
**FACULTY OF AGRICULTURE AND ANIMAL SCIENCES
DEPARTMENT OF ANIMAL PRODUCTION AND MANAGEMENT.**

**INVESTIGATING CAUSES OF LOW MILK PRODUCTIVITY AMONG DAIRY
FARMERS IN LIRA CITY.**

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BU/UP/2021/2371**

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**THIS FINAL YEAR PROJECT REPORT IS SUBMITTED TO THE DEPARTMENT OF
ANIMAL PRODUCTION AND MANAGEMENT IN PARTIAL FULFILLMENT OF
THE REQUIREMENT
FOR THE AWARD OF THE DEGREE OF BACHELOR OF ANIMAL PRODUCTION
AND MANAGEMENT OF BUSITEMA UNIVERSITY**

OCTOBER 2024

ABSTRACT

This study aimed to identify factors contributing to low milk production among smallholder dairy farmers in Lira City, northern Uganda, with a focus on management practices, feeding protocols, breed characteristics, and veterinary consultation. A cross-sectional survey was conducted among 78 randomly selected farmers from Lira City East and West divisions. Data were collected using structured questionnaires and analyzed to determine the relationship between farm management practices and milk productivity.

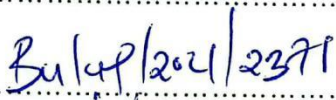
The findings revealed that the majority of participants (65.4%) were from Lira City East, with males constituting 62.8% of the sample. Most participants (50.0%) had only a primary level of education, and 82.1% reared Zebu cattle, a lower-yield breed. Communal grazing was the dominant management system, practiced by 79.5% of farmers. Additionally, 59.0% of farmers were dissatisfied with their animals' production potential, largely attributing this to poor-quality breeds (45.7%) and feed shortages (54.3%). Only 16.7% of farmers provided supplemental feed, citing high costs (41.0%) and limited knowledge (19.2%) as primary barriers. Veterinary consultations were widely practiced, with 100% of participants seeking professional advice, primarily on a quarterly basis (66.7%).

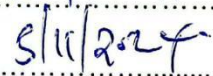
The study concludes that low milk productivity in Lira City is largely due to limited feeding practices, use of lower-yield breeds, and insufficient management practices. To improve productivity, it is recommended that dairy farmers receive enhanced training in pasture management, increased access to supplemental feeds, and support in adopting improved cattle breeds. Implementation of these measures could substantially improve milk output, supporting the livelihoods and food security of smallholder dairy farmers in Lira City.

DECLARATION

I, **Ayo Gerald Brown** declares that this report is my own original copy and has never been produced or submitted to any other institution for an academic award.

Sign.....

Registration Number.....

Date.....

APPROVAL

This dissertation was carried out by me under the close supervision of Dr. Leonard Omandang (my research supervisor). It has been submitted for examination with his approval.

Academic supervisor: Dr. Leonard Omandang

Signature.....

Date.....

ACKNOWLEDGEMENT

I acknowledged the support rendered by the following persons during the development of this study. Dr. Leonard Omadang – Academic supervisor who gave all the necessary guidance from the beginning to the end of the research study. Finally, many thanks go to all my friends who helped me in one way or the other during the proposal writing through to the final project report. May God reward you abundantly.

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ABBREVIATIONS OR ACRONYMS

% Percent

APM Animal Production and Management

e - Acceptable sampling error / level of precision at 95% confidence level

HoD Head of Department

HS Heat stress

n - Sample size

N - Population size

NDP National Development Plan

NGO'S Non-Governmental Organization

1.0 CHAPTER ONE

1.1 Background

Globally, the dairy industry is an integral part of agricultural production, contributing significantly to food security, income, and nutritional needs. Driven by rapid population growth, urbanization, and rising incomes, milk consumption worldwide has steadily increased, with developing nations accounting for much of this demand surge (Mickiewicz & Volkava, 2022). According to the Food and Agriculture Organization (FAO), global milk production reached approximately 887 million tonnes in 2021, reflecting a 2% annual increase over the past decade (FAO, 2021). Milk and dairy products are essential sources of protein, calcium, and other nutrients, making them crucial to improving nutritional security in many regions (Henchion et al., 2021).

Despite this growth in production, the dairy industry faces unique challenges across continents. In Asia and Latin America, for instance, investments in modern dairy farming technologies have led to substantial productivity increases (Hemme et al., 2018). However, in Sub-Saharan Africa (SSA), dairy production remains less industrialized. Over 90% of dairy production in SSA is dependent on traditional, small-scale methods, where farmers generally rely on native breeds with lower milk yields compared to commercial breeds used globally (Adesogan & Dahl, 2020). This reliance on traditional systems, while suitable for local conditions, has limited the region's productivity in meeting growing milk demand.

Regionally, across SSA, dairy farming is vital for household food security and income, especially in rural areas where alternative livelihood sources are limited. East Africa, for example, is home to one of the continent's highest dairy-consuming populations, with countries like Kenya, Ethiopia, and Tanzania producing over half of the region's milk output (Nzuma et al., 2018). However, productivity challenges are prevalent. Many smallholder farmers lack access to quality inputs such as improved breeds, veterinary services, and sufficient grazing lands, leading to reduced milk yields. Additionally, climate change has further strained resources, affecting feed availability and water resources, which are critical for sustaining dairy animals (Chagunda et al., 2016).

In Uganda, the dairy industry contributes significantly to the national economy and rural employment. According to the Uganda Bureau of Statistics (UBOS), dairy farming employs over 1.7 million people, representing a large portion of the agricultural workforce (UBOS, 2022). The sector has recorded steady growth in recent years, with milk production increasing to over 2.5

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