
**THE SOCIO-ECONOMIC FACTORS THAT DETERMINE THE YIELD
OF CABBAGE; A CASE STUDY OF KAPYANGA SUB-COUNTY
BUGIRI DISTRICT**

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ABSTRACT

The biannual cabbage (Brassica oleracea var capitata), a green, red, or white plant, is grown as an annual crop for its thickly leafed heads. A cabbage head can weigh anything between 0.5 and 4 kg. During the middle periods, cabbage had likely been domesticated and was a staple of European cuisine. Cabbage crowns are usually captured at the start of the plant's life cycle, while seedlings designed for fertilization are given a further year to grow.

Africa's top two cabbage producers are Kenya and Ethiopia, who account for nearly 30% of the continent's overall production (FAOSTAT, 2008).

In 2008, Africa produced more than 2 million tons of cabbage, a 20% increase over the previous ten years. The study's goals were to identify the socioeconomic elements that affect cabbage output, to identify the difficulties experienced by cabbage producers, and to evaluate how well they deal with those difficulties.

The study used both a subjective and a statistical research methodology because there was enough knowledge about it to permit duplication for reassurance and confirmation.

48 landowners were picked as a sample.

Surveys were used to reach people, and information was then gathered, descriptive statistical processed, and displayed as percentages and frequency values.

Key words: Socio economic factors and cabbage yield

Background of the Study

*Many cultivars of the biannual leafy greenish, red (purple), or white (pale green) plant known as cabbage (*Brassica oleracea* var *capitata*) are cultivated for their thickly leafed heads. A cabbage head can weigh anything between 0.5 and 4 kg. Cabbage was undoubtedly produced at some point, and by the Middle Ages, it was a staple of European cuisine.*

Cabbage heads are usually captured at the start of the plant's life cycle, while seedlings destined for seeds are given a second year to mature. It can be eaten in many different ways, such as raw, marinated, steamed, stewed, stewed, and others. (FAO, 2014. Output reached 47% of the 71.8 million metric tons of cabbage used globally in 2014, as reported by the Food and Agricultural Organization of the United States (FAO, 2014). The remaining top ten producers included India, Russia, South Korea, Ukraine, Indonesia, Japan, Poland, Uzbekistan, and the United States.

More than 150 countries grow cabbage; however, production rates are lowest in South America, West Africa, and South-East Asia/ocean. Africa's top two cabbage producers are Kenya and Ethiopia, who account for nearly 30% of the country's overall production (FAOSTAT, 2008).

In 2008, Africa produced more than 2,000,000 tons of cabbage, a 20% increase over the ten years from 1998 to 2008.

Problem Statement

Many socioeconomic and demographic factors have an impact on the output of cabbage, a key vegetable crop grown around the world. It is crucial to comprehend how these factors affect yield in order to boost cabbage production and ensure food security.

Due to the national and local governments' inability to carry out efficient agricultural extension programs, this problem has gotten worse, making it difficult to implement policies to raise family incomes in the Bugiri District. The macroeconomic elements that impact the cultivation of cabbage in the Bugiri District are not well understood.

In order to understand the challenges experienced and coping methods for those challenges, a study was conducted to examine the social-economic aspects that affect the yield of cabbage to the market.

Specific Objective

- 1. To assess the socio-economic factors that determine yield of cabbage in Kapyanga sub-county Bugiri District.*
- 2. To identify the challenges faced by cabbage growers in Kapyanga sub-county.*
- 3. To assess the coping mechanisms to challenges encountered by cabbage growers in Kapyanga sub-county.*

Hypothesis of the study

Ho: There is no relationship between socio-economic factors and the yield of cabbages

Ha: There is a relationship between socio-economic factors and the yield of cabbages

Ho: There is no relationship between the challenges faced by cabbage growers and the yield of cabbages

Ha: There is a relationship between the challenges faced by cabbage growers and the yield of cabbages

Ho: There is no relationship between the coping mechanisms to challenges encountered by cabbage growers

Ha: There is a relationship between the coping mechanisms to challenges encountered by cabbage growers

Research Questions

1. *What are the socio- economic factors that determine the yield of cabbage production in Kapyanga sub county Bugiri district?*
2. *What challenges faced by in cabbage growers in Kapyanga sub county Bugiri district?*
3. *What are the coping mechanisms to the problems encountered in cabbage production in Kapyanga sub county Bugiri district?*

METHODOLOGY

Research Design

The study used both qualitative and quantitative research methodologies since sufficient investigated in the present study was supplied to allow for its reproduction for confirmation and validation (according to Zamalia Mahmud, 2011).

Qualitative design helped in gathering ideas, feelings, and explanations while positivist approach helped in gathering information from variables through testing.

Market segment

The study's target population is the society of cabbage farmers on the planet's Kapyanga sub-county Bugiri district.

The responses would include those from some Bugiri district council members, sub-county councilmen from selected towns, multiple choice personnel in chosen region, Local L.C1 chairpersons, and locals over the age of 18.

Data collection methods

Questionnaires

Self-structured standardized opened and closed questionnaire were used by all respondents to answer the questions concerning the objective of the research study.

The researcher gave the respondents adequate time to answer the question to enable them to avail logical and accurate answers to the questions with the presence of the researcher and to a smaller extent in his absence.

This method is intended to ensure elimination of bias towards the researcher which commonly occurs in the case of physical presence of the researcher.

Interview

The researcher also conducted a brief physical interview with the target population where interview guides are to be used.

This was used to acquire detailed information about the topic. Clarity is emphasized to the guides and on questions for further classification of answers from the respondents.

Random Sampling Procedure.

An impartial small selection of farmers in the village is necessary for this method of measuring, which chooses a population of findings from a community in order to draw conclusions about it.

If enough samples were collected, the average sample would correctly represent the population as a whole.

Yet, this did not imply that any one sample was an accurate representation of the farmers.

The majority of farmers in cities like Musongola, Nkusi, and Kagali grow cabbage, and these regions are ideal for doing so because of their rich, fertile lands.

Sample Size and Determination

The sample size will be chosen using the below formula as suggested by Yamane 1967. The formula will give a sample size of 48 respondents.

$$n = \frac{N}{1 + N(e)^2}$$

Where n is the sample size, N is the study population, e is the acceptance sampling error of 10% and a 90% confidence level. Study population (N) = 92

$n = 48$ respondents

Villages	Population of respondents per village	Sample size of respondents per village
<i>Musongola village</i>	28	15
<i>Nkuusi village</i>	30	16
<i>Kagali village</i>	34	17
<i>Total</i>	92	48

Data Analysis

For the first objective, the accompanying multiple regression analysis method was used to analyze the socioeconomic factors that influence cabbage yield. The obstacles faced by cabbage producers were investigated by adding up and drawing conclusions from the data.

The data were assessed using descriptive analysis with SPSS frequencies.

The data referring to prospective strategies to overcome the challenges faced by cabbage growers were examined using similar issues and pertinent assumptions.

The primary conclusions were then discussed.

RESULTS

The socio - economic factors that determine yield of cabbage in Kapyanga sub-county Bugiri District.

Income Of the farmers

The study's initial objective was to assess the demographic factors influencing the cabbage production in the Kapyanga sub-county.

The research outcomes were produced and provided in response to this objective.

The results in Table 2 below indicate that the main predictors of variation in cabbage output in Kapyanga sub county Bugiri district were expected to be household size, land area, time spent producing cabbages, and primary source of labor.

This means that when taken as a whole, all of the abovementioned demographic traits remained to positively predict cabbage yields.

In other words, cabbage outputs depend on things like families, the amount of the land, how long it takes to produce cabbage, and the principal labor source.

Table 2: The percentage of respondents from Kapyanga Sub county Bugiri district

<i>Nature of respondents</i>	<i>Social economic factors</i>	<i>Frequency</i>	<i>Percentage of respondents</i>
<i>Junior officers</i>	<i>Size of the land</i>	<i>10</i>	<i>20%</i>
<i>Local farmers</i>	<i>Household size</i>	<i>25</i>	<i>50%</i>
<i>Local council leaders</i>	<i>Duration in cabbage growing</i>	<i>32</i>	<i>64%</i>

Senior officers	Main source of cabbage	23	46%
Total		50	

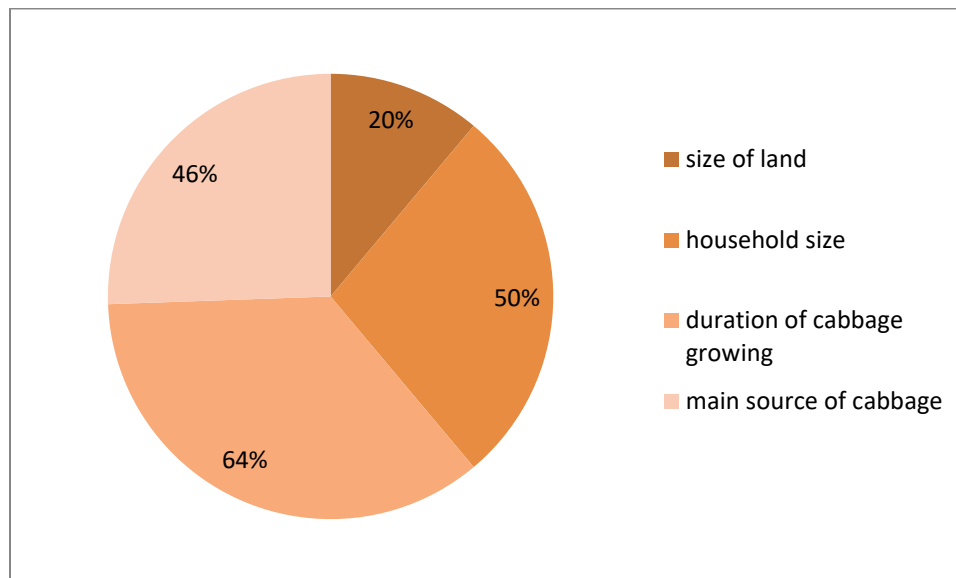


Figure 1. The pie chart showing the percentage of socio-economic factors that determine yield of cabbage in Kapyanga sub county Bugiri district

The highest response was local farmers who responded that (100000 – 200000) was the minimum capital required in the production of cabbage in Kapyanga sub county Bugiri district

Table 3. Table showing the maximum capital invested in cabbage growing in Kapyanga sub county Bugiri district

<i>Nature of respondents</i>	<i>Age of respondents</i>	<i>Frequency</i>	<i>Capital</i>	<i>Percentage</i>
<i>Junior officers</i>	<i>18 – 25</i>	<i>12</i>	<i>50000- 100000</i>	<i>24%</i>
<i>Local farmers</i>	<i>30 – 35</i>	<i>18</i>	<i>100000- 200000</i>	<i>36%</i>
<i>Local council leaders</i>	<i>40 – 45</i>	<i>10</i>	<i>200000- 300000</i>	<i>20%</i>
<i>Senior officers</i>	<i>50 - 55</i>	<i>10</i>	<i>Above 300000</i>	<i>20%</i>
<i>Total</i>		<i>50</i>		<i>100%</i>

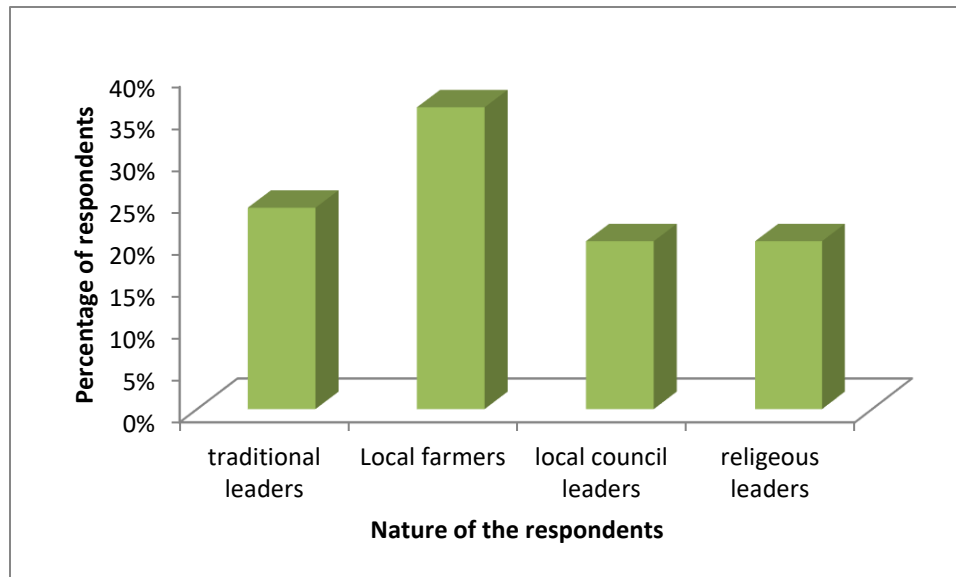


Figure 2. The bar graph showing the nature of respondents in percentages of Kapyanga Sub County Bugiri district

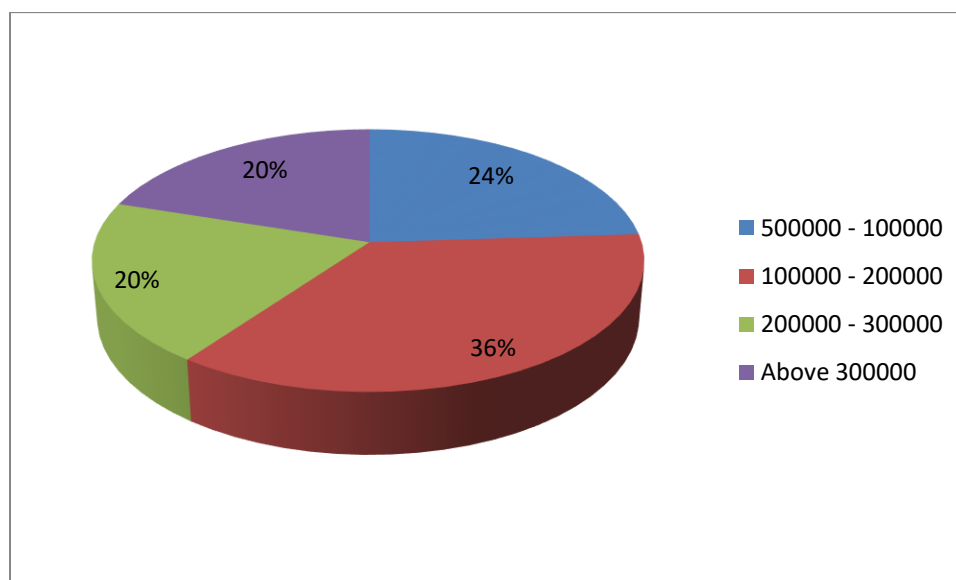


Figure 3. A pie chart showing the maxim capital needed in production of cabbage in Kapyanga sub county Bugiri district

<i>Challenges of cabbage production</i>	<i>Nature of respondents</i>	<i>Frequency</i>	<i>Percentage of respondents</i>
<i>Drought</i>	<i>Junior officers</i>	<i>24</i>	<i>48%</i>
<i>Pests and diseases</i>	<i>Local farmers</i>	<i>15</i>	<i>30%</i>
<i>Poor soil fertility</i>	<i>Local council leaders</i>	<i>10</i>	<i>20%</i>
<i>Poor transport network</i>	<i>Senior officers</i>	<i>6</i>	<i>12%</i>
<i>Total</i>	<i>Total</i>	<i>50</i>	

According to 48% of the participants in the table (4) above, the main production challenges faced by cabbage growers are pests and illnesses, which can be resolved by applying pesticides and removing the sick plants.

The other big problem is drought, which can be alleviated by irrigation, according to 21% of the participants.

Other problems discussed would include a labor shortage that could be remedied by recruiting additional employees, as tried to point out by 15% of the survey participants, soil nutrient issues that could be solved by implementing fertilizer, as tried to point out by 10% of the survey participants, mass transit costs to market centers that could be reduced by commercially produced labor knowledge about using cars rather than employing a lot of labor, and the least faced problem.

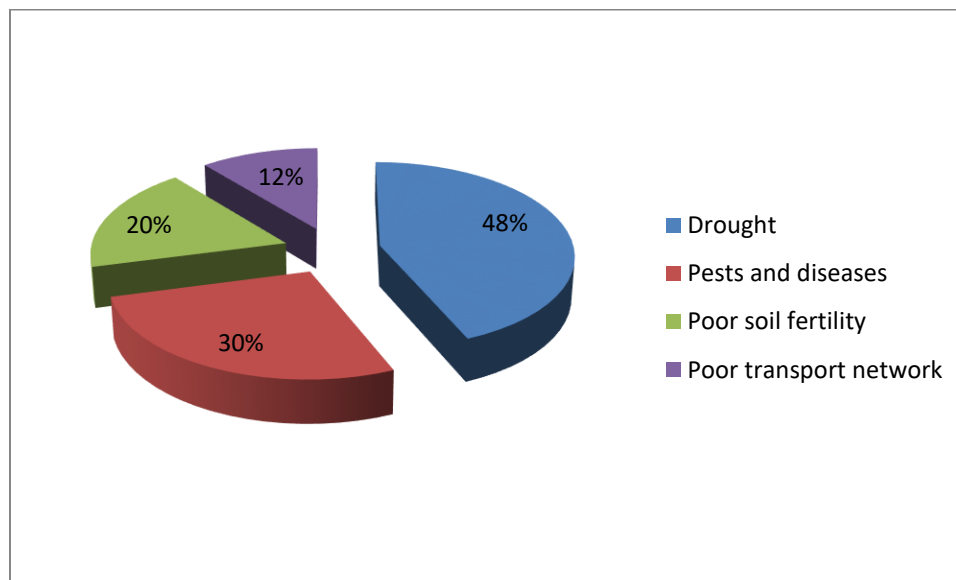


Figure 4. A pie chart showing the challenges faced in cabbage production in Kapyanga Sub County Bugiri district

Table 5 shows the descriptive Analysis of Cabbages Farmer

The study was undertaken in three villages of Musongola, Nkuusi and Kagali within Kapyanga Sub County. The respondents were selected from villages of Kapyanga Sub County. The respondents were distributed basing on the age, number of household members, sex, marital status and education background. The bio-data findings are presented in Table 4.5below.

The table showing the age number of household members, sex, marital status and education

background of the respondents

Sex	Frequency	Percent
Male	27	56%
Female	21	44%
Marital status		
Single	12	25%
Married	32	67%
Widow	04	08%
Level of Education		
Degree and above	1	2%
Tertiary	8	17%
Secondary	15	31%
Primary	14	30%
Non formal	10	20%
Age Bracket		
20-30	8	17%
31-40	30	63%
Above 40 years	10	30%

Source: Primary Data (2021)

According to Table 5, 56% of respondents were men and 44% of respondents were women.

While it is true that men were largely responsible for raising cabbage, this suggests that all sexes participated.

Also, it was believed that men, the head of the family, owned the bulk of cabbage gardens.

Even though there were just a few widows (8%), single persons (25%) and married people (67%) among those who answered, the bulk of respondents (67%) were also married.

This implies that raising cabbage was a typical source of labour, income, and aid for essential family needs carried out by married individuals.

The majority (31%) had a secondary schooling, 30% had a primary education, 20% had no formal training, and 17% had a university education, according to the results on education.

Conclusions

Social determinants can predict cabbage yields with an accuracy of 5%.

Crop yield is influenced by the number of households, the size of the farm, the period of time spent cultivating cabbage, the primary labor source, the availability of resources, and government assistance.

Farmers encountered a variety of difficulties when producing cabbage.

They include unusable soil, a lack of available land, pests and diseases, famine and transportation, competition, high input costs, a labor shortage, thievery, and price changes.

Pesticide application, crop removal from contaminated fields, irrigation, hiring labor, engaging a security company, farm marketing, acquiring more land, and aiming for regular seasons were some potential coping strategies for growing cabbage.

Recommendations

***Farmers:** Farmers should endeavor to plant early in the beginning of the rainy season to avoid draughts, farmers should also manage the diseases and pests since the cabbages they are predominantly cultivating are declining in their resistance to pests and diseases.*

Researchers: *Researcher should breed for more resistance for the preferred cabbage varieties.*

Policy makers: *The administrators should ensure that the policies formulated for rural areas cover areas such as construction of feeder roads and their regular maintenance.*

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