SOCIO-ECONOMIC FACTORS AFFECTING SMALLHOLDER SUNFLOWER PRODUCTION IN MVOMERO DISTRICT, MOROGORO REGION

By

Godfrey, Tuntufye

A Dissertation Submitted in Partial Fulfillment of the Requirement for the Award of Degree Masters of Science in Economics (EPP) of Mzumbe University.

2013

CERTIFICATION

We, the undersigned, certify that we have read and hereby recommend for acceptance by the Mzumbe University, a dissertation entitled**, Socio-Economic Factors Affecting Smallholder Sunflower Production in Mvomero District, Morogoro Region** in partial/fulfillment of the requirements for award of the degree of Masters of Science in Economics (Economic Policy and Planning) of Mzumbe University.

Signature

_____

Major Supervisor

Signature

_____

Internal Examiner

Signature

_____

External Examiner

Accepted for the Board of

……

Signature

_____

DEAN/DIRECTOR, FACULTY/DIRECTORATE/SCHOOL/BOARD

DECLARATION AND COPYRIGHT

I, **Tuntufye Godfrey** declare that this thesis is my own work and that it has never been presented or submitted in any University or any other higher learning institution before, for academic purposes or professional awards or for similar or any other related purposes.

Signature: .....

Date: 30/10/2013

ACKNOWLEDGEMENTS

First of all, I thank God the almighty for guiding me during my all study until this moment of accomplishing my studies, for I understand that without his presence I could not be able to reach this stage.

Second, I would like to express my sincere appreciation to my supervisor Dr.M. A. Mursali, for wise advice, constructive criticism and tireless guidance during all the period of my studies. I really appreciate his consultation and without him my academic dreams would not become a reality.

Third, I would like to thank the Ward Executive Officer (WEO) at Mlali Village for the warm welcome, and for introducing me to the Village Executive Officer (VEO) who assisted me by introducing me to the smallholder farmers in the village.

Fourth, my sincere gratitude should go to the Village Executive Officer (VEO) in the surveyed villages namely: Manza, Vitonga, Mlali and Kipera for providing me with cooperation and allowing conducting the research in their areas.

Fifth, I would like to extend my thanks to smallholder farmers in all villages to whom questionnaires were administered, for their co-operation when I were soliciting information required for the present study.

Lastly, but not least, I would like to pass my thanks to my beloved wife Tupilike Masage, my Parents Mr. Godfrey Lyson Mwakasisi, Mrs. Tupokigwe Eneah Mgobhole,brothers and sisters Ester Ipungu, Gwikile Chambo and my brother in law Geremiah Chambo, David Lyson, Raphael Nanguni, Gervas Lyson, Owden Lyson, my Aunt Festina Kibutu and her family together with my fellow students especially Felister Tibamanya Simba Oyombe and Richard Komba. I thank all mentioned for their moral, spiritual and material support, patience and encouragement which in one way or another made my study to be successful

It is not easy to mention all who contributed in one way or another in making this work done but I say thank you to all of you. And may the almighty God bless you all with his mercy.

DEDICATION

This work is dedicated to my beloved parents, Mr. Godfrey Lyson Mwakasisi and Mrs. Eneah Mgobhole who contributed much in my education.

This work is also dedicated to my beloved wife Tupilike Masage, my brothers: Raphael Nanguni together with her beloved wife Cecy Mwafute, David Lyson, Gervas Lyson, Owden Godfrey and my beloved Sisters Ester Ipungu and Gwikile Geremiah Chambo together with their families for their courage and compassion and love they show to me during my studies.

LIST OF ABBREVIATIONS

FAO-	Food and Agriculture Organization
GDP-	Growth Domestic Product
MAFSC-	Ministry of Agriculture, Food Security and Cooperative
RLDP-	Rural Livelihood Development Program
VEO-	Village Executive Officer
WEO-	Ward Executive officer
RLDC	Rural Livelihood Development Company
USA-	United States of America

ABSTRACT

Sunflower is one of the new crops in Tanzania that has high contribution to farmers to food and income of farmers. It is one of the biggest sources of fats, protein, carbohydrates and vitamins for human consumption. The crop is also the source of human nutritious minerals, as well as other manufactured animal feeds. Despite the cited overall importance of the crop amongst smallholder farmers in the country, the factors determining its yield are less understood. The aim of this study was to investigate socio-economic factors affecting smallholder sunflower production. The study was conducted in Mlali ward in Mvomero District in Morogoro region. A total of 50 smallholder sunflower growers was surveyed using questionnaire. A multiple regression analysis was used to estimate and test the relationship between socio-economic factors and sunflower production. The results revealed that the sex of the farmer, size of the farm cultivated by the farmer and use of quality seeds were statistically significant factors affecting the production of the crop in the study area.

It is concluded that smallholder sunflower farming sector has high contribution to meet the demand of edible oil, contribute to income of households and used as source of animal feed in the study area. In order to achieve all these, government initiative to provide farmers with adequate subsidies on agricultural inputs and increasing provision of extension officers to assist farmers on proper agronomic practices must be adhered to so as to address the declining farm production being experienced by smallholder farmers in Mlali ward.

TABLE OF CONTENTS

CERTIFICATION i
DECLARATION AND COPYRIGHT..... **Error! Bookmark not defined.**
ACKNOWLEDGEMENTS iii
DEDICATION iv
LIST OF ABBREVIATIONS v
ABSTRACT vi
TABLE OF CONTENTS vii
LIST OF TABLES x

CHAPTER ONE 1
INTRODUCTION 1
1.0 Introduction 1
1.1 Background to the study 1
1.2 Statement of the problem 2
1.3 Research Objectives 3
1.3.1 General Objective 3
1.3.2 Specific Objectives 4
1.4 Significance of the study 4
1.5 Scope and Limitation of the Study 4
1.6 Organization of the Report 5

CHAPTER TWO 6
LITERATURE REVIEW 6
2.0 Introduction 6
2.1 Theoretical Literature 6
2.2 Empirical Literature Review 7
2.3 Discussion of the reviewed literature and study positioning 10
2.4 Conceptual Framework and Hypotheses Development 10

CHAPTER THREE 12
RESEARCH METHODOLOGY 12
3.0 Introduction 12
3.1 Type of the Study and Research Design 12
3.2 Study Area 12
3.3 Study Population 13
3.4 Sampling Technique and Sample Size 13
3.5 Unit of analysis 13
3.6 Data type and collection methods 14
3.6.1 Questionnaire 14
3.6.2 Focused Group Discussion Method 14
3.6.3 Secondary sources 14
3.7 Study Variables and Measurement 14
3.8 Data Analysis 17
3.9 Model Specification and Estimation Techniques 17
3.10 Research Validity and Reliability 18
3.10.1 Validity 18
3.10.2 Reliability 18

CHAPTER FOUR 19
PRESENTATION OF FINDINGS 19
4.0 Introduction 19
4.1 Statistical Analysis 19
4.2 Econometric Analysis 26

CHAPTER FIVE 28
DISCUSSION OF FINDINGS 28
5.0 Introduction 28
5.1 An overview of the study and findings 28

CHAPTER SIX 30

CONCLUSIONS AND IMPLICATION OF FINDINGS 30

6.0 Introduction 30

6.1 Summary and Conclusion 30

6.2 Policy implications 30

6.3 Area for further studies 31

REFERENCES 32

Appendix 1: Questionnaire for Smallholder Farmers Producing Sunflower 34

Appendix2: Checklist for Smallholder Farmers Producing Sunflower 38

LIST OF TABLES

Table 1.1: The production of sunflower oil seeds between year 2001 to 2005 2

Table 3.1: Village names and number of respondents ……..…….14

Table 3.2: Study Variables and Measurement……18

Table 4 1: Age respondent……..…….……..20

Table 4.2: Sex of respondents 19

Table 4.3: Education level of respondents 20

Table 4.4: farm size owned by a farmer 20

Table 4.5: the number of harvest (kg/ha) 20

Table 4.6:Yearly incomes of the respondents 21

Table 4.7: Access to market 21

Table 4.8: Use of Quality Seed 21

Table 4.9: Type of farming equipment 22

Table 4.10: Farmer's access to extension service……..….24

Table 4.11: Characteristics of Respondent Occupation 22

Table 4.12: Marital status of the respondents 23

Table 4.13: Farm irrigation 23

Table 4.14: Mode of accessing land 24

Table 4.15: Soil Status in the Study Area 24

Table 4.16: Farmers Suggestions on Sunflower Production 25

Table 4.17: Contribution of sunflower to household welfare 25

Table 4.18: Multiple Regression Results …….....28

CHAPTER ONE
INTRODUCTION

1.0 Introduction

This chapter contains background to the study, statement of the problem, objectives of the study, significance of the study, scope and limitation of the study and organization of the study.

1.1 Background to the study

Sunflower production is one of the agricultural activities practiced in Tanzania. Despite its relatively small share of the total GDP, primary agriculture is an important sector in the Tanzania economy. It remains a significant provider of employment, especially in the rural areas, and a major earner of foreign exchange. According to FAO (2004) statistics, it has been observed that sunflower was grown in about 21.39 million hectares of land with production of 26.21 million tonnes during 2004 in the world. Russia was the largest producer of sunflower occupying 21.03 per cent of area with 16.41 per cent of production in the world during the same period. The other major sunflower producing countries were Ukraine (12.97 per cent), Argentina (11.83 per cent), China (7.17 per cent), Romania (6.56 per cent), France (5.56 per cent), India (4.77 per cent), Hungary (4.27 per cent), USA (4.14 per cent) and Spain (3.09 per cent) during the same period.

The production of oil seeds in Tanzania mainly focuses on groundnuts (40%), sunflower (36%), sesame (15%), and palm oil (1%), Rural Livelihood Development Company (RLDC, 2008). The palm tree nuts have the highest oil content (46% - 67%) than its counterpart; however the palm tree requires specific climatic conditions which are only found in some parts of Tanzania. Palm oil production is practiced in Kigoma and Mbeya regions. Despite the efforts on production of other oilseeds such as groundnuts and sesame, there has been no substantial oil production from these seeds, thus making sunflower oil the most important vegetable oil produced in Tanzania. While the production of sunflower oil seeds was varying between 75,000 to 100,000 tons in year 2001 to 2005, it increased in the last two

seasons, dramatically to more than 350,000 tons, Ministry of Agriculture, Food Security and Cooperative (MAFSC, 2010). The corresponding sunflower oil production increased to almost 90,000 tons of oil per year (MAFSC, 2010). Sunflower production has been increasing from one year to another (Table 1.1). According to the MAFSC (2010) the country sunflower production in 2009/10 crop season stood at 280,100 metric tonnes, more than double the 2005/06 production (135,600 metric tonnes). Out of this amount, almost half was produced in two regions of the Central Corridor, Singida (100.9 metric tonnes) and Dodoma (38.8 metric tonnes). Further data from the Ministry of Agriculture, indicates that Tanzania has 1.6 million sunflower seed producers who have the capacity of satisfying the national edible oil demand of approximately 200,000 metric tonnes per annum if fully supported. Statistics show that there is an increase in sunflower production in recent years (Table1.1), but still Tanzania imports much edible oil from outside. This implies that a sufficient and efficient oilseed policy has not been mastered. As a natural result of these developments and under condition of a steady oilseeds shortage, the gap in vegetable oils demand has been filled by imports from various countries.

Table 1.1 the production of sunflower oil seeds between years 2000 to 2007

Year	Sunflower oil (tons)
1999/ 2000	11,560
2000/ 2001	19,409
2001/ 2002	25,056
2002/ 2003	26,986
2003/ 2004	25,515
2004 /2005	21,325
2005/ 2006	89,614
2006/ 2007	88,753

Source: MAFSC (2010)

1.2 Statement of the problem

Socio-economic factors are the factors of an individual activities and understanding that shape him as an economically active person. Socio-economic factors include culture, social understanding, religion, education. They present economic activities in the given area

Sunflower production has emerged as a major source of income in Tanzania. Apart from earning income it is used for both domestic and foreign consumption. Sunflower production is one of the rising crops which have gained significance in the recent years. However sunflower production is very easy compared to other oil crops such as palm oil and groundnuts, its production have been faces a number of socio-economic problems.

Hamad, Javed, Ali, Batool, (2002) studied the production and marketing constraint of sunflower in Pakistan. Lekunze, Antwi, and Oladele. (2011) examined the socio-economic factors to sunflower production. Pathak (1986) studied economics of production and marketing of certified seeds of high yielding varieties of jowar and wheat. Karisomanagoudar (1990) employed Cobb-Douglas type of production function in Gadag taluk of Dharwad district to study resource use efficiency in rainfed onion production. Most studies have not investigated on socio-economic factors affecting sunflower production and few studies which have been done, have been conducted outside Tanzania. Therefore this study assesses socio-economic factors influencing sunflower production in Tanzania.

1.3 Research Objectives

1.3.1 General Objective

The general objective of this study was to analyze the socio economic factors affecting sunflower production

1.3.2 Specific Objectives

Specifically the objectives were:

(i) To identify main farm characteristics factors that affect sunflower production

(ii) To analyze household characteristics factors influencing sunflower production

(iii)To examine the institution factors that affect sunflower production

(iv)To assess the contribution of sunflower production on household income.

1.4 Significance of the study

This study addresses socio-economic factors that affect sunflower production. The findings of this research/study are expected to add up new insights and knowledge on socio-economic factors which are important for sunflower production.

i. The study will become a benchmark to other research and can serve as the stimulant for further studies.
ii. The study will help in a partial fulfillment for the award of Degree Masters in Economics Policy and Planning.
iii. The study will help to detect problems associated with socio-economic factors affecting sunflower production in Tanzania in general.

In this way policy makers at both local and national level, will be informed on short and long term policy responses that are likely to address socio-economic factors affecting sunflower production in the Tanzania. By examining the process of land acquisition, ownership and utilization amongst smallholder farmers, the study helps smallholder farmers in planning and utilizing land sustainably. Furthermore, this study contributes significantly in identifying affordable sunflower value addition techniques that could be used in order to increase sells and profit.

1.5 Scope and Limitation of the Study

The study aimed at assessing the socio economic factors affecting sunflower production and was conducted in Mlali ward only**.** The study encountered some of limitations especially during data collection. Such limitations include the following; unavailability some of the respondents since the study needed information from them, in some cases households were not available or not easily accessible for various reason. This was solved by interviewing respondents who were available in

some cases. The researcher was viewed as government agent and therefore respondents requested to provide solutions to their problems such as limited access to credits and loans, availability of market, poor transports, shortage of quality seeds to name just a few. To overcome this, the researcher requested the Village Executive Officer (VEO) to accompany them to the respondents and explain the role of the researcher.

1.6 Organization of the Report

The report is organized into six chapters. Chapter one presents the introduction which includes: background of the research problem, statement of the problem, objectives of the research and significance of the study. Chapter two presents literature review which includes both theoretical and empirical literature review and a conceptual framework underpinning this study. Chapter three describes the methodology and tools used in the study. Chapter four presents the findings in the research. Chapter six presents discussion of the findings. Chapter six is summary, conclusion policy implications.

CHAPTER TWO
LITERATURE REVIEW

2.0 Introduction

This chapter presents the review of literatures in order to understand what is already known about the problem understudy. It tries to provide an analysis on how different literatures have analyzed the factors influencing sunflower production. These literatures have been obtained from the internet, books, journals and previous studies as well as different reports. This part includes both theoretical and empirical literature review. It is divided into two main parts. The first part presents a review of theories relevant for production. The second part presents empirical studies relevant to the problem understudy.

2.1 Theoretical Literature

2.1.1 Production theory

Production is defined as the creation of goods and service from inputs or resources, such as labor, machines and other capital equipment, land and raw materials. Production theory explains the relationship between inputs and outputs, which is the transformation of factor inputs into products (outputs), (Thomas and Maurrice, 2008) . The economic model commonly used to determine the relationship between the various factors of production and the output in agriculture production is the production function model.

The production function of any farmer is determined by resource availability. The simplified form of production function is that output is a function of capital (K) and labor force (L). A production function may be defined as a mathematical equation showing the maximum amount of output that can be produced from a given set of inputs. It links the levels of inputs used and attainable levels of outputs. Production function describes the relation between physical rates of output and physical rates of inputs usage. It shows the maximum amount of output that can be produced from any specified set of inputs, given the existing technology or state of the art of production (Thomas and Maurrice, 2008)

2.1.2 The concept of technical efficiency and economic efficiency

Technical efficiency is achieved when the maximum possible amount of output is being produced with a given combination of inputs. It assumes that technical efficiency is being achieved because the maximum output level that can be achieved for any particular combination of inputs. While economic efficiency is achieved when the firm is producing a given amount output at the lowest possible cost (Thomas and Maurrice, 2008). The relevancy of the theory is that it is explaining about inputs such as labor, capital which can fit by replacing the variables such as farm size, use of quality seeds, age, sex, income, farming experience, and access to extension services. From the theory of production which assumed that output is the result of input, can be applied in this study where by the inputs in this study include all independent variables and production of sunflower remain as the dependant variable

2.2 Empirical Literature Review

Hamad et al. (2002) studied the production and marketing constraint of sunflower in Pakistan in which the study was divided into production factors and marketing factors. The production factors included yield of sunflower as the dependant variable and, number of ploughings, seed rate, number of irrigations, and number of bags of urea, sowing methods, pests attack as independent variables. The marketing constraints examined were non existence of proper markets for sunflower producers and absence of a government procurement centers. The study used a sample of 70 farmers whose responses were analyzed using regression analysis. The study revealed that ploughings, irrigation, urea and the use of drill sowing contributed positively to the per acre yield of sunflower in the study area. The results on the marketing constraints indicated that government procurement system was found completely lacking. The study showed that this lead to farmers dispose of their produce to both villages, oil mills and private companies which exploited farmers by paying low price for their produce.

Lekunze et al. (2011) examined the socio-economic constraints to sunflower production in Bojanala farming community in the North-West province of South Africa. In this study, output of sunflower in tons per hectare was the dependent variable and the independent variables were: cost of sunflower seeds, sex of farmers, employment, machinery cost per hectare, total income per year, storage cost of output, land size under sunflower production, market selling price per ton of sunflower, use of extension services, access to market and access to credit. Simple random sampling was carried out to select 150 farmers from a list of 257 farmers. Data were collected using questionnaires and analyzed using a double log function of the linear multiple regressions. Results of the analysis showed that, very few young people below 30 years of age are engaged in sunflower production. Significant determinant of the socio-seconomic constraints included number of plantings per year, storage costs, price, income, access to market and farm size.

Zilihona, Mwatawala and Swai (2013) assessed the contribution of sunflower production to poverty reduction in Singida region- Tanzania. Cross sections of 138 farmers were interviewed. The results concluded that cultivated land size, selling price, working duration, income of farmers, and gender were found to be statistically significant.

Damian (2010) examined the sunflower production in the central corridor of Tanzania. Seven districts in five regions of Morogoro, Dodoma, Singida, Manyara, Shinyanga, and Tabora were studied in which a number of issues were examined. Data on issues of quality seeds varieties, support services to smallholder farmers, perception of producers on contract farming and opportunities and challenges in sunflower production. Focused group discussion complemented with interviews with the households was the main methods used in data collection. The OLS estimation using multiple regression analysis was used. The results showed that improved varieties, number of crops in farm, distance from homestead to the farm and the age of household head were significant factors influencing production. It was concluded that seed multiplication centers, reliable markets and extension services were important to be improved so as to increase production

Ugulumu (2008) identified the challenges that affect sunflower growers both in Tanzania and Kenya. Some of the challenges mentioned were erratic rainfall patterns, lack of farming equipment, diseases, lack of knowledge by farmers, fluctuating market prices of sunflower seed, lack of seed and other essential inputs, increased competition levels both locally and internationally, poor infrastructure and linkage as well as lack of market information.

Habwe (1992) conducted a study on constraints of sunflower in Uganda, the study revealed that a number of constraints affect sunflower yield in Uganda. The study used descriptive analysis only. The study revealed that sunflower yield is affected by three factors namely, number of heads per hectare, number of seeds per head and average weight per seed. The study revealed that the number of heads per hectare influences yield more than other two variables. It was noted that sunflower adjusts to low population by increasing weight/seed and seeds/head and to high populations by decreasing weight/seed and/head

Baloyi (2010) conducted a study on analysis of constraints facing smallhorder farmers in the agribusiness value chain; the study discussed the factors such as: lack of human capital, high transaction cost, lack of information on markets, transport problems, technological barriers. The study discovered that many smallholder farmers were illiterate, with poor technological skills, which were seemed to be obstacles in accessing useful formal institutions that can disseminate technological knowledge. It showed that majority of emerging producers lack knowledge on financial and marketing skills and it was found that producers were not able to meet the quality standards set by fresh produce markets and food processors. Baloyi (2010) argued that since smallholders were poor, they find it difficult to compete in competitive markets due to high transaction costs, traders with higher social capital are better able to enter more capital-intensive marketing activities such as wholesaling and long-distance transport, whereas traders with poor social networks face major barriers to entry into the more lucrative market segment. Also rural producers, and especially small farmers, had little information about the markets demand, which was costly to obtain. Smallholder farmers lack information about

product prices at the local level, about quality requirements, about the best places and times to sell their products, and about potential buyers. This in turn reduces their ability to trade their products efficiently and to derive the full benefit from the marketable part of their production.

2.3 Discussion of the reviewed literature and study positioning

Most of the empirical studies reviewed above have concentrated on researching factors affecting production of sunflower in both developed and developing countries. From the literature reviewed the factors affecting sunflower production in the study area can be categorized into farm characteristics, household characteristics, and institutional characteristics.

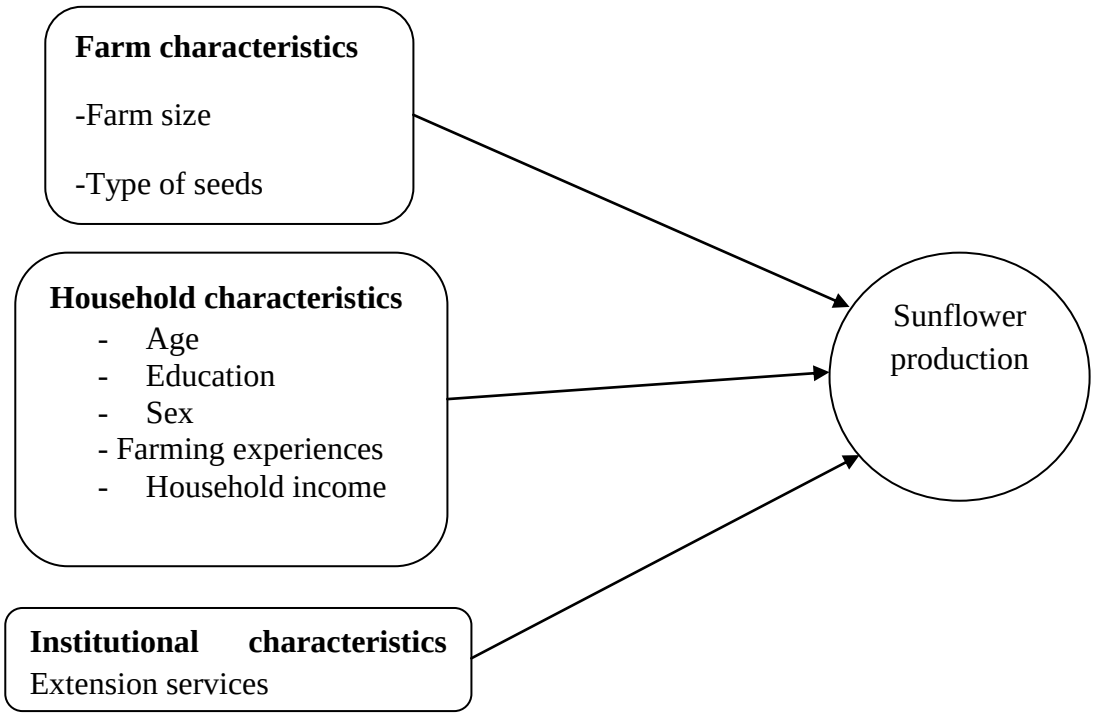
Farm characteristics include: farm size, use of quality seeds and fertility of the soil. Household characteristics include: education, sex, age, and income and farming experience. Institution factors include extension services and credit availability. Some studies on sunflower value chain analysis have been done in Tanzania but fail to address the socio-economic factors affecting the farmers in rural areas. This study intended to address the socio-economic factors affecting sunflower production in the study area and provide insight to both government and non-government organization to invest much to this sector so as to enable the households in rural areas to earn income which will assist them to meet various basic needs

2.4 Conceptual Framework and Hypotheses Development

This section presents conceptual framework of the study. It shows the relationship that exists between sunflower production which is the dependent variable and the independent variables which are the farm characteristics, household characteristics, and institution factors such as farm size, age, education level, sex, farming experience, household income per year, quality of seed and extension services. The relationship between the variables can be demonstrated and summarized in the diagram below where the direction of arrows show the relationship between dependant and explanatory (independent) variables. In which the dependent variable is production of sunflower measured in kg per hectare and the independent variables

comprises farm characteristics, household characteristics and institutional characteristics)

Conceptual framework



Source: Own construct

From conceptual framework the independent variables from: farm characteristic, household characteristics and institution characteristics as mentioned above, will be tested to see their influence on production. Hence the following hypotheses are developed.

Hypothesis 1: Farm characteristics (farm size, use of quality seeds) have significant effect on sunflower production.

Hypothesis2: Household characteristics (age, education, sex, income farming experience) have significant effect on sunflower production.

Hypothesis 3: Institution characteristic (extension services) have significant affect on sunflower production

Hypotheses were tested by estimating a model developed in Chapter Three.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter presents the methodology applied to study the problem. The chapter presents the research design, study area, population sample and sampling procedures, data collection instruments, data presentation and analysis.

3.1 Type of the Study and Research Design

This study is a combination of qualitative and quantitative case study. Closed and open ended questionnaire were used to solicit information from sunflower smallholder farmers. An interview guide and direct observation were used for the qualitative part. The study was based on cross sectional because the data have been collected once. Data collected were used in describing and analyzing the socio-economic factors affecting sunflower production so as to determine the relationship between the variables

3.2 Study Area

The study was conducted in Mlali ward in Mvomero District located in Morogoro Region because this area is one of the productive areas for such crop. The research was held in Mvomero District specifically in Mlali Ward as one of the district producing sunflower.

Mvomero District is among the seven councils of Morogoro Region. It is a new District split from the former Morogoro District. Others are the Morogoro, Kilosa, Kilombero, Gairo, Ulanga, and Morogoro Municipal. The district boundaries are as follows: to the north is Handeni district, to the east is Bagamoyo District, to the south by Morogoro Municipal Council and Morogoro District, whereas to the west it is by Kilosa District Council.

Mvomero District is located at North East of Morogoro Region lying between 8° and 10° 00" Latitudes south of equator; and lies between Longitudes 37° 00" and 28° 22" East. The District has a total area of 7,325. km². According to the 2002 Tanzania National Census, the population of the Mvomero District was 260,525. The

indigenous people of Mvomero district are mainly of Bantu origin. The tribes that dominate in Mvomero district include: Waluguru, Wakaguru and Wakwere, (Morogoro regional profile, 2006).

3.3 Study Population

The study population was sunflower farmers from four villages of Mlali ward where sunflower production is well practiced that is Mlali, Manza, Vitonga and Kipera were included in the study. The target population was all smallholder farming households in Mlali ward who engaged in sunflower production were the targeted group.

3.4 Sampling Technique and Sample Size

The respondents were smallholder farmers from four villages in Mlali ward which include; Manza, Vitonga, Kipera and Mlali. The simple random and systematic samplings were used to obtain a sample of 50 smallholder farmers who participate in sunflower production. But due to few sunflower producers in Mlali, Kipera and Vitonga, farmers from Manza were added to fill the gap. The distribution of the sample was that 48% of the respondents come from Manza village, 24% of the respondents come from Vitonga village18% of the respondents came from Mlali village and 10% from Kipera village. The number of farmer respondents from all villages was found to differ due to different production level in each village. Table 3.1 shows the summary of respondents for each village surveyed.

Table 3.1 Village names and number of respondents

Village name	Frequency	Percent
Manza	24	48
Vitonga	12	24
Mlali	9	18
Kipera	5	10
Total	50	100

Source: Research findings (2013)

3.5 Unit of analysis

The unit of analysis in this study is smallholder sunflower producers in Mlali ward in Morogoro region.

3.6 Data type and collection methods

The study employed different methods in data collection, where by both primary and secondary data were collected where by primary data was collected through structured questionnaire, interview and through group discussion while secondary data was obtained from secondary sources.

3.6.1 Questionnaire

The study prepared questionnaires that included questions on the socio-economic factors affecting sunflower production. Respondents were provided these questionnaires and they answered the questions on their own. The study used both closed and open ended questionnaires written in English and Kiswahili. A total of 80 questionnaires were distributed, 50 questionnaires were returned. This gives a response rate of 63 percent of the total questionnaires.

3.6.2 Focused Group Discussion Method

This was used especially when collecting information related to suggestions and views of the farmers on sunflower production in their respective area. The researcher discussed with farmers on various aspects concerning production of the crop and the problems which the farmers encounter so as to collect more information related to the crop.

3.6.3 Secondary sources

Data was collected from secondary sources especially The Ministry of Agriculture and Food Security Cooperative (MAFCS, 2008-2010) and Food Agriculture Organization FAO. The data were used in the background of the study to explain the trend of sunflower production as indicated in (Table 1.1)

3.7 Study Variables and Measurement

Dependant variable

Sunflower production (Y) is the dependant variable and measured in kilogram per hectare. In this study it is a continuous because the production of any quantity can be examined at different period.

Explanatory Variables

Farm Size (FRZ)

The study examined if smallholder farmers with large farm size can contribute to high production compared to those with small size and the variable treated as a quantitative variable. The size of the farm was measured in hectare.

Household Income Per year (HIP)

The study included the income of household earned per year to investigate if it can affect production. This is due to the fact that with sufficient income the household can manage to purchase arable land for farming and also to afford the cost on t agricultural inputs such as seeds, fertilizers as well as machines like tractors for innovating agriculture. It can be suggested that people with high income can have high advantage to produce more than those with low income. It was treated as the ratio scale (in cash Tshs.)

Education Level of the Household (EDL)

The level of education of the household was included to see if the level of education attained by the household has impact to production. This variable was treated as dummy variable. A rating scale of one to four was used to measure the education level of the respondent in which 1 was used if the respondent have no formal schooling, 2 for standard 1 – IV, 3 for standard 1 – VII and 4 for secondary and above.

Access to Extension Services (AES)

Extension service provides farmers with knowledge on proper agronomics farming and is facilitated by extension officers in the respective areas. The study examined if the farmers have access to the services in their respect areas. This variable was treated as dummy variable. 1 if a farmer has access to extension service and 0 otherwise.

Age of the respondent (AGE)

The age of respondent was included to look whether it affects production. The variable was treated as a ratio scale and recorded in years.

Type of Seed Used (TYS)

This was included in the study to investigate whether the type of seed used can affect production. It was expected that the use of quality seed in production result into high yield compared to the low seed quality. The variable was treated as dummy and it was defined as 1 if the household used quality seed in sunflower production and 0 otherwise.

Sex of the respondents (SF)

The study examined the effect of sex on production. It was intending to see if the production was gender biased. The variable was a dummy and it assumed 1 if the household was a male and 0 otherwise.

Experience in farming (FE)

The study looked if experience in farming if can affect production. It is believed that the more a farmer experience in farming becomes aware of the crop. The data was treated as quantitative.

Table 3.2: Study Variables and Measurement

Variable name	Variable type	Operational definition	Measurement	Expected (prior) sign	Source of Data
Output	Continuous	Kg/hectare	Ratio scale	Positive	Questionnaire
Farm size	Continuous	Hectare	Ratio scale	Positive	Questionnaire
Household Income	Continuous	Money income	Tshs	Positive	Questionnaire
Education	Categorical	Rating	Nominal scale	Positive	Questionnaire
Extension services	Categorical	Yes or No	Nominal scale	Positive	Questionnaire
Age	Categorical	Years	Ratio scale	Positive	Questionnaire
Type of seed	Categorical	Improved or not improved	Nominal scale	Positive	Questionnaire
Sex	Categorical	Male or female	Nominal scale	Positive	Questionnaire
Experience	Continuous	Years	Ratio scale	Positive	Questionnaire

Source: Own Design (2013)

3.8 Data Analysis

Two types of analyses were used, Descriptive statistics and econometric analyses. Descriptive analysis involved calculations of mean and frequency distribution of each variable. Econometric analysis was used to test the hypotheses.

3.9 Model Specification and Estimation Techniques

The mathematical model of the study can be expressed as

$Y = f(X_1, X_2, X_3, \ldots\ldots\ldots\ldots\ldots X_n)$

Where,

$Y =$ Output, the dependant variable

$X_1, X_2, X_3, \ldots\ldots X_n$ = inputs or factors determining production

In its estimated form, the model can be represented as:

$Y = \beta_0 + \beta_1 FRZ + \beta_2 HIP + \beta_3 EDL + \beta_4 AES + \beta_5 AGE + \beta_6 TYS + \beta_7 SF + \beta_8 FE + €$

Where

Y = Output of sunflower in kilograms per hectare

FRZ = Farm size of the household (acres)

HIP = Household Income per year (number)

EDL = Education level of the farmer (highest level reached)

AES = Access to extension services

AGE = Age of a farmer in years

TYS = Type of seed used (TYS = 1 if quality seed and 0 if not quality seed)

SF = Sex of the farmer (SF = 1 if Male and 0 for female)

EF = Farming experience

B_0 = Constant term (Intercept),

B_i = Regression coefficient of ith independent variable (Where i = 1,2,3……);

€ = Error term

In this study the multiple regression analysis was used to test the socio-economic factors influencing production of sunflower. The OLS estimator was applied. The estimation was done by applying the S.P.S.S (Statistical Package for Social Scientists).

3.10 Research Validity and Reliability

3.10.1 Validity

In this study questionnaire was pre-tested in field to check if could be answered. This was done to ensure the validity of instrument. To further ensure the validity 12 sunflower smallholder farmers in Mlali ward, 3 smallholder farmers from each village of the study to include all quantitative data pertaining to the study. Information found in literature review was also from valid past studies and also to ensure validation of this study, the econometric model used was derived from valid economic theories.

3.10.2 Reliability

The study was reliable because results are consistent with previous studies findings, accurately represents of the total population under study and the results of a study can be reproduced under a similar methodology, and hence the research instrument seemed to be reliable. The instruments used such as questionnaire was seen to be reliable since the questions asked had similar interpretation among the respondents

CHAPTER FOUR

PRESENTATION OF FINDINGS

4.0 Introduction

This chapter presents the results of the analysis and the hypotheses testing. The chapter begins with presenting the results of descriptive statistical and ends with econometric analysis in which hypotheses are tested.

4.1 Statistical Analysis

Table 4.1 shows the distribution of respondents' age. From the (Table 4.1), 42% of farmers were aged between 41 and 50 years, 28% were aged and above.

Table 4. 1: Age respondent

Age category in years	Frequency	Percent
21-30	6	12
31-40	9	18
41-50	21	42
51-above	14	28
Total	50	100

Source: Research findings (2013)

Findings in Table 4.2 shows that 58% were males and 42% were females. According to the figures it shows that the issue of gender dominance in crop production is observed.

Table 4. 2: Sex of respondents

Sex	Frequency	Percent
Female	21	42
Male	29	58
Total	50	100

Source: Research findings (2013)

Table 4.3 presents the analysis of education level of respondents. About 78% of farmers had primary education, 12% had secondary education, 6% had standard four education and (4%) had no formal schooling. The results indicate that majority, 78%, of the smallholder sunflower producers had primary education. (According to Weir (1999), education may have both cognitive and non-cognitive effects upon labor

productivity. Cognitive outputs of schooling include the transmission of specific information as well as the formation of general skills and proficiencies. Education also produces non cognitive changes in attitudes, beliefs and habits. Increasing literacy may help farmers to acquire and understand information to apply appropriate farming method like proper application of fertilizers, use of quality seeds, and technological application.

Table 4.3: Education level of respondents

Education level	**Frequency**	**Percent**
No formal education	2	4
Standard four	3	6
Primary education	39	78
Secondary and education	**6**	**12**
Total	50	100

Source: Research findings (2013)

Results in Table 4.4 show that majority of farmers, 68% own minimum land size up to one, very few 22% own land size up to two, and about 10% own up to three hectares. The mean size of the owned area was1.5hectare

Table 4.4: Farm size owned by a farmer

Farm size of respondent (ha)	**Frequency**	**Percentage**
0 – 1.0	34	68
1.1 – 2.0	11	22
2.1 – 3.0	5	10
Total	50	100

Source: Research findings (2013)

The findings in Table 4.5 show harvest in kilograms per hectare (kg/ha). Most farmers' harvest between 80 to 119 kilograms

Table 4.5 :The number of harvest (kg/ha)

Harvest(kg/ha)	**Frequency**	**Percentage**
0-39	10	20
40-79	12	24
80-119	21	42
120-above	14	28
Total	50	100

Source: Research findings (2013)

Table 4.6 shows the findings for the yearly income of respondents, the findings show that majority of the farmers earn annual income between 100000 to 800000Tshs. This low incomes may be due to the low harvest which they get, also low of price of the agricultural products.

Table 4.6:Yearly incomes of the respondents

Income of respondents(Tshs)	Frequency	Percentage
100000- 800000	29	58
800001-400000	15	30
4000001- above	6	12
Total	50	100

Source: Research findings (2013)

Table 4.7 represents results of analysis on market access. The findings revealed that 82% of the farmers have no access to market. About 18% farmers have access to the market. Simtowe *et al*. (2009) argue that the livelihoods of rural farmers are most often constrained by poor access to market.

Table 4.7: Access to market

Whether access to market	Frequency	Percentage
No	41	82
Yes	9	18
Total	50	100

Source: Research findings (2013)

Table 4.8 shows farmer respondents on use of quality seed. Finding shows that 90% w used quality seed. And most of them reported that they get these quality seed by buying from seed agents. About 10% were not using quality seeds. These reported that were not able to afford the price of seeds.

Table 4.8: Use of Quality Seed

Use of quality seed	Frequency	Percentage
No	5	10
Yes	45	90
Total	50	100

Source: Research findings (2013)

Table 4.9 shows the use of farming equipments among households. Findings indicate that 88% of the respondents use hand hoe. This is due to low income of the respondent hence the fail to afford the cost for farming using the tractor. This could

also be a reason that households smaller area compared to those who use tractor. Findings indicate that 12% of the farmers use tractor. This shows that there is high difference in income among households

Table 4.9 :Type of farming equipment

Type of farming equipment	Frequency	Percentage
Hand hoe	44	88
Tractor	6	12
Total	50	100

Source: Researcher findings (2013)

Table 4.10 shows the findings on access to extension services. Findings show that 80% respondents received extension services, whereas 20% had no contact with extension officer. Extension officer provide technical advice to farmers to apply good farming methods such as use of improved seeds, spacing, harvesting methods and storage techniques which employ all scientific procedures.

Table 4.10: Farmer's access to extension service

Access to extension services	Frequency	Percent
No	10	20
Yes	40	80
Total	50	100

Source: Research findings (2013)

Table 4.11 shows the finding on the occupation of the households in the study area. The study shows some smallholders were engaged in both farming and other activities. The study revealed that 86% of the respondents were fully engaged in sunflower production and other crops such as maize, tomatoes, rice and cassava. Few respondents were engaged in farming and other activities. The study discovered that most of the farmers in the study area practice small scale agriculture.

Table 4.11: Characteristics of Respondent Occupation

Respondent occupation	Frequency	Percent
Farmer	43	86
Other activities	7	14
Total	50	100

Source: Research findings (2013)

Table 4.12 presents the findings on household on marital status of the respondents. The study shows that among the respondent interviewed 84% of the respondents were married, 6% divorced, 6% widow and only two 4% single. The findings revealed that majority of the respondent were married.

Table 4.12: Marital status of the respondents

Marital status of respondents	Frequency	Percent
Married	42	84
Single	2	4
Divorce	3	6
Widow	3	6
Total	50	100

Source: Research findings (2013)

Table 4.13 shows the results of the use of irrigation on farming. Results show that 96% of the farmers in the ward did not use irrigation as source of water to their farms, 4% irrigated their farms especially tomatoes.

Table 4.13: Farm irrigation

Whether irrigation	Frequency	Percent
Yes	2	4
No	48	96
Total	100	100

Source: Research findings (2013)

Table 4.14 shows the results on respondent access to land ownership. The result shows that 64% of the farmers acquired land through purchasing, 24% through renting and 6% obtained their land through inheritance. The findings suggest that majority of the farmers purchase land. Most respondents indicated difficult to get land because of the difficult conditions in acquiring land and high price. The study revealed that 78% of the respondents said that it was very difficult to acquire land due to shortage of money. On the other hand 14% said that it was easy but with few conditions. While 4% said that it was very easy to acquire land and 4% said it was difficult with few conditions.

Table 4.14: Mode of accessing land

Mode of land acquisition	Frequency	Percent
Purchased	32	64
Rented	12	24
Inherited	6	12
Total	50	100

Source: Research findings (2013)

Findings in Table 4.15 show the perception of farmers on whether the soil was fertile for the growth of sunflower. The findings showed that 50% of the farmers perceived soil to be moderate fertile for sunflower production, 36% said had farms with very fertile soil for sunflower production and 14% had farms with unfertile soil for sunflower production. From these findings, majority of the farmers in the study area had farms with moderate fertile soil for the production of sunflower.

Table 4.15: Soil Status in the Study Area

Soil status	Frequency	Percent
Very fertile	18	36
Moderate fertile	25	50
Not fertile	7	14
Total	50	100

Source: Research findings (2013)

Findings in Table 4.16 suggestions by farmers on sunflower farming where by 36% of the respondent reported that market for sunflower product should be increased so as to enable farmers to sell their products at the price which will benefit them. About 20% reported that financial assistance such as credit should be provided to farmers to enable them to buy agricultural inputs and cultivate large farms. About 14% of the respondents reported that education on proper agricultural practices should be provided to enable farmers come with new farming methods to increase efficiency in production. Other 12% of the respondents reported that quality seeds should be provided to farmers at the right time and at affordable price to enable farmers to plant the seeds at the early season of cultivation. More 10% reported that extension officers should be increased so as to match with the number of farmers in the villages. Also 8% reported that many farmers in the ward should be encouraged so as

to increase the number of growers in the area and hence increasing the production of the crop.

Table 4.16: Farmers Suggestions on Sunflower Production

Farmers suggestions	Frequency	Percent
Increasing market for sunflower	18	36
Increase extension officers	5	10
Provision of loans to farmers	10	20
Provision of agricultural education	7	14
Availability of seed at affordable price	6	12
Farmers to increase production	4	8
Total	50	100

Source: Research findings (2013)

Table 4.17 shows the findings on the contribution of sunflower on household welfare in the study area. The study revealed that 56% responded that it is used for cooking oil which is the main source of the product. Sunflower is an excellent source of vitamin E, the body's fat-soluble antioxidant Liberio (2012). 24% said that it increased households' income which helps them to purchase various agricultural inputs such as seeds, water pumps, and fertilizers. Also they used to pay for school fees for their children, paying for health services, building houses. 12% said that sunflower remains are used as a source of animal food such as goats, chickens and cows and 8% said that fertilizers wastes are left in the farm and they contribute much to increase fertility to the soil hence increasing the soil nutrients to the soil and increasing microbial activities in regulating the soil.

Table 4.17: Contribution of sunflower to household welfare

Contribution of sunflower	Frequency	Percentage
As fertilizer	4	8
Increasing household income	12	24
Cooking oil	28	56
Animal feed	6	12
Total	50	100

Source: Research findings (2013)

Summary of the key findings from descriptive statistics

From the data described above the research revealed that that 42% farmers were aged between 41 and 50 years, 28% between 51 and above years. It can be concluded that

households engaged in sunflower production are not of the young age. Regarding education of respondent, the analysis shows that majority had primary education, while very few had no formal schooling. The total size of the land used for sunflower was 3 hectares. On average, most households cultivated 1 hectare. The research investigated whether farmers used quality seeds in production of sunflower. The study shows that 90% of the farmers were found to use quality seed. And most of them reported that they buy the seeds from seed agents. Those not using quality seeds reported that they could not afford the price of the seeds. As regard, access to extension services, the findings show that 80% respondents received extension services from extension officers.

4.2 Econometric Analysis

This study intended to test three hypotheses. The aim was to find out how the independent variables on farm characteristics, household characteristics and institutional characteristics including: size of the farm, use of quality seeds, age, sex, and education level, farming experience, income and access to extension services are influencing sunflower production. Table 4.18 shows the results of econometric analysis of factors influencing sunflower production.

Table 4.18: Multiple Regression Results

Harvest	**Coef**	**Std.Err**	**t**	**P| t |**
Age	- 0.7748	- 0.5810	- 1.33	0.190
Sex	27.3512	12.59	2.16	0.037
Education	12.5903	8.3372	1.51	0.139
Farm size	53.0164	7.8985	6.71	0.000
Household income	$-1.22e^{07}$	$2.62e^{06}$	-0.05	0.963
Farming experience	-2.0938	2.7611	- 0.76	0.453
Use of quality seeds	-64.6964	27.4005	2.36	0.023
Access to extension services	-13.5965	11.7276	-1.16	0.2540
Cons	-60.6399	47.6046	-1.27	0.210

Source: Research findings (2013)

Table 4.18 present the econometric results of multiple linear regression model for socio-economic factors affecting sunflower production. As it can be seen from Table 4.18, level of significance is set at 5% (0.05). It is clear from the (Table 4.18) that three factors, sex (p = 0.037), farm size (p = 0.000) and use of quality seeds (p =

0.023) significantly affect sunflower production. It can further be seen from the Table 4.18 that, other variables (age, education level, household income, farming experience, access to market and access to extension services) had p-value greater than 5% (p = 0.05), thus were found to be not significant.

From Table 4.18, sex positively and significantly influences the production of sunflower at 5% level of significance. The coefficient is 27.3512, which means that male farmers produce more than female farmers. That is a unit increase in production by male increase sunflower production by 27.3512 units and sign of coefficient (+) supports the priori expected sign(+). This support the hypothesis that household characteristics (sex) positively affect sunflower production

Use of quality seed negatively and significantly influences sunflower production at 5% level of significance. The sign of the coefficient of use of quality seeds show that the more farmers use quality seeds are less likely to increase production. The coefficient is -64.6964, which means a unit increase in use local seeds reduce the production of sunflower production by 64.6964 units but sign of the coefficient (-) is contrary to with the priori expected sign (+). This is due to the fact that there is insufficient availability of quality seeds and some farmers cannot afford the price of seeds.

The study also tested whether land size cultivated had any effect on quantity of sunflower harvested. The analysis produced a highly statistically significant findings β =53.016, t-value = 6.71 and p-value = 0.000. Moreover, the coefficient is positive which suggests a positive relationship between cultivated land size and quantity of sunflower harvested. The positive sign means that a unit increase in size of the land size increases production by 53.016 other factors kept constant. These findings support the study hypothesis and imply that cultivated land size is a good predictor of quantity of harvested sunflower.

CHAPTER FIVE

DISCUSSION OF FINDINGS

5.0 Introduction

This chapter presents discussion on the overall study findings. It provides information on the study related to factors influencing production. It present the methodology applied in the study and finally presentation and discussion of the findings related to the specific objectives.

5.1 An overview of the study and findings

The study aimed at assessing socio-economic factors affecting sunflower production in Mlali ward in Mvomero in Morogoro. The study was carried in four villages of Mlali ward namely Manza, Vitonga, Kipera and Mlali. The study examined factors associated with farm characteristics, household characteristics and institutional characteristics. Descriptive analysis and econometric analysis using multiple linear regression model was clearly applied to analyze qualitative and quantitative variables. Three explanatory variables were statistically significant and five were contrary to expectation. The discussion of the significant factors follows below.

Descriptive statistics from Table 4.2 shows that 48% out of 50 households who engaged in sunflower production were males and 42% were females. Also the regression analysis on sex is statistically significant at 5%. These results are consistent with that of Lekunze et al (2011). The results show that the gender of farmers affects sunflower output positively and significant as most of the sunflower producers were male. This may be attributed to the fact that, males have more time to spend on their farms than females who are mostly engage in household activities and spend limited time on their fields. Males contribute directly in terms of labor and supervise workers and have strong bargaining power than women when it comes to loan.

In the case of use of quality seeds**,** according to descriptive analysis the study analyzed response to farmer use of quality seed affect sunflower production (Table 4.8). Finding shows that 90% used quality seed. And most of them reported that they

get these quality seed by buying from seed agents and 10% were not using quality seeds. Use of quality seed has a negative sign and is statistically significant at 5%. This suggests that the less farmer use quality seeds, the less are likely to increase production. Therefore in order to increase production, farmers are encouraged to use quality seeds.

Descriptive analysis of the farm size Table 4.4 shows that majority of farmers, 68% own minimum land size up to 1, very few 22% own land size up to 2, and about 10% own up to 3 hectares and the mean size of the owned area was1.5 hectare. Farm size coefficient has a positive sign and is statistically significant at 5%. These results are consistent with that of Lekunze et al. (2011). A positive and highly significant (p=0.000) relationship between production and land size under sunflower production, shows that an increase in the number of hectares cultivated will increase in output per hectare all the other factors remain constant. The main reason is that, as the farm size of the farmer increases, the amount of loans a farmer receives also increases

CHAPTER SIX

CONCLUSIONS AND IMPLICATION OF FINDINGS

6.0 Introduction

This part summarizes the researcher's findings. The chapter presents the recommendations to policy makers and farmers.

6.1 Summary and Conclusion

The objective of this study was to investigate the impact of socio-economic factors on smallholder farm productivity based on sunflower. A regression analysis suggests that input use (farm size, use of quality seeds and sex) had significant impact on sunflower production. Other factors such as (age, education, income, farming experience and access to extension services) were not significant in determining sunflower production. Also descriptive analysis on the contribution of sunflower production on household welfare as indicated in Table 4.17. Farmers suggested various contributions of the crop on their life such getting cooking oil, source of vitamin E, increasing income, used as a source of animal food such as goats, chickens and cows.

6.2 Policy implications

In relation to the findings and conclusion the following were recommended so as to increase the production of sunflower in the study area

- Government should play its role in safeguarding the interests of the farmers by streaming the private sector. It should encourage the private sector to setup their purchase points and storage centers in the major sunflower producing areas. Setting up of expellers either in the private sector or public sector for the processing of sunflower in the production areas will not only contribute to enhanced oilseed production but also will greatly benefits the farmers. Government should act as watchdog to monitor the price mechanism of the private sector in such a way that these private sectors do not exploit farmers' effort.
- Government and other development agencies should prepare conducive environment to smallholder farmers so that they get agricultural inputs such

as seeds and fertilizers and agricultural technology such as tractors and power tillers at affordable price but also by subsiding the agricultural inputs and machines to enable farmers to access both technology and agricultural inputs easily.

- Concerned departments should help farmers in alleviating such problems by suggesting proper methods and techniques for the control of pests and birds to avoid the yield losses

- Equal distribution of land among the farmers in the ward so as to enable every farmer to produce sunflower.

- Effective introduction of on-farm seed production should be enhanced so as to enable farmers to produce on farm-seeds within their community in order to alleviate the problem seed shortage and seed agents should ensure that the seed which are sold to farmers are of high quality and not the old ones which do not germinate.

6.3 Area for further studies

This study identified socio-economic factors affecting smallholder sunflower production in Mlali ward in Morogoro region, there is the need for further research on factors affecting sunflower production in other area such as considering production costs and benefits of the income obtained from sunflower production which this study did not include.

REFERENCES

Baloyi, K. J.(2010). Analysis of Constraints facing smallholder farmers in the Agribusiness Value Chain-Pretoria

Damiani, M. G. and George, V. (2010). Sunflower Production in the Central Corridor of Tanzania

FAO (2004), The State of food insecurity in the World Monitoring Progress towards World Food summit and Millennium Development Goal (http//www.org/SPFS/Objective.htm) visited on 25/12/2012

Habwe, T.G. (1992). The accomplishment and constraints of sunflower Research in Uganda.

Hammad, B., Javed, M.S., Asghar, A. and Zahira, B. (2002) Production and marketing constraints limiting sunflower production in Punnjab. Retrieved on 12 December 2012 www://www.ijab.org

Karisomanagoudar, R. S., (1990). Economics of production and marketing of rainfed onion in Gadag taluk of Dharwad district, Kematki. *M. Sc. (Agri.) Thesis*, Univ. Agric.Sci., Bangalore.

Lekunze, J, Antwi, M.A and Oladele O.I. (2011). Socio-economic constraints to sunflower production in Bojanala Pretoria.

Liberio,J. (2012). Factors contributing to Adoption of Sunflower Innovation in Mlali Ward, Morogoro

Ministry of Agriculture and co-operative, (2010) National Seed Industry Development Program a Draft Report. Government Printer, Dar es Salaam

Pathak, N. N.(1986). Economics of production and marketing of certified seeds of high yielding varieties of cereals. *M. Sc. (Agri.) Thesis*, Mahatma Phule Agricultural University, Rahuri.

Ramamoorthy, K., (1996) Economics of rainfed cotton production in Tamil Nadu. *Annual Report* for 1995-96, Central Institute for Cotton Research, Nagpur, (pp. 79-80)

Rural Livelihood Development Company (RLDC), (2008). Sunflower Production Situation in the Central Corridor of Tanzania

Thomas,R.S and Maurice, C.S. (2008). Manegerial Economics Mc Graw-Hill.

Ugulumu, E.S. (2008) .Sunflower Value Chain in Tanzania. Ilonga Research Institute, Kilosa Tanzania.

Zilihona, I.J, Mwatawala. H.W, Swai. E.Y. (2013). Sunflower Production and its Contribution to Poverty Reduction in Singida, Tanzania

Appendix 1: Questionnaire for Smallholder Farmers Producing Sunflower

Name of the interviewer ----------

Date of interview ----------

Name of respondent ----------

Name of village ----------

Name of ward ----------

1. What is your age? ---------- (years)

2. Sex of the farmer (tick)

(1) Female ( ) 2) Male ( )

3. Educational level of the farmer (Tick one)

(1) No formal schooling ( )

(2) Standard 1 – IV ( )

(3)Standard 1 – VII ( )

(4) Secondary and above ( )

4. What is your occupation apart from being a farmer? (Tick appropriate)

(1) Farming only ( )

(2) Teaching ( ) =[

(3) Nursing ( )

(4) Doing business ( )

(5) Any other, specify……..

5. Marital status of the farmer (Tick one)

(1) Single ( )

(2) Married ( )

(3) divorced/separated ( )

(4) Widowed ( )

6. Do you have access to land for sunflower farming? (Tick one)

(1) Yes ( ) (2) No ( )

7. Have you purchased, rented or inherited the land for sunflower farming?

(1) Purchased ( ) (2) rented ( ) (3) inherited ( )

8. How big is your land area? ---------- (acres)

9. How big is your farm (cultivated area with sunflower) in season 2011/2012?

10. How easy is to get land in the village? (Tick one)

(1) Very easy (no conditions to get the land) ( )

(2) Easy (few conditions to get land) ( )

(3) Difficult (strong conditions to get the land) ( )

(4) Very difficult (very strong conditions to get the land) ( )

11. Is the soil in your farm land suitable for sunflower crop production? (Tick one)

(1) Yes, very fertile ( )

(2) Yes, moderate fertile ( )

(3) No, not fertile ( )

12. What fertilizers do you apply (if any) in your farm? (Tick appropriate) (1) Organic

fertilizer ( ) (2) Inorganic fertilizers ( )

13. Do you buy any agricultural inputs? (Tick one)

(1) Yes ( ) (2) No ( )

14. If Yes to question 13, what are the agricultural inputs do you buy? (Mention)

…….

15. If No to question 14, what are the reasons for not buying agricultural input? (Tick appropriate)

(1) It is expensive ( )

(2) It is unavailable ( )

(3) It is not profitable ( )

(4) Its utilization is complex ( )

(5) Culturally not accepted ( )

(6) Any other (mention) ……

16. Do you have any source of fund? (Tick one) (1) Yes ( ) (2) No ( )

17. If Yes to question 16, what is your source of fund? (Tick appropriate)

(1) Loan from Bank ( ) (2) Savings and Credit Association ( ) (3) Any other

(Specify) …….. ……..

18. What is the total income per year you receive?……

19. Do you use irrigation in sunflower farming? (Tick one)

(1) Yes ( ) (2) No ( )

20. For how long (years) have you been farming sunflower? ……

21. Do you have market of sunflower in your area? (1) Yes ( ) (2) No ( )

22. Do you produce seed for your farm? (Tick one)

(1) Yes ( ) (2) No ( )

23. If Yes to question 22, what type of seed do you produce?

---

24. If No to question 23, why? (Give a reason)

(1) Dry weather condition ( ) (2) Small farm size ( ) (3) Lack of irrigating machine ( )

(4) Lack of education ( ) (5) Destructive birds ( ) (6) High costs ( )

25. Apart from yourself, do you know any farmer who produces seed in this ward? (Tick one)

(1) Yes ( )

(2) No ( )

26. If Yes to question 25, under what terms does he/she sell those seeds? (Tick appropriate)

(1) In kind ( )

(2) On credit ( )

(3) On cash ( )

(4) As gifts ( )

(5) Through barter system ( )

(6) Other terms (name) ……..

27. Do you use improved seed in farming sunflower? (Tick one) (a) Yes ( ) (b) No ( )

28. If Yes to question 27, where do you get improved seeds? (Tick appropriate)

(1) Seed producers ( )

(2) Relative/neighbors ( )

(3) Extensionists ( )

(4) Seed dealers/shop ( )

(5) Project/organization ( )

(6) Other (name) ----------

29. Do you own livestock? (Tick one) (1) Yes ( ) (2) No ( )

30. If yes to question 29, what is the number of Livestock do you own currently?

……..

31. What tools do you use in doing farm activities? (Tick appropriate)

(1) Hand hoes ( )

(2) Animal power ( )

(3) Motorized tools ( )

32. Do you weed your farm? (Tick one) (1) Yes ( ) (2) No ( )

33. If Yes to question 32, how many times do you weed your farm per season?

34. Do you have an access to the sunflower processing machine?

(Tick one) (1)Yes ( ) (2) No ( )

35. Do you have contacts with a village extension officer?

(Tick one) (1) Yes ( ) (2)( )

36. If Yes to question 35, how many times do you contact per month?

Frequency of contacting extension officer

37. What benefit have you gained by producing sunflower? (Tick one)

(1) Animal feed ( ) (2) Cooking oil ( ) (3) Increasing household income ( )

38. What is your suggestion about sunflower farming? (Tick one)

(1) Availability of irrigating machines at affordable price ( )

(2) Availability of record seeds at affordable price ( )

(3) Cheap to produce sunflower ( )

(4) Farmers to produce more ( )

(5) Increasing market for sunflower ( )

(6) It is good for income generation ( )

(7) Provision of agricultural education ( )

39. What is your opinion about socio-economic factors limiting sunflower production? (Give your opinion)

THANK YOU FOR YOUR COOPERATION

Appendix2: Checklist for Smallholder Farmers Producing Sunflower

1. How big is your farm (cultivated area with sunflower) in season 2011/2012?
2. What fertilizers do you apply (if any) in your farm……
3. For how long (years) have you been farming sunflower? ……
4. Do you have market of sunflower in your area……
5. What variety of seeds do you use in farming sunflower……
6. What tools do you use in doing farm activities? ……..
7. Do you use fungicides/pesticides for preventing pests and diseases?
8. Do you have contacts with a village extension officer? …….
19. How many times do you contact with extension officer per month? ……..
10. What benefits have you gained by producing sunflower? ……..

CHANGAMOTO ZA KIJAMII NA KIUCHUMI ZINAZO WAKABILI WAKULIMA WADOGO WA ZAO LA ALIZETI WILAYA YAMVOMERO MOROGORO

DODOSO KWA WAKULIMA WADOGO WADOGO WA ALIZETI

Jina la msaili ----------

Tarehe ya usahili ----------

Jina la msailiwa ----------

Kijiji ----------

Kata----------

1. Umri wako ni miaka mingapi? ----------

2. Jinsia (weka alama ya pata(√) mbele ya kisanduku)

(1) Mke ( ) (2) Mme ( )

3. Kiwango cha elimu (weka alama ya pata (√) mbele ya kisanduku)

(1) Sijasoma ( ) (2) Darasa la nne ( ) (3) Darasa la saba ( ) (4) Elimu ya sekondari ( )

(5) Elimu ya juu ( )

4. Nini kazi yako mbali na kuwa mkulima? (weka alama ya pata(√) mbele ya kisanduku)

(1) Kilimo tu ( ) (2) Kufundisha ( ) (3) Tabibu/daktari ( ) (4) Biashara ( )

(5) Kazi nyingine, itaje……..

5. Umeoa (weka alama ya pata(√) mbele ya kisanduku)

(1) Ndiyo ( ) (2) Hapana ( ) (3) Talaka/kuachana ( ) (4) Mjane/Mkane ( )

6.Je unamiliki shamba lolote la alizeti?

(1) Ndiyo ( ) (2) Hapana ( )

7.Je shamba unalolima alizeti umenunua, umekodisha, au ni la urithi?

(1)Nimenunua ( ) (2) Nimekodisha ( ) (3) Nimerithi ( )

8. Shamba lako lina ukubwa gani? ---------- (ekari)

9.Katika msimu wa 2011/2012 ulilima ekari ngapi?.....

10 Katika msimu wa 2011/2012 ulipata kilo ngapi kwa eneo ulilopanda?…….

11Vipi masharti ya kupata mashamba? (weka alama ya pata(√) mbele ya kisanduku)

(1) Ni rahisi (hakuna masharti juu ya kupata ardhi) ( )
(2) Ni rahisi (lakini kuna masharti kidogo)( )
(3) Ni vigumu (kuna masharti magumu) ( )
(4) Vigumu sana (kuna masharti magumu sana) ( )

12.Je ardhi katika shamba lako inafaa kwa ustawi wa alizeti?

(1) Ndiyo, ina rutuba sana ( ) (2) Ndiyo, inarutuba ya kawaida ( ) (3) Hapana, haina rutuba ( )

13.Mbolea gani unayoweka kwenye mazao yako shambani? weka alama ya pata(√) mbele ya kisanduku)

(1) Mbolea ya asili ( ) (2) Mbolea ya viwandani ( )

14.Je kunapembejeo zozote za kilimo ulizonunua?

(1) Ndiyo ( ) (2) Hapana ( )

15.Kama Ndiyo, Je ni pembejeo gani za kilimo ulizonunua? (Zitaje)

…….

16.Kama Jibu ni Hapana, sababu gani zilizopelekea ukashindwa kununua pembejeo za kilimo? (Weka alama ya pata(√) mbele ya kisanduku)

(1) Kwa sababu ya garama kubwa ( ) (2) Hazipatikani( )

(3) Hakuna faida yoyote kwa kutumia pembejeo ( ) (4) Utumiaji wake ni mgumu ( )

(5)Hazikubaliki katika tamaduni zetu ( )

(6) Sababu nyingine (taja) ……

17.Unachanzo chochote cha kipato? (weka alama ya pata(√) mbele ya kisanduku)

(1) Ndiyo ( ) (2) Hapana ( )

18.Kama, Ndiyo nini chanzo chako cha kipato (weka alama ya pata(√) mbele ya kisanduku)

(1) Mkopo wa Benki ( ) (2) Akiba katika mabenki na wahisani ( ) (3) Chanzo kingine (Kitaje) …….. ……..

19.Taja wastani wa kipato chako kwa mwaka……..

20.Je unatumia kilimo cha umwagiliaji katika kulima alizeti (weka alama ya pata(√) mbele ya kisanduku)

(1) Ndiyo ( ) (2) Hapana ( )

21. Kwa muda gani umekuwa ukilima alizeti?……

22 Je kuna soko lolote la alizeti katika eneo lako (1) Ndiyo ( ) (2) Hapana ( )

23 Je unazalisha mbegu katika shamba lako mwenyewe? (weka alama ya pata(√) mbele ya kisanduku)

(1) Ndiyo ( ) (2) Hapana ( )

24.Kama Ndiyo, ni aina gani ya mbegu unazozalisha?

---

25. Kama Hapana, ni Kwa nini? (Toa sababu)

(1)Ukame ( ) (2) Shamba dogo ( ) (3) Kukosa umwagiliji ( )

(4) Kukosa elimu juu ya uzalishaji wa mbegu ( ) (5) Uharibifu unaofanywa na ndege ( )

(6) Gharama kubwa ( )

26Mbali ya wewe, je kuna mkulima yeyote anaezalisha mbegu katika eneo hili? (weka alama ya pata(√) mbele ya kisanduku)

(1) Ndiyo ( ) (2) Hapana ( )

27. Kama Ndiyo, je mzalishaji mbegu anatoa mbegu kwa namna gani?

(1) Kwa kubadilishana ( ) (2) Mkopo ( ) (3) Kwa malipo ( ) (4) Kama zawadi ( )

(5) Kwa kubadilishana na mazao ( ) (6) Namna nyinine (itaje) ……..

28 Je unatumia mbegu bora katika kupanda alizeti? (weka alama ya pata(√) mbele ya kisanduku (1) Ndiyo( ) (b) Hapana ( )

29 Kama Ndiyo, unazipata wapi mbegu bora?

(1) Wazalishaji mbegu ( ) (2) Ndugu/majirani ( )

(3) Wtalaamu ( ) (4) Wakala wa mbegu/dukani ( ) (5) miradi/taasisi ( )

(6)Nyingine (itaje) ----------

30. Je unamiliki mifugo?

(1) Ndiyo ( ) (2) Hapana ( )

31Kamajibu ni Ndiyo, una mifugo mingapi kwa sasa?.....

32Zana gani unatumia wakati wa kulima?

(1) Jembe la mkono ( ) (2) Wanyama ( ) (3) Zana za moto kama matrekta ( )

33. Je unapalilia shamba lako?

(1) Ndiyo ( ) (2) Hapana ( )

34. Kama Ndiyo, ni mara ngapi kwa msimu unapalilia shamba lako?.....

35Je una zana zozote za usindikaji wa alizeti?

(1)Ndiyo ( ) (2) Hapana ( )

36Je kuna msaada wowote wa kitaalamu unapapa kutoka kwa maafisa kilimo?

(1) Ndiyo ( ) (2) Hapana ( )

37. Kama ndiyo, ni mara ngapi unakutana na watalamu wa kilimo kwa mwezi?.....

38Je ni faida gani ambazo umekuwa ukizipata kwa kulima alizeti?

(1) Chakula kwa ajili ya mifugo ( ) (2) Mafuta ya kupikia ( ) (3) Kuongeza kipato ( )

39. Nini ushauri wako ili kuboresha uzalishaji wa alizeti?

(1)Kuwe na upatikanaji kwa vifaa vya umwagiliaji katika bei ya kununulika ( )

(2) Kuwe na upatikanaji wa mbegu bora kwa bei nafuu( ) (3) Ni rahisi kuzalisha alizeti ( )

(4) Wakulima waongeze uzalishaji ( )

(5)Masoko ya alizeti yaongezeke ( )

(6) Ni chanzo kizuri cha kipato kwa mkulima ( )

(7)Elimu ya kilimo itolewe zaidi Kwa wa wakulima ( )

40 Nini maoni yako kuhusu changamoto zinazowakabili wakulima wa alizeti? (Toa maoni yako binafsi)

……
……
……
……
……
……

AKSANTE SANA KWA USHIRIKIANO

DETAILED CURRICULUM VITAE

PERSONAL PARTICULARS

NAME:	TUNTUFYE GODFREY
SEX:	MALE
DATE OF BIRTH:	16 NOVEMBER 1980
PLACE OF BIRTH:	MOROGORO
MARITAL STATUS:	MARIED
NATIONALITY:	TANZANIAN
CONTACT ADDRESS:	P.O.Box 60
	MZUMBE, MOROGORO
MOBILE	(+255) 717100643
	(+255) 769757587
E-mail	tuntufye.godfrey@ymail.com

ACADEMIC QUALIFICATIONS

2011-2013: Master of Science in Economics (Economic Policy and Planning)

2008-2011: Bachelor of Education in Economics and Mathematics- Mzumbe University, Tanzania

2005-2007: Certificate of Diploma in Education- Morogoro Teachers College; Tanzania

2003-2005: Advanced Leaving Certificate of Secondary Education- Tosamaganga Secondary School Iringa (NECTA) Tanzania

1999-2002: Certificate of Secondary Education-Ipinda Secondary School in Mbeya Region; (NECTA) Tanzania

LEADERSHIP AWARDS

2012-2013: Member of the Board-Faculty of Social Science; Mzumbe University

2009-2010: Deputy Secretary General; Mzumbe University Catholic Student Organization

TRAINING

2011 – Training workshop on challenges facing Higher Learning Institutions in combating HIV/AIDS facilitated by USAID on 11th June, 2011 at Mzumbe University.

2011- Training on Social Security Issues facilitated by Local Authority Pension Fund (LAPF) on 11th June 2011 held at Mzumbe University.

2011- Training on Public Integrity Restoration Initiative (PIRI) facilitated by Institute of Development Studies University of Dar es Salaam on 1st April 2011 at Mzumbe University

COMPUTER LITERACY

- Overview of Computer
- Operating Systems (Windows Xp)
- Word processing (Microsoft Word)
- Spreadsheet (Microsoft Excel)
- Networks & Internet
- MS Power Point

LANGUAGE PROFICIENCY

Fluent in both English and Kiswahili in reading, writing and listening

SELF ASSESSMENT

- Self Confident
- Able to Work independent
- Matured and Self motivated
- Able to Perform duties with minimum supervision
- Good team worker and leader
- Good interpersonal skills relation
- Able to work under pressure
- Good planning and organization skills
- Able to take initiative
- Flexible and able to cope with changes

INTERESTS AND HOBBIES

Acquiring new knowledge through reading academics books, teaching/lecturing, watching movies and TV, listening music, travelling, reading news papers, playing and watching football, chatting and exchanging ideas with friends

REFEREE(S)

1: Saimon K.M.Njovu

Senior Lecturer/Reseacher;

Maths, Statistics, IT,

P.O.Box 23, Mzumbe

Mob: + 255 715961965/ + 255784961965

Morogoro, Tanzania

E-mail: skmnjovu@hotmail.com

sknjovu@gmail.com/ skmnjovu@yahoo.com

2: Dominic T.Msabila

Lectuturer

P.O.Box 5

Mzumbe

Morogoro; Tanzania

Mob: +255715590380

E-mail: lesabidt2001@yahoo.com

CERTIFICATION

I Tuntufye Godfrey certify that the information given to this curriculum vitae is mine and true to the best of my knowledge

Signature……

5 October 2013