

**FACULTY OF AGRICULTURE AND ANIMAL SCIENCES**

**ASSESSING FACTORS AFFECTING MARKETABILITY OF SUNFLOWER:**

**A CASE STUDY OF ALWA SUB-COUNTY, KABERAMAIDO DISTRICT, UGANDA**

**BY: ARISO LONA MERCY**

**REG. NO: BU/UP/2021/2984**

**E-MAIL: [lonaariso@gamial.com](mailto:lonaariso@gamial.com)**

**0785221210/0705926586**

**SUPERVISOR: DR. KABBIRI RONALD**

**A RESEARCH SEPCIAL PROJECT REPORT SUBMITTED TO THE DEPARTMENT  
OF AGRIBUSINESS AND EXTENSION IN PARTIAL FULFILLMENT OF**

**THE REQUIREMENTS FOR THE AWARD OF BACHELORS**

**IN AGRIBUSINESS BUSITEMA UNIVERSITY.**

**NOVEMBER 2024**

**DECLARATION.**

I hereby declare that the work submitted has been prepared through my own effort with original information.

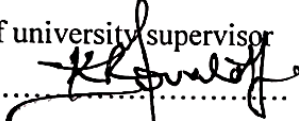
It has never been submitted to any institution of learning for an academic


Signature ..... *Arly* ..... Date ..... *14/11/2024* .....

ARISO LONA MERCY.

**APPROVAL**

This special project report has been submitted to the department of Agribusiness and extension with approval of university supervisor

Signature.....

Date.....

**RESEARCH SUPERVISOR.**

**DR.KABBIRI RONALD**

## **DEDICATION**

I am sincerely grateful to the Almighty God for the gift of life, wisdom, strength, and above all, the grace that has enabled me to successfully complete my research.

My great appreciation goes to my supervisor, Dr. Kabbiri Ronald, for his invaluable guidance, and dedication throughout the supervisory process.

I extend my sincere gratitude to my beloved parents Ozuru Lawrence, Aimo Faith and my siblings, whose material and spiritual support throughout my education made it possible for me to complete this research.

I am also thankful to my beloved friends, especially Ebony Stephen, whose encouragement and constructive ideas greatly contributed to my academic success and the completion of this research.

Finally, I wish to thank the sunflower farmers in Alwa sub-county who participated in this study. The insights and information you shared have added significant value and relevance to this research report.

## TABLE OF CONTENT

DECLARATION.....	i
APPROVAL.....	ii
DEDICATION.....	iii
ABSTRACT.....	ix
CHAPTER ONE.....	1
1.0 INTRODUCTION.....	1
1.1.2 MAIN OBJECTIVE.....	3
1.1.3 SPECIFIC OBJECTIVES.....	3
1.1.4 RESEARH QUESTIONS.....	4
1.1.5 JUSTIFICATION.....	4
1.1.6 SIGNIFICANCE OF THE STUDY.....	4
1.1.7.1 Content scope.....	5
1.1.7.2 Geographical scope.....	5
1.1.7.3 Time scope.....	5
1.2.1 Limitation.....	5
CHAPTER TWO.....	6
2.0 Introduction.....	6
2.1 Literature review.....	6
2.2 Access to resources by gender.....	6
2.2.1 Ownership and access to land by gender.....	6
2.2.2 Access to improved technology by gender.....	7
2.2.3. Access to credit by gender.....	7
2.2.4. Access to extension by gender.....	7
2.3. Factors influencing access to resource by gender.....	7
2.4 Gaps in the Literature.....	8
2.5 Mitigation measures.....	8
CHAPTER THREE.....	9
3.0 METHODOLOGY.....	9
3.1 Conceptual framework.....	9
3.2 Research area and study population.....	10

3.3 Data collection tools and methods .....	10
3.4 Data sampling and sampling size selection.....	10
3.5 Data size, source, and collection.....	11
3.6 Data analysis, presentation, and interpretation .....	11
3.7 Objective one .....	11
3.6 Objective two .....	12
3.7 objective three.....	12
3.2.3 Ethical considerations .....	12
CHAPTER FOUR.....	13
4.0 Introduction.....	13
4.1 Demographic data .....	13
4.3 Objective one; characteristic of sunflower farmers .....	15
CHAPTER FIVE .....	20
5.0 CONCLUSIONS AND RECOMMENDATION.....	20
5.1 Conclusions.....	20
5.2 Recommendation .....	20
5.3 Areas of other studies.....	20
REFERENCES .....	22
APPENDICES .....	25
Appendix I: Data collection tool.....	25

## LIST OF TABLES

The table 1 Definition of variables used in objective one .....	11
The table 2 below shows demographic data of sunflower farmers in Alwa sub-county .....	13
The table 3 below shows chi-square test for the characteristic of sunflower farmers .....	15
The table 4 below illustrate multiple linear regression for factors affecting marketability of sunflower .....	16

## LIST OF FIGURES

<b>Figure 1 Showing conceptual framework .....</b>	<b>9</b>
--	----------



## **LIST OF ACRONYMS**

ASL	Above sea level
UBOS	Uganda bureau of statistics
ABS	Attitude below sea level
FAO	Food and Agricultural Organization
SPSS	Statistical package for the Social Sciences
SHFS	Smallholders farmer's support

## ABSTRACT

Sunflower is a key income source for smallholder farmers in Uganda and ranks among the four most important oilseeds globally (Auman et al., 2020). Despite rising production, marketability remains a significant challenge, as shown by low farm gate prices that hinder profitability. Farmers often face exploitation from intermediaries who gain substantial profits within the sunflower value chain (Larsson, 2018). This situation underscores the need to examine the factors influencing sunflower marketability in Alwa County, Kaberamaido District, and eastern Uganda. The primary objective of this study is to assess sunflower marketability, with specific objectives focused on understanding the various elements impacting this process. To characterize sunflower farmers, to identify factors that affects marketability of sunflower, to identify barriers involved in the marketing of sunflower and 100 farmers were randomly selected from study area and data was subjected to descriptive statistic and regression analysis using IMB SPSS (version 20). The descriptive study revealed that majority of respondents 62% were practicing farming and had no other off farm job, most of them were female 62% of the gender and also 64% of respondents were married couples. The descriptive statistic shows that 37% price fluctuation, 21% middle men and 20% poor infrastructure was the major barrier that affects the marketability of sunflower. The chi-square test results indicate a statistically significant positive relationship between education level ( $p = 0.003$ ), marital status ( $p = 0.000$ ), and land acquisition ( $p = 0.004$ ) with the marketability of sunflower. Additionally, the regression analysis showed that market information ( $p = 0.023$ ) and price ( $p = 0.046$ ) also have a statistically significant positive relationship with sunflower marketability. In contrast, while extension services ( $p = 0.043$ ) had a negative coefficient, it remains significant in its impact on marketability. Therefore, it is recommended that government efforts to enhance agricultural mechanization and improve productivity should be strengthened through public-private partnerships to more effectively reach smallholder farmers.

## CHAPTER ONE

### 1.0 INTRODUCTION

Sunflower (*Helianthus annuus L.*) is an important oilseed crop and ranks among the top four oilseeds globally. It is highly valued by farmers due to the strong demand for its processed products across various sectors (Healy *et al.*, 2017). The seeds for sunflower contain approximately 44% oil and 16% protein. As a result, sunflower competes in both the oil and vegetable markets, primarily led by palm oil (Pye, 2019). Global sunflower production reached 51.46 million metric tons, with the seed market valued at USD 30.9 billion in 2022. It is projected to grow at a compound annual growth rate (CAGR) of approximately 9.4% between 2023 and 2030. According to the "Sunflower Market Report (2023-2028)," the market is estimated to be worth USD 39.40 billion in 2022. Currently, Ukraine is the world's largest producer of sunflowers, with production exceeding 6 million metric tons (Jagtap *et al.*, 2022).

In Africa, South Africa is the leading producer of sunflower, with a production of 585,000 metric tons. In Uganda, sunflower production has risen significantly, increasing from 1,550 tons in 1972 to 282,000 tons in 2021, reflecting an average annual growth rate of 46.64%. For the past eight decades, oilseed crops, including groundnuts, soybeans, sesame (simsim), and sunflower, have been cultivated in northern and eastern Uganda for both subsistence and commercial purposes. Sunflower is one of Uganda's key oilseeds crops and serves as an important source of nutrition for a large portion of the population in both rural and urban areas. Currently, sunflower accounts for 86% of the local raw material supply in Uganda's oilseed industry, significantly surpassing other sources (Africog, 2009). Sunflower is vital to Uganda's economy, contributing 26 percent to the Gross Domestic Product. This crop is cultivated commercially not only in Teso but also in regions such as West Nile, Acholi, Lango, and Karamoja. Although sunflower is a relatively new crop for Ugandan farmers, its marketing system remains poorly developed due to inadequate organization and coordination among farmers, processors, and their respective organizations. This lack of structure limits access to bundled services, resulting in a trial-and-error approach to growing and marketing the crop. Unlike other food crops that can be consumed domestically or sold directly to consumers or traders for processing and export, sunflower has a more restricted customer base, primarily relying on oil mills as the main market. The growth of the sunflower sector has led to increased service provision for farmers, supported by the private sector, NGOs,

## REFERENCES

- Anandhan, T., Manivannan, N., Vindhiyavarman, P., & Jeyakumar, P. (2023). Single marker analysis in sunflower (*Helianthus annuus* L.). *Electronic Journal of Plant Breeding*, *1*(4).
- Antia-Obong, E. A. (2022). *Influence of Transaction costs on Market Participation by smallholder poultry farmers in Nigeria: A mixed methods Study*. Newcastle University.
- Auma, Z., Oryema, P., & Mwesigwa, D. (2020). *Impact of Financial Support to Sunflower Production in Lira District: A Review of Literature*.
- Gilson, R. J., Sabel, C. F., & Scott, R. E. (2021). Braiding: the interaction of formal and informal contracting in theory, practice, and doctrine. *Columbia Law Review*, 1377–1447.
- Greenleaf, S. S., & Kremen, C. (2022). Wild bees enhance honey bees' pollination of hybrid sunflower. *Proceedings of the National Academy of Sciences of the United States of America*, *103*(37). <https://doi.org/10.1073/pnas.0600929103>
- Hanafy, R. S., & Sadak, M. S. (2023). Foliar Spray of Stigmasterol Regulates Physiological Processes and Antioxidant Mechanisms to Improve Yield and Quality of Sunflower Under Drought Stress. *Journal of Soil Science and Plant Nutrition*, *23*(2), 2433–2450. <https://doi.org/10.1007/s42729-023-01197-4>
- Handayati, P. (2020). Developing Regional Market Based on Local Commodity:(Case Study on Regional Market in Pasuruan Regency). *KnE Social Sciences*, 491–509.
- Healy, G. K., Emerson, B. J., & Dawson, J. C. (2020). Tomato variety trials for productivity and quality in organic hoop house versus open field management. *Renewable Agriculture and Food Systems*, *32*(6), 562–572.
- Jagtap, S., Trollman, H., Trollman, F., Garcia-Garcia, G., Parra-López, C., Duong, L., Martindale, W., Munekata, P. E. S., Lorenzo, J. M., & Hdaifeh, A. (2022). The Russia-Ukraine conflict: Its implications for the global food supply chains. *Foods*, *11*(14), 2098.
- Jonnalagedda, S., & Saranga, H. (2021). Commonality decisions when designing for multiple

- markets. *European Journal of Operational Research*, 258(3), 902–911.
- Larsson, S. (2020). *The sunflower value chain: a case study in Babati, Tanzania*.
- Longley, C., Ferris, S., O'Connor, A., Maina, M., Rubyogo, J.-C., & Templer, N. (2021). *Uganda seed sector profile*.
- Pye, O. (2021). Commodifying sustainability: Development, nature and politics in the palm oil industry. *World Development*, 121, 218–228.
- Rakodi, C. (2014). A livelihoods approach—conceptual issues and definitions. In *Urban livelihoods* (pp. 26–45). Routledge.
- Sebyiga, B. (2020). Sunflower Production and its Potential for Improving Income of Smallholder Producers in the Central Agricultural Zone of Tanzania: A Case of Villages in Kongwa and Singida Rural Districts. *Local Administration Journal*, 13(3), 223–234.
- Seiler, G. J., Qi, L. L., & Marek, L. F. (2017). Utilization of sunflower crop wild relatives for cultivated sunflower improvement. In *Crop Science* (Vol. 57, Issue 3). <https://doi.org/10.2135/cropsci2016.10.0856>
- Anandhan, T., Manivannan, N., Vindhiyavarman, P., & Jeyakumar, P. (2010). Single marker analysis in sunflower (*Helianthus annuus* L.). *Electronic Journal of Plant Breeding*, 1(4).
- Antia-Obong, E. A. (2019). *Influence of Transaction costs on Market Participation by smallholder poultry farmers in Nigeria: A mixed methods Study*. Newcastle University.
- Auma, Z., Oryema, P., & Mwesigwa, D. (2020). *Impact of Financial Support to Sunflower Production in Lira District: A Review of Literature*.
- Gilson, R. J., Sabel, C. F., & Scott, R. E. (2010). Braiding: the interaction of formal and informal contracting in theory, practice, and doctrine. *Columbia Law Review*, 1377–1447.
- Greenleaf, S. S., & Kremen, C. (2006). Wild bees enhance honey bees' pollination of hybrid sunflower. *Proceedings of the National Academy of Sciences of the United States of America*, 103(37). <https://doi.org/10.1073/pnas.0600929103>
- Hanafy, R. S., & Sadak, M. S. (2023). Foliar Spray of Stigmasterol Regulates Physiological Processes and Antioxidant Mechanisms to Improve Yield and Quality of Sunflower Under

- Drought Stress. *Journal of Soil Science and Plant Nutrition*, 23(2), 2433–2450.  
<https://doi.org/10.1007/s42729-023-01197-4>
- Handayati, P. (2018). Developing Regional Market Based on Local Commodity:(Case Study on Regional Market in Pasuruan Regency). *KnE Social Sciences*, 491–509.
- Healy, G. K., Emerson, B. J., & Dawson, J. C. (2017). Tomato variety trials for productivity and quality in organic hoop house versus open field management. *Renewable Agriculture and Food Systems*, 32(6), 562–572.
- Jagtap, S., Trollman, H., Trollman, F., Garcia-Garcia, G., Parra-López, C., Duong, L., Martindale, W., Munekata, P. E. S., Lorenzo, J. M., & Hdaifeh, A. (2022). The Russia-Ukraine conflict: Its implications for the global food supply chains. *Foods*, 11(14), 2098.
- Jonnalagedda, S., & Saranga, H. (2017). Commonality decisions when designing for multiple markets. *European Journal of Operational Research*, 258(3), 902–911.
- Larsson, S. (2018). *The sunflower value chain: a case study in Babati, Tanzania*.
- Longley, C., Ferris, S., O'Connor, A., Maina, M., Rubyogo, J.-C., & Templer, N. (2021). *Uganda seed sector profile*.
- Pye, O. (2019). Commodifying sustainability: Development, nature and politics in the palm oil industry. *World Development*, 121, 218–228.
- Rakodi, C. (2014). A livelihoods approach—conceptual issues and definitions. In *Urban livelihoods* (pp. 26–45). Routledge.
- Sebyiga, B. (2020). Sunflower Production and its Potential for Improving Income of Smallholder Producers in the Central Agricultural Zone of Tanzania: A Case of Villages in Kongwa and Singida Rural Districts. *Local Administration Journal*, 13(3), 223–234.
- Seiler, G. J., Qi, L. L., & Marek, L. F. (2017). Utilization of sunflower crop wild relatives for cultivated sunflower improvement. In *Crop Science* (Vol. 57, Issue 3).  
<https://doi.org/10.2135/cropsci2016.10.0856>