.

The researcher found that most of cotton companies in Zimbabwe including Cottco Zimbabwe are not assessing their farmers for technical skills, experience and other relevant factors if they provide them with inputs. Cotton companies in Zimbabwe also overlook other aspects like the credit worthiness and past history of the contracted farmer's production history as these variables need to be managed effectively to improve production capacity.

Warning and Key (2002) studied contract farming in cotton production in Senegal in SENCOTT, a private company which contracted 230,000 growers and produced approximately 450,000 tons of cotton annually. The scholar found that farmers increase their production output and income substantially by participating in the contract farming program compared to non-participating farmers. He went on highlighted that contract farming practice did not favors large scale commercial farmers because large scale farmers have high rate of side marketing if they is price fluctuations. The scholar also indicated that contract farming is more suitable to smallholder farmers who lack capital to start their projects. However this practice cannot be applied to the

cotton industry especially in Zimbabwe because the scholar was researched about peanuts production.

Minten et al. (2009) carry out a study of a successful smallholder French bean contract-farming in Madagascar and found a positive relationship between contract farming and production output. He added that the company contracts over 9,000 smallholders who grow, on average, only 0.01 hectares and the company sets very high quality-control requirements within contracts for land preparation, compost preparation, one extension agent per 30 farmers, and five or six assistant agents per extension agent who reside in the villages during the crop production cycle to increase production capacity. He went on analyzed that on average, each smallholder is visited more than once per week by one of the firm's representatives. Moreover, the firm also applies pesticides in about one third of cases. In addition to the extension agents and assistants, around 200 additional people are employed at the processing plant in Antananarivo to ensure product quality and high output. In addition to reporting increased income for farmers from French bean production, as well as the useful off-season income this provides, Minten et al, (2009) find that the inspection of smallholders and the terms of the contract have led to unexpected production level.

Zeller and Saigenji (2009) carried out a study about the effects of contract farming on productivity and production output in Germen were they found that there is significant positive relationship between contract farming practice and production output volume. The findings further revealed that contract farming can only improve production output if implemented and practiced effectively.

2.15 Chapter summary

The chapter covered the views and contributions made by several scholars on contract farming process. It has also highlighted the researcher's views on the challenges faced by the companies in cotton industry. Chapter three is on Research Methodology.

CHAPTER THREE:

RESEARCH METHODOLOGY

3.0 Introduction

The focus of this chapter is to show the various methods that were used by the researcher to collect, analysis and evaluating information at Cottco (The Cotton Company of Zimbabwe). The chapter therefore covers the research philosophy, research design, data sources, sample design, data collection techniques as well as presentation and investigating the techniques.

3.1 Research philosophy

According to Saunders (2007) research philosophy is an overarching term that relating to the development of knowledge and the nature of that knowledge in relation to the research. This means is a systematic way of gathering, analyzing and using data about a research problem. Saunders (2007) identified four approaches research philosophy which includes positivism, interpretive, realism, and pragmatism. The researcher however used the positivism philosophy. The positivity philosophy simplifies a setting of situation and examining the relationship between only two or three variables and testing the hypothesis at a time as well as giving the reason for the relationship between the variables. The researcher used this technique in an attempt to determine whether there exist relationship between contract farming used by Cottco Pvt Ltd and production capacity and also to come out with the extent of the relationship.

The researcher also used the deductive approach in order to arrive at the conclusion on the relationship between the contract farming and production volume. Regression and correlation analysis was used to determine the nature of the relationship between contract farming and production.

3.2 Research Design

Saunders (2007) defined research design as a planned deliberate arrangement of conditions for analysis and collection of data in a manner that aims to combine relevance to the research purpose with the economy of procedure. Panneerselvam (2005) stated that research design provides complete guidelines for data collection and there are basically three types of research designs which are widely used and these include amongst others, explanatory research, descriptive research and Casual research. A well designed research increases the chances of getting valid and accurate information as a result of good preparation and implementation and the researcher therefore used the explanatory study. The researcher also uses both quantitative and qualitative research.

3.2.1 Explanatory Research Design

Saunders, lewis and Thornihil (2007) defines an explanatory research as a research that focuses on studying a situation or a crisis in order to explain the correlation between the variables. The researcher used the explanatory research because the design establishes the causal relationship between the variables since the researcher want to find out the effectiveness of contract farming on production level. This technique of study clearly shows how the variables relate and why they relate in the way they are. According to Saunders (2007), explanatory research implies that the research is intended to explain, rather than simply to describe the variables under study. He noted that the major reason for explanatory study is to answer the question of why.

Panneerselvan (2006) also explained about the significance of explanatory and the circumstances that well suit the type of study. He highlighted that this type of study is mainly conducted for the problem that has not been clearly defined .The author further indicated that this type of research often relies on secondary research and mainly case study oriented. The researcher therefore employ this type of research to the Cotton Company of Zimbabwe in order to show the relationship between contract farming and production output and can help to explain why these variables are related to each other.

3.3 Sources of data

Collins and Hussey (2008) highlighted that there are two main sources of data which are primary data. The researcher used both primary and secondary data in this research to increase the quality of the results of the effects of contract farming on production capacity.

3.3.1 Primary Data

Drury, (2000:175). Primary data refers to data that are collected for the first time in the research field. Moreover according to Saunders (2007) it is the type of data primarily collected by the researcher himself for the purpose of solving the current problem. The researcher used this type of data because it may allow some respondents to use their memories and experiences while being interviewed. The primary data source was also used because it provides first hand information which can enable the researcher to focus on the specific areas of the study. The researcher is going to use interviews and questionnaires to get primary data from farmers, employees and management. The researcher also used the primary data because it is original and less bias since the researcher will be in better control.

3.3.2 Secondary data

According to Kelleher (2008), secondary sources of data are materials that digest, analyze, evaluate and interpret information contained within primary sources or other secondary sources. The data was collected from the secondary data sources that have already collected by and readily available from other sources. Making use of the above explanation, the researcher used the secondary data sources which include company's production statement, operational reports, procurement reports, annual reports, financial statements and other literature from various authors. The researcher used this type of data source because it consumes few resources since the work has already been done to collect the data.

3.4 Data collection instruments

3.4.1 Questionnaire

Devaus (2002) define a questionnaire as a general term including all techniques of collecting data in which each person is asked to respond to the same set of questions in a predetermined order. Troff and Bloomer (2000) defined a questionnaire as an instrument that consists of a set of questions on topic or group of topics designed to be answered by a respondent in writing. Furthermore a questionnaire is a pre formulated return set of questions to which respondents record their answers usually within closely defined options, Saunders (2007). Collins and Hussey (2008) mentioned that a questionnaire can be described as an open ended or closed ended questions. The researcher used both closed and open questions in order to improve the quality of the research findings. The researcher also used both structure and unstructured questionnaires.

The researcher used questionnaires because questionnaire is in a better position to provide empirical information as it could be presented quantitatively and can have deeper detail as explanations can be given and the respondents had the opportunity to respond to questions during their own time outside the daily pressure of work. Open ended questions were used when collecting qualitative data, sometimes there is need for the respondent to give a detailed personal opinion. In addition, the researcher used closed questions in order to obtain two mutually exclusive responses and used the frequencies as the base for the research findings.

The researcher also found that administering questionnaires is effective because large amounts of information can be collected from a large number of people in a short period of time and it is less expensive. In addition the researcher had a chance to introduce the research topic and encourage the respondents to give frank answers through the use of questionnaires so as to improve the reliability and the validity of the research.

3.4.2 Interviews

According to Saunders et al. (2009) an interview is a purposeful discussion between two or more people. Cohen and Manion (2000) also define an interview as a conversation initiated by the interviewer for the purpose of obtaining relevant information focused by the researcher on content specified by the research objectives. The research used face to face interview with the management of Cottco Zimbabwe from these departments' Production, Procurement and Operations, Finance department and Marketing department. The use of interviews helped in further clarification of questions on the specific areas aligned to the research objectives and the researcher can obtain detailed information about personal feelings, perceptions and opinions about the topic

The researcher used interviews because personal questioning allows the researcher to more detailed questions to be asked on short period of time. In addition, the researcher found that personal interviews usually achieve a high response rate and allows ambiguities to be clarified.

3.5 Sample Design

Saunders (2007) defined it as, 'a set of procedures for selecting units from the population that are to be in the sample.' It is a definite plan for obtaining a sample from the sampling frame.

3.5.1 Population

Saunders, Lewis and Thornhill (2009) define population as the complete set of cases or group members that are of interest to the researcher. According to Peterson (1982:342) a population is a group of study objects about which the research wants to make inferences and/or from which a research desires to collect data. Basing on the above scholars the specifications of population in this study refers to the number of contracted farmers, employees and managers at Cottco Zimbabwe.

3.5.2 Sample Frame

Bryman and Bell (2003) explained the sample frame as an element of the target population from which a sample is drawn and the researcher focused on Cottco Pvt Ltd where the total sample frame is 180 employees including management.

3.5.3 Sampling

According to Saunders (2007), sampling is a process of selecting an adequate number of elements from the population so that by studying the sample and understanding the properties of the subject it will then be possible to generalize the characteristics of properties to the entire population.

3.5.4 Sample Size

The sample size is the sub set of the entire targeted population and the rule of thumb stipulates that at least 30% of the entire population should be used for populations less than 500. Saunders (2007) mentioned that it is of great advantage for a researcher to take a sample of 30% or more of the population under study to obtain a sample that highly represents the target population. Taking ideas from Saunders (2007), the researcher will use a sample of 30% of the total population which gives a total sample of 60 respondents. The sample size the researcher will use is as follows:

Table 3:1 Showing sample size made of different elements from five departments plus the farmers

Respondents	Gokwe Sample Size	Sanyati Sample Size
Production	5	5
Procurement and Operations	6	6
Marketing	3	3
Human Resource	1	1
Contracted Farmers	10	10
Management	5	5
Total	30	30

Source: Survey 2013

3.5.5 Sampling techniques

According to Powell (1997), the general goal of sampling is to obtain a sample that is a representative of the target population. Sampling methods are classified as either probability or non probability. Probability sampling technique include systematic random, simple random, cluster random and stratified random sampling. The sampling methods under non-probability category include convenience, purposive, snowball and quota sampling. The researcher used both probability and non probability sampling techniques in order to improve representativeness and convenience.

3.5.6 Stratified Sampling

According to Crossman (2012) stratified sampling is a probability sampling technique in which the investigator divides the whole target population into different subgroups, or strata, and then randomly selects the final subjects proportionally from the different strata. Wegner (1993) highlighted that in each stratum there would be homogeneity in terms of variable under investigation such that variability in a division will be minimum. The researcher used stratified sampling technique because the population is heterogonous. The researcher focused on two divisions and divided the divisions into five departments which are Production, Procurement and

Operations, Marketing, Finance and contracted farmers to ensure that there is representativeness from each department since each department affects production capacity. Basing on the above view, the researcher noted that the use of stratified sampling technique enables the researcher to represent every department at Cottco (the Cotton Company of Zimbabwe) Pvt Ltd.

3.5.7 Simple random sampling technique

According to Neuman (2007), random sampling is the process of selecting elements from the sampling frame according to a mathematically random system. Simple random sampling is a type of probability sampling technique. After forming the sub-groups using the stratified sampling, the researcher then used simple random sampling technique to ensure that every individual in the organisation has an equal chance of being selected at first. This helped to limit biased selection of a sample and made the data collected more valid and reliable. The researcher also used the simple random sampling because the stratified sampling technique cannot work on its own.

The researcher used stratified sampling approach because five departments within the organisation contribute to the production level that an organisation obtains and therefore the need for departmental representativeness from the various departments of the organisation. The researcher also chose stratified random sampling because the samples generally require smaller sample sizes, which in turn can save resources and effort for the researcher.

3.5.8 Judgmental/ purposive Sampling

According to Wilson, (2006), judgment sampling/purposive sampling refers to any procedure where a researcher consciously selects a sample that he/she considers to be most appropriate for the research study. The researcher used judgmental sampling in order to select the most representatives that can bring more accurate results. The researcher used judgmental sampling to the farmers and management. The researcher used judgmental on the basis of qualification and number of years an employee had been with the company (experience).

3.5.9 Convenience Sampling

Castillo (2009) defines convenience sampling as non probability sampling methods were elements are selected because of their convenience accessible and closeness to the research. The researcher used convenience sampling technique because it is fast, less expensive and the elements are easier to access. The researcher used convenience sampling method to the contracted farmers who are within the radius of 40 kilometres away from the Cottco depot because they are easier to access and few resources are required.

3.6 Data Validation

Saunders, Lewis and Thornhill (2009) define validity as the extent to which the data collection method or methods accurately measure what they were intended to measure or the extent to which the research findings are really about what they profess to be about. An analysis of instruments used was carried out after the research so as to ensure that the instruments used in the collection of data was valid to ensure that they provided accurate results.

3.6.1 Reliability

Carmines and Zeller (2000) define reliability as the extent to which an experiment, test, or any measuring procedure yields the same result on repeated trials. Four key types of reliability for the researchers are equivalent reliability, stability reliability, internal consistence and interrater reliability.

To ensure validity and reliability the researcher used triangulation. Punch (1998) defines triangulation as the use of two or more methods of data collection in the study. Triangulation refers to the combination of two or more theories, data sources, methods or investigators in one study of a single phenomenon to converge on a single construct, and can be employed in both quantitative (validation) and qualitative (inquiry) studies Rahman and Yeasiman (2012). The process of triangulation is often used to point out that more than two methods are used in a study with a view to double or triple checking outcome also referred to as cross check.

3.7 Data presentation techniques

Saunders (2007) highlighted that data presentation entails organizing, processing and summarizing large amounts of data into small easily understood instruments like tables, graphs, histograms, bar charts and pie charts. The researcher presented data according to logical themes which emerge from the study. In presenting data, both qualitative and quantitative techniques were used including tables to enable the researcher to study the trends and patterns. The researcher used tables and graphs to present information because they can be easily analyzed and they are interpretive.

3.8 Data Analysis

Rubin and Luck (1999) defines data analysis as the refinement and manipulation of data to prepare them for application of logistical inferences. Having commented on the information given by respondents, the researcher relates the findings with the secondary data used in order to come up with conclusions. The process involved the arranging, classifying, tabulating and analysis of research findings and some arithmetical tools like Regression Logit Estimation Model of Stata 11. The researcher also used deductive technique to analyse data.

3.8.1 Deductive Analysis

Saunders, Lewis and Thornhill (2007) define a deductive approach as a research process involving the testing of theoretical proposition by the employment of a research strategy specifically designed for the purpose of testing it. The researcher used this approach and used chi-square and regression analysis so as to arrive at the conclusion on the relationship between the contract farming and production level and regression was used to determine the nature and cause of the relationship of these variables

3.9 Chapter summary

This chapter dealt with the research philosophy adapted for the study. It embarked on the research design which involved the population the sample, sampling techniques and the data collection instruments used. The chapter also dealt with data presentation and analysis techniques used by the researcher.

CHAPTER FOUR:

DATA PRESENTATION AND ANALYSIS

4.0 Introduction

This chapter presents, interprets and analyses the research results obtained. Sketch graphs and tables are used to present and analyze the data. The focus of the study undertaken was to evaluate the effectiveness of contract farming practices on production volume. The collection of data from secondary and primary sources was done to give answers to the study questions. In this chapter the data collected will be tabulated and the findings discussed.

4.1 Response rate

The researcher collected data using questionnaires and interviews in the field for the research. The researcher sent a total of sixty questionnaires and out of these fifty one was returned and these give response rate of 85%. In addition the researcher conducted all eight interviews and giving a response rate of 100%. The table below shows the response rate for questionnaires and interviews respectively.

Table 4.1a .Showing the response rate for questionnaires

Respondents	**Questionnaires Dispatched**	**Questionnaires returned**	**Response rate**
Procurement and Operations	**12**	**10**	**82 %**
Production	**5**	**4**	**80 %**
Grading and buying	**6**	**5**	**86 %**
Human Resources	**2**	**2**	**100 %**
Finance	**5**	**4**	**80 %**
Farmers	**30**	**26**	**87 %**
Total	**60**	**51**	**85%**

Source: Survey 2013

Table 4.1b Show the Response rate for Interviews

Respondents	Targeted Respondents	Actual respondents	Response rate
Business managers	**2**	**2**	**100 %**
Crop procurement Managers	**2**	**2**	**100 %**
Human Resources Managers	**2**	**2**	**100 %**
Business Accountants	**2**	**2**	**100 %**
Total	**8**	**8**	**100 %**

Source: Survey 2013

As illustrated above sixty questionnaires were distributed and the researcher collected twenty five questionnaires out of thirty which were administered to the company workers and that represent a responds rate of 83%. Thirty questionnaires were distributed to the farmers but only 26 were returned and give a responds rate of o 87%. The responds rates from the interviews were 100%. The responds rate of 85% questionnaires and 100% interviews is large enough to allow interferences to be drawn from the population under study. The responds rate in this present research is supported by Aaker (2000) who point out that if the responds rate is above 50% enough conclusions about the research topic can be achieved and thus the researcher was able to use his response because it is above 50%.

The researcher went on to determine the demographic and departmental characteristics and the following was obtained;

4.2 Table showing departmental profile for respondents

Demographic	Category	Frequency	Percentage (%)
Length of service	less than 1 year	4	16
	2 to 4 years	9	27
	5 to 9 years	8	36
	10 and above	4	16
	Total	**25**	**100**
Education	Degree	3	12
	Diploma	4	16
	Certificates	5	20
	"A" Level	4	16
	"O" Level	9	36
	Total	**25**	**100**
Department	Procurement	10	40
	Production	4	16
	grading	5	20
	H.Resources	2	8
	Finance	4	16
	Total	**26**	**100**

Source: Survey 2013

Basing on the length of service, 4/25 (16%) of the respondents shows that they had a less than one year of work experience at the organisation, 9/25 (36%) have 1 to 4 year service, 8/25 (32%) have 5 to 9 years of service and 4/25 (16%) have saved for 10 years and above. With regards to the level of education, about 9/25 (36%) indicated that they have 'O' level, (4/25) 16% have 'A' Level, 5/25 (20%) have certificates, 4/25 (16%) have Diplomas and 3/25 (12%) have Degree qualification. The researcher also noted that about 10/25 (40%) of the respondents were from procurement and Operations department, 5/25 (16%) from Production department, 5/25(20%) from Grading and Buying, 2/25 (8%) from Human Resources Management department and 4/25 (16%) from Finance department.

The demographic table also indicated that most of the respondents (40%) were from Procurement and Operations department because this department are responsible for the contract

farming practice and production volume intakes. The findings of more responses from the Procurement department are similar to a study that was carried by Gruere and Armella (2009) who researched about the effectiveness of contract farming in cotton industry in Brazil were he discovered that the majority of staff were from Procurement and Operations department because this department is the chief engineer of contract farming practice. The researcher however found that most of the respondents have the working experience ranging between 5 and 10 years in the organisation. The findings above on the length of service ranging from 5 to 10 years are in line with a study carried out by Sajenji and Zeller (2009) about the effects of contract farming on productivity and income on the case of tea production in German. They found that most of the respondents have working experience between 4 and 9 years because there was high labour turnover in agricultural sector of German caused by the seasonal factors. The researcher also noted that about (36%) of respondents has O' level certificate only because most of the cotton companies in Zimbabwe does not value education.

The researcher went on to identify challenges affect cotton production in cotton industry and this was done in order to answer the first research objective and the following was obtained;

4.3 Showing the challenges affect production output volume in cotton industry

Challenges	Greater extent	Some extent	Little extent	**Number of respondents**
Side marketing by farmers	92%	0	8%	25
Poor infrastructure	8%	0	92%	25
Sub-standard chemicals	4%	8%	88%	25
Lack of technology	44%	28%	28%	25
Competition	48%	36%	16%	25

Source: Primary Data 2013

The table above shows the challenges affect cotton production at the Cotton Company of Zimbabwe (Cottco). Side marketing by farmers is the major challenge which produces the

following results; 92% (25) greater extent and 8% (25) little extent. Competition was the second with 48% (25) to a greater extent, 36% (25) shows to some extent while 16 % (25) highlighted to a little extent. Lack of technology was the third with 44 % (25) to a greater extent, 28% (25) to some extent and 28% (25) to little extent. Poor infrastructure was the fourth challenge with 8% (25) to greater extent and 88% (25) little extent and. Sub-standard chemicals was the fifth one with 4% (25) greater extent, 8%(25) some extent and 88%(25) little extent.

With regards to the above challenges the researcher found that more than a half (92%) of the respondents indicated side marketing of cotton by the farmers as the major challenge affects cotton production to a greater extent. The researcher also found that other challenges like competition, lack of technology, poor infrastructure also affect cotton production. The researcher concludes that side marketing is the major challenge affect cotton production followed by competition and poor technology. The findings are almost similar to the study that was carried out by Poulton and Mlambo (2001) who made a research about cotton production in Zimbabwe were they found that cotton companies feel the effects of increased side marketing of seed cotton by farmers whom it was supporting with the input credit scheme. The findings above are also similar to the results by Skume and Guveya (2003) in literature who indicated competition from new entrance as the major threat in cotton industry.

With the support of information from the interviews given by the Business Managers, CPMs and the Business Accountants the researcher noted that side marketing is major challenge affects Cottco Company in improving its production intake volumes. The researcher also noted that the Crop Procurement Manager pointed out the issue of climatic change like low rainfalls in Gokwe north as one of the major challenges affecting production output. The researcher however found that the findings above contradict with the literature by Salama, Kamara and Brixion (2010) as they identified infrastructure as the major challenge in cotton industry like inadequate market facilities and transportation system problems such as roads and rail. The issue of climatic change is also supported by Muller, (2009) in literature, who pointed out that the increasing temperature and decrease rainfall amounts and patterns negatively affects the cotton industry in the world. The researcher conclude that side marketing, competition, poor technology, poor infrastructure, sub standards inputs and climatic changes are the major challenges affecting the Cotton

Company of Zimbabwe (Cottco) in increase its production output. The findings above are also supported by the secondary data (Herald 20 June 2012) which shows that side marketing becoming a major threat to the viability and production output of the cotton companies in Zimbabwe.

After identifying side marketing as the major challenge affecting the company's production capacity, the researcher went on to determine the reasons for side marketing on the farmers' side.

4.4 Showing the perception of farmers on why they side market cotton to other companies.

	Agree	**Unsure**	**Disagree**	**Total number of respondents**
Dishonest	8%	0	92%	26
Poor customer care by Cottco	76%	0	24%	26
Breach of contract by Cottco	73%	0	27%	26
All the cotton will go towards the payments of Debts and will remain with nothing	77%	0	23%	26
High prices offered by the competitors	96%	0	4%	26
Contracted by more than one companies	69%		31%	26

Source: Survey 2013

The table above illustrate that 26 farmers were asked to show and rank their perceptions on why they side market contracted cotton to other companies. Firstly, on the reason of dishonest, 8% agreed while 92% disagreed. Taking into account the issue of poor customer care by Cottco

Company, 76% agreed while 24% disagreed. Regarding breach of contract by the company, 73% agreed while 27% disagreed. 77% of respondents agreed that they side market because all their output go towards the payment of debts and remain with nothing and 23% disagreed. Regarding the issue of high prices by the competitors 96% agreed and only 4% disagree. Lastly on the perception of contracted by many companies, 69% agreed while 31% disagree.

Basing on the above findings above, the researcher noted that most of the farmers contracted by Cottco Company side market their cotton to other companies. The researcher noted that respondents agreed (97%) that they side market because of higher prices offered by the competitors and they also agree (73%) that they side market because the companies lack utmost good faith in contractual agreement. The findings above are in line with the recommendations that were put forward by a study carried out by Henry in 2009. Henry (2009) indicated that farmers in contract farming side market their output because contracting companies fail to act in accordance with contractual agreement and offering prices less than those agreed upon. A study carried out by ZFU (2013) in Zimbabwe also highlighted that high rate of side marketing is caused by low prices by contractors and some dishonest contractors who buy crops financed by other companies. The two scholars researched about the causes of side marketing highlighted that farmers' side market their produce because they are attracted by high prices offered by the competitors and lack of contractual agreement by the contractors. The researcher noted that most of the farmers contracted by Cottco side market their produce because they are attracted by high price paid by the competitors. The researcher also noted that most of respondents (77%) side market their produce because all their cotton will go towards the payments of debts and will remain with nothing. The finding above are in line with a research carried out by Henry (2006) were he found that most the farmers in contract farming side market their cotton because costs of inputs in contract farming are above income after sales, so farmers ended up side marketing in order to remain with something.

The researcher also went on establish the perception of workers on why contracted farmers side their produce

4.5 Showing the perception of employees on why farmers they contract side market their cotton to other companies

	Agree		Unsure		Disagree		Total No of respondents
	N	%	N	%	N	%	
They are dishonest	19	76			6	24	25
To avoid paying credits	15	60			10	40	25
Low price by Cottco	16	64			9	36	25
Breach of contract by the company	12	48			13	52	25

Source: Survey 2013

As illustrated on the table above, 19/25 (76%) agreed that farmers side market because they are dishonest while 6/25(24%) disagreed. 15/25(60%) agreed that farmers side market in order to avoid paying credits while 10/25(40%) disagreed. 16/25(64%) highlighted that farmers side because of the lower price paid by the company but 9/25(36%) disagreed. On breach of contract about 12/25(48%) agreed while 16/25(64).

With regards to the above findings, the researcher therefore found that about 76% of staff highlighted that farmers' side market because they are dishonest. 60% shows that farmers side to run away from paying credits to Cottco. 60% indicated that farmers' side market because of low price paid by Cottco on their produce. The results are similar from those of the farmers because both agreed that farmers' side market because of lower prices offered by Cottco which is below price charged by the competitors. But however the findings above contradict with the results from farmers because the farmers indicated that they are not dishonest to the company whilst the workers indicated that most of the farmers side market their output due to lack of integrity. 6 out of 8 (75%) of the interviews revealed that most of the farmers contracted by Cottco side market their produce due to lack of trust and they also attracted by high prices charged by the competitors during the picking seasons. Accordingly the researcher found that most of the

farmers' side market their output because of lower prices being offered by Cottco. The results are in line with the findings that were obtained by Poulton (2004 on his research about challenges affect cotton companies were he highlighted that farmers side market their produce because of lower prices being offered by the contractors. The findings above are also different to a study that was made by Henry (2006) who emphasized that most of the farmers in contract farming side market their output because the contracting companies fail to act in accordance with contractual agreement and offering prices less than those agreed upon. The findings above are also similar to the findings obtained from the farmers because they all pointed out the issue of avoiding paying the credit by farmers as the major cause of side marketing.

The researcher went on to establish the ways that can be used by the company to reduce side marketing and the following results were obtained;

4.6 Showing the response rate on the ways used by the company to reduce side marketing

	Greater extent	Some extent	Little extent	Total respondents
Legal action	44%		56%	25
Act in accordance with contractual agreement	48%		52%	25
Competitor based pricing policy	24%		76%	25

Source: survey 2013

The table above illustrate that illustrate that out of 25 respondents who were asked about the ways used by the company to reduce side marketing, 44% shows that legal action is used to a greater extent while 56% shows little extent. On acting in accordance with contractual agreement, 48% shows greater extent while 52% highlighted little extent. On competitive based pricing 24% shows greater extent while 76% indicated little extent. The researcher found that the company uses legal action, acting in utmost good faith in contractual agreement and competitive based pricing policy to a little extent as a way of reducing side marketing. The researcher also

noted that pricing policy is the major cause of side marketing. The findings above are not in line with the information in literature by Eaton and Shepherd (2001) when they mentioned that competition based pricing strategy is an effective tool that can be used by cotton companies to reduce side marketing and increase market share. Iikulunga (2005) also supported that the government should play a role of providing an enabling environment by creating a legislation support to small scale contracted farmers engaged in contract farming practices and other area such as council measures in order to reduces issues like breach of contract and side marketing of crops.

The researcher also obtain other way to reduce side marketing from the interview such as providing cash advance, effective monitoring and control of contracted farmers during the buying season. Employment of effective group chairman like retired soldiers and security guards to monitors the buying seasons on daily basis. To take a legal action against the companies bought cotton contracted by other firms and effective recovery system.

The researcher went on to establish the effects of contract farming on production output at Cottco and the following was obtained;

4.7 Showing the perception of staff on the effects of contract farming on production output at Cottco Company.

Response	Excellent	Good	Fair	Poor	Very poor	Totals
Number of respondents	4	3	2	13	3	25
Percentage Respondents	16	12	8	52	12	100

(Source; Survey 2013)

The table above illustrate that the researcher asked about 25 respondents on how they value the contract farming practices currently implemented by the Cotton Company of Zimbabwe (Cottco) and about 4/25(16%) indicated that is excellent, 3/25(12%) shows that is good 2/25(8%)

highlighted it is fair, 13/25(52%) indicated that is poor, while 3/25(12%) shows that is very poor.

The researcher found that the majority of respondents (52%) of regarding contract farming practice as poor in improving production capacity at Cottco. The researcher however went on to use the interview to come up with a conclusion on this question and the researcher noted that the majority of respondents perceived the contract farming practice currently employed by Cottco as poor. The results from the interviews were the base of the conclusion because it comes from top management hence regarded as better in understanding the contract farming practices. The researcher concludes that contract farming practices can improve organisational production volume if implemented effectively.

The findings above are supported by the secondary data (the procurement and production statement for the years 2012 and 2013) which is showing a decline in production output from 151 231 tonnes in 2012 to 74 300 tonnes in 2013 and a failure of the company to achieve its production budgets by 36% and by 64% respectively in the present of CFP. The findings above are different to a study that was carried out by Zeller and Saigenji (2009) about the effects of contract farming on productivity and production output in Germen were they found the positive significant effects of contract farming practice on production output volume. The findings further revealed that contract farming can only improve production output if implemented and practiced effectively. They also highlighted that production under contract farming has a higher technical efficiency than farmers without contracts. The findings above are also contradicting with a study that was carried out by Wainaini and Okello (2012) in Kenya about the factors affecting production output and the impact of contract farming on poultry industry. The results obtained by the above scholars highlighted that participating in contract farming has a positive significant effect on the production output. The researcher found that contract farming practice in Kenya was successful because of the nature of product. The findings above are also not in line with the results obtained using a Stata 11 Logit model. The researcher tested the relationship between contract farming and production output using the Logit Model and come up with a significant positive relationship between these two variables.

The researcher went on to determine the effects of contract farming on production output in order to answer one of the objectives and the following was found;

4.8 Showing the effects of contract farming practice in increasing production output

Response	Strongly agree	Agree	Unsure	Disagree	Strongly disagree	Total number of respondents
Number of respondents	5	10	2	8	0	25
Percentage Respondents	20	40	8	32	0	100

(Source; Survey 2013)

The table above indicated that, the researcher claimed about 25 respondents to highlight the effects of contract farming on production output. 5/25(20%) strongly agreed, 10/25(40%) agreed, 2/25(8%) are unsure while 8/2(40%) disagreed.

The researcher however found that more than half (60%) of respondents were saying that the contract farming practice improves production output. The findings above were also supported by all the interviews conducted. The researcher also made use of the interviews responses to come up with a conclusion on this question and the researcher found that the majority of respondents highlighted that there is positive relationship between contract farming practice and production output. These results from the interviews also formed the base for the conclusion since they were coming from the top level managers who were regarded as better by the researcher in terms of understanding the contract farming practice and production output. The Business Manager from Cottco Gokwe highlighted that the positive relationship between contract farming and production output only obtained if the CFP implemented effectively. The findings above are in line with the results obtained using a Stata 11 Regression Logit model. The researcher tested the relationship between contract farming and production output using the Regression Logit Model and come up with a significant positive relationship between contract

farming practice and production output.

The findings above of positive relationship between contract farming practice and production output are similar to a study that was made by Zeller and Saigenji (2009) about the effects of contract farming on productivity and production output in Germen were they found that there is significant positive relationship between contract farming practice and production output volume. The findings further revealed that contract farming only improve production output if implemented and practiced effectively. The findings above are also in line with the research that was carried out by Minten in 2009 about the successfully smallholder contract farming in Madagascar were he indicated that they is positive relationship between contract farming practice and production output.

After identifying the effects of contract farming on production output, the researcher went on to determine the workers perception on the effectiveness of training service by the Cotton Company of Zimbabwe.

4.9 Showing the perception of staff on the effectiveness of training services in contract farming practice at Cottco Company.

Training service	**greater extent**	**Some extent**	**little extent**	**Total Number of respondents**
Crop Protection	28%		72%	25
Methods of farming			100%	25
Early planting	12%	12%	76%	25
Correct plant population	24%	28%	48%	25
Record keeping and importance of CFP			100%	25
Average	**13%**	**8%**	**79%**	**25**

Source: Survey 2013

From the findings in the table above, 28% of 25 shows that crop protection training service is practiced to a greater extent by the company while 72% of 25 shows to a little extent. All the respondents (100%) highlighted that methods of farming training service is practiced to a little extent by Cottco. Regarding early planting training 12% of 25 shows that it is offered to a greater extent, 12% of 25 shows to some extent and 12% of 25 also shows to a little extent. 24% of (25) highlighted that plant population training is practiced to a greater extent. 28% of (25) shows to some extent while 48% of 25 shows that it is practiced to a little extent. 100% of respondents highlighted that record keeping importance of contract farming training is practiced to a lesser extent.

The researcher found that the majority respondents (79%) shows that training services by Cottco are currently practiced to a lesser extent while (13%) of respondent shows that training services are practiced to a greater extent. The researcher also noted that training programmes currently implemented by Cottco are not effective. The significance of training service in contract farming is supported in literature by Eaton and Shepherd (2001) who emphasize the need for effective training programmes to both company workers and farmers in order to improve productivity and production capacity. With support of information given by the Crop Procurement Managers in an interview, training course was generally poor and ineffective hence affecting production capacity of the company.

The findings above are not in line with the results that were obtained using the Regression logit model of stata 11. The stata 11 model shows a positive significant relationship between training and production output. The results above are also similar to the findings from the interviews. During the interviews with the management, the researcher noted that training service to the farmers is practiced to a lesser extent because it is expensive and there is no direct relationship between training and production volumes. The management also pointed out that since they sign contract deal for one year only they can end up training farmers for the benefit of other companies. The findings above are also different with the results in literature by Richard (2008); were he pointed out that contracted farmers should be trained on conservative tillage methods, early planting, correct plant population, pest management at all growth stages, cotton harvesting methods and good timing in order to ensure better production output.

The researcher went on establish the perception of farmers on the effectiveness training services in CFP to increase production capacity and the following was found.

4.10 Showing the effectiveness of training service to the farmers by Cottco

Training service	**Greater extent**	**Some extent**	**Little extent**	**Total Number of respondents**
Crop Protection	27%		73%	26
Methods of farming	12%		88%	26
Early planting	43%		57%	26
Correct plant population	47%		53%	26
Record keeping and importance of contract farming	4%		96%	26
Average	**27%**		**73%**	**26**

Source: Survey 2013

The above table illustrate that (27%) of respondents' shows that crop protection training is practiced to a greater extent while (73%) indicated that it is practiced to a lesser extent. Under methods of farming training, only (12%) highlighted that it is practiced to a greater extent while (88%) shows that it implemented to a lesser extent. Regarding early planting training (43%) shows that it is practiced to a greater extent while (57%) indicated that is practiced to a little extent. On plant population training, (47%) shows that it is to a greater extent while (53%) indicated that it is to a little extent.

Regarding record keeping and importance of contract farming training only (4%) indicated that it is practiced to a greater extent while (96%) highlighted that it is practiced to lesser extent. This concludes that about (27%) of respondents highlighted that training services are practiced to a

greater extent and 73% shows that they are practiced to lesser extent. The findings above are also similar to the results obtained from the staff on the effectiveness of training service were they highlighted that training programmes at Cottco are practiced to a lesser extent. The findings above are also supported by the information in the background which shows that the company tried to train its farmers but fails due to lack of resources.

The researcher however, noted that the findings above are not in line with the recommendations put forward by Richard in (2008), were he indicated that contracted farmers should be given effective training on conservative tillage methods, early planting, correct plant population, pest management at all growth stages, cotton harvesting methods and good timing to ensure better quality output and high production capacity. The results above are also contradicting with the findings in the literature by Dawes and Sola (2009), which shows that when a company enter into contract with a farmer, training programs are necessary to ensure that farmers are given enough knowledge on how to grow a contracted crop. The researcher also found that training programmes are practiced to a greater extent in developed countries like Brazil which has better resources such as finance and highly qualified employees as compared to Cottco in Zimbabwe. This can be hardly applied to cotton companies in Zimbabwe because they don't have adequate training resources.

The researcher went to establish the demographic of farmers profile in order to answer one of the objectives and the following was found;

4.11 Showing the demographic and farmers' profile

Demographic	Category	Frequency	Percentage (%)
Farmers still contracted	Yes	21	81
	No	5	19
	Total	**26**	**100**
Age	1-30 yrs	2	8
	31-45 yrs	13	50
	46-60 yrs	10	38
	61 yrs and above	1	4
	Total	**26**	**100**
Period in contract farming	1-5 yrs	1	4
	6-12 yrs	16	61
	13-20 yrs	7	27
	20 yrs and above	2	8
	Total	**26**	**100**
Family Size	1-3 people	7	27
	4-8 people	13	50
	9 and above	6	23
	Total	**26**	**100**
Land Size	1-2 ha	9	35
	3-5 ha	11	41
	6-10 ha	3	12
	11ha and above	3	12
	Total	**26**	**100**
Output produced	1 – 2000kgs	6	23
	2001 – 4000ks	7	27
	4000ks and above	13	50
	Total	**26**	**100**

(Source; Survey 2013)

As illustrated on the table above, 81% of respondent are still in contract farming while 19% are not. 8% of respondents are below the age of 30 years, 50% of respondents are between the age of 31 and 45, 38% are between 46- 60 years, while 4% of respondents are above 60 years. 4% of respondents have less than 5 years in contract farming, 61% of respondents have between 6-12 years in contract farming, and 27% of farmers have between 13-20 years in contract farming while 8% have more than 20 years. 27% have 1-3 members, 50% of respondents have 4-5 members while 23% have got more than 8 members in a family. Regarding the land size, 35% of respondents have got less than 3 hectors, 41% hold between 3-5 hectors, 12% have between 6-10 hectors while 12% have got more than 10 hectors. 6% of respondents produce output between 1-200kgs, 27% produces output which is more than 2000ks but less than 4000kgs while 50% of respondents produces more than 4000kgs.

The researcher however noted that about 81% of respondents are in contract farming and 50% of respondents are between 36-45 years. The researcher also noted that 50% of respondents produce more than 4000kgs of cotton per year. The researcher therefore decided to answer one of the objectives using the Regression Logit Model of Stata 11 software. The researcher want to test the relationship between contract farming and production output and also other factors like age, experience, family size, land size and training. The researcher also decided to test the hypothesis at 5% level of significance using the research findings.

4.11.1 Results presentation

After running the Logit Estimation Model between the dependable variable of output and the explanatory variables the following results were obtained. Full set of results are presented in the appendix. For full set of results see Appendix 4.

Logit Regression Model

Output	Coefficient.	t-statistics	Probability
CF	1.019234	4.54	0.000
Land size	.4043051	3.94	0.001
Age	.033399	0.24	0.811
Family size	.0995903	0.80	0.433
Training	.2794614	2.38	0.028
Experience	-.1079946	-0.68	0.503
_cons	.0945322	0.19	0.850

Number of observations= 26

R-squared = 0.8339

Adj R-squared = 0.7815

Root MSE = .3868

4.11.2 Likelihoods Ratio (LR) tests

Likelihood ratio test critically analyse the significance of the whole model. The test is conducted under the null hypothesis that all the slope coefficients are simultaneously equal to zero against the alternative that they are not simultaneously equal to zero. From the above results, the R-squared statistic is 83.39% and the p-value obtained is 0.0000. Therefore the researcher rejects the null hypothesis that the there is no relationship between contract farming practice and production output because contract farming shows a significant value of 4.54 and a p-value of 0.000. the model also highlighted that they are other factors with significant values that affects production output like training with coefficient value of 2.38 and a p-value of 0.028 and land size with a coefficient value of 3.94 and a p-value of 0.001, The conclusion is that there is significant evidence to support that there is positive relation between contract farming practice and production output and other factors like training and land size have also significant impact on production output.

4.11.3 Interpretation of results of the logistical model

Using the results obtained after running the regression and the model specified in Chapter 3, the following model was found.

ds= 0.945322+ 1.019234cf+ 0.4043051landsz+ 0.33399aga+ .0995903fmsz+ 0.2794614trn - 1.1079946exp

After running the Regression Logit Model of the research, contract farming practice increases the probability of output by 1.019234. CF also shows a t-static value of 4.58 that has a significant impact on (ds) output hence play a vital role in explaining the dependent variable. The significant of CF on production output can also be explained by a very low p-value (0.0000) meaning that CF is significant at 5% level of significant. The results above are supported by Guere and Armella (2009) when they highlighted that there is positive relationship between CF and production output. In addition these results are similar to a study that was carried out by Zeller (2007) who found that contract farming practice has significant impact on output.

Land size increases the probability of output by 0.4043051 reviling a positive direct relationship between land size and production output. This variable shows to be significant at 95% confidence interval with t- static of 3.94 and confirmed p-value of 0.001 less than 0.05. the positive significant impact between land size and production output was also obtained by Daniel (2006) who highlighted that there is positive relationship between land size and production output because small land size affect cotton production since there is competition for land with other food crops which is likely to limit the increase in cotton production capacity. The findings above are also supported by Lessern (2003) in Tanzania who also indicated that there is positive relationship between land size and output because he found households with large lands producing more output in her study.

Training was also found to increase the probability of production output by a significant value and a positive coefficient revealed a direct relationship between training of farmers and output in cotton industry. A t-static of 2.38 was recorded which renders to be a significant factor in affecting production output in cotton companies including Cottco and this was confirmed by a p-

value of 0.028 which is less than 0.05. the findings above are in line with the recommendations put forward by Richard in (2008), were he indicated that contracted cotton farmers should be given effective training on conservative tillage methods, early planting, correct plant population, pest management at all growth stages, cotton harvesting methods and good timing to ensure better quality output and high production capacity. The results above are also in line with the information in the literature by Dawes and Sola (2009) which shows that there is positive relationship between training and production output in Cotton industry.

The value of age increases the probability of (ds) output by 0.033399. This shows a positive relationship between age of farmers contracted by Cottco and production output obtained. A t-statistic of 0.24 which is less than 2 was recorded which confirms that the factor is insignificant in affecting production output at Cottco Company. This was also further confirmed by a p-value of 0.811which is greater than 0.05. The findings of age are similar to the study that was made by Alan and Buda (2004) in Nigeria, were they found a positive relationship between age and output produced in contract farming. The scholars recommended that cotton farmers in contract farming should be less than 45 years because young farmers are more active, aggressive and energetic in cotton farming. In addition Wood (2002) argues that there is insignificant positive relationship between active age and cotton production capacity.

Family size increases the probability of output by 0.0995903, shows a direct relationship between family size of contracted farmers and output. The factor shows to be insignificant at 95% confidence interval with a t-statistic value of 0.80 less than 2 and a confirmed p- value of 0.433 greater than 0.05. The findings above are similar to the literature by Gidado (2013), pointed out that the family size of more than five active family members is recommended in cotton production. Gidado (2013) conclude that there is direct relationship between family size and production output volume in cotton industry. Walusimba (2002), in literature also support that a large family size has better potential to increase production levels in cotton sector because cotton crop is labour intensive hence the large family is an indicator of labour availability

The researcher went on to establish if the government plays a role as a third part in contract farming and the following was obtained;

4.12 Showing the results on the effectiveness of government roles in CFP

	good	**Fair**	**Poor**	**Total number of respondents**
training and development		8%	92%	25
legal action if there is a breach of contract	28%	20%	52%	25
Loans to finance the contract		16%	84%	25
offer subsidies			100%	25
Average total	**7%**	**11%**	**82%**	**25**

(Source; Survey 2013)

The table above illustrates that out of 25 respondents who were asked about the effectiveness of the roles played by government in contract. On training and development 8% of respondents highlighted that is good while 92% shows that training and development is poor. On legal action if there is a breach of contract by the farmers 28% shows that it is good, 20% shows that is fair while 52% shows that is poor. Regarding the issue of loans to increase contract farming base 16% shows that is fair while 84% indicated that is poor. On subsidies 100% or all the respondents highlighted that is poor.

The roles of government in contract farming is supported in literature by (Guo et al 2007) who pointed out that the government should play an essential role through offering training services, subsidies, loans and managerial skills to extension officers and farmers in order to improve production capacity in cotton industry. Guo (2007) further highlighted that training, credit support, subsidies, tax benefits and other policy incentives by the government can encourage companies to engage in contract farming and appropriate pricing of land in agricultural investments would also create greater incentives for contract farming arrangements in order to improve production output. The findings above are not in line with Silva (2005) in literature, who highlighted that in order to make contract farming work effectively government should provide enabling legal framework, including appropriate laws of contract, and legal institutional

mechanisms. With support of the information given by the managers in an interview, the researcher noted that government is not supporting the contract farming practice by Cottco at all. The findings above are also contradict with the results in literature by Iikulunga (2005) who highlighted that the government should play a role of providing an enabling environment by creating a legislation support to small scale contracted farmers engaged in contract farming practices and other area such as council measures. The researcher concludes that government of Zimbabwe should play a role in contract farming so that the cotton companies including Cottco can improve production capacity.

The researcher went on to establish the farmers perspective on what Cottco can do to improve contract farming in order to answer one of the objectives and the following was found;

4.13 Showing the respondents from the farmers' perspective on what Cottco can do to improve contract farming practice.

The researcher went on to analyse the key respondents from the closed and open ended question which was asking about other alternatives methods to improve contract farming practices that a firm can make use of in order to improve production capacity. The suggestions mentioned by the some respondents are listed below

Strategy	**frequency**	**Percentage %**
Providing irrigation equipments	7	28
Improve seed quality	6	24
better quality chemicals	5	20
Improve training methods	5	20
Land visits for assessments	2	8

The table above illustrate that the respondents claimed about 25 respondents on ways that can be used by the company to improve contract farming exercise to the farmers. 28% of respondents highlighted that company should provide irrigation facilities to the farmers so that they can improve production capacity in low rainfall areas like Gokwe North. The results above on the issue of irrigation facilities are similar to the results that were obtained by Dr. Fatima (2003) in his study about the ways to improve cotton production in contract farming. Dr. Fatima (2003) pointed out the use of better irrigation techniques as way to improve cotton production capacity in large scale contracted farms. Sankaranarayanan, (2007) also highlighted that cotton plant requires high irrigation support during the flowering and boll stage to avoid flower shedding. 24% of respondents highlighted that the company should improve seed quality.

20% of respondents highlighted that the company should provide better quality chemicals. The issue of better quality chemicals was supported by Hesbon and Olweny (2008) who highlight the issue poor or completely fake agrochemicals as the major constrain in cotton industry. 20% of respondents also highlighted that the company should improve training methods so that they can increase production output in contract farming. According to Eaton and Sherperd (2001), training service plays an important role in cotton industry sector's production capacity. Only 8% of respondents highlighted the issue of land assessment by the Extension Officers as a way of improve production output in contract farming. Bourland (2010) pointed out that CPOs should asses contracted farmlands at least twice a moths in order to identify and solve problems affects production output. Some of the respondents also highlighted that the company should provide advanced equipments like tractors, weeding funds and cash advance. The researcher however noted that in developing countries like Zimbabwe it is very expensive to install irrigation system to the contracted farmers because smallholder farmers can end up use irrigation water to other crops in the expense of cotton.

4.16 Other alternatives that can be used to improve production output

The researcher went on to analyse the responses from an open ended question which was asking about other alternatives that a firm can make use of in order to increase production output and achieving budgeted results in order to answer the last objective of determining other strategies that can be used by the cotton companies to improve production output volume.

The strategies mentioned by some respondents are listed below;

- Horizontal integration
- Competitive based pricing policy
- Large scale contract farming
- Own farm strategy
- Decentralized decision making
- Diversification to spread risk
- Advancement in seed breeding.
- Side marketing reduction strategies.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

The chapter gives a summary of research findings as well as the summary of objectives. The researcher also indicates and explains conclusions and recommendations to the research objectives and findings. The major focus of this chapter is to summarise the findings, drawing up of conclusions and recommendations on the effects of contract farming on production capacity.

5.1 Summary of objectives

The focus of this study was to analyse the effectiveness of contract farming practice on production output of the company. The researcher also wanted to identify challenges that affects production output and other alternatives or strategies that can be used by the company to improve production output. The researcher achieved all these objectives and found that side marketing is the major challenge affects cotton production of this company. The researcher also found that contract farming is effective in increasing production

5.2 Major findings

5.2.1 Challenges affected cotton production of the company

As shown in the table 4.3, the majority of staff (92%) highlighted that side marketing is the major challenge affected production output of the company to a greater extent. 48% of the respondents indicated that competition affected production output to a greater extent and another

44% of the staff also indicated that poor technology affects production to a greater extent as well. The researcher found that side marketing is the major constrain of cotton production intake volume of the company.

5.2.2 The causes of side marketing

As shown on the table 4.4 and table 4.5 in chapter four, 76% of respondents indicated that side marketing is caused by dishonest farmers and 64% of the staff highlighted that side marketing is caused by high prices charged by the non contracting competitors. About 76% of the farmers highlighted that they side market because they are attracted by high prices charged by other cotton companies. 77% of the farmers also indicated that they side market because all their output will go towards the payment of debts and they remain with nothing. With the support of the secondary data and interviews the researcher noted that side marketing is caused by high prices charged by non contracting firms because they are operating at lower cost.

5.2.3 Ways to reduce side marketing

About 44% of respondents highlighted that legal action to reduce side marketing of cotton is used by the company to a greater extent, 48% of respondents also indicated that the company act in accordance with contractual agreement in order to reduce side marketing while 24% of staff shows that Cottco Company uses competitor based pricing strategy to a greater extent and this is shown in table 4.6 in chapter four. During the interview the researcher noted that competitive based pricing strategy is practiced to a little extent.

5.2.4 The effects of contract farming practice on production output at Cottco

As shown in table 4.7 in chapter four, 52% of the staff regarding contract farming practices as poor in increasing production output at Cottco. This is supported by the information from the secondary which a decline in production output of the company and a failure in achieving production budgets in the present of contract farming. Some respondents in an interview indicated that CFP can only increase production output if implemented effectively.

5.2.5 Showing the relationship between contract farming practice and production output.

Sixty (60%) of respondents agreed that there is positive relationship between contract farming practice and production output and this is shown in table 4.8 in chapter four. After the running of the data collected using the Logit Estimation Model on Stata 11, the researcher also found that there is significant positive relationship of 1.019234 between contract farming and production output. With support of information from the interviews the researcher found that there is positive relationship between contract farming and production output.

5.2.6 Showing the Effectiveness of Training Service in Contract Farming By Cottco

The researcher found that about (73%) of staff indicated that Cottco Company is offering training services to the farmers to a lesser extent and this is shown in table 4.9 in chapter four. 79% of farmers indicated that training services are practiced to a little extent and this is also shown in table 4.10 in chapter four. The Business managers in an interview argues that it is very cost full to the company to train farmers who sign one year contract only and there are also afraid to train farmers who side market their output to other companies. The researcher went on to test the relationship between training and production output in contract farming and found a significant positive relation of 0.2794614 at 5% level of significance

5.2.7 Other factors affecting cotton production in Contract Farming

the researcher went on to test factors affecting cotton production using a Regression Logit Estimated Model of Stata 11 and found that there is significant positive relationship of 0.4043051 between land size and production output and this is shown in table 4.11 in chapter 4. The researcher also found that there insignificant direct relationship of 0.033399 between family size and production output and there is also insignificant positive relationship of 0.0995903 between age of a farmer and production output. The researcher also noted that there is no relationship between experience of a farmer and production output.

5.2.8 The effectiveness of government support in contract farming

The researcher noted that (82%) of respondents indicated that government support in contract farming is poor. As supported by the table 4.14 government is not supporting contract farming practice by Cottco at all. The Business Manager of Sanyati depot in an interview also highlighted that they are not receiving any support from the government to improve CFP. The researcher concludes that government is not support contract farming practice implemented by Cottco Zimbabwe.

5.2.9 Ways to improve Contract Farming Practice

As shown in table 4.15 in chapter four, (28%) of farmers indicated that Cottco company should provide irrigation facilities to the farmers so that they can increase production output. Twenty eight (28%) of the farmers indicated that the company should improve seed quality with better yield. Thirty (30%) of the farmers highlighted that the company should improve training service to the farmers. Other farmers also indicated that the company should practice competitive based pricing system, assisting farmers with weeding funds and cash advance.

5.3 Conclusions

5.3.1 Main Conclusions

The main aim of the research was to evaluate the effectiveness of contract farming practice on production output of the company. The null hypothesises in chapter one claim that contract farming practice has no effect on production output. The effects of contract farming was analysed in chapter four. The researcher uses Logit Regression Estimation Model of Stata 11 to test the effects of contract farming on production output and found there is significant positive relationship between CF and production output and there are some strategies that can be used by the Cotton Company of Zimbabwe to increase production output.

5.3.2 Sub Conclusions

The major challenges affecting cotton production are side marketing by the farmers, poor infrastructure, substandard chemical, lack of technology and competition. The researcher concludes that all these challenges affect Cottco Company in achieving its production budgets and a decline in production output. Table 4.4 summarise the extent to which the following challenges affect the Cotton Company of Zimbabwe in increasing its production output. Side marketing was the highest with the level of extent were 92% of respondents it affects cotton companies to a greater extent. It was followed by competition with 48% respondents showing to a greater extent. 44% of respondents highlighted that poor technology affect cotton companies to a greater extent, 8% of respondents indicated that poor infrastructure affects cotton production to a greater extent while 4% of respondents indicated sub-standard chemicals to a greater extent.

From the findings made, the researcher found that contract farming practice has an effect on production output because the farmers contracted by Cottco Company was able to increase their production output as compared to non contracted farmers. Contract farming was effective but farmers' side market crops contracted by Cottco to other companies.

The researcher also establish that there are other factors affecting production output of the Cotton Company of Zimbabwe (Cottco), these includes training, land size, age of a farmer and family size. The factors have positive relationship with output.

5.4 Recommendations

5.4.1 Horizontal Integration

In order to reduce side marketing and competition the company should adopt horizontal integration strategy. Horizontal integration is the merger of two companies or more companies at the same level of production in the same industry. Horizontal integration enables the firms to combine contract farming resources so that they can share contracted output according to

resources contribution sharing ratio. Horizontal integration also allows a control over cotton prices and costs so that a firm can increase production capacity. Horizontal integration enables the company to reduce bargaining power of farmers. This was supported by Dragomir (2008) who highlighted that horizontal integration ensures productivity, market coverage, competitive advantage and economies of scale to increase production capacity.

5.4.2 Competitive Based Pricing Strategy

The company should practice competitor based pricing technique. Competitor based pricing strategy involves setting of prices based on what rivals are charging. Cottco Company should charge prices that are in line with the prices charged by the competitors in order to increase market share and reduces the danger of side marketing by the farmers. Competitor based pricing strategy can help the company to increase production output. This was also supported by Eaton and Shepherd (2001) when they mentioned that competition based pricing strategy is an effective tool that can be used by cotton companies to increase market share and production output.

5.4.3 Legal Action Regarding Side Marketing

The researcher found that the organisation should take a legal action to reduce side marketing of cotton by the farmers. The company should also take a legal action against companies bought cotton which they did not contract. Since there is section which indicated that cotton buyer are not permitted to buy cotton from a grower contracted by another merchant in terms of the law, the company can take a legal action to reduce side marketing of cotton. Iikulunga (2005) also support that the government play a role of providing an enabling environment by creating a legislation support to small scale contract farming practices and other area such as council measures in order to reduce issues like breach of contract and side marketing of crops.

5.4.4 Large Scale Contract Farming

The researcher recommended the company to contract large scale commercial farmers because some respondents highlighted the issue of low output due to shortage of land especially the small holders' farmers. The company has a chance to increase production output if they contract large scale farmers because they have better knowledge, advanced equipment like tractors, large lands and take advantage of economies of scale. Large scale commercial farmers have less chance of side marketing because they produce more output and use less to pay the debt as compared to smallholder's farmers which who remain with nothing if they pay debts. Daniel (2006) also support large scale contract farming by highlighted that small land size affect cotton production because there is competition for land with other food crops which is likely to limit the increase in cotton production capacity.

5.4.5 Training and educating farmers about the importance of contract farming practice

The researcher recommended that the company should improve training services to increase production capacity and reduce side marketing. The Cottco Company should train both company workers and contracted farmers. Farmers should trained on methods of farming, crop protection, early planting, record keeping and the importance of contract farming in order to reduce side marketing of cotton. Richard (2008) supported that contracted farmers should be trained on conservative tillage methods, early planting, correct plant population, pest management at all growth stages, cotton harvesting methods, good timing and the importance of contract farming in order to increase production output and reduces side marketing.

5.4.6 Lobbying and seeking assistance from the government

The researcher recommended Cottco Company to lobby and seeking assistance from the government so that they can increase production output in contract farming practice. Lobbying is is the act of attempting to influence decisions made by officials in the government, most often legislators or members of regulatory agencies. The company should negotiate with government

on legal frameworks and other regulatory laws so that they can reduce the danger of side marketing. The company can also seek assistance from the government such as training, credit support, subsidies, tax benefits and other policy incentives to improve contract farming practice. (Guo et al 2007) support that the government should play an essential role through offering legal assistance, training services, subsidies, loans and managerial skills to extension officers and farmers in order to improve production capacity in contract farming practice.

5.5 Suggestion for future studies

The study was mainly focus on the effects of contract farming practice and on production output therefore the researcher suggested that further should be carried out in other areas such as the impact of contract farming practice on productivity and farmers income. The researcher also found that empirical evidence is needed to determine how international joint venture affect company performance and case studies are also needed to present detailed information about the JV implementation process. The researcher also noted that most of the studies were carried out in developed countries and a further research should be carried out in developing countries like Zimbabwe.

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LIST OF APPENDICES

Appendix 1. Questionnaires for Cottco Employees

1). How long have you been employed by Cottco. You are required to tick the most appropriate answer

Less than 1 ☐ 2 – 4 ☐ 5 – 9 ☐ More than 10 ☐

2). What educational qualification do you have? You are required to tick the most appropriate answer

Ordinary, level ☐ Advanced level ☐ Certificate level ☐

Diploma level ☐ Degree level ☐

3).In which department do you falls under?

Procurement and Operations ☐ Production Department ☐

Grading Department ☐ Human Resources department ☐

Finance Department ☐

4). To what extend does the following challenges affect the company in achieving its production budget. You are required to use the following scale. (1.very little extent, 2. Little extent, 3. Some extent, 4. Greater extent, 5. Very greater extent.)

Challenges	**Tick**				
	1	2	3	4	5
Side marketing by farmers					
Poor infrastructure					
Sub standard chemicals					

Lack of technology					
Competition					

5).What do you think are the reasons why Cottco farmers side market their crops to other companies. You are required to rank the reasons using a scale (1. Strongly agree, 2. Agree, 3. Unsure, 4. Disagree, 5. Strongly disagree.)

Factor	**Tick**				
	1	2	3	4	5
They are dishonest					
To avoid paying credits					
Low price by Cottco					
Breach of contract by the company					

6). To what extent does the company use the following strategies to reduce side marketing? You are required to use the scale; (1.Very greater extent, 2. Greater extent, 3. Some extent, 4. Little extent, 5. Not at all.)

Strategies	**Tick**				
	1	2	3	4	5
Legal action					
Act in accordance with contractual agreement					
Competitor based pricing policy					

Others (please specify)……

……..

7). How do you rate the contract farming practice implemented by Cottco in increasing production output? You are required to tick the most appropriate answer.

Excellent ☐ Good ☐ Fair ☐

Poor ☐ Very Poor ☐

8).Do you think effective contract farming practice can increase production output?

Strongly agree ☐ Agree ☐ Unsure ☐

Strongly Disagree ☐ Disagree ☐

9). To what extend does the company offering the following training services to the farmers? You are required to use the following scale. (1. Very greater extent, 2. Greater extent, 3. Some extent, 4. Little extent, 5. Not at all)

	Tick				
	1	2	3	4	5
Crop Protection					
Methods of farming					
Early planting					
Correct plant population					
Record keeping and the importance of CFP					

10).How do you rate the following roles played by the government in contract farming practice? You are required to use the scale. (1. Excellent, 2. Good, 3 Fair 4. Poor, 5, Very Poor.)

Role	**Tick**				
	1	2	3	4	5
training and development					
legal action if there is a breach of					

contract					
Loans to finance the contract					
Offering subsidies					

15) What other alternative strategies that can be employed by the Cottco Company to increase production output?

……

……

……

……

Appendix 2. Questionnaires for Farmers

1). Are you a contracted farmer by Cottco?

Yes ☐ No ☐

2). How long have you been in contract farming?

a) 1 – 5years ☐ b). 6 – 12 years ☐ c). 13 – 20 ☐

d). more than 20 years ☐

3). In which age category do you fall under?

a). 1 - 30 years ☐ b). 31 - 45 years ☐ c). 46 - 60 years ☐

d). 61 years and above ☐

4). How many are you in your family?

a). 1 – 3 members ☐ b). 4 – 8 members ☐

e). More than 8 members ☐

5). What land size do you have?

a). 1 – 2 ha ☐ b). 3 – 5 ha ☐

c).6 – 10 ha ☐ d). More than 10 ha ☐

6) How many kilograms of cotton do you produce per year?

a). 1 – 2000 kgs ☐ b). 2001 – 4000 kgs ☐

b). More than 4000 kgs ☐

7). How do you rate the contract farming practice implemented by Cottco in increasing your production output?

Excellent ☐ Good ☐ Fair ☐

Poor ☐ Very poor ☐

8). How effective were the following training services by Cottco in improving your production output? You are required to rank using the scale. (1. Excellent, 2. Good, 3. Fair, 4. Poor, 5. Very Poor)

Training	**Tick**					
	1	2	3	4	5	Not at all
Crop protection						
Farming methods						
Early planting						
Correct plant population						
Record Keeping and the importance of CFP						

9). What do you think are the reasons why farmers contracted by Cottco side marketing their produce? Rate the following factors using the scale; (1. Strongly agree, 2.Agree, 3. Unsure, 4. Disagree, 5. Strongly disagree)

Factor	**Tick**				
	1	2	3	4	5
Dishonest					
Poor customer care by Cottco					
Breach of contract by Cottco					
All the cotton will go towards the payments of					

Debts and will remain with nothing					
High prices offered by the competitors					
Contracted by more than two companies					

10).What do you think Cottco can do to improve the contract farming service to you?

a). providing irrigation facilities ☐ b). Improve seed quality ☐

c). supplying better quality chemicals ☐ d). Improve training methods ☐

e). Land visits for assessments ☐ f). Give cash advance ☐

Others (please specify)……

Appendix 3. Data Set for Regression Logit Model Stata 11

output	cf	land sz	age	fm sz	trn	exp
3	1	2	3	2	2	2
3	1	2	2	3	3	3
2	1	1	2	2	1	2
1	0	2	3	1	1	2
2	1	2	2	1	3	3
1	0	1	1	2	1	2
3	1	2	2	2	3	2
3	1	4	2	2	1	2
2	1	2	2	2	1	2
3	1	3	2	2	3	4
2	1	1	4	3	3	2
3	1	4	2	1	2	3
2	1	1	3	2	2	3
1	0	1	3	3	2	2
1	1	1	2	2	0	2
3	1	3	3	3	2	3
3	1	2	2	2	2	3
3	1	2	3	2	3	2
3	1	4	1	1	3	4
2	1	1	2	2	1	2
3	1	2	3	3	2	3
1	0	1	3	3	1	1
3	1	2	3	1	2	2
2	1	2	2	2	2	2
1	0	1	2	1	1	2
3	1	3	2	1	2	2

Appendix. 4 Regression Results

```
. *(7 variables, 26 observations pasted into data editor)

. reg output cf landsz age fmsz trn exp
```

Source	SS	df	MS		
Model	14.2727195	6	2.37878659	Number of obs	= 26
Residual	2.8426651	19	.149613953	F(6, 19)	= 15.90
				Prob > F	= 0.0000
Total	17.1153846	25	.684615385	R-squared	= 0.8339
				Adj R-squared	= 0.7815
				Root MSE	= .3868

output	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
cf	1.019234	.2242751	4.54	0.000	.5498205	1.488647
landsz	.4043051	.1026063	3.94	0.001	.1895476	.6190627
age	.033399	.1373876	0.24	0.811	-.2541565	.3209545
fmsz	.0995903	.1243192	0.80	0.433	-.1606127	.3597933
trn	.2794614	.117303	2.38	0.028	.0339435	.5249794
exp	-.1079946	.1580182	-0.68	0.503	-.4387304	.2227413
_cons	.0945322	.4938065	0.19	0.850	-.9390167	1.128081

Abbreviations on regression results

Output- production output by farmers

cf - contracted farmers

landsz- Land Size

age - Age of a Farmer

fmsz - Family Size

trn - Training

exp - Experience