

**AGRICULTURAL PRODUCTION AND PRICE FLUCTUATION IN UGANDA.  
A CASE STUDY OF NAMUNGO SUB COUNTY, MITYANA DISTRICT.**

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**A RESEARCH REPORT SUBMITTED TO THE COLLEGE OF ECONOMICS AND  
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INTERNATIONAL UNIVERSITY**

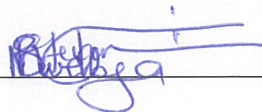
**AUGUST, 2018**

## DECLARATION

I, **Mwebya Powel Steven (Reg No:1153-05144-01256)**, declare that this report is my own original work and has never been submitted to any Institution of higher Learning for any award.

**MWEBYA POWEL STEVEN**

Signature



Date

17/08/2018

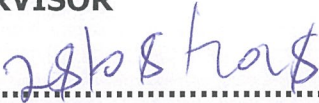
## APPROVAL

This research report is for the above student who has been under my supervision and therefore ready for presentation in partial fulfilment for the Award of Bachelor's Degree in Economics and Applied Statistics of Kampala International University.

Signature.....

**MRS. NAKAWUNGU FARIDAH**

**SUPERVISOR**

Date.....

## **DEDICATION**

I dedicate this piece of work to my Dad Mr. Ddumba Eric Vincent and Mum Mrs.Nalule Beatrice, my friends Kikooma Estone, Nakafeero Doreen, Kiplangat Cyrus siblings and relatives.

## **ACKNOWLEDGEMENT**

My Sincere gratitude goes to God the Almighty for giving me the time for to focus on this research proposal. In special way,

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## **ABBREVIATIONS AND ACRONYMS**

BC	Before Christ
BCGA	British Cotton Growing Association
KIU	Kampala International University
PHC	Population and Housing Census
PMA	Plan for Modernization of Agriculture
SDGS	Sustainable Development Goals
SPSS	Statistical Packages for Social Scientists
UBOS	Uganda Bureau of Statistics
UNFAO	United Nations Food and Agricultural Organization
USA	United State of America
VEC	Vector Error Correction
WB	World Bank
WFO	World Food Organization

## **ABSTRACT**

This study entitled Agricultural Production and Price Fluctuations was conducted in Namungo Sub County, Mityana district for a period of four months. The major objectives of the study included the establishment of the level of agricultural output produced by small scale farmers in Mityana district, the trend of prices of agricultural products and then the effects of agricultural production on price fluctuations in Mityana district.

The methodology used in this study was the descriptive cross-sectional research designs by using both the qualitative and quantitative approach and primary data was used as the major source of data for the study.

The study findings on the personal information respondents revealed that there are more males in the study than females because they are directly engaged in farming mainly between the age of 30-39 with secondary education as the highest level of qualification

The findings on the level of agricultural output revealed that habit of farmers, technology and market are the major drivers in the volume of output in Mityana district. This was discovered by the overall mean of responses being between 2.0-3.0.

On the other hand, the findings on the price fluctuations trend also revealed that demand, supply and market trend are the major factors that may cause fall or rise in prices of agricultural products also found out with a mean response of between 2.0-3.0 and the farmers made suggestion that the government should regulate the market to ensure stability of prices both in the short run and in the long run.

And lastly, the researcher concluded that the level of agricultural output and the trend of prices of these output generally are the major causes of price fluctuations in Mityana district as revealed by the study results.

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 Background of the study**

##### **1.1.1 Historical perspective**

Agriculture as a practice and economic activity began independently in different parts of the globe fueled by a number of factors. It all begun notably from Mesopotamia about 20,000 years ago before Christ where wild grains were collected and eaten by majorly hunters and gatherers of wild foods who were the early settlers in the history of mankind. The first edible crop to be cultivated was Rye at least 11,050 before Christ followed by wheat, hulled barley, peas, lentils, bitter vetch, chick peas, and flax cultivated in the Levant. Predominantly rice was the major crops grown in China by 6,200 BC followed by animal like pigs, sheep, cattle, and later crops like sugarcane, root vegetables, sorghum, potato, beans, coca, llamas, alpacas, and guinea pigs and bananas in some parts of the world. The popular places that experienced the intensification of agriculture in civilizations in the world included Mesopotamia, ancient China, ancient Greece and Rome.

Prior to colonialism, food production in Africa was in the hands of African farmers who grew crops mainly for food production. Many explorers to Africa were more focused on acquiring and shipping raw materials to the western world and considered this the most efficient use of their resources. Over time this way of conducting business became expensive and they sought to diversify ways to increase their profits.

On the Gold Coast, cocoa became the key cash crop after it was introduced to the territory in the 1880s. In Uganda, the British Cotton Growing Association encouraged the Ganda chiefly class to embrace cotton production. In Kenya, most groups were pastoralists except in the fertile Rift Valley, where the settler government parceled out land to its people by clearing African inhabitants.

Since 1900, agriculture in the developed nations, and to a lesser extent in the developing world, has seen large rises in productivity as human labour has been replaced by mechanization, and assisted by synthetic fertilizers, pesticides, and selective breeding. The Haber-Bosch process allowed the synthesis of ammonium nitrate fertilizer on an industrial scale, greatly increasing crop yields. In recent times, modern agriculture has raised social, political, and environmental issues including water pollution, biofuels, genetically modified organisms, tariffs and farm subsidies.

The key issue of concern is price fluctuations that begun since the beginning of the 20th century, since then there have been several periods of dramatic crop price increases in the world, including those experienced during the two World Wars. Significantly, wheat, corn, and soybean prices began rising rapidly in 1971 in the United State of America. Prices peaked and reached record highs in 1974 and then declined, settling at a higher level than during the 1960s. Contrary to that, prices for most crops again started to climb slowly in 1990 and escalated rapidly beginning in 1994, peaking in 1995 (corn and wheat) and 1996 (soybeans) before declining sharply which all make agriculture unpredictable (P. Westcott 2018).

In recent years, food security, especially supply, has been an important issue in China's agricultural production. The stability of grain prices is related to the stability and development of the grain market. Based on agricultural production data from 1970 to 2015, agricultural product price fluctuation on grain production by using the cobweb theory and vector error correction (VEC) model results shows that changes in grain production in China are affected by fluctuations in agricultural product prices, that the production change lags behind the price change, and that there is a long-term equilibrium relationship between grain yield and agricultural product price and this was concluded with the help of Granger causality test results according to B. Wang from the University of Jiangxi Finance and Economics China (B. Wang 2017).

According to the world bank research on the drivers of prices in Africa, after 2005, commodity prices experienced their longest and broadest boom since World War II. Agricultural prices have now come down considerably since their 2011 peak but are still

40 percent higher in real terms than their 2000 lows. This analysis broadens the scope by focusing on six agricultural commodities and identifies the relative weights of key quantifiable drivers of their prices. It concludes that increases in real income negatively affect real agricultural prices, as predicted by Engel's Law. Energy prices matter most (not surprisingly, given the energy-intensive nature of agriculture), followed by stock-to-use ratios and, to a lesser extent, exchange rate movements. The cost of capital affects prices only marginally, probably because it not only influences demand, but also evokes a supply response (World Bank 2016).

In Uganda, the 2017/2018 monthly market monitor indicates that the average retail prices for maize grains and beans are relatively stable in Northern Uganda at 20 percent compared to 30 percent in 2017 while for the rest of the country, the relative prices of grains and beans increased by 8 percent due to low supply with Mbale being the highest affected (WFO 2018).

### **1.1.2 Conceptual perspective**

Agriculture can be defined as the cultivation and/or production of crop plants or livestock products. Agriculture includes Crop Production, Animal Husbandry & Dairy Science, Agriculture Chemistry & Soil Science, Horticulture, Agril Economics, Agril Engineering, Botany, Plant Pathology, Extension Education and Entomology, which develops its separate and distinct branches of agriculture occupying now a day's place in several Agril Universities in the country in Indi understands this concept by considering these spectrum (Agrinon 2015). This contrary to the concept according to Ben where agriculture is defined in relation to crop farming and livestock farming inclusively as the art and science of growing crops and rearing of animals. This concept considers agriculture to require skills based on scientifically verified facts (B.G Bareju 2014).

Comparatively in line with agricultural economics, this is defined as study of the allocation, distribution, and utilization of the resources used, along with the commodities produced, by farming. Agricultural economics plays a role in the economics

of development, for a continuous level of farm surplus is one of the wellsprings of technological and commercial growth (D. Gale Johnson 2006).

In general, one can say that when a large fraction of a country's population depends on agriculture for its livelihood, average incomes are low. That does not mean that a country is poor because most of its population is engaged in agriculture; it is closer to the truth to say that because a country is poor, most of its people must rely upon agriculture for a living.

In Africa, instability of farm prices results from several factors. One is the relative slowness with which farmers are able to respond to changes in the demand for their product. Farmers generally must produce on the basis of expectations, and if their expectations turn out to be wrong, the resulting surplus or shortage cannot be corrected until the beginning of the next production cycle. Once a crop is planted, very little can be done to increase or decrease production in response to market prices and this what we call price fluctuations in the context of this continent (D. Gale Johnson 2006).

### **1.1.3 Theoretical perspective**

This study was based on Cobb Web theory put forward by Cobb–Douglas in 1927 to explain the reaction of farmers to prices changes brought about by changes in demand and supply of agricultural products. The Cobweb model or Cobweb theory is an economic model that explains why prices might be subject to periodic fluctuations in certain types of markets.

It describes cyclical supply and demand in a market where the amount produced must be chosen before prices are observed. Producers' expectations about prices are assumed to be based on observations of previous prices. The Cobweb Theory is a dynamic analysis theory that uses the elasticity principle to explain the different fluctuations in some commodities with long production periods when they lose balance.

The basic assumption of the Cobweb theory is that the current production of the commodity is determined by the price in the previous period. According to the assumptions of the Cobweb model, farmers will determine the current grain-sown area according to the price of the previous period before the grain production is carried out. Then, the current grain price will have determined the grain yield of the next period to a certain extent. Thus, in the food supply and demand model, the impact of price changes on the supply of food will be substantial. The higher the price of agricultural products, the stronger the enthusiasm of farmers and the food production will increase. In contrast, lower prices of agricultural products will dampen the enthusiasm of farmers to increase grain production so that farmers will reduce the next year's planting plan, which will lead to a reduction of that year's grain production and thus an increase in prices.

#### **1.1.4 Contextual perspective**

In response to the changes in prices and production of agricultural output, many researches have been conducted to examine the causes, effects and mitigation strategies with isolation of Mityana district in the context and this forced the researcher to conduct this the research to find out the extent of the problem and provide possible remedies if at there are related in one way or the others.

#### **1.2 Statement of the problem**

Price fluctuation is not only harmful to consumers but also affects producers. Generally, poor farmers do not have enough investment capital to sustain such unpredictability. This can result in suboptimal investment decisions and compromise production in the long term (H. Huka, C. Ruoja 2014). Higher food prices and non-food essentials such as cooking fuel, transport, rent, fertilizers, kerosene and agricultural inputs have also become more expensive to people. Also, intermediaries are facing higher transportation costs which they are in turn passing on to farmers (Baffes, 2011).

According to the Daily monitor 2016, UBOS revealed that there was a general increase in manufactured goods in Uganda by 9.7 percent driven by a rise in prices of sugar and

other raw materials that later affected the exchange rate (UBOS 2016). This trend has forced many farmers to abandon farming and migrate to urban areas leading to open urban unemployment, lawlessness and reduction in output produced by farmers making the prices even to go further.

Lack of regulation of the sector by the government is the major cause of this problem and failure to regulate the agriculture sector prices will make Uganda not to achieve the 2020 vision of becoming the middle-income country, 2030 SDGS and the 2040 vision of transforming the nation to a prosperous and commercialized economy. This called for this study to be conducted to establish the relationship that exist between agricultural production and price fluctuations in Mityana district.

### **1.3 Purpose of the Study:**

The purpose of this study was to investigate the relationship between agricultural production and price fluctuation in Uganda. A case study of Namungo Sub County, Mityana district.

### **1.4 Research Objectives**

- i. To examine the level of agricultural output produced by small scale farmers in Namungo Sub County, Mityana district.
- ii. To determine the trend of prices of agricultural products of small scale farmers in Namungo Sub County, Mityana district.
- iii. To investigate the effects of agricultural production on Price of different commodities for farmers in Namungo Sub County, Mityana district.

### **1.5 Research Questions:**

- i. What is the level of agricultural output produced by small scale farmers in Namungo Sub County, Mityana district?
- iv. What is the trend of prices of agricultural products of small scale farmers in Namungo Sub County, Mityana district?



- v. What are the effects of agricultural production on Price of different commodities for farmers in Namungo Sub County, Mityana district?

### **1.6.0 Hypothesis of the Study**

The hypothesis of the study was based on the following;

H<sub>01</sub>: There is no significant relationship between agricultural output and price fluctuations

H<sub>02</sub>: There is a significant relationship between agricultural output and price fluctuations.

### **1.6.1 Scope of the Study;**

### **1.6.2 Content scope of the Study;**

The study focused on determining the rate of agricultural production and price fluctuation on small scale farmers in Uganda.

### **1.6.3 Geographical scope**

Mityana District is located in Western part of Uganda bordered by Kiboga District to the north, Nakaseke District to the northeast, Wakiso District to the east, Mubende District to the west, Mpigi District to the southeast, and Butambala and Gomba Districts to the south. The district headquarters at Mityana are approximately 77 kilometres (48 miles), by road, west of Kampala, Uganda's capital city. The coordinates of the district are 00 27N, 32 03E.

### **1.6.4 Time scope**

This study was conducted for a period of four months that is from May to August 2018. May was for planning, June and July for Proposal writing, data collection and August mainly for data collection, analysis and report submission.

### **1.7 Significance of the study;**

The study will provide literature for other researchers to examine the effects of price fluctuation on agricultural production of small scale farmer in Mityana District.

The study will help policy makers to design measures/strategies to control agricultural price fluctuations which will be a stepping stone to boosting agricultural production in Uganda since agriculture is the country`s back borne.

The study will be of use to students in investigating the relationship between agricultural production and price fluctuation in their different fields of study.

### **1.8 Definitions of key terms;**

**Agricultural Production;** This refers to the ratio of the index of total agricultural output to the index of total input used in farm production. It is a measure of efficiency with which inputs are utilized in production other things being equal. According to Dewett, productivity expresses the varying relationship between agricultural output and one of the major inputs like land, labor and capital and other complementary factors remaining the same (C. Bishop & Toussa 1982).

**Price fluctuation** is a frequents rise and fall of commodity prices in the market as a result of changes in the market situations, price fluctuation can be seasonal whereby prices of commodities changes during certain season of the year due to the increase in supply and demand. Price fluctuation in the market can take a short term due to a slight change in demand or supply of commodities in the market. But it can also last long due to the increased inflation rate which highly affects the prices of commodities in the market and its effect last long and limit the ability of customers to purchase commodities in the market (D.C Parsley1996).

On the other hand, price fluctuations refer to a frequent rise and fall of commodity prices in the market as a result of changes in the market situations, it may be seasonal whereby prices of commodities changes during certain seasons of the year due to increase in supply and demand (Mchopa 2012).

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.0 Introduction**

This chapter consists of the conceptual definitions, theoretical review and the review of the related literature of the studies.

#### **2.1 Figure 1: A Conceptual frame work of the study**

Conceptual framework is defined as an interconnected set of ideas or theories about how a particular phenomenon functions or is related to its parts (Svinicki, 2010). The framework serves as a basis for understanding the casual or correlational patterns among study variables, provide a context for interpreting the study findings and explain observations. It illustrates the relationships between price fluctuation as the independent variable and small-scale farmers as the dependent variable in this study.

The independent variables are perceived as Agricultural production whereas the dependent variable is the Price fluctuations. The professed goal of price fluctuations on the agricultural production of small scale farmers in Uganda will improve the welfare of people living in Mityana District.



Thus, in the food supply and demand model, the impact of price changes on the supply of food will be either very low or very high. The higher the price of agricultural products, the stronger the love of farmers to produce more and the food production will increase leading to excess supply and lower prices during the harvesting time. In contrast, lower prices of agricultural products will dampen the enthusiasm of farmers to increase grain production so that farmers will reduce the next year's planting plan, which will lead to a reduction of that year's grain production and thus an increase in prices and the circle continues with producers being affected most with a little pinch on the consumers.

## **2.3 Review of Related Literature**

### **2.3.1 The level of agricultural output produced by small scale farmers in Uganda.**

Analysis of relative profitability of key Ugandan agricultural enterprises by agricultural production zone indicated that Uganda's economy remains heavily dependent on the agricultural sector. In 2008/09, the agricultural sector contributed 90 percent of total export earnings, generated 23.7 percent of Gross Domestic Product (GDP), and directly or indirectly provided livelihoods for about 90 percent of the population. However, most of the agricultural production is by small-scale subsistence farmers who use rudimentary technology and are largely engaged in non-market production (MoFPED, 2009).

The Plan for Modernization of Agriculture (PMA) was, therefore, designed by the government of Uganda as a strategic framework for eradicating poverty through the implementation of multi-sectoral interventions aimed at easing the multifaceted constraints faced by farmers. Specifically, PMA is aimed at increasing income and quality of life, improving household food security, providing gainful employment, and providing sustainable use and management of resources (D. Kray bill & M. Kidoido 2009).

On that same note, in Uganda, UBOS agricultural census of 2009 indicates that agriculture is the most important sector of the economy. According to the 2002 Uganda

Population and Housing Census (PHC 2002), the agriculture sector account for 77 percent of the total employment for persons aged 10 years and above (UBOS 2009). The total household was estimated at 3.95 million, 17.3 million persons and 906000 farmers groups in Uganda by that time.

The main agricultural crops include coffee, grains, sugarcane, cotton and tea. The government identifies agriculture as a vital contributory growth sector capable of reducing poverty and stimulating economic growth. Developments going forward will focus on increasing production and productivity, improving household food security, increasing farmers' income and increasing the value of exports (Deloitte 2016).

According to the Economic Outlook report of world bank (World bank, 2016), the agricultural sector is important to the Ugandan economy in that it employs approximately 69% of the population and contributes about 26% to the GDP in 2015. The sector has the potential to transform the economy of Uganda in general and that of specific sectors such as manufacturing and services. The government has increased allocations to the agricultural sector in the 2016/17 budget to UGX 832.42 billion representing a 65% increase.

According to the 2017/2018 contribution to Gross Domestic Product, agricultural sector is the second biggest contributor with 24.5 percent after industry with 23.2 percent while the service sector contributed the highest percent of 52.3 at the end of 2017 and early 2018 (Mundi index 2018).

### **2.3.2 The trend of prices of agricultural products of small scale farmers in Uganda.**

The global food price crisis has worsened the food security situation for many developing countries especially those that are net food importers. In September 2012, the United Nations Food and Agriculture Organization (FAO) raised fears of a repeat of the 2007-2008 world food price crisis that was characterized by sharp increases in the prices for cereals. High food prices are once again threatening to push millions of people into hunger around the world.

Worldwide, the causes of souring food prices are due to a combination of factors, including droughts in key grain-producing regions, low stocks for cereals and oilseeds, increased feedstock use in the production of biofuels, rapidly rising oil prices and a continuing devaluation of the US dollar<sup>2</sup>, the currency in which indicator prices for these commodities are typically quoted.

Producer Prices in Uganda is expected to be 193.01 index Points by the end of this quarter, according to Trading Economics global macro models and analysts' expectations. Looking forward, we estimate Producer Prices in Uganda to stand at 194.13 in 12 months' time. In the long-term, the Uganda Producer Prices is projected to trend around 217.26 Index Points in 2020, according to our econometric models.

## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.0 Introduction**

This chapter comprises of the methodology used during the study; it includes research designs, target population, sample size, sampling techniques, research instrument, validity and reliability of the research instruments, method of data collection, data analysis, and ethical consideration as well as the limitations of the study.

#### **3.1 Research Design**

The researcher used descriptive research design to facilitate the collection of data and analysis from a cross section of farmers and individual household and Namungo Sub-County as the based area for data collection.

#### **3.2 Research Population**

The target population of this study was farmers, individual households and produce dealers of Namungo Sub County. A total of 8 farmers were chosen from each of the 9 villages in Namungo Sub County while 8 produce dealers were chosen and given questionnaires to represent the rest of the population. Farmers were selected because they are the ones directly involved in farm production and produce dealers were selected because they are the ones who purchase these products from farmers after harvesting them. The total population considered for this study was 80 people consisting of both farmers, householder consumers and produce dealers.

#### **3.3 Sample size**

This researcher employed Morgan and Krejcie table 1970 to determine the sample size. At 95 percent level of confidence implying 0.5 percent margin of error, the researcher picked 66 respondents from the total population of 80 small scale farmers and suppliers of the agricultural output in Namungo Sub-County-Mityana District using Morgan and Krejcie table.



### **3.4 Sampling technique**

Simple random sampling technique of data collection was used for mainly farmers because it gives the researcher opportunity to access all members of the population with no bias and they have equal chance of being included in the sample.

In addition, purposive sampling was done to the few selected farmers and produce dealers around the sub County.

### **3.5 The Research Instrument**

The data was collected by use of questionnaire and face to face interview to ensure that the data collected from the field was complete.

### **3.6 Methods of Data collection/Data collection Procedure**

After approving my proposal and granted permission by the Head of Department, Economics and Statistics, An Introductory Letter for data collection enabled me to proceed to the field to collect data and the data was collected by distributing questionnaires to the research Assistants who later returned back for cleaning, editing analysis and report writing for the award of my Degree in Economics and Applied Statistics of Kampala International University.

### **3.7 Data Analysis**

The data collected from the field was cleaned and edited to ensure quality and analysis was conducted by using SPSS which is the best recognized data analysis tools.

## CHAPTER FOUR

### PRESENTATION, ANALYSIS AND INTERPRETATION

#### 4.0 Introduction

This chapter contains the personal information of respondents, the level of agricultural output produced in Mityana District, the trend of prices of agriculture products and the effects of agricultural output on the level of output produced in areas in Namungo sub-county, in Mityana District.

#### 4.1 Personal Information

The personal information of respondents that were deemed necessary for this study included, gender, age, marital status and the highest level of education.

##### 4.1.2 Gender of respondents in Namungo Sub-County, Mityana District

The results on the gender of respondents indicate that the majority were males with 54.5 percent and the rest were females with only 45.5 percent as shown on the table below.

**Table 1: Gender of respondents in Namungo Sub-County, Mityana District**

Gender of Respondents		Frequency	Percent	Valid Percent
	Male	36	54.5	54.5
	Female	30	45.5	45.5
	Total	66	100.0	100.0

(Source: Researcher 2018)

#### 4.1.2 Age of respondents in Namungo Sub-County, Mityana District

It was also necessary to find out the distribution of respondents in Namungo Sub-County, Mityana District by age. The findings on the respondents' distribution by age is shown on the subsequent table.

**Table 2: Age of respondents in Namungo Sub-County, Mityana District**

Age of Respondents		Frequency	Percent	Valid Percent
	20-29	4	6.1	6.1
	30-39	33	50.0	50.0
	40-49	28	42.4	42.4
	50-59	1	1.5	1.5
	Total	66	100.0	100.0

**(Source: Researcher 2018)**

#### 4.1.3 The Marital Status of respondents in Mityana District

According to the research findings, majority of respondents in Namungo Sub-County were found to be married represented by 60.0 percent followed by others with 34.8 percent and the single farmers in terms of marital status were represented by 4.5 percent as shown on the subsequent table.

**Table 3: The Marital Status of respondents in Namungo Sub-County Mityana District**

<b>Marital Status of Respondents</b>		<b>Frequency</b>	<b>Percent</b>	<b>Valid Percent</b>
	Single	3	4.5	4.5
	Married	40	60.6	60.6
	Others	23	34.8	34.8
	Total	66	100.0	100.0

**(Source: Researcher 2018)**

#### **4.1.4 The Education of respondents in Namungo Sub County, Mityana District**

The researcher found it necessary to find out the distribution of respondents in Namungo Sub-County, by level of education. The findings indicate that the majority of farmers in Mityana District has secondary with 37.9 percent as their highest level of education attained, followed by degree with 27.3 percent, primary with 24.2 percent and certificates and Diploma as shown on the subsequent table.

**Table 4: The Education of respondents in Namungo Sub County, Mityana District**

<b>Education Level of Respondents</b>		<b>Frequency</b>	<b>Percent</b>	<b>Valid Percent</b>
	Primary	16	24.2	24.2
	Secondary	25	37.9	37.9
	Certificates	5	7.6	7.6
	Diploma	2	3.0	3.0
	Degree	18	27.3	27.3
	Total	66	100.0	100.0

**(Source: Researcher 2018)**

## **SECTION II: Agriculture Production**

For questions under this section, respondents were required to respond by ticking the right box given.

Questions were derived from the first objective of the research study to achieve this objective, respondents were subjected to a number of questions to provide answers to the above research question. The questions delivered to the respondents were aimed at investigating their response towards the stated research objective.

**Table 5: The level of agricultural output produced by small scale farmers in Namungo Sub-County, Mityana district.**

<b>Descriptive Statistics</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Rank of the Mean</b>	<b>Interpretation</b>
I use machines to cultivate my gardens and plant my crops most of the time	66	3.24	.805	3	Strongly disagree
All produce from my farm is processed and value added to them before sale	66	2.98	1.102	2	Agree
The use of ox-plough for farming increases my production level	66	3.17	.954	3	Strongly disagree
Crop rotation has helped me earn more money from sale of my produce	66	2.20	.661	2	Agree
I always carry research to determine what crops to grow every season	66	3.21	.814	3	Strongly disagree
My crops always fail to produce high yield because of too much sunshine	66	1.64	.515	1	Strongly agree
I always follow the information on weather forecast given by Meteorologists	66	3.06	.875	3	Strongly disagree
I rarely gain from Agriculture because it is difficult to predict the climate	66	3.26	.751	3	Strongly disagree
(Valid N)	66				

**(Source: Researcher 2018)**

The research findings from table 5 indicates that a mean of 3.24 falls under strongly disagree implying that most farmers do not use machines to plough their gardens and plant crops; a mean of 2.98 falls under agree implying that farmers in Namungo Sub-County process and add value to their produce before taking them for sale to the market, the mean of 3.17 on the use of ox-plough for farming to increase yields falls under strongly dis agreed , implying that though most farmers use this tool for ploughing, the increase in yields has not been correlational, a mean of 2.20 on crop rotation falls under agreed, implying that crop rotation as a practice has helped to increase on the level of agricultural output, the mean of 3.21 on conducting research to determine what crops to grow falls under strongly disagreed implying that famers do not always carry out research on what crops to grow and this might be the cause of price fluctuations, a mean of 1.64 on crops failure to produce high yield due to sunshine or floods records a mean 1.64 implying that this is a challenge on output, a mean of 3 and above implies that farmers gain from farming and following information given to farmers do not contribute to the level of output produced in the area.

The overall mean of 2.84 falls under agree which gives a general implication that the level of agricultural output produced in Namungo Sub County is high according to the above study findings.

**Table:6 The trend of prices of agricultural output produced by small scale farmers in Namungo-County, Mityana.**

Questions were again derived from the second objective of the research study to achieve this objective, respondents were asked a number of questions to satisfy the above objective as indicated on the subsequent table.

The overall means 2.1 on the trend of price fluctuations indicate that there is high level of price fluctuations in Namungo Sub County-Mityana District.

<b>Descriptive Statistics</b>	N	Mean	Std. Deviation	Rank of the mean	Interpretation
Lack of access to bigger markets always make me sell my products within my area	66	1.73	.646	1	Strongly agree
The quantity of produce I get from farming increases every year because of high market profits	66	3.15	.846	3	Strongly disagreed
Lack of information in my area makes me sell produce at low prices	66	2.64	1.198	2	Agreed
I practice agriculture only to feed my family but not to sell for money	66	3.36	.905	3	Strongly disagreed
Low level of income affects the quantity of goods I buy from the market	66	1.77	.891	1	Strongly agreed
There are many people to buy my produce every time I want to sell my produce	66	3.39	.653	3	Strongly disagreed
There are many sellers of the crops produce that I take to the market	66	1.52	.504	1	Strongly agreed
The prices of my agricultural produce last year were higher than this year	66	1.88	.886	1	Strongly agreed
The government should regulate the prices of agriculture produce to improve income of farmers in my area	66	1.65	.690	1	Strongly agree
(Valid N)	66				

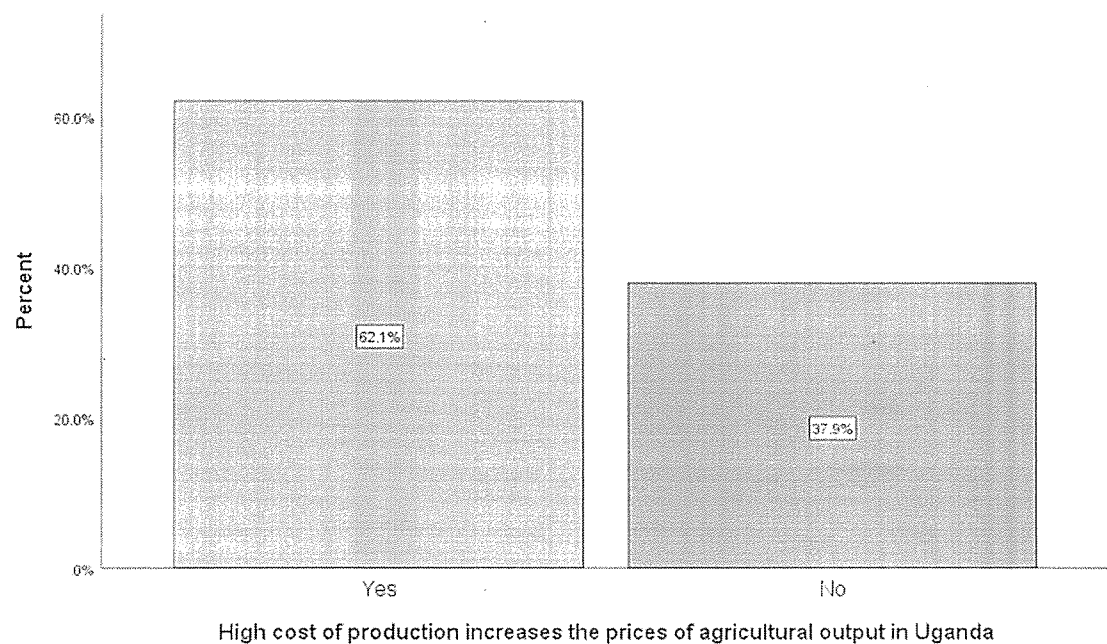
**(Source: Researcher 2018)**



**4.3: The effects of agricultural Production on Price different commodities for farmers in Namungo Sub-County, Mityana District.**

To establish the effects of agricultural output on price fluctuations, the respondents were subjected to answer a few questions and the research findings are illustrated on the subsequent tables. The findings from the table below indicates that the majority of respondents with 62.1 percent accepted that high cost of production increases the prices of agricultural products in Uganda while only 37.9 said no.

**Table: 7 High cost of production increases the prices of agricultural output in Uganda.**

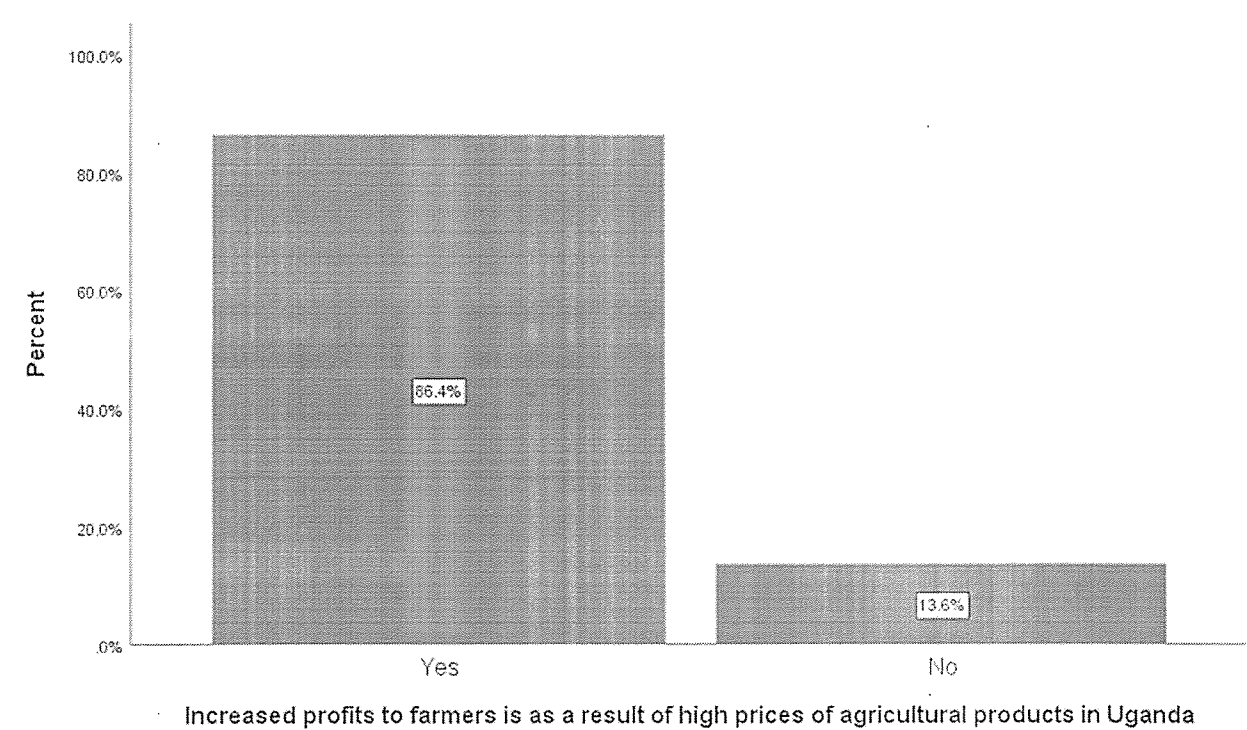


**(Source: Researcher 2018)**

**4.3.2: Increased profits as a result of high prices of agricultural products in Uganda**

The research findings indicate that the majority of respondents accepted that the increase in profits earned by farmers from agricultural products is as a result of high prices implying that the level of output has a positive relationship with the prices in the market as shown on the subsequent table.

**Table 8: Increased profits as a result of high prices of agricultural products in Uganda**

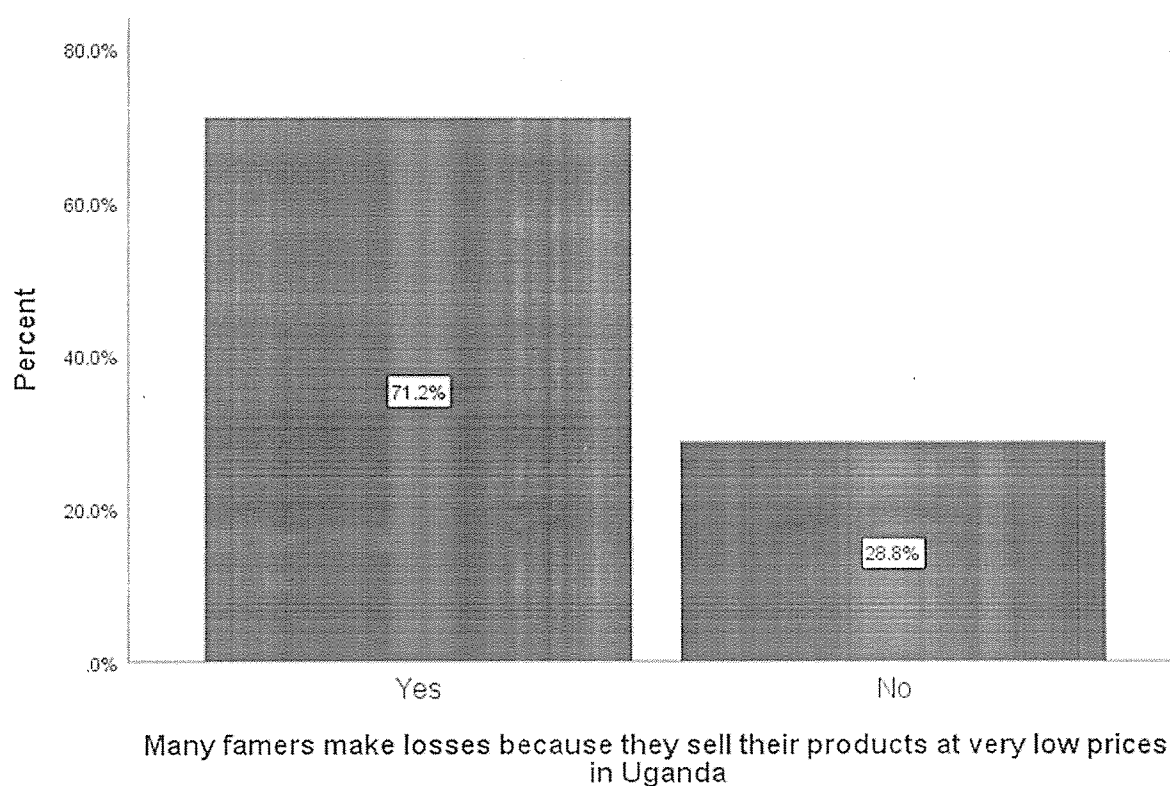


**(Source: Researcher 2018)**

#### 4.4.3 Many Farmers make losses because they sell their products at very low prices in Uganda.

Concerning the losses; the results indicated that most of the respondents accepted that many farmers make losses because they sell their products at very low prices in Uganda. A total of 71.2 percent of the respondents accepted while 28.8 percent said not the price and this makes this study significant as shown on the subsequent table.

**Table 9: Many Farmers make losses because they sell their products at very low prices in Uganda**

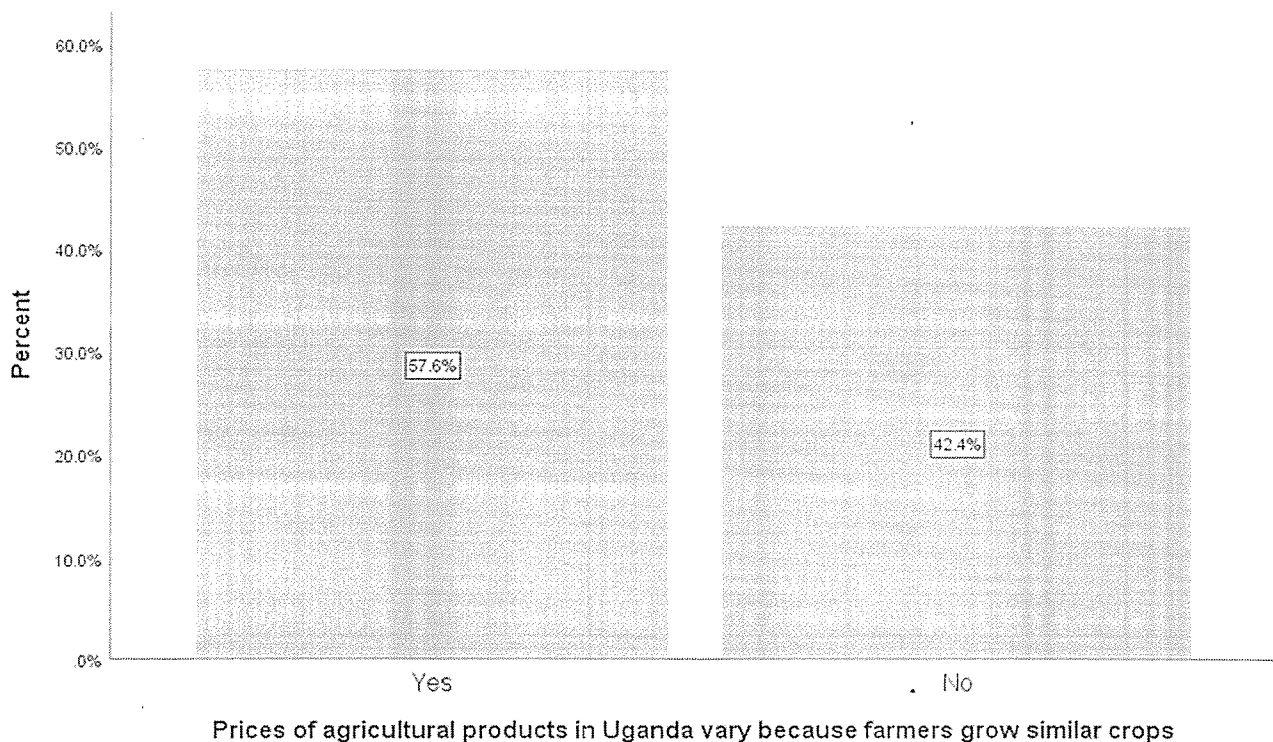


(Source: Researcher 2018)

**4.4.4 Prices of agricultural Products in Uganda vary because farmers grow similar crops.**

When asked why the prices of agricultural products varying because of growing similar crops, majority of respondents with 57.6 percent that growing similar crops in the cause of price fluctuations or changes in Uganda as shown in the subsequent illustration.

**Table 10: Prices of agricultural Products in Uganda vary because farmers grow similar crops in Namungo Sub County, Mityana district.**

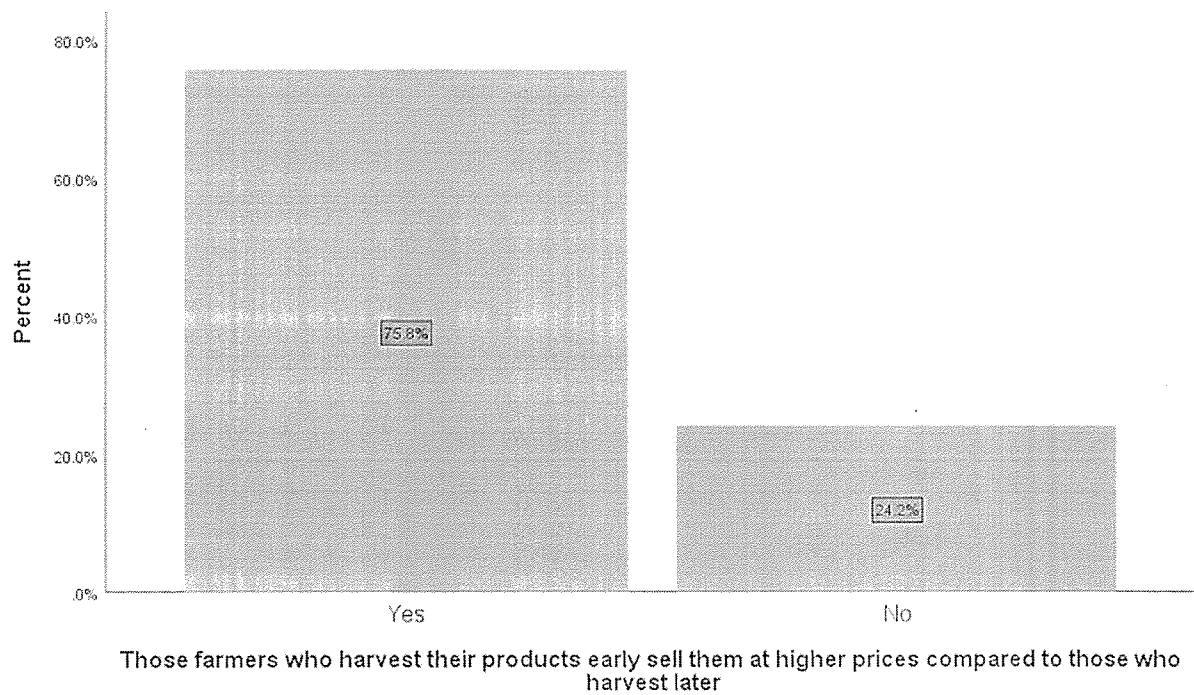


**(Source: Researcher 2018)**

**4.4.5 Those who harvest their Products early sell them at higher prices compared to those who harvest and sell later.**

Agricultural output according to the research findings imposes a significant impact on the prices of the produce. Regarding this study objective, the study concluded that the majority of respondents accepted that time of harvesting and selling has impact on the prices of output as shown on the table below.

**Table 11: Those who harvest their Products early sell them at higher prices compared to those who harvest and sell later.**



**(Source: Researcher 2018)**

## **CHAPTER FIVE**

### **DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS**

#### **5.0 Introduction**

This chapter presents the findings, conclusions, recommendations and other areas that need further research following the study objectives and questions.

#### **5.1 Discussion of findings**

##### **5.1.1 Findings on the personal information of respondents**

The findings on the personal information of respondents on gender indicates that 54.5 percent were males and 45.5 percent were females. This indicates that the majority of respondents were males with the majority within the age bracket of 30-39 and the majority of these respondents are married with secondary education as the highest qualification.

##### **5.1.2 Findings on the level of agricultural output produced by small scale farmers in Namungo in Namungo, Mityana district.**

The study findings to examine technology, habits and climate as being the drivers of output from farmers reveal that most farmers agree that these factors have driven the volume of output produced by farmers. Data analysis and interpretation revealed the following findings on this objective. Respondents strongly agreed that crops fail to produce high yield because of too much sunshine, agreed that produce from their farm is processed and value added before taking for sale. On the other hand, respondents strongly disagreed that they use machines to cultivate their gardens, use ox-plough for increased, carry research to determine what crops to grow, following the information on weather and rarely gaining from agriculture.

The findings on this objective gives an overall mean of 2.845 which implies that respondents agreed with the research hypothesis that there is a relationship between output and prices.

### **5.1.3 The trend of prices of agricultural products of small scale farmers in Namungo-Sub County**

To achieve this objective, respondents were subjected to a number of questions to provide answers to the research question derived from this objective. The questions administered to the respondents were aimed at investigating the respondent's response towards the stated research objective. The major areas of investigation were how demand and supply affect price and the nature of the market.

The findings indicated that respondents strongly agreed that lack of access to bigger markets always make them sell products within their home area, where there are very many sellers and the prices of the agricultural products last year being higher than this year. In addition, they also strongly agreed that the government should regulate the prices of agricultural produce in order to improve farmers income in Namungo Sub-County.

However, respondents strongly disagreed on questions such as the quantity of produce increasing every year because of high profits, practicing agriculture for only to feed the family and having many people to buy the output when they want to sell.

The findings on the trend of prices of agricultural products of small scale farmers in Namungo-Sub County had an overall mean of 2.34 implying that majority of respondent agreed with the statement and questions that were examined by the researcher.

### **5.1.4 The effects of agricultural production on prices of different commodities for farmers in Namungo Sub-County, Mityana.**

The study research findings on this objective revealed that 62.1 of respondents accepted with yes that high cost of production increases prices of agricultural output in Uganda with only 37.9 percent responding with a no statement shown on table 7 in chapter four.

On the same note, 86 percent accepted with yes that increased profits earned by farmers is because of high prices with many farmers making losses because they sell products at very low prices in Uganda.

Regarding the investigation of prices of products and their variations because farmers grow mainly similar crops, a total of 57.6 percent responded with a yes while 42.5 rejected with a no as discussed in table 10 on chapter four. These were mainly presented using bar graphs for easy interpretation.

## **5.2 Recommendation**

The researcher recommends that farmers should conduct research before growing a particular agricultural product to find out the trend in prices and what quantity of output they produce.

The government should also set minimum price for selected agricultural products so that these products can be bought from farmers in times of surplus and brought back to the markets in times of scarcity.

## **5.3 Limitations of the study**

**The research study faced the following challenges:**

- Most of the respondents were busy and gave only little attention to the questions asked in the questionnaire.
- The study was only limited to the case study due to limited time and resources that would make me cover the all of Mityana district. The researcher resorted to purposive sampling and yet it had its own disadvantages.
- Some people were not willing to give the information because the benefits the research to them was zero but I had to finally request and persuade them to fill the questionnaires.



- Confidentiality, in that, there were some people who were not sure of what information they had to enable them fill the questionnaire.

#### **5.4 Areas of further research**

Prospective researchers and even students are encouraged to research on the following areas;

- The contribution of agricultural sector to foreign exchange earnings for Uganda
- Agricultural modernization and rural development in Uganda
- Agriculture and poverty alleviation in Uganda
- Government policies and the innovations in the agricultural sector

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## APPENDICES

### Appendix I: Research Instrument (Questionnaire)

#### RESEARCH INSTRUMENT: QUESTIONNAIRE

Dear Respondents,

This is Mwebya Powel Steven (Reg No:1153-05144-01256) of Kampala International University, third year student,

I am conducting a research entitled "**Agricultural Production and Price Fluctuation in Uganda, a case study of Namungo Sub County, Mityana District**" I request you to answer the questions that follow which are intended to make the research successful and all the information provided will be treated with utmost confidentiality.

Please note response which applies to your experience as required and tick or answer according to the instructions given.

#### SECTION I PERSONAL INFORMATION

##### Gender of respondent

Male ☐

Female ☐

##### Age of the respondent

1.20-29 ☐

2.30-39 ☐

3.40-49 ☐

4.

50-59 ☐

5.60 and above ☐

##### Marital status

1.Single ☐

2. Married ☐

4. Others ☐

### Education level

1. Primary

2. Secondary

3. Certificates

4. Diploma

5. Degree

6. Others

### SECTION II: Agriculture Production

For the questions under this section, you are required to respond by ticking the right box in bold below.

**Note:** 1, means that you strongly agree to the statement, 2 means you only agree, 3 means that you strongly disagree with the statement and 4 implies that you disagree with the statement.

**1) Strongly Agree**

**2) Agree**

**3) Strongly Disagree**

**4) Disagree**

No	Indicator	1	2	3	4
<b>A</b>	<b>Technology</b>				
1	I use machines to plough my gardens and plant my crops most of the time.				
2	All the produce from my farm is processed and value added to them before taking for sale in the market				
3	The use of Ox-plough for farming increases my production level				

<b>B</b>	<b>Habit of farmers</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
1	Crop rotation has helped me earn more money from sale of my farm produce				
2	I always carry out research to determine what crops to grow every season				
3	I always grow my crops depending on the prices in the previous year or season				
<b>C</b>	<b>Climate</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
	My crops always fail to produce high yield because of too much sunshine or rainfall.				
	I rarely gain from agriculture because it is difficult to predict when its going to rain or not.				
	I always follow the information on weather forecast given by Meteorologist's.				

### SECTION III: EXTRANEIOUS VARIABLE

<b>NO</b>	<b>Indicator</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>A</b>	<b>Land</b>				
	I use land of more than 5 acres to carry out farming				
	The productivity of my land has improved because I use fertilizers all the time				
	The fertility of my land always makes me produce more produce to sell in the market				

<b>B</b>	<b>Government Policy</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
	The taxes on farm inputs has affected my production level				
	I always receive advise from government extension workers in my Sub-County				
	Price regulations by the government has boosted my moral to practice agriculture				
<b>D</b>	<b>Industrialization</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
	We have ready machines in my area for processing and adding value to my farm produce				
	Adding value to the output produced has increase production level in my area.				
	My farm produce is always more because I supply raw materials to the industries near my area.				

#### SECTION IV: PRICE FLUCTAUTION

NO	Indicator	1	2	3	4
<b>A</b>	<b>Supply</b>				
1	Lack of access to bigger markets always make me sell my products within my area.				
2	The quantity of produce I get from farming increases every year because of high profits I get.				

3	Lack information in my area makes me sell my produce at low prices				
<b>B</b>	<b>Demand</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
1	I practice agriculture only to feed my family but not to sell for money				
2	Low level of income affects the quantity of goods I buy from the market				
3	There are many people to buy my produce every time I want to sell my produce				
<b>D</b>	<b>Market</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
1	There are very many sellers of crops produce that I take to the market.				
2	The prices of my agricultural produce last year were higher than this year				
3	The government should regulate the prices of agricultural produce to improve income of farmers in my area.				

## SECTION V: AGRICULTURAL OUTPUT AND PRICE FLUCTUATIONS

In this chapter, the respondent is required to answer by ticking yes or no depending on his or her experience in the field of price fluctuation.

Yes

☐

No

☐

1.High Cost of production increases the prices of agricultural output in Uganda?

Yes

☐

No

☐

2.Increased profits to farmers is as a result of high prices of agricultural products in Uganda?

**Yes**

☐

**No**

☐

3.Many famers make losses because they sell their products at very low prices in Uganda?

**Yes**

☐

**No**

☐

4.Prices of agricultural products in Uganda vary because farmers grow similar crops

**Yes**

☐

**No**

☐

5.Those who harvest their products early sell them at higher prices compared to those who harvest and sell later.

**Yes**

☐

**No**

☐

**I thank you so much for your time and support: May God bless you**



## APPENDIX II:

**Figure 2: Extract of Morgan D.W and Krejcie R.V table (1970)**

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# Using Table: Krejcie and Morgan

- Assume population proportion of 0.5 and confidence 95%

Population Size	Sample Size	Population Size	Sample Size	Population Size	Sample Size
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	173	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346