

**A COMPARATIVE ASSESSMENT OF THE PERFORMANCE OF SOY BEAN  
OUTGROWER AND NON-OUTGROWER FARMERS IN KABWE DISTRICT.**

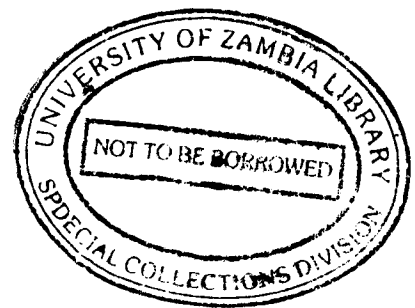
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BY

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## TABLE OF CONTENTS

Acknowledgements.....	ii
Table of Contents.....	iii
List of Tables.....	v
List of Abbreviations.....	vi
Abstract.....	vii
CHAPTER 1: INTRODUCTION.....	1
1.1 Introduction.....	1
1.2 Background.....	2
1.3 Problem Statement.....	3
1.4 Rationale.....	4
1.5 Research Objectives.....	5
1.5.1 General Objectives.....	5
1.5.1 Specific Objectives.....	5
1.6 Hypothesis.....	6
1.7 Limitations of the Study.....	6
1.8 Organisation of the Thesis.....	6
CHAPTER 2: LITERATURE REVIEW.....	8
2.1 Introduction.....	8
2.2 Definitions of Contract Farming.....	8
2.3 Literature Review.....	9
CHAPTER 3: STUDY METHODOLOGY.....	12
3.1 Introduction.....	12
3.2 Profile of Study Area.....	12
3.3 Study Design.....	12
3.4 Study Population and Sample Selection.....	13
3.5 Data Collection and types of Data Collected.....	13
3.6 Data Analysis and Processing.....	14

<b>CHAPTER 4.0: FINDINGS AND DISCUSSION.....</b>	<b>15</b>
<b>4.1    Introduction.....</b>	<b>15</b>
<b>4.2    Demographics Characteristics.....</b>	<b>15</b>
<b>4.3    Input Prices.....</b>	<b>17</b>
<b>4.4    Output Selling Price.....</b>	<b>20</b>
<b>4.5    Financial/Economic Benefits.....</b>	<b>21</b>
 <b>CHAPTER 5.0: CONCLUSIONS AND RECOMMENDATIONS.....</b>	 <b>30</b>
<b>5.1    Introduction.....</b>	<b>30</b>
<b>5.2    Conclusions.....</b>	<b>30</b>
<b>5.3    Recommendations.....</b>	<b>31</b>
 <b>REFERENCES.....</b>	 <b>33</b>
 <b>APPENDICES.....</b>	 <b>34</b>
 <b>Appendix I Survey Questionnaire for NCF.....</b>	 <b>35</b>
<b>Appendix II Survey Questionnaire for CF.....</b>	<b>41</b>

## LIST OF TABLES

Table 1: N.C.F Source of Outgrower Information.....	16
Table 2: C.F Source of Outgrower Information.....	16
Table3: Farmers Perception of C.F.....	17
Table 4: Perception of Input Costs by N.C.F.....	18
Table 5: Perception of Input Costs by C.F.....	18
Table6: Difference between Credit Input Cost and Inputs bought on Cash.....	19
Table 7: Difference between Output and Open Market Selling Price.....	20
Table 8: Perception of Open Market Selling Price by N.C.F.....	21
Table 9: C.F. Perception of the Selling Price under Contract Basis.....	22
Table 10: Production Levels of C.F.....	22
Table 11: Production Levels of N.C.F.....	23
Table 12: Profit Status of N.C.F.....	24
Table 13: Profit Status of C.F.....	25
Table 14: Produce for Home Consumption by C.F.....	25
Table 15: Produce for Home Consumption by N.C.F.....	26
Table 16: C.F. as a Solution to Food Shortage by C.F.....	26
Table 17: C.F as a Solution to Food Shortages by C.F.....	27
Table 18: Technical and Entrepreneurship Skills Received by C.F.....	28
Table 19: C.F who put Next Crop without Credit.....	28
Table 20: Production without Credit.....	28
Table 21: C.F willing to Continue Cultivating on Contract Basis.....	28
Table 22: C.F Perception on Area of Cultivation.....	29

## LIST OF TABLES

Table 1: N.C.F Source of Outgrower Information.....	16
Table 2: C.F Source of Outgrower Information.....	16
Table3: Farmers Perception of C.F.....	17
Table 4: Perception of Input Costs by N.C.F.....	18
Table 5: Perception of Input Costs by C.F.....	18
Table6: Difference between Credit Input Cost and Inputs bought on Cash.....	19
Table 7: Difference between Output and Open Market Selling Price.....	20
Table 8: Perception of Open Market Selling Price by N.C.F.....	21
Table 9: C.F. Perception of the Selling Price under Contract Basis.....	22
Table 10: Production Levels of C.F.....	22
Table 11: Production Levels of N.C.F.....	23
Table 12: Profit Status of N.C.F.....	24
Table 13: Profit Status of C.F.....	25
Table 14: Produce for Home Consumption by C.F.....	25
Table 15: Produce for Home Consumption by N.C.F.....	26
Table 16: C.F. as a Solution to Food Shortage by C.F.....	26
Table 17: C.F as a Solution to Food Shortages by C.F.....	27
Table 18: Technical and Entrepreneurship Skills Received by C.F.....	28
Table 19: C.F who put Next Crop without Credit.....	28
Table 20: Production without Credit.....	28
Table 21: C.F willing to Continue Cultivating on Contract Basis.....	28
Table 22: C.F Perception on Area of Cultivation.....	29

## **ABBREVIATIONS**

ACF	-Agricultural Consultative Forum
ASP	-Agricultural Support Programme
CUSA	-Credit Union and Savings Association
EU	-European Union
FDG	-Focus Group Discussion
GDP	-Gross Domestic Product
H/H	-Household
LDC	-Less Developed Countries
SPSS	-Statistical Package for Social Scientists
ZCF	-Zambia Co-operative Federation
C F	-Contract Farmers
NCF	-Non-Contract Farmers

## **ABSTRACT**

### **A COMPARATIVE ASSESMENT OF THE PERFORMANCE OF SOYBEAN OUTGROWER AND NON-OUTGROWER FARMERS IN KABWE DISTRICT.**

**Shadunka Mweemba**  
**University of Zambia, 2005**

**Supervisor:**  
**Mr. M. Likulunga**

The overall focus of this study was to determine the performance of outgrower schemes (contract farming) and non-contract farming and thereafter compare the two farming arrangements. The objectives were to determine whether there was a significant difference regarding a) input costs between soybean contract farmers and non-contract small-scale farmers; b) the selling price of the output; c) production levels or productivity; d) the financial/economic benefits and costs. The comparative analysis was done in Kabwe District and a random sample of 60 outgrower farmers and 60 non-outgrower farmers was selected for the study. Both qualitative and quantitative methods of data collection were used. Descriptive methods (SPSS) were used to analyse both qualitative and quantitative data

Findings were that in general terms there was a significant difference in input costs between soybean contract and non-contract small-scale farmers by 11% in favour of Non-Contract Farmers. On the other hand it was found that there was a significant difference in the output selling price between contract and non-contract small-scale farmers by 25% in favour of Contract Farmers. It was further found that small-scale farmers who were cultivating on contract basis had noted an increase in their production levels. The student t-test was used to determine this difference which was found to be significant in terms of productivity and profits upon selling their produce as compared to non-contract farmers. Contract farmers had experienced an increase in yields upon adoption of this farming arrangement. The mean yield for Contract Farmers was 178kgs/ha and 155kgs/ha for Non-Contract Farmers. Due to this profitability is increased in the case of contract farmers. Furthermore, this farming arrangement improved the socio-economic status to the farmers who practiced it and this was seen in the increase in their incomes. This delineates a bright future for soybean outgrower schemes.

Based on these findings, it is recommended that there is need for farmers and contracting companies to mutually agree on the producer price and include the selling price in the initial contract unlike revealing the output price after harvesting. This will lead to stable producer prices. The terms of paying back the loan should also be revised in instances where yields are affected by natural causes like draughts. There is need for government, projects and other service providers to facilitate the start up of many outgrower managers in the area since all the non-outgrower farmers were willing to adopt contract production of soybean. This will result in increased productivity as well as increased household incomes.



## **CHAPTER 1**

### **INTRODUCTION**

#### **1.1 Introduction**

Agriculture contributes about 22 percent to the Gross Domestic Product, provide livelihood for more than 50% of the population and employs 67% of the labour force (ACF, 2001). The overall objective of the agricultural policy has been to facilitate and support the development of a sustainable and competitive agricultural sector that assures food security at national and household levels and maximizes the sector's contribution to Gross Domestic Product (GDP). However, to realize the targeted GDP and contribute to poverty reduction as well as sustainable development, contract farming has been identified to be one of the major contributing factors. Following this, farming system has changed in recent years. In the past, farmers were accessing input funds and marketing of their farm products from CUSA and firms like lint co, Clarke, Lonrho, etc which dealt in crops like coffee, cotton, Soya beans, tobacco, paprika, etc. The call today is for the participation of private or small out grower managers and public out grower firms as well as farming as a business and its benefits to farmers who may produce for business purpose and not merely for farm or domestic consumption.

In the Zambian context, contract farming is defined as a range of initiatives taken by private and public firms to secure access to small holder produce under forward agreements, contract farming compels that farmers commit themselves to provide a specific commodity in quantities and at quality standards determined by the purchaser while the company commits itself to purchase the commodity at agreed prices and to support its production through provision of inputs(seed, fertilizer and pesticides) on credit and technical advice(extension). Costs are recovered when the produce is sold, in effect making the contract non transferable. The term out grower is often used interchangeably with contract farming (Haantuba, H 2004).

# CHAPTER 1

## INTRODUCTION

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Contract farming can also be defined as an agreement between farmers and processing/marketing firms and/or credit providers whereby the sponsors for the production and supply of agricultural products under forward agreement, frequently at predetermined prices. The agreement also invariably involves the sponsor in providing a degree of inputs and provision of technical advice. The basis of such arrangements is a commitment on the part of the farmer to provide a specific commodity in quantities and quality standards determined by the sponsor and a commitment on the part of the sponsor to support the farmers' production and to purchase the commodity (Eaton and Shepherd, 2001).

Following all this Agricultural Support Programme (ASP) has been promoting and facilitating out grower linkages among small scale farmers in its area of operations. Over 5000 linkages between individual farmers and service providers were developed in ASP designated agricultural camps during the 2003/04 agricultural season. The main focus of ASP facilitated soy bean out grower schemes is to raise small scale farmers' income and alleviating poverty by improved production and marketing of agricultural products and small-scale enterprise development (ASP POST, 2004). With time, the farmers will be expected to graduate to some significant level of entrepreneur development and sustain themselves.

However, the relationship between the small-scale farmers and out grower firms/managers has not been sufficiently mutually beneficial hence a performance evaluation of soy bean out grower farmers groomed by ASP in kabwe district will be carried out. Therefore, this paper will explore if there is any significant difference of the two farming arrangements.

## **1.2 Historical Background**

Contract farming and other vertically coordinated production relations are not new. This can be seen from the Japanese, USA, North America and Western Europe (Watts, 1994). Contract farming has been promoted in the recent three decades as an institutional

innovation to improve agricultural performance in less developed countries (LDC's), sometimes as a key element in rural development and/or settlement projects (Ghee and Dorall, 1992). This system was accepted and used as one of the promising institutional frameworks for the delivery of price and agricultural inputs. It will help the small family farms and farm labourers who need capital and managerial assistance (Moore, 1994).

It has been in existence for many years as a means of organizing the commercial agricultural production of both large and small-scale farmers. Interest in it continues to expand, particularly in countries that have liberalized marketing through the closing down of marketing boards. Changes in consumption habits, such as the increasing number of fast food outlets the growing role played by supermarkets in many countries and the continued expansion of world trade in fresh and processed products have also provided the impetus for further developed of this mode of production.

Agribusiness firms in Zambia, especially Agro-industrial processors and agricultural marketing firms, have attached considerable importance to the contract farming and marketing system. In Zambia this is practiced through small holder out grower schemes (Shula, 1998). Instead of owning land and farming directly, local farmers are contracted to use inputs supplied by the firm for the production of specified crops on a stipulated acreage. In addition the firm provides the necessary extension service. However production inputs are supplied as loans in kind. Notable cases of formal contract farming or out grower schemes in Zambia cover crops such as cotton, sugar cane, coffee, soy bean, chillies, paprika, tobacco and a wide range of vegetable crops like tomato, baby corn, mange tout, etc.

### **1.3 Problem Statement**

Contract farming or out grower scheme has come about for the sole purpose of enhancing production and marketing in agriculture and raise farmers' income and alleviating poverty as well as small scale enterprise development. Even though out growers in

Zambia had started for some time in cotton, sugar, coffee and tobacco, little is known about the performance of the small-scale out grower farmers.

Studies exploring contract farming seem to emphasize the inequality of the relationship and stronger position of the sponsors with respect to that of out growers. They view contract farming as essentially benefiting sponsors by enabling them to obtain cheap labour and transfer risks to the growers. What is most striking is the fact that despite the existence of big out grower schemes in kabwe, small-scale farmers have not been able to graduate to any significant level of entrepreneurship development because the relationship with out grower schemes have not been sufficiently mutually beneficial(ASP POST, 2004). Despite the huge number of linkages between individual farmers and services providers done by ASP, no notable difference seem to be seen in terms of performance between soy bean out grower and non-out grower small scale farmers.

While this eventuality is generally recognized in Zambia, there have been few studies to compare the performance between contract and non-contract small-scale farmers. Therefore, the question of whether there is any significant difference in performance between the two types of soy bean small-scale farmers (in terms of profitability and sustainability) is what has prompted to have this study.

The study will also try to bring out a better understanding of some of the benefits vis-à-vis accessible inputs, ready market, increased farm incomes and household food security of farmers under out grower schemes as compared to farmers who are not on contract farming.

#### **1.4 Rationale**

While there is substantial literature on the need for every development oriented government to support contract farming(outgrower schemes) through budgetary allocations and while many of these governments have come up with agricultural policies favouring contract farming in one form or the other, studies on the performance of small-scale out grower farmers are rare. Equally rare are studies meant to explore the

sustainability of such schemes. The proposed study seeks to investigate this aspect of small scale out grower farmer's performance with reference to non-out grower farmers which has not been given the necessary attention in studies on contract farming in Zambia.

To date there is no record to show that contract farming was formulated on the basis of accurate, reliable information on the local conditions in Zambia. In addition, after several years of implementation, it is not clear as to what impact the scheme has had on the farmer's socio-economic welfare in the country in general and on small-scale farmers in particular. This study is significant in that as an assessment study it will provide valuable data on the performance of soy bean small-scale out grower farmers in Kabwe district as well as data on which to base the formulation of future contract farming policies. Specifically the study will compare the performance between soy bean small-scale contract and non-contract farmers in Kabwe district.

## **1.5 RESEARCH OBJECTIVES**

### **1.5.1 General Objectives**

The general objective of the study is to carry out a comparative assessment of the performance between soy bean contract and non-contract small-scale farmers in kabwe district.

### **1.5.2 Specific Objectives**

To determine whether there is any significant difference in input costs between soy bean contract farmers and non-contract small scale farmers.

To determine whether there is any significant difference of the selling price of the out put between contract and non-contract small-scale farmers.

To determine whether there is any significant difference in productivity between contract and non-contract farmers.

To determine the (financial/economic) benefits and costs of contract out growers as compared to non-contract small-scale farmers.

## **1.6 Hypothesis**

1. C.F will lead to cheap inputs than N.C.F
2. C.F will lead to higher output selling price than N.C.F
3. C.F will lead to increased productivity (yields) than N.C.F
4. C.F will lead to more financial/economic benefits than N.C.F

## **1.7 Limitations of the study**

The study went without limitations and these are outlined below. The data collected only covered the period of 2002/03 to 2004/05 agricultural season. This was due to the fact that the contracting firm was in operation/existence during the above mentioned period.

This study was also restricted to Kabwe district and this was due to financial and time constraints. The study was also limited to soybean small-scale farmers only to allow for consistency of data and make comparisons easy.

At the time of data of collection, Zambia as a nation was experiencing fuel shortages. Following this, part of the time which was supposed to be spent in the field collecting data was instead directed towards looking for fuel leading to an extension of the data collection period.

## **1.8 Organisation of the Thesis**

This thesis is made up of five chapters. The first chapter basically outlines the introduction and the background; it also presents the problem statement and the

objectives. Chapter two presents the different literature on contract farming. It reviews the literature on European, American, Asian, African and Zambian cases.

Chapter three outlines the methodology which was used and outlines how the respondents were selected, the sample size and the study area, the procedure, data collection instrument, it also presents the type of program used to analyze the data. Chapter four is the findings and discussion of the research with respect to the study objectives. The last chapter which is chapter five basically outlines the conclusion and the recommendations drawn from the findings and discussion of the study.



## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter reviews literature on C.F from 1990 to date. Firstly, a review of studies done in Europe is outlined followed by the American cases. Thirdly, the Asian cases are reviewed in particular Thailand, Malaysia and Indonesia. Thereafter, a review of African cases is done with much focus on experiences of seven countries in east and south east Africa. Lastly, the Zambian cases are reviewed with much emphasis on marketing and producer prices.

#### **2.2 Definitions of Contract Farming**

Contract Farming is defined as a range of initiatives taken by private and public firms to secure access to small-holder produce under forward agreements, contract farming compels that farmers commit themselves to provide a specific commodity in quantities and at quality standards determined by the purchaser while the company commits itself to purchase the commodity at agreed prices and to support its production through provision of inputs (seed, fertilizer and pesticides). Costs are recovered when the produce is sold, in effect making the contract non transferable (Haantuba, 2004).

Contract farming can also be defined as an agreement between farmers and processing/marketing firms and/or credit providers whereby the sponsors for the production and supply of agricultural products under forward agreement, frequently at predetermined prices. The agreement also invariably involves the sponsor in providing a degree of inputs and provision of technical advice. The basis of such arrangements is a commitment on the part of the farmer to provide a specific commodity in quantities and quality standards determined by the sponsor and a commitment on the part of the sponsor to support the farmers' production and to purchase the commodity (Eaton and Shepherd, 2001).

Contract Farming has been promoted in the recent three decades as an institutional innovation to improve agriculture performance in less developed countries, and/or settlement projects (Ghlee and Dorall, 1992).

In the E.U the production and system has been encouraging contract farming (Erkan et al, 1993).When the contribution of vertical integration and contract farming to German agriculture was analysed, it was concluded that those approaches could result in substantial advantages for cooperating farmers but did not automatically improve the competitive position of the parties involved (Zurek, 1993).In German vertical integration through contract farming/production was already common in the dairy, poultry and sugar sectors however, only about 6% of output was produced under contract. This type of integration benefited both sides and was likely to continue (Gross Kopt, 1994).

Italy showed that contract arrangement were closely associated with farming in the entire region and reflected the state and conditions of agriculture development in each of them. This suggested that contract farming was a continuous evolving process and also determined that agriculture development was linked to overall development and affected the forms that contract farming took in different areas (Pecci and Lipparini, 1993).It was offered as a vehicle for the transfer of technology; modernisation of peasant small holders and the creation of a stable and politically conservative class of family farmers. Overall contract farming had spread enough in the region that it could be considered a significant road of capitalist development in agriculture (clap et al, 1994).

Experiences in the sub-region of the world have shown variations. Example the Malaysian schemes appeared to be the most successful. They were long established and increased in size and number. Indonesian schemes were also widespread and active (Glover and Ghlee, 1992).But Thailand's experience was quite the opposite. Attempts and efforts had failed in almost every case examined(Manarsugsan and Suwanginder, 1992).both firms and farmers enjoyed great flexibility and more production ,marketing and ensured supply options if the farms were small and had diversified production activities. Of course, the failures in the related government policies also had negative

impacts on contract farming. Perhaps the most important reasons for the success of the Malaysian and Indonesian experiences was the strong and continued support provided by government (Ghlee and Dorall, 1992).

Contract farming represents an expanding and much suggested method of agro-industrial integration for developing economics. Contract farming was depicted as a method by which agriculture in the developing world was converging with that in the developed world (Watts, 1992). A study based on experience of seven countries in east and south east Africa with contract farming and out grower schemes in Kenya, Tanzania, Zambia, Zimbabwe, Lesotho, Swaziland and Malawi showed that in most cases, performance in delivering services and providing income increases to farmers had been quite good, although high management costs limited the extent to which this form of organization could be more widely applied. It was concluded that lesser control and relying more on price incentives and farmer participation might lower overhead costs while developing management capacity among growers (Glover, 1990).

Analysis of the Kenyan experience had shown that contract farming had the potential to provide a pareto-improving form of governance and it could be used to increase the income available to the rural sector. It was a practice which may be engaged in for both efficiency and anticompetitive motives (Gross, 1994). Moono (1993) studied the potential of contract marketing and its role in increasing farmers' incomes in Zambia. He observed that despite credit provision, the producer price of cotton was disincentive as depicted by 68% of his study results. Soko (1996) in his study to evaluate small scale farmers under contract farming pointed out that apart from provision of input and adequate extension services, a good producer price (pre planting) was a good incentive for farmers to grow more and merge well for higher productivity.

Mwiinga (2004) in his study, an assessment of the financial viability of broiler production by contract at hybrid poultry farms limited observed low producer prices hence recommended that government should protect farmers from being exploited by sponsors whose main aim interest was profit. This intervention could be through introducing a law

that would regulate contract farming. Small scale farmers are the most victims of exploitation; they lack capital, face high risk etc as such if they formed unions and/or cooperatives/associations they would strengthen there bargaining power and enable them to negotiate as one strong force rather than single fragments. This could reduce the possibility of exploitation that could occur when an unorganized mass of small holders faced a single buyer or sponsor. However there are merits and demerits which accrue to the farmers. Among the merits are provision of inputs and production services, access to credit, introduction of appropriate technology, skill transfer, guaranteed and fixed pricing structures, access to reliable markets, etc. demerits include domination by monopolies, indebtedness and over reliance on advances among others.

Contract farming ventures thus promote close and stable relationships between agro-industry processors and agriculture producers and are being advanced as a potential innovative form of agricultural and rural development (Goldsmith, 1985).

## **CHAPTER 3**

### **METHODOLOGY**

#### **3.1 Introduction**

This chapter presents the research methodology for this study. The background of the study area Kabwe in particular is looked at in terms of Agro-climatic conditions and the major farming activities. The study methodology further outlines the study design, study population, sample selection techniques, data collection procedure, survey process, types of data collected, data analysis and processing respectively.

#### **3.2 Study Area**

Kabwe is located in central Zambia about 176 kilometres from Lusaka the capital city of Zambia. It is formerly known as Broken Hill and is mainly a plateau. Since most of Kabwe is a plateau, it is rooted by gentle to moderate slopes that are interspaced with hills, minor ridges and annually water logged swamps are common features in Kabwe.

Kabwe is in Agro-ecological Zone II with annual rainfall ranging from 800 to 1000mm. the major farming activities includes crop production, livestock production and fishing. The major crops grown are cotton, maize, soybean and tobacco. All the crops above are mainly cultivated on contract basis except for maize. This makes contract farming to be predominant in central Zambia.

#### **3.3 Study Design**

A case study to undertake a comparative analysis between soy bean small-scale contract and non-contract farmers in Kabwe district was carried out. This was done from the out grower farmers as well as non-out grower farmers point of view. The study focused on a single crop (Soya beans) to make comparisons easy.

### **3.4 Study Population and Sample Selection**

The study population comprised of Kabwe District in Central Province of Zambia. The sample for the study was drawn from the said district and a random sample of 60 out grower farmers and 60 non-out grower farmers was selected for the study. Random sampling techniques were used to obtain samples from the farming community to ensure that equal opportunity was extended to all the participants who were in the area at the time of the study. The sampling unit was an individual farmer. The total number of farmers in Kabwe District practicing soy bean contract farming was obtained. The sample was drawn from Makululu farming area of the district to ensure a fair distribution as much as possible.

### **3.5 Data Collection Process and Types of Data Collected**

The data collection process was done by the researcher (me) and one enumerator who happened to be an Agricultural Support Programme facilitated extension officer. Trust and confidence was first created in the respondents by explaining the purpose of the study. In this study, for the collection of data two questionnaires were prepared, a questionnaire for an out grower farmer and a non-out grower farmer questionnaire. Refer to appendix I and II for the questionnaires. Questionnaires were administered as well as observations during the collection of primary data. Both quantitative and qualitative methods of data collection were used. A semi-structured interview was used to collect data from randomly selected farmers in both categories (out grower and non-out grower).

A questionnaire was used in face-to-face situation to solicit responses from respondents. During this process, probing further as well as counterchecking some of the major and interesting issues arising from the responses was done. The questionnaires consisted of closed and open ended questions to allow for consistent responses as well as personal views.

Moreover questionnaires deal with a representative sample of a population and it allows for a direct interaction between the respondents and the instrument. Focused Group

Discussions (FGD's) were employed to validate the data collected using the questionnaire. Primary data was collected i.e. both qualitative and quantitative data from the farmers households. Secondary data was also collected from the contracting firm mainly on the conditions of the contract.

### **3.6 Data Analysis and Processing**

The data collected from the questionnaires was coded and entered in Excel for data cleaning purposes. Thereafter, the data was entered in SPSS where descriptive methods were generated and used to analyze both qualitative and quantitative data from primary and secondary sources on soybean small-scale outgrower farmers and non-outgrower farmers. Thereafter the two farming arrangements were compared in terms of input cost, selling price, productivity and financial/economic benefits in Kabwe district.

## **CHAPTER 4**

### **RESULTS AND INTERPRETATION**

#### **4.1 Introduction**

This chapter presents the findings of the study. It begins with the presentation of the demographic characteristics of the sample upon which the findings are based. It then discusses the results of the cost of inputs of contract farmers (outgrowers) as compared to non-contract farmers (non-outgrowers). Further more, the selling price of soybeans by the two forms of farming arrangement is looked at and then the comparative profitability of these two forms is discussed. Some of the problems/ constraints encountered by contract farmers are also discussed respectively. Lastly, the subject is concluded as well as recommendations.

#### **4.2 Demographic and Socio-economic Characteristics of the Respondents**

It was found out that the majority (83%) of small scale outgrower farmers are male and only (17%) are female. It was equally found out that the majority of non-outgrower farmers are male (60%) with only (40%) of females. From these statistics it was seen that few females were cultivating on contract basis as compared to females who were not on contract or in other words there were more outgrower males than non-outgrower males.

The majority of the small scale outgrower farmers fell between the age of 20-50 years of which 7% constituted those farmers that were between 20-24 years of age, 20% fell between 25-29 years of age, 18% fell between 30-34 years of age, 12% fell between 35-39 years of age, 3% fell between 40-44 years of age, 13% fell between 45-49 years of age and 27% were above 50 years old. The average age was found to be 35 years with 20 and 72 years being the minimum and maximum ages respectively. Generally, the majority of the farmers (80%) are married, while 20% are single.

In terms of education, (62%) of the contract farmers have attended formal school up to primary level, while 28% constituted those that have attended secondary education and



2% attended tertiary education. Only 8% did not attend any formal school. On the other hand of non-contract farmers 53% have attended formal school up to primary level, while 20% constituted those that that have attended secondary education and 27 % did not attend any formal education. The majority of the farmers (80%) own less than 10 hectares of land with the highest hecterage being 40 hectares and the lowest being 1 hectare respectively with respect to both contract and non-contract farmers.

All non-outgrower farmers had heard of outgrower arrangements and the main sources of information being Extension Officer (67%), Local NGO's (7%), 20% from friends and only 6% from other sources.

**Table 1: NCF's Source of Outgrower Information**

	No of Farmers	Percent
Local NGO	4	7
Extension Officer	44	67
Other	12	20
Total	60	100

**Source: Own H/H Survey**

On the part of contract farmers the main sources of information about outgrower schemes were Extension Officer (80%), Local NGO's (10%) and 10% heard from other sources.

**Table 2: CF's Source of Outgrower Information**

	No of Farmers	Percent
Local NGO	6	10
Extension Officer	48	80
Other	6	10
Total	60	100

**Source: Own H/H Survey Data**

The majority of the farmers perceived contract farming arrangement to be a good idea. All the farmers (100%) intended to start cultivating soybeans on contract basis due to the easy with which inputs are made available and facilitated market for the product. Of these 50% indicated that it was a good idea, 30% said it resulted in increased productivity and 20% outlined that the arrangement was profitable.

**Table 3: Farmers Perception of Contract Farming**

	No of Farmers	Percent
Profitable	30	50
Increased productivity	18	30
Good Idea	12	20
Total	60	100

**Source: Own H/H Survey Data**

**4.3 Input Price**

The following section will analyse and compare the input price between non-contract farmers and contract farmer. With respect to this 70% of non-outgrower farmers revealed that they did not acquire inputs easily and on time due to lack of money to buy inputs (43%) and 27% of the farmers lacked recycled seed. Of these farmers, 80% of them acquired inputs with their own cash, 7% from co-operatives and 13% from other sources and out of all these farmers, 80% did not prefer the idea of purchasing inputs on cash but they had no other option apart from acquiring their inputs on cash.

The table below (Table 4) depicts the perception of input costs by the non-contract farmers. Non-contract farmers gave their views on how they perceived input costs of which 53% said the price was very high (K68,000), 40% felt the input price was just high (K65,000) and 7% of the farmers were indifferent about the input price (K60,000).

**Table 4: Actual Input Cost Faced by NCF's**

	No of Farmers	Percent	Cost of 10kg seed
Very High	32	53	K68,000
High	24	40	K65,000
Indifferent	4	7	K60,000
Total	60	100	

**Source: Own H/H Survey Data**

This can further be illustrated in the table below on the perceptions of the contract farmers (68%) who said that input costs under contract farming in relation to non-contract farming are low, whilst 15 % felt the input costs were the same in relative terms. Only 17 % perceived the input costs to be higher.

**Table 5: Perception of Input Costs by CF's**

	No of Farmers	Percent
Higher	10	17
Lower	41	68
Same	9	15
Total	60	100

**Source: Own H/H Survey Data**

On the other hand, 93% of the small-scale contract farmers indicated that there was a difference between credit input costs and inputs bought on cash as depicted in the table below. It was further explained that the firm provided all the inputs in the right amount/quantities and that the inputs actually reached them on time implying that planting was also done on time resulting in increased yields hence higher profits. The table below outlines differences in input costs.

**Table 6: Difference between Credit Input Costs and Inputs Bought on Cash**

	No of Farmers	Percent
Yes	56	93
No	4	7
Total	60	100

**Source: Own H/H Survey Data**

A further explanation to make the above information clear was done by calculating the actual cost of soybean seed which happens to be the major input in soybean production. The cost of a 10kg bag of soybean seed varies as follows: K60, 000, K65, 000 and K68, 000 on cash basis whilst a farmer who gets a 10 kg bag of soybean seed on contract basis or as an outgrower will be required to pay back a 60kg bag of soybean.

The selling price of soybean on open market is K1200/kg hence realise K72, 000 when a 60 kg bag of soybean is sold. Therefore, when you compare these sums of money i.e. K60, 000 (7%), K65, 000 (40%) and K68, 000 for buying inputs (seed) on cash and K72, 000 on contract basis, a difference of K12, 000 is seen for N.C.F who buy their seeds at K60, 000 then K7, 000 for farmers who buy their seeds at K65, 000 and K4, 000 for farmers who buy their seeds at K68, 000 respectively. Hence the price of soybean seed on cash basis varies as compared to the price of soybean seed obtained on contract or credit basis. From this it was concluded that there was a significant difference in input costs (seed) between C.F and N.C.F (93).

The cost of seed for C.F in relative terms was found to be higher than that of N.C.F. Out of 93% N.C.F, 53% experienced a cost difference of 3% in percentage terms (C.F cost was higher by K4, 000), 40% experienced a cost difference of 10% (C.F cost was higher by K7, 000) and the rest (7%) experienced a cost difference of 20% (C.F cost was higher by K12, 000). From the above data, it can be said that the cost of input (seed) under C.F. is higher than that of N.C.F.

4.4 Output Selling Price

In the case of the selling price of soybean, a comparative analysis was also undertaken between small-scale farmers on contract and those who were not on contract farming basis. Firstly, the analysis starts with identifying the one who sets the output selling price of soybean. In the case of contract farmers, the selling price is determined by the contracting firm but in the case of non-contract farmers, the selling price is determined by the market since the farmer trades in a competitive market. Ultimately the two kinds of farmers are price takers and they do not have any say in output selling price determination.

Henceforth, 100% of the contract farmers indicated that there was a difference between contract output selling price and open market selling price respectively. The selling price in the 2003/04 agricultural season was K1500/kg and in 2004/05 the selling price was K1400/kg. Open market selling price was 1200/kg in the two seasons. This is depicted in the table below.

Table 7: Contract and Open Market Output Selling Prices.

Season	No of Farmers	Percent	C.F selling price	Open market selling price
2003/04	60	100	K1500/kg	K1200/kg
2004/05	60	100	K1400/kg	K1200/kg

Source: Own H/H Survey Data

Contract selling price ranged between K1400/kg-K1500/kg during the 2003/04 and 2004/05 agricultural season respectively. On the contrary, open market selling price was K1200/kg giving a margin difference of 20-25% in favour of contract farmers.

Further insight was obtained on this subject and this indicated that 98% of non-contract farmers perceived open market selling price as being low as compared to C.F selling

price. 2% of the N.C.F showed ignorance of the C.F. selling price .i.e. only knew open market selling price.

**Table 8: Perception of the Open Market Selling Price by NCF's**

	No of Farmers	Percent	N.C.F Selling price	C.F Selling price
Low	56	98	K1200/kg	K1400-K1500/kg
Don't know	4	2	K1200/kg	nil
Total	60	100		

**Source: Own H/H Survey Data**

Following this, it was found out that, 87% of the non-contract farmers indicated that due to the low selling price of soybeans they did not afford to meet all their input costs upon selling their produce. To meet the demands of the next planting season in terms of seed, most farmers recycle seeds which results into low yields since the seeds are not treated or certified. The majority of non-contract farmers indicated that open market selling price was unfavourable for them due to the fact that in a competitive market the seller is a price taker and had no say whatsoever in price determination.

The farmers further noted that there was a fall in the selling price of soybean especially at the peak of harvesting. Apart from selling to the open market, farmers also sold their produce to formal firms like milling companies which were buying soybeans at the same price as the open market. The only incentive of selling to these firms was that farmers were paid upon delivery. However, most farmers complained of the transport costs hence a discouraging factor.

**4.5 Financial/Economic Benefits**

According to the research findings, 90% of farmers on contract had experienced a substantial increase in the production of soybean as opposed to 10% of the farmers who had experienced the same production levels and this was attributed to problems which

include draught (poor rainfall), late delivery of inputs resulting in late planting and ultimately affect yields or production. This is depicted in the table below.

**Table 9: Increase in Production Levels of CF's**

	No of Farmers	Percent
Yes	42	70
No	18	30
Total	60	100

**Source: Own H/H Survey Data**

A further illustration of the production levels was done for the C.F. calculating the average yields for three consecutive agricultural seasons. An average of 150kg/lima was produced in 2002/03 season, then an increase in yields/lima was seen in 2003/04 season to 200kg/lima and then in 2004/05 yields increased to 240kg/lima. The table below depicts this scenario. For the rest (10%) of the farmers, they had experienced the same yields/lima on average and this was 150kgs in the mentioned seasons.

**Table 10: Production Levels of CF's**

	Agricultural season	Agricultural season	Agricultural season	
Percent	2002/03	2003/04	2004/05	Total
90	180kg	200kg	240kg	620kg
10	150kg	150kg	150kg	450kg

**Source: Own H/H Survey Data**

On the other hand, 33% of the non-contract farmers had experienced a substantial increase in their production as opposed to 67% of the farmers who had not experience any increase in production. This was attributed to several reasons which include lack of inputs, draught, lack of assured market for the produce, lack of entrepreneurship skills (farming as a business) among others. The table below further outlines the average

production levels of soybean of the 33% of the non-contract farmers who had experienced an increase in production.

**Table 11: Increase in Production Levels by NCF's**

	No of Farmers	Percent	2002/03	2003/04	2004/05
Yes	20	34	140kg	170kg	200kg
No	40	66	140kg	140kg	140kg
Total	60	100			

**Source: Own H/H Survey Data**

As depicted by the two tables above, comparisons were made between contract farmers and non-contract farmers in terms of the substantial increase in production. This study indicated that 90% of the C.F. as opposed to 34% of N.C.F had experienced a substantial increase in production. Hence a higher percentage of contract farmers as compared to non-contract farmers had experienced a substantial increase in production. This gave a difference of 10kg in 2002/03, 30kgs in 2003/04 and 40kgs in 2004/05 respectively. On the other hand 66% of N.C.F had the same production levels as opposed to 10% of the contract farmers.

In order to elaborate further on the productivity levels, the Student t-test was used to determine if there was any significant difference between the two farming arrangements. The mean yield for CF's was 178kgs and 155kgs for NCF's respectively.

**Hypothesis**

Ho: CF=NCF

HI: CF≠ NCF

There is no significant difference in yields or productivity between CF and NCF

**Assumptions**

There was random sampling

CF's and NCF's were independent

The population was homogenous and distribution was normal

The scale of measurement was Interval/Ratio scale



**Decision Rules**

Given 5% level of significance and 10 degrees of freedom

If  $t_{\text{calculated}} > t_{\text{table}}$ , then Reject  $H_0$

If  $t_{\text{calculated}} < t_{\text{table}}$ , then Accept  $H_0$

It was found that  $t_{\text{calculated}}$  was 2.55 and  $t_{\text{table}}$  was 2.23 hence;

$t_{\text{calculated}} > t_{\text{table}}$

**2.55 > 2.23 therefore Reject  $H_0$**

There was a significant difference between CF and NCF in terms of productivity and hence profitability is increased in the case of Contract Farmers.

This study further revealed that 85% of the farmers on contract preferred to sell all their produce to the contracting firm and this is due to the favourable price at which the firm bought soybean as compared to open market. The firm gives first preference to the farmers on contract in terms of buying their produce or providing a ready market for soybean. Limited amounts are also bought from non-contract farmers and this constituted of 10% of these farmers. These farmers preferred to sell their produce to the contracting firm since the price offered was higher than what open market had to offer.

On the aspect of profits, the study revealed that 7% of the non-contract farmers had experienced a decrease in profits, 13% indicated that their profits had increased and 80% felt that profits were just the same as shown in the table below.

**Table 12: Profit Status of NCF's**

	No of Farmers	Percent
Decreasing	2	7
Increasing	4	13
Same	24	80
Total	30	100

**Source: Own H/H Survey Data**

However, a different scenario was seen in the case of contract farmers. Upon adoption of this farming arrangement, 60% of the farmers had experienced an increase in profits, 15% experienced a decrease in profits and 25% of the farmers indicated that they had neither seen an increase or a decrease of profits since they started cultivating soybeans on contract basis meaning that the profits were just the same. This is shown in the table below.

**Table 13: Profit Status of CF's Since Inception.**

	No of Farmers	Percent
Increasing	36	60
Decreasing	9	15
Same	15	25
Total	60	100

**Source: Own H/H Survey Data**

From the profitability tables above it was clearly seen that contract farming resulted in increased profits after comparing contract farmers (60%) to non-contract farmers (13%), giving a margin difference of 47%. therefore, it can be said that cultivating soybeans on contract basis is more profitable than own cash production. these profits accruing to the farmers had resulted in increased income and ultimately improved their socio-economic status. these funds were used in several ways like paying school fees for children, paying medical fees, buying inputs for other crops which are cultivated on the farm like maize seed, pesticides and fertilizer and buying of assets like bicycles, radio cassettes, e.t.c.

Soybean is a nutritional foodstuff, which can be a major source of proteins in the diet of both humans and livestock. An investigation on farmers who apart from selling their produce to the market left some for home consumption revealed that 77% of farmers on contract did not sell all their produce (soybeans) but left some for home consumption. Only 23% sold all their produce as shown in the table below.

**Table 14: CF’s who Left Soybean for Home Consumption.**

	No of Farmers	Percent
Yes	46	77
No	14	23
Total	60	100

**Source: Own H/H Survey Data**

On the contrary, only 20% of non-contract farmers left some of their produce for home consumption with the 80% selling all their produce as depicted in the table below. This was attributed to the low yields and lack of knowledge of how to make various foodstuffs from soybeans like soymilk, soy cake, cooking oil and soy meal. Outgrower farmers are taught skills on how to prepare such products from soybeans apart from entrepreneurship skills.

**Table 15: NCF’s who Left Soybean for Home Consumption.**

	No of Farmers	Percent
Yes	6	20
No	24	80
Total	30	100

**Source: Own H/H Survey Data**

From the above analysis, it can be said that soybean contract farming leads to increased food basket in households of beneficiaries and hence improved household food security.

Following this scenario, the research further revealed that 93% of outgrower farmers thought contract farming or outgrower schemes are a solution to food shortages in that they can lead to increased production of both edible and non-edible crops (cash crops which generate income for farmers). Only 7% felt this was not true as shown in the table below.

**Table 16: CF as a Solution to Household Food Security**

	No of Farmers	Percent
Yes	56	93
No	4	7
Total	60	100

**Source: Own H/H Survey Data**

This indicates a higher percentage as compared to 20% of non-contract farmers who thought that increased small-scale own resource cultivation was the solution to food shortages. This is illustrated in the table below.

**Table 17: NCF's as a Solution Household Food Security.**

	No of Farmers	Percent
Yes	6	20
No	24	80
Total	60	100

**Source: Own H/H Survey Data**

In addition to the financial and socio-economic benefits, outgrower farmers believed they benefited more from this farming arrangement in terms of knowledge and this was seen from the 90% of the farmers who received technical and entrepreneurship skills from the contracting firm as well as the extension officer. The 5% did not receive technical skills due to personal commitments at the time when others were attending lessons. The 5% felt the skills were not important to them hence missed all the lessons. The table below gives an outline of the data above.

**Table 18: CF’s who Received Technical and Entrepreneurship Skills**

	No of Farmers	Percent
Yes	57	95
No	3	5
Total	60	100

**Source: Own H/H Survey Data**

Due to the profitability nature of outgrower schemes in monetary terms, 73% of the contract farmers were able to put in the next crop with their own resources i.e. without credit. Of the 73% of these farmers, 28% managed to do this after one year, 30% after two years and 15% after three years respectively. In line with the above information 855 of these farmers indicated that they easily met the commodity quality and quantity standards as required by the contracting firm. Contract farmers (27%) who were not able to cultivate soybean without credit eluded their failure to draught (poor rainfall), which resulted in low yields. The two tables below further elaborate the results.

**Table 19: CFs Able to Put their Next Crop without Credit**

	No of Farmers	Percent
Yes	43	73
No	17	27
Total	60	100

**Source: Own H/H Survey Data**

**Table 20: Years taken by CF’s to Start Cultivating without Credit**

Years	No of Farmers	Percent
1	18	28
2	17	30
3	9	15
Total	44	73

**Source: Own H/H Survey Data**

Lastly, the research went on to find out N.C.Fs’ perceptions on their willingness to start cultivating soybeans on contract basis and 95% of the farmers indicated that they were willing to cultivate soybean under contract arrangement with different intentions about production hactorage of soybeans. 5% of these farmers felt they were better of with cultivating soybean with their own resources. They indicated that they never saw any difference in the two production methods. The table below further outlines the statistics.

**Table 21: N.C.F Willing to Cultivate on Contract Basis**

	No of Farmers	Percent
Yes	57	95
No	3	5
Total	60	100

**Source: Own H/H Survey Data**

**Table 22: N.C.F Perceptions on Area of Cultivation**

	No of Farmers	Percent
Increase	54	90
Same	3	5
Total	57	95

**Source: Own H/H Survey Data**

Ninety percent of them were opting to increase the area of cultivation following the availability of inputs and a ready market for the produce.

## **CHAPTER 5**

### **CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1 Introduction**

This chapter outlines the conclusions and recommendations of the thesis findings. Firstly, it concludes on the cost of inputs of both farming arrangements followed by the output selling prices. Thirdly, a conclusion on productivity levels by the two groups of farmers is done. Thereafter, the chapter concludes on the financial benefits of these farmers. Finally the chapter gives an outline of what was recommended for this study.

#### **5.2 Conclusions**

In conclusion it can be said that soybean contract farming is a profitable farming arrangement in reference to the performance comparisons between contract and non-contract small-scale farmers. Furthermore, only one contracting firm operated in the area and determined the prices.

There was a difference in the input price between the two farming arrangements; Contract Farming input price is higher by 11 % (average) from Non-Contract Farmers input price. A difference was also noted in the output selling price and this was seen from the Contract Farming selling price which was higher by 25% from the Non-Contract Farmers selling price, ultimately giving a higher profit margin to small-scale farmers on contract as compared to non-contract farmers upon selling their produce (soybean). Henceforth, soybean contract farming leads to more financial benefits than non-contract farming. This is qualified by the 14% percent margin of the selling price (25-11%).

Contract farmers had experienced increased production of soybeans with an average yield of 206kgs during the three consecutive agricultural seasons as compared to 170kgs for non-contract farmers. There is a significant difference in productivity between CF's and NCF's resulting in increased profitability in the case of CF's. This was attributed to several factors, which include timely and availability of inputs among others. This

farming arrangement had also benefited farmers with technical and entrepreneurship skills as offered by the contracting firm and ASP via extension officers.

Contract farming has also lead to increased household food security and nutrition levels. Following this mode of soybean production, all the non-contract farmers had intentions to start cultivating soybean on contract basis. Therefore, it can be generally inferred that soybean outgrower schemes result in increased financial gain (profits) and improved socio-economic status of small-scale farmers' households.

This farming arrangement did not go without problems/ constraints as faced by the outgrower farmers. The major drawback was draught, which affected their yields hence, in certain instances encountered difficulties to pay back the loan. Secondly, the contracting firm set the selling price only and this price was revealed after harvesting the crop. This also led to annual selling price fluctuations. Farmers also received their cash payments late after the purchase of their produce (soybeans).

## **5.2 Recommendations**

On the basis of the results and conclusion, the following are recommended. Firstly, since Zambia has been experiencing draughts in the near past, the terms of paying back the loan should be revised in instances where yields are affected by natural causes. The firm should provide amounts of inputs as requested by the farmers unlike giving all the farmers the same amounts of inputs (seeds). Some farmers may wish to cultivate more than others.

Secondly, there is need for the two parties (outgrower farmers and contracting firm) to mutually agree on the producer price as opposed to imposing the selling price on the farmers. There is need to include the selling price in the initial contract unlike revealing the output price after harvesting. This will lead to stable producer prices.



The contracting firm also needs to pay cash to the farmers as soon as the produce is delivered that is payments should not be delayed. This will motivate all the farmers to sell their produce to the contracting firm only.

There is need for active female participation in this cultivation arrangement so that an equal representation of male and female is realised. The fact that all the non-contract farmers were willing to cultivate soybeans on contract basis, there is need for Government, projects and other service providers like ASP to facilitate the start up of many outgrower managers in the area. The one and only contracting firm in the area cannot contract all the farmers in the area hence need for capacity building. Contract production of soybean is viable.

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## **APPENDICES**

APPENDIX 1: SURVEY QUESTIONNAIRE FOR NON-CONTRACT FARMERS

SECTION A

BACKGROUND INFORMATION

- 1. Age .....
- 2. Sex: tick were applicable
  - Female [ ]
  - Male [ ]
- 3. Level of education
  - None [ ]
  - Primary [ ]
  - Junior secondary [ ]
  - Senior secondary [ ]
  - Tertiary [ ]

SECTION B

INPUT COSTS

- 4. When did you start cultivating soybeans?.....
- 5. Size of the farm/ settlement.....
- 6. Have you heard anything about out grower schemes or contract farming?
  - Yes [ ]
  - No [ ]
- 7. If yes to question 7, how did you hear of contract farming and its policies?
  - Local NGO [ ]
  - Radio [ ]
  - Extension Officer [ ]
  - Friend [ ]
  - Other specify.....
- 8. What is your perception of contract farming arrangement?  
.....  
.....
- 9. Do you intend to start cultivating soybeans on contract basis?
  - Yes [ ]
  - No [ ]
- 9a. If your answer to question 9 is no, give reasons  
.....

.....

10. What made you start cultivating soybeans?

.....  
.....

11. Do you acquire your inputs easily and on time?

Yes [ ]

No [ ]

11a.If no to question 11, give reasons

.....  
.....

12. How do you acquire your inputs?

Own cash [ ]

Borrowed e.g. loan from bank [ ]

Co-operative society [ ]

Other specify.....

13. Do you prefer the idea of purchasing inputs on cash basis i.e. not on contract basis?

Yes [ ]

No [ ]

14. What is your perception of your input costs?

Very high [ ]

High [ ]

Very low [ ]

Low [ ]

Fair or neutral [ ]

15. What do you think would lead to delayed delivery of inputs?

.....  
.....

**SECTION C**

**SELLING PRICE**

16. Who sets the selling price of the output?

- Farmer (yourself)      [   ]
- Government            [   ]
- Market price           [   ]
- Local co-operative    [   ]
- Buyer                    [   ]
- Other specify.....

17. Are you comfortable with the present or prevailing price of soybeans?

- Yes                      [   ]
- No                        [   ]

17a.if no to question 17, give reasons

.....  
.....

17b. if yes to question 17, give reasons

.....  
.....

18. What is your perception of the open market selling price?

- Very high              [   ]
- High                    [   ]
- Very low               [   ]
- Low                     [   ]
- I don't know          [   ]

19. Open market selling price is unfavourable

- Strongly agree        [   ]
- Agree                   [   ]
- Disagree               [   ]
- Strongly disagree    [   ]
- I don't know          [   ]

20. Apart from selling to the open market, do you sell your produce to any formal organisation?

- Yes                      [   ]
- No                        [   ]

21. If yes to question 20, name the organisation or firm.....

22. Do you meet your input costs upon selling your produce?

Yes [ ]

No [ ]

22a.if no to question 22, how do you meet your input costs?

.....  
.....

## **SECTION D**

### **Financial/Economic Benefits**

23. Has there been a substantial increase in your production since you started cultivating soybean?

Yes [ ]

No [ ]

23a.if yes to question 23, give the annual statistics

Year	Yield
.....	.....

24. Apart from selling your produce to the market, do you leave any for home consumption?

Yes [ ]

No [ ]

25. Since you started cultivating soybeans, how have been your profits?

Increasing [ ]

Decreasing [ ]

Same [ ]

26. Cultivating soybeans with own cash is more profitable?

Strongly agree [ ]

Agree [ ]

Disagree [ ]

Strongly disagree [ ]

I don't know [ ]

27. Do you think that increased small scale own resource cultivation is the solution to the food shortages?

Yes [ ]

No [ ]

27a. if no to question 27, give reasons

.....  
.....

28. Apart from buying soybean inputs, were do you channel other finances realised from selling the output i.e. profits?

.....  
.....

### **SECTION E**

29. What crops do you grow?

.....  
.....  
.....  
.....  
.....  
.....  
.....

30. Which one of your cash crops had the highest hectarage this year? (Indicate number of hectares).

Sorghum [ ]

Soybeans [ ]

Cotton [ ]

Sun flower [ ]

Maize [ ]

Other specify.....

31. Does the food you grow sustain your household to the next growing season?

Yes [ ]

No [ ]

31a.if no to question 31, what are the major reasons?

.....  
.....

32. In instances of food shortages, how do you sustain yourself to the next harvest season?.....



33. Do you have any intentions to adopt contract production of soybeans?

Yes ☐

No [ ]

33a.if yes to question 33, what are your intentions on the area of cultivation?

Increase [ ]

Decrease [ ]

Maintain	[ ]
----------	-----

33b.if no to question 33, what are the major reasons?

.....

.....

**\*END OF QUESTIONNAIRE\***  
**THANKYOU**

## APPENDIX 2: Survey Questionnaire for Contract Farming

### SECTION A

#### BACKGROUND INFORMATION

1. Age.....
2. Sex  
Male [ ]  
Female [ ]
3. Level of Education  
None [ ]  
Primary [ ]  
Junior secondary [ ]  
Senior secondary [ ]  
Senior secondary [ ]  
Tertiary [ ]

### SECTION B

#### INPUT COSTS

4. When did you start cultivating soybean?.....
5. Size of the farm.....
6. Name of contracting firm.....
7. For how long have you been under contract farming  
One year [ ]  
Two years [ ]  
Three years [ ]  
Four years [ ]  
More than five years [ ]
8. Did you understand everything about outgrower schemes before you started contract farming?  
Yes [ ]  
No [ ]
9. If no to question 8, what are the reasons  
.....  
.....
10. How did you hear of the contracting firm?  
Local NGO [ ]  
Radio [ ]

Extension Officer     [   ]  
Other specify         [   ]

11. What made you start growing soybeans?

- 1) availability of inputs (e.g. seeds and chemicals)     [   ]
- 2) availability of market for produce                     [   ]
- 3) very profitable     [   ]
- 4) other specify     [   ]

12. Why did you enter soybean contract farming

.....  
.....  
.....

13. Did the firm provide all the inputs in the right amount/quantities?

Yes                     [   ]  
No                      [   ]

14. If no to question 13 what are the reasons

.....  
.....

15. Did the inputs reach you on time?

Yes                     [   ]  
No                      [   ]

16. If no to question 15, what are the reasons

.....  
.....

17. Is there any difference between credit input costs and inputs bought on cash?

Yes                     [   ]  
No                      [   ]

## SECTION C

### *OUTPUT SELLING PRICE*

18. Who sets the selling price of the output of soybeans under contract farming?

The firm                [   ]  
The farmer             [   ]  
Both                     [   ]  
Other specify           [   ]

19. Are you satisfied with the present agreed price for soybean?

Yes [ ]  
 No [ ]

20. If no to question 20, what are the reasons  
 .....  
 .....

21. Is there any difference between contract output selling price and open market selling price?  
 Yes [ ]  
 No [ ]  
 21a.If yes to question 21, what is the margin difference.....

**SECTION D**

**FINANCIAL/ECONOMIC BENEFITS**

22. Has there been a substantial increase in your production since you started contract farming?  
 Yes [ ]  
 No [ ]  
 22a.If no to question 22, give reasons

.....  
 .....  
 .....  
 .....  
 .....

23a.if yes to question 23, give the annual statistics

Year	Yield
.....	.....

24. Apart from selling your produce to the contracting firm, do you sell to other markets?

- Yes [ ]
- No [ ]

25. Since you adopted contract farming, how have been your profits?

- Increasing [ ]
- Decreasing [ ]
- Same [ ]
- Other specify.....

26. Do you leave any produce for home consumption?

- Yes [ ]
- No [ ]

25a.If no to question 25, give reasons

.....  
.....

27. Do you think that increased contract farming or outgrowing to small-scale farmers is a solution to the food shortages?

- Yes [ ]
- No [ ]

28. Did you receive any technical advice from the contracting firm?

- Yes [ ]
- No [ ]

29. Since you started contract farming, have you ever been able to put in the next crop with your own resources without credit?

- Yes [ ]
- No [ ]

28a.if yes to question 28, after how many years of being under contract farming...

28b. if no, why haven't you been able to cultivate without credit.....  
.....

29 Do you easily meet the commodity qualities and quality standards as required by the contracting firm?

Yes ☐

No ☐

29a. if no to question 29, give reasons

.....  
.....

30. Do you have any intentions to continue under contract production?

Yes ☐

No ☐

30a. if yes, what are your intentions about production hectareage of soybeans?

Decrease ☐

Increase ☐

Maintain ☐

30b. if no, what are the reasons

31. What is your perception of input costs under contract in relation to non-contract farming?

Higher ☐

Lower ☐

Same ☐

32. What is your perception of the selling price of soybeans under contract in relation to non-contract farming?

Higher ☐

Lower ☐

Same ☐

**END OF QUESTIONNAIRE  
THANKYOU**

