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

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ABSTRACT

*Several cultivars of the bimonthly leafy green, red (purple), or white (pale green) plant known as cabbage (*Brassica oleracea* var *capitata*) are produced as an annual crop for their densely leafed heads. The average cabbage head weighs between 0.5 and 4 kilos. It was probably cultivated, and by the Middle Ages, cabbage had established itself as a staple of European cuisine. The first year of the plant's life cycle is typically when cabbage heads are harvested, although plants meant for seeds are given a second year to mature. According to FAOSTAT (2008), Kenya and Ethiopia are the continent's largest suppliers of cabbage, accounting for about 30% of the continent's total output. About 2,000,000 (2 million) tons of cabbage were produced in Africa overall in 2008, an increase of 20% from the 10-year period from 1998 and 2008. The study's goals were to evaluate the socioeconomic elements that affect cabbage output, to identify the difficulties experienced by cabbage growers, and to evaluate how well they deal with those difficulties. In order to prevent draughts, the study advised farmers to try to plant early in the beginning of the rainy season. Producers were also advised to control diseases and pests because the cabbages they are mostly growing are becoming less resistant to these problems. Researcher should breed for more resistance for the preferred cabbage varieties and the administrators should ensure that the policies formulated for rural areas cover areas such as construction of feeder roads and their regular maintenance*

Key words: pests, diseases, cabbage yield and socio-economic factors

Background of the Study

China produced 47% of the world's 71.8 million metric tons of cabbage in 2014, in accordance with the Food and Agriculture Organization of the United States (FAO, 2014), with India, Russia, South Korea, Ukraine, Indonesia, Japan, Poland, Uzbekistan, and the United States rounding out the top ten. Overall, more than 150 countries around the world plant cabbages, with South America, West Africa, and South-East Asia/ocean having the lowest levels of cultivation. According to (Weinberger and Lumptain, 2007) the dominance of small-scale farmers in cabbage production presents an opportunity for making an impact on poverty reduction efforts (Grace et al., 2023). Given that it boosts revenue and creates jobs, vegetable production has the potential to help alleviate poverty. Small-scale cabbage growers have been found to have net incomes that are typically five times higher than those of non-cabbage farmers for both domestic and foreign markets.

Cabbage is one of the profitable vegetable crops farmed in Uganda, primarily by small-scale farmers for domestic use and the expanding urban markets.

However, the FAO (2012) reports that Uganda still produces little in the way of cabbage. It is a result of a multitude of issues including deficient soil nutrients, an abundance of agricultural pests, and imbalanced the fertilization due to Ugandan farmers' usage of agricultural supplies that are not precisely evaluated. This is brought on by the high cost for agricultural fertilizers and pesticides and other associated chemicals, which make it difficult for farmers to purchase enough pesticides and fertilizer with their limited capital (Allan et al., 2023). As a result, the optimum amount of production is not realized due to poor use of the production variables. A farmer won't make money if they utilize too many inputs, which increases their costs, yet their output isn't at its best. In 2002, Komarek.

Problem Statement

The Bugiri District's climate and soils are ideal for growing cabbage. But over the years, cabbage production has stayed low (Grace et al., 2023). This is because there aren't enough cash, inputs for agriculture, or tools to clear land so that appropriate profits may be realized. The lack of effective extension services for farming from the national and local governments has made this problem worse, making it difficult to implement policy to raise the income of households in the Bugiri District (Journal et al., 2023). The socio-economic elements that affect the cabbage production in the Bugiri District are not well understood. In order to understand the obstacles experienced and ways to compensate for those difficulties by the cabbage producers in Kapyanga sub-county, Bugiri district, a study was conducted to evaluate the social-economic determinants which influence the yield of cabbage to the people of Kapyanga sub-county (Francis et al., 2023).

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.*

Research Questions

- 1. What is 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 subcounty Bugiri district?*

METHODOLOGY

Research Design

According to Zamalia Mahmud (2011), sufficient details regarding the study had been given to allow it to be duplicated for confirmation and assurance, hence the study used both quantitative and qualitative study designs. While qualitative design aided in gathering ideas, opinions, and clarifications, quantitative design assisted in gathering data regarding variables using measures.

Target audience

The target demographic for this study is the community of cabbage farmers in the village's Kapyanga sub-county Bugiri district. The participants will include senior officers and juniors at the sub-county level, some Bugiri district councilors, sub-county councilors from chosen villages, two extension specialists in chosen area, Local L.C1 chairpersons, and people over the age of 18 who reside in chosen neighborhoods.

Data collection methods

Questionnaires

Everyone who participated used a self-structured, standardized opened and closed survey to provide their responses to the topics pertaining to the study's goal.

The investigator allowed participants enough time to respond to the inquiries so they could provide logical and precise responses while he was present and to a lesser extent while he wasn't. This approach aims to ensure that bias against the investigator—which frequently arises when the investigator is physically present—is eliminated.

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.

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
Total	92	48

Data Analysis

The social-economic elements that affect cabbage yield were examined for the first goal using the following multiple regression analysis method.

By tallying and deriving inferences from the data, the difficulties experienced by cabbage growers were examined. Descriptive analysis was used to assess the data using probabilities using SPSS (Nelson et al., 2022). The information pertaining to potential methods to lessen the difficulties faced by cabbage growers was similarly investigated, with difficulties and making appropriate conclusions, and then the key conclusions were reviewed.

RESULTS

Challenges faced by cabbage growers

The biggest percentage of respondents was traditional leaders who responded that most the challenge faced in production of cabbage in Kapyanga sub county Bugiri district is

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

The table (1) above shows the major production challenge faced by the Cabbage farmers is pests and diseases and this can be overcome by spraying with pesticides and uprooting the infected plants as showed by 48% of the respondents. Drought is the other major issue, and as 21% of the people surveyed noted, irrigation can help with this. Other issues provided encompassed a labor shortage, which could be resolved by hiring more workers, as pointed out by 15% of the participants, soil

fertility issues, which could be resolved by applying nutrients, as pointed out by 10% of the participants, transportation costs to market centers, which could be decreased by marketable labor information about using cars instead of employing a lot of labor, and the least faced issue.

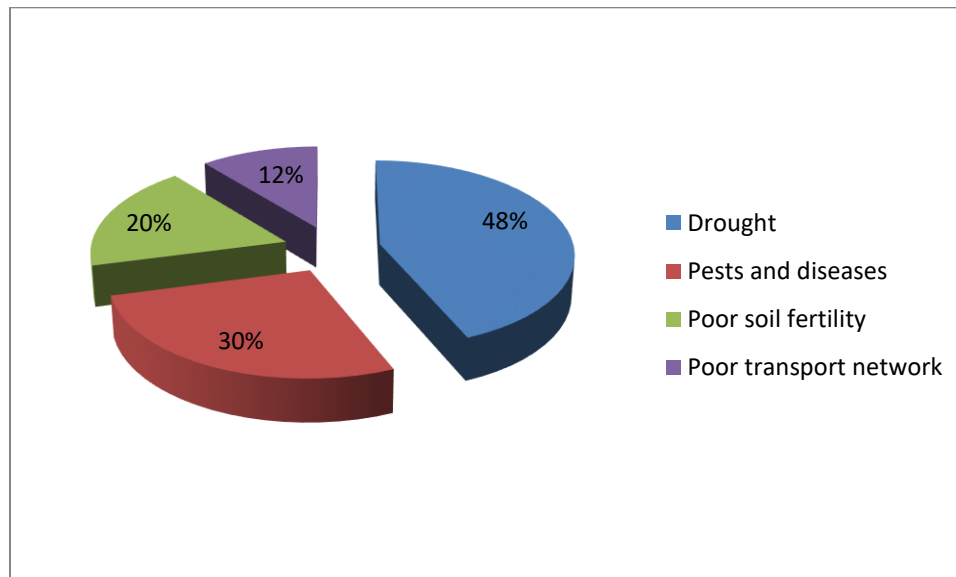


Figure 1. A pie chart showing the challenges faced in cabbage production in Kapyanga sub county Bugiri district

Table showing descriptive Analysis of Cabbages Farmer

The table 2 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%

<i>Sex</i>	<i>Frequency</i>	<i>Percent</i>
<i>Widow</i>	<i>04</i>	<i>08%</i>
<i>Level of Education</i>		
<i>Degree and above</i>	<i>1</i>	<i>2%</i>
<i>Tertiary</i>	<i>8</i>	<i>17%</i>
<i>Secondary</i>	<i>15</i>	<i>31%</i>
<i>Primary</i>	<i>14</i>	<i>30%</i>
<i>Non formal</i>	<i>10</i>	<i>20%</i>
<i>Age Bracket</i>		
<i>20-30</i>	<i>8</i>	<i>17%</i>
<i>31-40</i>	<i>30</i>	<i>63%</i>
<i>Above 40 years</i>	<i>10</i>	<i>30%</i>

Source: Primary Data (2021)

Table 2's results revealed that 44% of those who participated were women and 56% of participants were men. This implies that all genders took part, despite the fact that men were primarily responsible for growing cabbage. Furthermore, the majority of cabbage gardens were thought to be for men, the family's head. The majority of respondents (67%) were also married, although there were also a small number of widows (8%), and single people (25%) among them. This suggests that growing cabbage was a common source of work, money, and support for basic family necessities carried out by married people.

The majority (31%) had a secondary education, 30% had a primary education, 20% had no formal education, and 17% had a higher degree, according to the results. Several of them held bachelor's or master's degrees. This showed that the respondents had some form of education in relation to cabbage production

Conclusions

Socioeconomic variables significantly (at 5%) positively influence cabbage yields. Cabbage yields are influenced by the number of households, land size, time spent producing cabbage, primary labor source, availability of inputs, and government support.

Growing cabbage presented many difficulties for farmers. These include soil sterility, insufficient land, pests and diseases, drought and transportation, concurrence, high input costs, labor shortages, thieves, and price swings.

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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