

FACULTY OF NATURAL RESOURCES AND ENVIRONMENTAL SCIENCES

DEPARTMENT OF NATURAL RESOURCE ECONOMICS

**ASSESSMENT OF CLIMATE VARIABILITY ON SMALL SCALE FARMERS
A CASE STUDY OF NAMUTUMBA SUB COUNTY –NAMUTUMBA DISTRICT**

BY

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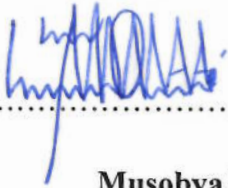
**A RESEARCH DISSERTATION SUBMITTED IN TO BUSITEMA UNIVERSITY FOR
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MAY 2019

DECLARATION

I Musoby Moses with registration number BU/UG/2016/55 sincerely declare to the best of my knowledge that this dissertation whose title is “**Assessment of Climate Variability on Small Scale Farmers: A Case Study of Namutumba Sub County –Namutumba District**” is my own, and I have fully referenced the ideas and work of others.




.....
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21/06/2019

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Date

APPROVAL

This is to certify that this dissertation is an original work for **Musoby Moses** and has never been submitted to or published by anyone/ institution ever before, and has been fully completed under my guidance.

Signature.....

DATE...28.../...06.../...2019...

DR. NAKIYEMBA ALICE

SUPERVISOR

DEDICATION

To my mum Betty Logose, my sisters, friends and other relatives, plus my lecturers who rendered support to me in terms of identification of areas of correction, and any other more. I also dedicate this report to Kyazike Doreen, that she should read harder and emulate me.

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TABLE OF CONTENTS

| | |
|---|-----|
| DECLARATION | ii |
| APPROVAL | iii |
| DEDICATION | iv |
| ACKNOWLEDGEMENT | v |
| TABLE OF CONTENTS..... | vi |
| LIST OF FIGURES | ix |
| LIST OF TABLES..... | x |
| 1.1 BACKGROUND OF THE STUDY | 1 |
| 1.2 STATEMENT OF THE PROBLEM | 3 |
| 1.3 OBJECTIVES OF THE STUDY | 4 |
| 1.3.1 MAJOR OBJECTIVE | 4 |
| 1.3.2 SPECIFIC OBJECTIVES..... | 4 |
| 1.4 RESEARCH QUESTIONS..... | 4 |
| 1.5 CONCEPTUAL FRAMEWORK | 4 |
| 1.6 SIGNIFICANCE OF THE STUDY | 6 |
| 1.7 OPERATIONAL DEFINITIONS OF KEY TERMS AND CONCEPTS | 6 |
| 2.0 CHAPTER TWO: LITERATURE REVIEW | 7 |
| 2.1 INTRODUCTION..... | 7 |
| 2.2. GENERAL OVERVIEW ON CLIMATE VARIABILITY..... | 7 |
| 2.3. SOCIO-ECONOMIC EFFECT OF CLIMATE VARIABILITY ON SMALL SCALE CROP FARMERS IN NAMUTUMBA SUB COUNTY | 8 |
| | 10 |
| 2.4. Effect of climate variability on small scale livestock farmers | 10 |
| 2.5 Possible ways through which the small scale farmers can maintain and improve on their productivity amidst the changing climate | 11 |
| 3.0 CHAPTER THREE: METHODOLOGY OF DATA COLLECTION | 13 |
| 3.0 Introduction | 13 |
| 3.1 Research design..... | 13 |
| 3.2 Description of the study area..... | 13 |
| 3.3. Sampling strategies and size | 14 |
| 3.4 Data collection methods and instruments..... | 16 |

| | |
|---|----|
| 3.4.1 Self-administered questionnaires | 16 |
| 3.4.2 Interviews..... | 16 |
| 3.4.3 Observation | 17 |
| 3.5 Data entry and analysis | 17 |
| 3.6 Ethical research considerations | 17 |
| 3.7 Limitations of the study..... | 18 |
| 4.0 CHAPTER FOUR: PRESENTATION OF THE FINDINGS, ANALYSIS AND DISCUSSIONS..... | 19 |
| 4.1 BIO DATA OF THE RESPONDENTS..... | 19 |
| 4.1.1 GENDER OF THE RESPONDENTS | 19 |
| 4.1.1.1 Relationship between gender and knowledge on climate variability..... | 20 |
| 4.1.1.2 Age of the respondents..... | 20 |
| 4.1.1.3 Marital status..... | 22 |
| 4.1.1.4 Education level of the respondents | 23 |
| 4.1.1.4.1 Relationship between education level and knowledge on climate variability..... | 25 |
| 4.1.1.5 Sources of livelihood | 25 |
| 4.2. Different crops grown and animals reared by the small scale farmers in Namutumba Sub County..... | 26 |
| 4.2.1 Crop farming..... | 26 |
| 4.2.2 Livestock farming | 28 |
| 4.2.3 Duration in crop farming..... | 30 |
| 4.2.4. Current status of the output..... | 32 |
| 4.3 The social economic effect of climate variability on small scale crop farmers in Namutumba Sub County | 33 |
| 4.3.1 Productivity of native crops | 33 |
| 4.3.2 Current Level of Output per Acre..... | 34 |
| 4.3.3 Evidence for the emergence of new vectors, pests, weeds and diseases for crops | 36 |
| 4.3.4 Productivity of small scale farmers..... | 37 |
| 4.3.5 Size of land (in acres) on which farmers carry out their activities..... | 38 |
| 4.3.5.1 Relationship between current level of output and land size..... | 38 |
| 4.3.6 Current price level of the output per kg in shillings (during harvesting time for maize)..... | 39 |
| 4.3.7 Other effects of climate variability on crop production..... | 41 |
| 4.4 Effect climate variability on small scale livestock farmers in Namutumba Sub County.... | 42 |

| | |
|--|----|
| 4.4.1 Evidence for emergency of new pests, vectors, weeds and crop diseases..... | 42 |
| 4.5 Measures to maintain/ increase small scale farmers' productivity in the face of climate variability | 42 |
| 4.5.1 Farmers' knowledge on climate variability..... | 42 |
| 4.5.2 Government commitment on climate variability issues | 43 |
| 4.5.3 Reasons for the continued operation of small scale farms amidst the varying climate..... | 44 |
| 4.5.4 Advise to small scale farmers as far as climate variability-farmers' productivity relationship is concerned..... | 45 |
| 5.0: CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS | 47 |
| 5.1. Conclusions of the study | 47 |
| 5.2. Recommendations of the study..... | 47 |
| 5.3. Areas of further research | 49 |
| REFERENCES..... | 50 |
| APPENDIX 1 | 61 |
| 1.1 QUESTIONNAIRE..... | 61 |
| APPENDIX.2. PHOTOS | 65 |
| 2.1: Introductory letters to the different villages as part of ethical considerations..... | 65 |
| 2.2 Some of the crops grown and livestock reared by small scale farmers of Namutumba Sub County | 67 |
| 2.3 Some of the other adaptation strategies put forward by small scale farmers | 69 |

LIST OF FIGURES

| | |
|---|----|
| FIGURE 1: CONCEPTUAL FRAMEWORK..... | 5 |
| FIGURE 2: MAP OF THE AREA OF STUDY SHOWING PARISHES IN NAMUTUMBA SUB COUNTY | 14 |
| FIGURE 3: AGE OF THE SMALL SCALE FARMERS | 21 |
| FIGURE 4: MARITAL STATUS OF SMALL SCALE FARMERS | 23 |
| FIGURE 5: EDUCATION LEVEL OF THE SMALL SCALE FARMERS | 24 |
| FIGURE 6: OFF FARM ACTIVITIES DONE BY THE SMALL SCALE FARMERS | 30 |
| FIGURE 7: DURATION WHILE IN CROP FARMING | 31 |
| FIGURE 8: PRODUCTIVITY OF NATIVE SPECIES WITHOUT APPLICATION OF ADDITIVES | 34 |
| FIGURE 9: EVIDENCE FOR EMERGENCE OF NEW VECTORS, WEEDS, PESTS, AND DISEASES..... | 37 |
| FIGURE 10: AVERAGE ACREAGE FARMED BY SMALL SCALE FARMERS | 38 |
| FIGURE 11: OTHER EFFECTS OF CLIMATE VARIABILITY ON CROP FARMING | 41 |
| FIGURE 12: REASONS FOR CONTINUED OPERATION OF SMALL SCALE FARMERS' ACTIVITIES | 45 |
| FIGURE 13: ADVICE TO IMPROVE THE PRODUCTIVITY OF SMALL SCALE FARMERS | 46 |

LIST OF TABLES

| | |
|--|----|
| TABLE 1: SUMMARY OF HOW DATA WAS OBTAINED TO GIVE THE SAMPLE SIZE..... | 16 |
| TABLE 2: GENDER OF THE RESPONDENTS..... | 19 |
| TABLE 3: SIGNIFICANCE OF GENDER IN EXPLAINING KNOWLEDGE ON CLIMATE VARIABILITY..... | 20 |
| TABLE 4: RELATIONSHIP BETWEEN GENDER AND CLIMATE VARIABILITY..... | 22 |
| TABLE 5: RELATIONSHIP BETWEEN EDUCATION LEVEL AND KNOWLEDGE ON CLIMATE VARIABILITY..... | 25 |
| TABLE 6: MAJOR SOURCE OF LIVELIHOOD OF SMALL SCALE FARMERS..... | 25 |
| TABLE 7: MAJOR CROPS GROWN IN NAMUTUMBA SUB COUNTY | 27 |
| TABLE 8: REASONS FOR CHOICE OF THE CROP TO GROW | 28 |
| TABLE 9: MAJOR LIVESTOCK REARED BY SMALL SCALE FARMERS OF NAMUTUMBA SUB COUNTY | 28 |
| TABLE 10: REASONS FOR CHOICE OF LIVESTOCK TO REAR..... | 29 |
| TABLE 11: RELATIONSHIP BETWEEN DURATION IN CROP FARMING AND KNOWLEDGE ON CLIMATE VARIABILITY..... | 31 |
| TABLE 12: STATUS OF THE OUTPUT..... | 32 |
| TABLE 13: RELATIONSHIP BETWEEN STATUS OF OUTPUT AND EXTENSION SERVICES | 32 |
| TABLE 14: CURRENT LEVEL OF OUTPUT PER ACRE..... | 35 |
| TABLE 15: LEVEL OF OUTPUT BEFORE..... | 35 |
| TABLE 16: EFFECTS OF CLIMATE VARIABILITY ON CROP PRODUCERS..... | 36 |
| TABLE 17: METHOD OF PRODUCTION..... | 38 |
| TABLE 18: CURRENT LEVEL OF OUTPUT SIZE OF LAND..... | 38 |
| TABLE 19: RELATIONSHIP BETWEEN CURRENT LEVEL OF OUTPUT AND LAND SIZE..... | 39 |
| TABLE 20: PRICE LEVEL DURING HARVEST TIME | 41 |
| TABLE 21: FARMERS KNOWLEDGE ON CLIMATE VARIABILITY | 43 |

TABLE 22: NUMBER OF FARMERS VISITED BY AN EXTENSION WORKER 43

TABLE 23: RELATIONSHIP BETWEEN LEVEL OF EDUCATION AND CONTINUED OPERATION OF SMALL SCALE FARMERS' ACTIVITIES 44

LIST OF ACRONYMS/ABBREVIATIONS

| | |
|-------|---|
| AGRA | Alliance for Green Revolution in Africa |
| CCISC | Climate Change Study Effect Commit |
| EWEA | Early Warming- Early Action |
| FAO | Food and Agricultural Organization |
| GHG | Green House Gases |
| GIZ | Deutsche Gesellschaft für Internationale Zusammenarbeit |
| GRFC | Global Report on Food Crisis |
| IPCC | Inter-Governmental Panel on Climate Change |
| Kg | Kilogram |
| NAADS | National Agricultural Advisory Services |
| NEMA | National Environment Management Authority |
| NFA | National Forest Authority |
| NPHC | National Population and Housing Census |
| QGIS | Quantum – Geographic Information System |
| SPSS | Statistical Package for Social Sciences |
| SUPR | State of Uganda's Population Report |
| TER | Trade and Environment Review |
| UBOS | Uganda Bureau of Statistics |
| UN | United Nations |
| UNDP | United Nations Development Programme |

ABSTRACT

Climate variability is one of the chronic challenges that the globe is facing in the 21st century in addition to terrorism, gender based violence and natural resource degradation. Before the intensification in the occurrence of extreme weather events, small scale farmers of Namutumba Sub County used to grow crops two seasons a year, with the harvest finding that of the previous season in the granaries, stores, and they would have excess for sale to generate school fees and meet other financial needs of their families.

The study employed simple random sampling and purposive sampling techniques to get the data from sample of 60 respondents. Data was collected from all age groups of farmers using self-administered questionnaires, interviews, and observation. Microsoft office Excel was used for data entry while SPSS was used for analysis. This made it easy to come up with pie charts, bar graphs, as well as the Pearson chi square for the relationship between variables.

Findings of the study show the major source of livelihood as crop farming, with maize as the major crop, and poultry as the major livestock reared by the small scale farmers. All the farmers whether crop or livestock are being negatively affected by emergence of new pests, weeds, vectors and diseases, floods, drought, erratic rain, pasture and water scarcity, among others which were reported to be as a result of the variability in climate. These have caused a continued decline in the yield. It was noted that most of the farmers carry out their activities on land less than one acre with the use of locally available tools, and sell the output at 300 shillings especially for maize as the major crop.

With the low level of education limiting the farmers to only crop and livestock farming, government and non-government organizations should provide inputs at a free or subsidized price, intensify extension services, educate the masses on adaptive strategies, provide improved seed and animal varieties, among others if Uganda is to attain the ongoing sustainable development goals. This is because almost all small scale farmers in Namutumba Sub County are positive towards adaptation to climate variability.

1.0. CHAPTER ONE: INTRODUCTION

1.1 BACKGROUND OF THE STUDY

The variation in climate is one of the chronic challenges that the globe is facing in the 21st century in addition to terrorism, gender based violence and natural resource degradation. In fact, (D. Hoornweg et al, 2011; Y.K Singh, 2006; Human Effect Report, 2009; Kashaigili et al. ,2014) singles out climate variability as one of the most pressing challenges that the world faces today. Climate variability is a change in the expected weather conditions found of a place at a particular time period. The IPCC (2014) elaborates that assessment of many studies covering a wide range of regions and crops shows that negative effects of climatic change on crop yields have been more common than positive effects. R. Mwebaza and L. J Kotzé (2009) identify Africa in particular as one of the continents on earth that is most susceptible to the potentially devastating effects of the changing climate. These are mostly being felt by the small scale farmers. FAO (2018) forecasts that by the middle of the 21st century, higher average temperatures, changes in precipitation, rising sea levels, an increase in the frequency and intensity of extreme weather events, as well as the possibility of an increase in damage from pests and disease, are expected to affect crops and livestock production which are the major sources of livelihood for the rural poor farmers. D.A. Anderson (2010) indicates clearly that the current global average temperature is 0.85°C higher than it was in the late 19th century, which has warmed the oceans and melted land ice, raising the mean sea level by 4.5 centimeters (1.7 inches) between 1993 and 2008. Worldwide, changes in climate have altered the amount of rain being received in different areas and their temperatures and they have had a significant effect on the productivity of the small scale famers. Though G. Rapsomanikis (2015) recognizes small scale farmers as people who work on land plots smaller than 2 hectares, the study considered small scale farmers as people who carry out their operations on land less than 5 acres (since land in Uganda is measured in acres, and 1 hectare= 2.471054 acres). Uganda is experiencing greater weather disruptions (Nagasha JI et al., 2019), and is highly vulnerable to climate change and variability (Hepworth, N. and Goulden, M., 2008). Climate variability in many areas of Uganda has occurred in form of landslides especially in the Elgoni region, flooding (caused by excessive rainfall) especially in eastern parts of Uganda or drought (like the recent 2016-2017 drought spell); waterlogged soil yet (D. G. Mackean and D. Hayward, 2014) identify that such soils become infertile due to the activities of denitrifying bacteria, which

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