



**BUSITEMA
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**PROFITABILITY ANALYSIS OF SUNFLOWER PRODUCTION AND PROCESSING
IN LIRA DISTRICT, NORTHERN UGANDA**

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**A RESEARCH DISSERTATION SUBMITTED TO THE DEPARTMENT OF AGRIBUSINESS
AND EXTENSION IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR
THE AWARD OF BACHELOR'S DEGREE IN AGRIBUSINESS
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MAY, 2023

Declaration

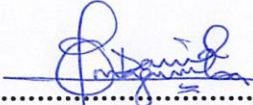
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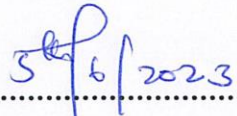
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Date.....06th June, 2023.....

Approval

This is to certify that this research dissertation titled, “*Profitability analysis of sunflower production and processing in Lira District, Northern Uganda*” has been compiled under my supervision and is now ready to for submission with my approval.

Sign.....

Date.....

RESEARCH SUPERVISOR
DR. DAVID MAGUMBA

Dedication

I dedicate this work to my dear parents Mr. Abor David and Mrs. Apili Sylvia and my beloved sisters for their love and prayers during my education. I love you so much.

Acknowledgement

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May God bless you all!

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List of acronyms

BEP	:	Break-even point
FAO	:	Food and Agricultural Organization
GPM	:	Gross profit margin
Hg/ha	:	Hectogram per hectare
Kg	:	Kilograms
L	:	Liter(s)
Ltr	:	Litre
NPV	:	Net Present Value
R/C	:	Revenue to Cost ratio
ROI	:	Return on Investment
SPSS	:	Statistical Package for Social Scientists
STD DEV	:	Standard Deviation
UBOS	:	Uganda Bureau of Standards
UGX	:	Ugandan Shillings
US\$:	United States Dollar
USD	:	United States Dollar

Abstract

This study aimed to examine the profitability of sunflower production and processing in Lira District. The research used a cross-sectional survey design and collected data from 80 sunflower farmers through open and close-ended questionnaires. The findings revealed that sunflower farmers in Lira district gain significant profits, but weaknesses still exist in production and processing. The regression results showed that factors affecting profitability have a strong positive significant influence on profits in Lira district. For sunflower production, the study revealed a GPM of 44.04%, B/C ratio of 1.42, and BEP of 227kg. For sunflower processing, the GPM was 55.55%, B/C ratio was 1.95, and BEP was 28.8 liters. Farm size, cost of input, level of education, age of farmer, sunflower output, farming experience, and selling price of oilseeds significantly determined net farm income for production, while farm size, cost of input, level of education, age of farmer, sunflower output, farming experience, number of labor involved, cost of processing, selling price for oil, selling price for cakes, other income sources, and transportation and marketing costs significantly determined net farm income for farmers who sold processed products. The study further revealed that the NPV for selling processed sunflower products is significantly higher than that of selling oilseeds. The study concluded that sunflower production and processing can be profitable in Lira district, and sunflower processing offers a more profitable option for smallholder farmers. To ensure positive results as regards to profitability, the study recommends encouraging and assisting farmers to process sunflower before sale, facilitating private entrepreneurs to set up processing plants closer to farmers in rural areas, increasing establishment of irrigation facilities for commercial producers with out-grower schemes, formulating good policies to help farmers access commercial and rural development bank loans, and development of easy to use and relatively affordable modern processing technologies and devices.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Sunflower, *Helianthus annuus L (in Latin)*, is an oleaginous plant belonging to the Asteraceae family. Sunflowers belong to the genus *Helianthus*, derived from two Greek words; ‘helios’ which means sun and ‘anthos’ which means flower (Marinda, 2022). The genus contains almost 70 different species ranging from knee-high ornamental flowers for gardens to hybrid oilseed types over 4.8m high planted for large-scale commercial seed oil production (Haynes & VanDerZanden, 2005). Oilseed type sunflowers are high in oil content (40% - 50%) and processed to sunflower oil and meal. Oilseeds are high in oil content and are typically processed into sunflower oil. The byproduct of sunflower oil processing is oil cake and meal. The sunflower's name comes from the fact that its flowers turn toward the sun during the day (ICS, 2023).

Worldwide, the sunflower, *Helianthus annuus L.*, is one of major crops of global importance native to the United States. Archeological evidence suggests that Native Americans began cultivating and improving the sunflower as early as 2300 B.C. (Rindels, 1996). Since then, the sunflower has been widely used for a range of benefits. For example, ‘native Americans in the U.S. have been using wild sunflower for food and medicine for at least 8,000 years where the seeds are usually roasted and ground into a fine meal for baking or used to thicken soups and stews (Rindels, 1996). Roasted sunflower hulls are steeped in boiling water to make a coffee-like beverage (Haynes & VanDerZanden, 2005). Dye and face paint was extracted from hulls, petals and pollen (Haynes & VanDerZanden, 2018). Oil, extracted from the ground seeds by boiling, provided many tribes with cooking oil and hair treatment (Haynes & VanDerZanden, 2018). Medicinal uses included everything from wart removal to snake bite treatment to sunstroke treatment’ (Rindels, 1996). Also, by adding sunflower to an existing crop rotation, pest problems such as corn borer or soybean cyst nematode can be reduced (Rindels, 1996).

Today, the Sunflower is an important agricultural cash crop grown for its edible oil and fruits both for human and livestock consumption in most of the sunflower growing countries like Ukraine, Germany, Russia, European Union and Argentina (Konyalı, 2017). In the world, 11% of crude vegetable oil production is supplied by sunflower (Konyalı, 2017). The total production of

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