

**FACTORS CONTRIBUTING TO THE DECREASING ADOPTION OF SUGARCANES
GROWING IN LUGOLOLE SUB COUNTY MAYUGE DISTRICT**

BY

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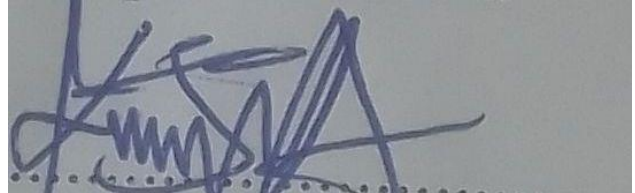
**ARESEARCH REPORT TO BE PRESENTED TO THE DEPARTMENT OF
AGRICULTURE IN PARTIAL FULFILLMENT OF THE AWARD OF BACHELOR'S
DEGREE IN SCIENCE AND EDUCATION**

NOVEMBER

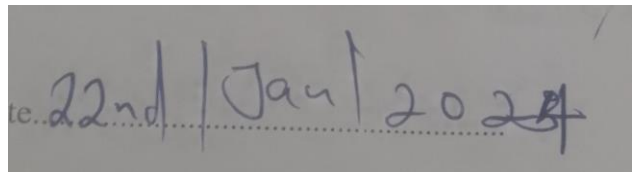
DECLARATION

I Kibwika Andrew declare that this research report is my original work and all contents here in represent my findings and investigation. Any additional information from other people has been acknowledged. It has never been presented by any other individual or institution for the award of any academic qualification.

Signature...

A handwritten signature in blue ink, appearing to read 'Kibwika Andrew', written over a dotted line.

.....Date.....

A handwritten date in blue ink, '22nd / Jan / 2024', written over a dotted line.

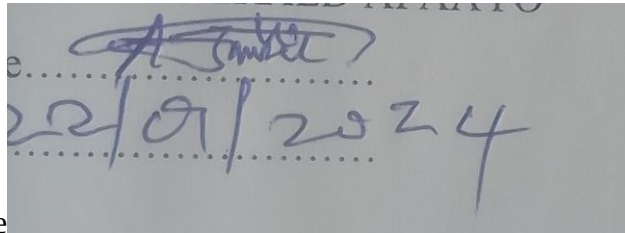
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APPROVAL

I hereby certify that, this research on factors that have led to decreased adoption of sugarcane growing in Lugolole sub county, Mayuge District in Eastern Uganda has been done under my supervision and its now due for submission.

Name of supervisor

Mr DRAMADRI GERALD AFAAYO

A photograph of a document showing a handwritten signature in blue ink, which appears to be 'A. Smitel', and the date '22/07/2024' written below it. The text is on a document with dotted lines.

Signature.....

Date.....

DEDICATION

I dedicate this work to my ever supportive father Mr Isiko David and family members for the care, love, financial assistance and moral advice provided throughout this journey of academic discovery. May God bless you abundantly!!

ACKNOWLEDGEMENT

My special thanks go to Almighty God for the gift of life and taking me through all years of my studies successfully. I wouldn't have managed without your grace and mercy.

To my supervisor Mr Dramadri Gerald Afaayo, thank you so much for the invaluable guidance you provided that gave birth to this research work. Similarly, I would like to thank the community of Lugolole sub county especially respondents who participated in this research as well as the sub county sugarcane out grower officer and staff for their support.

I further extend my sincere gratitude to all my lecturers and fellow students of Busitema university who have shaped me into a learned Ugandan well equipped to transform the community.

Many other people contributed to the success of this work, directly or indirectly and I pray that God blesses them in all that they do.

TABLE OF CONTENTS

DECLARATION	2
APPROVAL	3
DEDICATION	4
ACKNOWLEDGEMENT	5
ABSTRACT	12
CHAPTER ONE: INTRODUCTION	12
1.1 Back ground.....	13
1.2 Problem statement.....	14
1.3 General Objectives.....	14
1.3.1Main objective	14
1.3.2 Specific objectives	15
1.4 Significance of the research	15
1.5 Research questions.....	15
CHAPTER TWO: LITERATURE REVIEW	16
CHAPTER THREE: METHODOLOGY	18
3.0 INTRODUCTION	19
3.1 STUDY DESIGN	19
3.2 AREA OF STUDY	19
3.3 POPULATION OF THE STUDY	19
3.4 SAMPLE SIZE	19

3.5 SAMPLING TECHNIQUE	20
3.6 RESEARCH INSTRUMENTS.....	20
3.6.1 QUESTIONNAIRE	20
3.7 DATA QUALITY CONTROL.....	21
3.8 ETHICAL CONSIDERATION	21
3.9 DATA MANAGEMENT.....	21
3.10 DATA ANALYSIS AND PRESENTATION	21
3.11 LIMITATION OF THE STUDY.....	22
CHAPTER FOUR.....	23
PRESENTATION, INTERPRETATION AND ANALYSIS OF RESULTS	23
4.1 DEMOGRAPHIC/SOCIO-ECONOMIC CHARACTERISTICS OF RESPONDENTS	23
4.2 LEVEL OF ADOPTION OF SUGARCANE PRODUCTION AND FACTORS INFLUENCING THE ADOPTION DECISION AMONG SMALL HOLDER FARMERS	24
4.3 PROFITABILITY AND SUSTAINABILITY OF SUGARCANE PRODUCTION IN LUGOOLE SUBCOUNTY MAYUGE DISTRICT.....	26
CHAPTER FIVE	28
DISCUSSION, CONCLUSION AND RECOMMENDATIONS	28
5.1 DISCUSSION OF FINDINGS	28
5.1.1 SOCIO-ECONOMIC CHARACTERISTICS OF RESPONDENTS	28
5.1.2: LEVEL OF ADOPTION OF SUGARCANE PRODUCTION AND FACTORS INFLUENCING THE ADOPTION DECISION	28
5.1.3 PROFITABILITY AND SUSTAINABILITY OF SUGARCANE PRODUCTION	29
5.2 RECOMMENDATIONS.....	29
5.3 CONCLUSIONS	30
REFERENCE	31
APPENDICES	33
APPENDIX I.....	33
QUESTIONNAIRE	33
APPENDIX II: WORKPLAN	35
APPENDIX III.....	36

BUDGET OF THE RESEARCHER	36
APPENDIX IV	37
RECOMMENDATION LETTER	37

LIST OF TABLES

TABLE 1: SOCIO-ECONOMIC/DEMOGRAPHIC DATA OF RESPONDENTS	23
TABLE 2: LEVEL OF ADOPTION OF SUGARCANE PRODUCTION	24
TABLE 3: PROFITABILITY AND SUSTAINABILITY OF SUGARCANE PRODUCTION	26

LIST OF FIGURES

FIGURE 1: PIE CHART SHOWING THE SUGARCANE GROWING PERIODS (DURATION) FOR THE SMALL HOLDER FARMERS OF LUGOLOLE SUB COUNTY	25
FIGURE 2: BAR CHART SHOWING REASONS FOR SUGARCANE GROWING ACCORDING TO THE SMALL HOLDER FARMERS OF LUGOLOLE SUBCOUNTY	26

LIST OF ACRONYMS

FADS: Factors Affecting Decreased Sugarcane

GDP: Gross Domestic Product

LUSC: Lugolole sub county

MAYD: Mayuge

SCF: Sugarcane farmers

SCG: Sugarcane Growing

MAAIF: Ministry of Agriculture Animal Industries and Fisheries

MTIC: Ministry of Trade, Industry, and Cooperatives

NSB: National Sugar Board

NSP: National Sugar Policy

UBOS : Uganda Bureau of Statistics

ABSTRACT

This study aimed to explore the factors that have influenced the decreasing adoption of sugarcane growing among the farmers in Lugolole Sub County, Mayuge district, where cultivation has declined significantly.

The study used a mixed methods approach, combining quantitative and qualitative data collection and analysis.

A survey was conducted with 120 randomly selected sugarcane farmers, and 12 key informant interviews were conducted with local leaders, extension workers, and sugarcane factory representatives.

The results showed that the main factors that affected the adoption of sugarcane growing were availability and accessibility of land, the profitability and marketability of sugarcane.

The study also revealed that the farmers faced various constraints and challenges in sugarcane production, such as pests and diseases, droughts and floods, soil erosion and fertility loss, labour shortages and exploitation, and lack of credit and insurance.

The study concluded that there is need for more supportive policies and interventions to address the issues and challenges faced by sugarcane farmers and to enhance the adoption and sustainability of sugarcane production in Lugolole Sub County and other similar areas.

CHAPTER ONE: INTRODUCTION

1.1 Back ground

In many sub-Saharan African countries, subsistence agriculture (that is to say., crop, tree, livestock, and fisheries production) is not only a vital source of food but also the prevalent way of life. However, in these countries with mainly agrarian economies, subsistence agriculture is increasingly being replaced by commercial agriculture as national governments push to increase the contribution of the agriculture sector to the national Gross Domestic Product (GDP) . By 2016, the contribution of the agricultural sector ranged between 3% (for Botswana and South Africa) and more than 50% (for Chad) . For Uganda, the contribution of the agriculture to the GDP was about 25.8% . With increasing interest in agriculture as an income earner, commercial firms and households in tropical Africa and Asia countries have adopted commercial agriculture leading to expansive lands of monocultures (incl. oil palms, sugarcane, tobacco, and sunflower) in historically forested and subsistence-oriented agriculture production systems, but with mixed results.

In Uganda, recent times have witnessed the central government encouraging farmers to invest in commercial agricultural enterprises as one of the efforts for poverty alleviation and wealth creation. In areas close to sugarcane-processing industries in Uganda (for example., Kinyara Sugar Works Ltd., Masindi, Mayuge Sugar Ltd., Mayuge, Kaliro Sugar Ltd., Kaliro, and Kakira Sugar Works Ltd., Jinja), sugarcane cultivation has been highly preferred relative to other more traditional crops (for example., coffee, cotton) as well as plantation forests, as it is perceived to be more profitable and economically valuable. As commercialization of sugarcane and other non-food crops cultivation increases in importance to rural households, the value of productive land and incentives to increase yields continue to escalate, resulting in further loss of natural vegetation, and a reduction of land available for food crop cultivation furthermore due to reduced sugar cane prices after 2018, many farmers opted for other crops. According to a research by Dr. Swaibu Mbowa, a senior research fellow at EPRC, at least a third of sugarcane out growers (30%) abandoned farming the crop in 2021 as environment became untenable – frustrated by the market uncertainties, low prices, and inability to use land for other farming activities due to overstayed cane that could hardly be sold.

1.2 Problem statement

According to a study by Economic Policy Research Centre (EPRC), Eastern Uganda particularly Busoga had the largest sugarcane milling capacity at 35%, followed by Central Uganda at 27%, Western at 26% and Northern Uganda, the new entrant in sugar milling at 12%.

Lugolole is a sub county in Mayuge District which is located in Eastern Uganda (Busoga) .Due to fertile soils and favorable climate, Mayuge District has great agricultural potential. The people of Lugolole Sub County were attracted by the sugar industrialists to grow sugarcane and sell it to their industries. This was seen as the best way through which they would earn a lot of money to eradicate poverty at household level and educate their children.

Economically it was found that generally, smallholder sugarcane farmers in Lugolole Sub County Mayuge district had high incomes above the national GDP per capita. It was also established that the average incomes from sugarcane were much higher than from other crops. However, the long gestation period eroded the high incomes, forcing them to borrow from money lenders before harvest. This, coupled with limited land allocated to food production, makes them spend a substantial part of their income on food purchases. The production costs and fluctuations in prices of sugarcane in most cases affect their income.

In the absence of a National Sugar Board (NSB) to oversee and regulate the activities in the sugarcane sub-sector, the governance of outgrowers' affairs is primarily determined by millers. Without the NSB, miller and grower agreements are broken. Under such circumstances, the survival of the outgrower schemes is under threat due to increased market uncertainties among outgrowers. This is the reason behind the exit of outgrower farmers from sugarcane cultivation.

This has led to an increase in sugar prices in Uganda and a decline in Uganda's sugar export revenues.

The purpose of this study is to understand the factors contributing to the decreasing adoption of sugarcanes growing in Lugolole sub county Mayuge district

1.3 General Objectives

1.3.1Main objective

To assess the factors influencing low adoption of sugarcane farming in Mayuge district

1.3.2 Specific objectives

- 1) Assess the socioeconomic characteristics of the small holder farmers who grow sugarcane and those who don't in Lugolole Sub County.
- 2) Determine the level of adoption of sugarcane production and the factors influencing the adoption decision among the small holder farmers in Lugolole Sub County.
- 3) Evaluate the profitability and sustainability of sugarcane production and the challenges faced by the small holder farmers in Lugolole Sub County.
- 4) Suggest possible interventions and recommendations to enhance the adoption and profitability of sugarcane production among the smallholder farmers in Lugolole Sub County.

1.4 Significance of the research

This project will help to create awareness and equip farmers through farm visits with the skills of sugarcane growing as a business.

The project will also help to change the attitude of the rural farmers toward sugarcane production as a business.

1.5 Research questions

The research questions are:

- 1) What are the socio economic characteristics of the smallholder farmers who grow sugarcane and those who don't in Lugolole Sub County?
- 2) What is the level of adoption of sugarcane production and what are the factors influencing the adoption decision among the smallholder farmers in Lugolole Sub County?
- 3) How profitable and sustainable is sugarcane production and what are the challenges faced by the small holder farmers in Lugolole sub county?
- 4) What are the possible interventions and recommendations to enhance the adoption and profitability of sugarcane production among the smallholder farmers in Lugolole subcounty?

CHAPTER TWO: LITERATURE REVIEW

2.0 INTRODUCTION

This chapter gives a review of the most recent literature on factors contributing to the decreasing adoption of sugarcane growing in Uganda. Information in this chapter has been obtained from previous research reports, government sources, internet, library indexes and abstracts of journals.

Sugarcane is an important crop because of its strategic position and massive uses for multiple purposes in the daily life of any country as well as for its industrial uses aimed at nutritional and economic nutrition. Sugarcane is the most imperative industrial crop in the world due to its production in subtropical and tropical regions worldwide. The sugar production industry is one of the most important industries in the whole world due to its contribution. The sugarcane industry is contributing approximately 80% of the total sugar produced in the world. (Heliyon, 2023)

According to Travella and Oliveira, The largest sugarcane producers in the world are Brazil and India with an annual production of about 768, 678, 382 metric tonnes and 348, 448,000 metric tonnes per year, respectively. African countries only contribute 5% of the total world sugar and it is estimated that about 80% is contributed by Sub-Saharan African countries. South Africa, Sudan, Swaziland, Zambia, Mauritius, and Kenya are the main African countries producing sugarcane and these countries account for more than half of the total sugarcane production in Africa

Sugarcane is a commercialized crop in agroecological zones where it flourishes. However, the size of the farms varies from large estates to smallholders, and subsistence farmers often exist besides large estates. Large estates (nucleus) generally produce the bulk of sugarcane, but smallholder farmers contribute substantially to some countries' sugarcane growing industry. In Mauritius, for example, 30% of sugarcane are supplied by smallholder farmers and 12% by South Africa; in Kenya, 92% of the sugarcane supplied to sugar millers is by smallholder farmers (Vermeulen, 2011; Oyugi, 2016).

Uganda has made significant strides in sugarcane production and processing following the liberalisation of the sub-sector. From 2005 to 2014, sugar processing mills increased from 4 to 12. The expansion of mills also attracted new outgrower sugarcane cultivators as mills competed to attract cane supply. With the rapid expansion of the sugarcane sub-sector, the Ministry of Trade, Industry, and Cooperatives (MTIC), and Ministry of Agriculture Animal Industries and Fisheries (MAAIF) anticipated challenges that could constrain future growth of the sectors;

subsequently, the 2010 National Sugar Policy (NSP) was formulated to facilitate the long term inclusive development of the sector. The policy was eventually followed by the 2020 Sugar Act. These two policy documents committed the government to address emerging challenges related to sector governance and regulation. The priority policy interventions were: establishing the National Sugar Board (NSB); zoning cane marketing activities; cane pricing; promoting of R&D and sustainable land management; planning for future expansion of cane growing, and developing social responsibility projects however the research carried out by Economic Research Policy Centre (ERPC) in 2022 showed that institutional and policy environment for cane production in Uganda has provided limited empowerment and protection to outgrowers.

Sugar commercialization is one of the pioneering successes of the current regime, where, in 2017, the president said that, since 1986, the country has increased from producing “500 metric tonnes” to “480,000 metric tonnes”, not only moving the country to an “island of modernity but has greatly expanded it.”(Museveni, 2018). The sugar boom in Uganda is also tied to the 1987 neoliberal adjustment programs enforced by World Bank to “eradicate state’s involvement in land and agricultural markets by devaluing currency, abolishing fixed prices, removing fertilizer subsidies, reducing export crops taxes, and disbanding cooperatives and parastatals to allow for private initiative and competitive trading in rural areas” (Martiniello, 2019, p. 560).

Rural farmers in Uganda are often blamed for the low agricultural yields and lack of market integration (Martiniello, 2015).

Sugarcane growing in Uganda and trade in sugar and its related products is increasingly gaining importance as a cash crop with financial benefits to the smallholder farmers with an opportunity to poverty eradication and food security at the household level. About 54,911 hectares of land are under sugarcane growing in Uganda. This accounts for 36000 metric tons of surplus sugar the country can export (FAO, 2016; USCTA, 2017). The sugar industry accounts for 6.5% of the industrial growth of the country, providing for twenty thousand (20,000) direct and fifty thousand (50,000) indirect employment (USCTA, 2017). In Uganda, sugarcane growing and processing was confined to the fertile soils on the Northern shores of Lake Victoria in Busoga and Buganda regions, except for Kinyara in the country's Midwest. Busoga has thirteen thousand smallholder farmers (13000) producing about three hundred thousand (300,000) tons of sugarcane annually. Even those unable to produce sugarcane hire their land from those who can or to the sugar estates to produce them. This has led to limited land left for food production.

Hence, limited food access and food utilization are limited to the local people, undermining the food stability system and food availability (UBOS, 2016).

Sugarcane growing has increasingly gained importance in Uganda. In Mayuge district every household is struggling to engage in sugarcane growing to satisfy the growing demand for sugar in the region. The assumption is that sugarcane growing would improve household income hence food security. However, despite the importance of the sugarcane sector to the Ugandan economy, production of sugarcane has been deteriorating over the years and the majority of them is faced by smallholder farmers. They specified that the sugar industry has been confronting a problem of sugarcane production decline and most of the decline is from smallholder sugarcane farmers. The yield decline experienced from sugarcane production adversely affected the Uganda sugar industry where there is a huge decrease in sugar productivity, farm returns, and foreign earnings. This decline is associated with challenges faced by smallholder farmers such as drought, high labour costs, and lack of infrastructure and knowledge.(Heliyon, 2023)

CHAPTER THREE: METHODOLOGY

3.0 INTRODUCTION

This chapter presents the study design, area of study, study population, sampling procedure, sample size, study variables, instruments of data collection, administration of instruments, sources of data collection, data quality control/ethics, data management, data analysis and presentation and dissemination.

3.1 STUDY DESIGN

Descriptive-cross-section study design was used to establish the distribution of variables in the study population between the adoption of sugarcane growing and:

1. socioeconomic characteristics of the small holder farmers
2. level of adoption of sugarcane production
3. profitability and sustainability of sugarcane production

3.2 AREA OF STUDY

The study was undertaken in Lugolole Sub County located in Mayuge district. Lugolole sub county is one of the most densely populated sub counties in Mayuge district which covers parishes like Nondwe, Katwe, Ikulwe with sugarcane as the main cash crop, and the highest number of people in this region depend on sugarcane activity for their living due to the ready market from Mayuge Sugar factory which was established in 2007 in Lugolole Sub County which made it a suitable area for our study.

3.3 POPULATION OF THE STUDY

The study population characterized of 120 randomly selected sugarcane growers who were residents of Lugolole sub county Mayuge district

3.4 SAMPLE SIZE

Sample Size Determination

A sample size is a smaller group obtained from the targeted population. It is from this smaller group that a researcher gathers information about the problem being studied. Karugu (2007). The

number of accessible population is relatively large (715), a representative sample will be determined using Nassiuma's (2008) formula as follows:-

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

Where

n -Represents sample size

N - Represents target population

C - Represents coefficient of variation ($21\% \leq C \leq 715\%$), and

e-represents degree of error ($2\% \leq e \leq 5\%$)

$$n = \frac{715(0.3)^2}{0.3^2 + (715-1)0.025^2}$$

n= 120 respondents

Therefore: The sample size, therefore, will comprise of 120 respondents.

Thus the sample size of 120 participants was used in the study to safeguard against non-response or low return rate by researcher.

3.5 SAMPLING TECHNIQUE

The researcher used a random sampling technique. Respondents were selected randomly

3.6 RESEARCH INSTRUMENTS

The researcher mainly used one research instrument for data collection and that was the questionnaire.

3.6.1 QUESTIONNAIRE

This was the main source of information about variables of interest in the investigation. Fully categorized questionnaires were constructed by the researcher to assess factors affecting adoption of sugarcane growing in Lugolole Sub County

They were administered to farmers of Lugolole Sub County as well as translating the questionnaire for the illiterate respondents.

3.7 DATA QUALITY CONTROL

Data was edited and coded to cross check for errors and to ensure that accurate and complete results with precision are got by the researcher. Coding was done by assigning numbers to words. This enabled the researcher to derive statistical meaning of the data.

3.8 ETHICAL CONSIDERATION

Approval to conduct the study was obtained from Busitema University before data collection began. The Institution provided a letter of introduction to the researcher. The letter was shared with Lugolole sub county administration, who gave the researcher permission to conduct the study. Informed consent was obtained from the participants before their enrollment into the study. The participants were informed of the objectives and purpose of the study. The participants were assured of total anonymity at all stages of data collection. The researcher maintained confidentiality of all participants and no identification by name was required on the questionnaire. The participants were assured that they might withdraw from the study at any time without penalty and that they had freedom to accept or refuse to participate in the study.

3.9 DATA MANAGEMENT

The data was tabulated to provide intelligible, attractive, and appropriate information. This enabled the researcher to arrive at valid and reliable conclusions which were ready for storage and dissemination. The researcher stored a copy of his data on his e-mail address and disseminated a copy to Lugolole sub county administration, the supervisor and lastly to Busitema university

3.10 DATA ANALYSIS AND PRESENTATION

Data in the field was continually supervised and controlled by the researcher. Quantitative raw data from questionnaires was coded and entered using Microsoft Excel 2007 data entry program software. Subsequently data was cleaned and analyzed using Microsoft Excel 2007 statistical package. Information generated was then presented in text, in the form of tables, bar graphs and pie charts.

3.11 LIMITATION OF THE STUDY

In the process of carrying out the study, the researcher encountered the following challenges;

- The time allocated was not sufficient enough for the researcher to acquire all the necessary information; however the researcher ensured that a well scheduled time frame was made to guarantee that sufficient time was allocated for all activities during the research process.
- There was a problem of having limited response from the respondents about the scope of literature needed by the researcher; however the researcher addressed this problem by verbally informing the respondents on the purpose of the study and its benefits to both the researcher and the respondents.
- The funds to cater for the whole operation, that is to say. transport, research printing, and binding among other financial requirements may have limited the researcher to operate effectively however the researcher solicited funds from family friends so as to complete his study.

CHAPTER FOUR

PRESENTATION, INTERPRETATION AND ANALYSIS OF RESULTS

4.1 DEMOGRAPHIC/SOCIO-ECONOMIC CHARACTERISTICS OF RESPONDENTS

TABLE 1: SOCIO-ECONOMIC/DEMOGRAPHIC DATA OF RESPONDENTS

(n=120)

1	AGE (YEARS)	FREQUENCY	PERCENTAGES (%)
	Below 20	3	3
	20-30	16	13
	30-40	45	37
	40-50	38	32
	50 and above	18	15
2	GENDER		
	Male	108	90
	Female	12	10
3	EDUCATION		
	No formal education	2	2
	Primary education	74	62
	Ordinary level	28	23
	Advanced level	11	9
	Tertiary or University	5	4

Source: primary data

From results in table 1 above, regarding the age, the majority of respondents 45(37%) were between ages 30-40 followed by 38(32%) between 40-50years. The minority were 3(3%) below the age of 20.

Concerning the gender, most respondents 108(90%) were male while 12(10%) were female

Regarding level of Education, majority of respondents ended at primary level education 74(62%) while the least 2(2%) had no formal education at all

4.2 LEVEL OF ADOPTION OF SUGARCANE PRODUCTION AND FACTORS INFLUENCING THE ADOPTION DECISION AMONG SMALL HOLDER FARMERS

TABLE 2: LEVEL OF ADOPTION OF SUGARCANE PRODUCTION

(n=120)

FACTOR	FREQUENCY		PERCENTAGES (%)
1. Sugarcane farming period (years)	i)<5years	10	8
	ii)5-10years	25	21
	iii)10-15years	50	42
	iv)>15years	35	29
2.Main reason for sugarcane growing	i)Cash income	48	40
	ii)Food security	42	35
	iii)Contract with factory	10	8
	iv) others	20	17
3. Main challenges in sugarcane growing	i)Low yield	15	13
	ii)High cost of inputs	6	5
	iii) Pests and disease infection	3	3
	iv)Unfavourable weather conditions	4	3
	v) Lack of access to credit	10	8
	vi)Low market price	65	54
	vii)Long gestation period	5	4

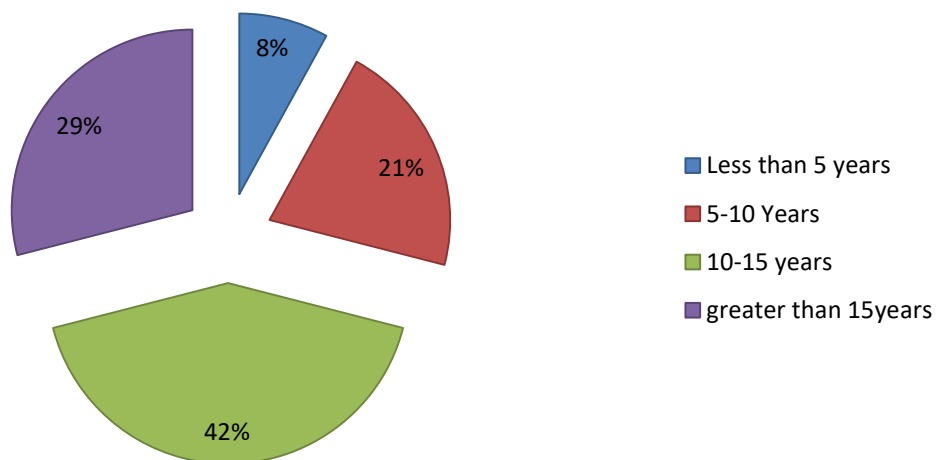
	viii)Others	12	10
4. Ways to cope with the Challenges	i) Use of improved varieties	11	9
	ii)Use of irrigation	9	8
	iii)Use of fertilizer and pesticides	30	25
	iv)Diversification of crops	23	19
	v)Seeking alternative sources of income	47	39
	vi) Others	--	-

Source: primary data

From results in table 2 above, regarding the sugarcane farming period of respondents, the majority 50(42%) had been growing it for the past 10-15years while the least 10(8%) had grown it in the past 5years.

Below is a pie chart illustrating the sugarcane farming periods (time frame) of the respondents

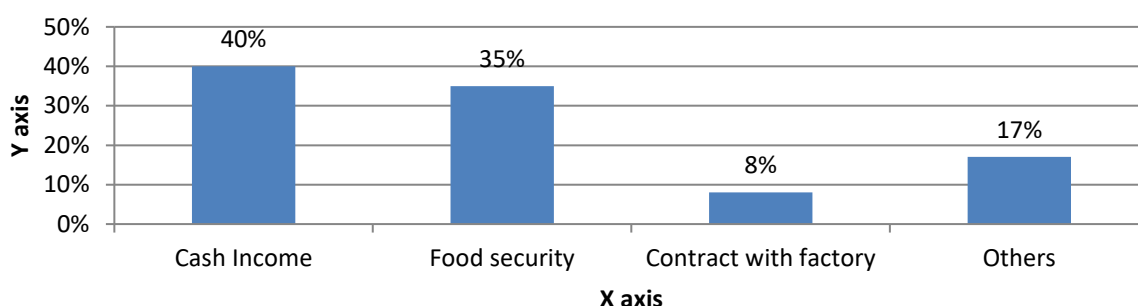
FIGURE 1: PIE CHART SHOWING THE SUGARCANE GROWING PERIODS (DURATION) FOR THE SMALL HOLDER FARMERS OF LUGOLOLE SUB COUNTY



Then concerning the reason for sugarcane growing the majority 48(40%) replied for Cash income followed by 42(35%) who replied food security while the minority 10(8%) responded Contract with factory.

Below is a bar chart illustrating the main reasons for sugarcane growing by small holder farmers

FIGURE 2: BAR CHART SHOWING REASONS FOR SUGARCANE GROWING ACCORDING TO THE SMALL HOLDER FARMERS OF LUGOLOLE SUBCOUNTY



Concerning the main challenges faced in sugar growing, most respondents 65(54%) replied Low market price while the least 3(3%) responded Pests and disease infection.

Regarding Ways to cope with the Challenges the majority of respondents 47(39%) replied Seeking alternative sources of income while the least 9(8%) replied Use of irrigation.

4.3 PROFITABILITY AND SUSTAINABILITY OF SUGARCANE PRODUCTION IN LUGOLOLE SUBCOUNTY MAYUGE DISTRICT

TABLE 3:PROFITABILITY AND SUSTAINABILITY OF SUGARCANE PRODUCTION

FACTOR	FREQUENCY		PERCENTAGES(%)
1. Factors that influence decision to continue or discontinue sugarcane farming	i)profitability	63	52
	ii)Availability of land	15	13
	iii)Availability of Labour	-	-
	iv)Availability of	-	-

	water		
	v)Demand and supply of sugarcane	-	-
	vi)Government policies and regulations	30	25
	vii)Others	12	10
2.Level of satisfaction with currents state of sugarcane farming	i) Very satisfied	-	-
	ii) Satisfied	29	24
	iii) Neutral	-	-
	iv) Dissatisfied	54	45
	v)Very dissatisfied	37	31

From table 3 above, regarding Factors that influence decision to continue or discontinue sugarcane farming most respondents 63(52%) replied profitability while no respondent replied availability of land or availability of labour

Then concerning Level of satisfaction with current state of sugarcane farming, most respondents 54(45%) were dissatisfied with current situation while none is satisfied or neutral.

CHAPTER FIVE

DISCUSION, CONCLUSION AND RECOMMENDATIONS

5.1 DISCUSSION OF FINDINGS

5.1.1 SOCIO-ECONOMIC CHARACTERISTICS OF RESPONDENTS

Basing on the findings, most small holder farmers were male 108(90%) because in this area, the dominant land tenure system is customary in this area where the male children inherit the land. The ownership of productive resources is in the hands of men, and therefore they are the ones that decide on the allocation of land to different productive activities. This has severe implications for gender equality and equity. It also affects poverty and food security at household levels. The recent awareness and raising of women's rights over land have weakened the strong customary ties over land, especially in the patriarchal social system in rural areas of Mayuge District. Despite the improvement in employment opportunities for women in the sugarcane production industry, they have remained as suppliers of labour on sugarcane farms (Emmanuel and Helen, 2020).

The majority of the farmers were in the age brackets of 30 – 40 and 40 – 50, these age brackets constituted 37% and 32% of the total population of the farmers respectively. This is the most productive age. The majority of the farmers (62%) were mainly primary graduates. A low level of education limits the adaptation and adoption of modern scientific methods of sugarcane production. According to Khan et al., (2019), most sugarcane farmers in Africa and Asia are illiterate, limiting production under out-grower schemes.

5.1.2: LEVEL OF ADOPTION OF SUGARCANE PRODUCTION AND FACTORS INFLUENCING THE ADOPTION DECISION

The study revealed that the majority 42% of farmers had been involved in sugarcane growing within the past 10-15years and the percentage has been reducing since then to 10% for those who have been involved in the activity for the past 5years which shows a decrease in adoption and this is because the emergence of sugar factories led to the increase of farmers around 10-15 years ago but the low market price, low yields, low level of education(use of traditional farming

methods) and more have contributed to the decrease in adoption. This is consistent with the study by Economic Policy Research Centre (EPRC) conducted in 2022 in Uganda that revealed

that More households took up the business between 2012 and 2021 with at least 40,000 households, at one point, growing cane between 2005 and 2021. Some 11, 364 farmers left the sector in 2021. EPRC study shows that the environment for cane production in Uganda has provided limited empowerment and protection to outgrowers, forcing many to quit. Gaps in the implementation of the 2010 National Sugar Policy and Sugar Act, 2020 by Ministry of Trade and Ministry of Agriculture have created more uncertainties in the sector.

The study also revealed that most farmers 65% grow sugar cane for cash income in order for them to buy food stuffs that they could not produce on their farms, buy more land, building better houses, educating their children, meeting health care costs, and many others

Hence 52% revealed their main challenge was sugarcane low market price because they could no longer meet those costs and enjoy the benefits of sugarcane growing, most of them quit the activity

5.1.3 PROFITABILITY AND SUSTAINABILITY OF SUGARCANE PRODUCTION

The study revealed that profitability (63%) was the main factor that influenced the farmers' decision to continue or discontinue sugarcane farming. It also reveals that the majority (54%) were dissatisfied with the current state/situation in the sugarcane farming sector in Uganda. This is in line with Dr. Swaibu Mbowe (EPRC) in 2022 who revealed from his study that at least a third of sugarcane out growers (30%) abandoned farming the crop in 2021 as environment became untenable – frustrated by the market uncertainties, low prices, and inability to use land for other farming activities due to overstayed cane that could hardly be sold.

5.2 RECOMMENDATIONS

To improve sugarcane growing adoption, the following recommendations are suggested:

Promote the use of improved and resilient sugarcane varieties that are suitable for the local agro-ecological conditions and have high yield potential and quality.

Enhance the capacity of farmers to access and adopt improved agronomic practices, such as optimal planting density, fertilizer application, irrigation, weed control, and harvesting methods.

Strengthen the extension and advisory services to provide timely and relevant information and training to farmers on sugarcane production technology and management.

Facilitate the availability and affordability of inputs, such as seeds, fertilizers, pesticides, and equipment, through credit schemes, subsidies, and cooperatives.

Improve the pest and disease surveillance and control systems to prevent and mitigate the losses caused by biotic stresses.

Increase the market access and competitiveness of sugarcane farmers by improving the infrastructure, such as roads, transport, and storage facilities, and by ensuring fair and stable prices and policies for sugarcane and its products.

5.3 CONCLUSIONS

Sugarcane production is a vital source of income and food security for many households in Uganda, but it faces several challenges that limit its potential and sustainability. By identifying and addressing the factors that have led to decrease in adoption of sugarcane growing in Lugolole subcounty Mayuge district, the productivity and profitability of sugarcane cultivation can be improved and the livelihoods of sugarcane farmers can be enhanced.

Also there is need to establish an operational sugar sector regulatory mechanism (that is to say. a Sugar Board) to oversee, monitor, and arbitrate major issues in the sugar sector.

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APPENDICES

APPENDIX I

QUESTIONNAIRE

Here is a sample of questions in a research questionnaire on a study topic of factors that have led to decreased adoption of sugarcane growing in Lugolole subcounty Mayuge district:

Table 1: Section A :Demographic/Socio-Economic Characteristics of respondents

1.What is your age group	1. Below 20, 2. 20-30, 3. 30-40. 4. 40-50 5. 50 and above
2. What is your Gender	1. Male 2. Female
3. What is your highest level of education	1. No formal Education 2. Primary level 3. Ordinary level 4. Advanced level 5. Tertiary or university.

Table 2: Section B : Level of adoption of sugarcane production and the factors influencing the adoption decision among small holder farmers

1. How long have you been involved in sugarcane farming	1. Less than 5years 2. 5-10 years 3. 10-15 years 4. More than 15 years
2. What is the main reason for growing sugarcane	1. Cash income 2. Food security

	3. Contract with factory 4. Others(specify)
3. What are the main challenges you face in sugarcane growing	1. Low yield 2. High cost of inputs 3. Pest and disease infestation 4. Unfavorable weather conditions 5. Lack of access to credit 6. Low market price 7. Long gestation period 8. Others(specify)
4. How do you cope with these challenges	1. Use of improved varieties 2. Use of irrigation 3. Use of fertilizer and pesticides 4. Diversification of crops 5. Seeking alternative sources of income 6. Others(specify)

Table 3: Section C: profitability and sustainability of sugarcane production in Lugolole sub county

1. What are the main factors that influence your decision to continue or discontinue sugarcane farming?	1.Profitability 2.Availability of Land 3. Availability of Labour 4. Availability of water/rain 5.Demand and supply of sugarcane 6.Government policies and regulations 7.Others(specify)
2. How satisfied are you with the current state of sugarcane farming?	1.Very satisfied 2.Satisfied 3.Nuetral

	4.Dissatisfied 5.Very dissatisfied
3. What are the suggestions for improving sugarcane production and adoption in your area?(open ended)	

APPENDIX II: WORKPLAN

[illegible]

APPENDIX III

BUDGET OF THE RESEARCHER

A BUDGET ITEM	QUANTITY	UNIT PRICE (SHS)	TOTAL (SHS)
Data costs	30	1,000	30,000
Flash disk	1	15,000	15,000
Concept paper	2	1000	2,000
Questionnaires	150	400	60,000
Spiral binding	4	5,000	20,000
Traveling cost	4	20000	80,000
Miscellaneous	10	5000	50,000
TOTAL			257,000/=

APPENDIX IV

RECOMMENDATION LETTER