CONSTRAINTS TO MILK PRODUCTION IN INTENSIVE CATTLE MANAGEMENT SYSTEMS IN BUYOBO SUB COUNTY SIRONKO DISTRICT

BY

KIMANAYI ROGERS

BU/UG/2012/1783

Kimanayirogers@gmail.com

A RESEARCH REPORT SUBMITTED TO THE FACULTY OF AGRICULTURE AND ANIMAL SCIENCES IN PARTIAL FULFILLMENT OF REQUIREMENTS FOR AWARD OF THE DEGREE OF BACHELOR OF ANIMAL PRODUCTION AND MANAGEMENT OF BUSITEMA UNIVERSITY

JUNE, 2015

DECLARATION

I, Kimanayi Rogers, declare that this research proposal is as a result of my own efforts and has never been presented for any degree award elsewhere. The material in this report should never be reproduced without the author's permission.

Signed: .....

Date: 28th/9/2015

This work was done under the supervision of:

Mr. AMOSING JOSEPH

Signature: .....

Date: 28/09/2015

APPROVAL SHEET

This is to certify that this dissertation is written and organized by **Kimanayi Rogers** under my supervision. It has therefore met the minimum requirements for submission

Supervisor

Signature..... Date.....

DEDICATION

This piece of work is dedicated to my mother Aidah Masibo, my daughter mother Masibo Aidah Tracy, siblings and friends. My supervisor Mr. Amosing Joseph, I appreciate his efforts extended to me to make this piece of work a success.

ACKNOWLEDGEMENT

I am grateful to my supervisor Mr. AMOSING JOSEPH who has been guiding me throughout the process of execution of this research and reviewed the drafts of this report with insightful comments and suggestions that were incorporated as best as I could.

I would like to thank the Department of Animal Production and Management Busitema University for offering this research opportunity through Bachelors Degree in Animal Production and Management program. I am really confident that the study findings and recommendations are useful.

I greatly thank God Almighty for He has been the source of my strength and wisdom throughout the time of generating this research report.

TABLE OF CONTENT

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

A.I	Artificial Insemination
BCS	Body condition score
DDA	Dairy Development Authority
EADD	East African Dairy Development
FAO	Food and Agricultural Organization
GDP	Gross Domestic Product
HPI	Heifer Project International
IDA	International Dairy Federation
IFCN	International Farm Comparison Network
IFPRI	International Food Policy Research Institute
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
NAADS	National Agricultural Advisory Services
NAGRC	National Agricultural Genetic Research Centre
NARO	National Agricultural Research Organization
NERRDP	National economic recovery, Rehabilitation and Development programs
NLC	National Livestock Census
NUSAF	Northern Uganda Social Action Fund
PMA	Plan for Modernisation of Agriculture
UBOS	Uganda Bureau of Statistics
WAC	World Agro-forestry Centre

ABSTRACT

Buyobo has for long had a disparity between the supply and demand of milk. Even at present milk production continues to be less than the market demand. This study aimed at assessing the constraints to low milk production in smallholder intensive cattle management system in Buyobo Sub County. The study objectives included; establish the influence of Social constraints on milk production on cattle in Buyobo Sub County, establishing the influence of management practices on milk production in Buyobo Sub County and finding out the influence of Extension Services on milk production in Buyobo Sub County. The study sampled 102 respondents of which100 dairy farmers plus two (2) key informants who were interviewed on the major constraints of milk production in the area. Study finding indicated that the following management constraints greatly influenced milk production in cattle within Buyobo Sub County are in line to the following; absolute majority (81/102) of smallholder farmers solely used improved bulls for breeding whereas (5/102) farmers used Artificial Insemination. Majority (59%) of the farmers attribute their limitations to using A.I to being expensive and not readily available. Data from household survey indicated that 89% percent of farmers practiced zero grazing, with 73% of farmers admitting not having a garden of pastures for feeding their cattle with absolute majority relying on feeding their dairy cows on natural pastures. It was found out that ticks and Nuisance flies are the most common parasites that affect cows and as such influence milk production in Buyobo Sub County. In management of these parasites, farmers further face challenges such as, lack of money and lack of both acaricides and money, it was found out that the poor housing status of most cows in Buyobo to a greater extent also contribute to low milk yield only 06% of the respondents said has concrete floors and 65% said timbers off (wood). The study shows that majority of the dairy farmers (65%). Majority of dairy farmers of Buyobo being of low educational background (53%) attended primary it is recommended that they need to acquire knowledge and better understanding of livestock management aspects including but not limited to forage/fodder storage and supplementary feeding of dairy cattle using concentrates and other supplements. This will improve milk production so as to generate more food and improved living conditions for people

CHAPTER ONE

1.0 INTRODUCTION

This chapter focuses on; Background, General Objective, Specific objectives, Research questions that guided the study, Significance of the study, Justification, Problem statement, Scope and the conceptual frame work which shows the dependent and independent variables.

1.1 BACKGROUND

According to FAO 2015, in the last three decades, intensive world milk production has increased by more than 50 % from 482 million tonnes in 1982 to 754 million tonnes in 2012.India is the world's largest milk producer, with 16 percent of global production, followed by the United States of America, China, Pakistan, and Brazil. The countries with the highest milk deficits are China, Italy, the Russian Federation, Mexico, Algeria and Indonesia. Milk production in Africa is growing more slowly than in other developing regions, because of poverty and in some countries adverse climatic conditions. More than 80 percent of the milk produced in developing countries comes from small-scale intensive dairy producers.

In East Africa milk production in the 1980s and 1990s increased at an annual rate of 4.1% in Kenya and 2.6% in Uganda, with a average milk yields per cow at just 7–8 litres per day in intensive production systems with improved cattle, despite the potential of farmers' breeds to produce at least three times that (World Agro forestry Centre, 2009).

Uganda's economy is predominantly agrarian with agriculture accounting for 23.7% of the Gross Domestic Product (GDP), 81% of the employed labor force, and 31% of export earnings. Considering that over 85% of Uganda's population lives in rural areas, agriculture is an important sector of the economy, and its performance has direct implications for real GDP growth rate, per capita income, rural employment and incomes, and poverty reduction (Kansiime, 2010).Efforts to improve livestock feeding with great strides in identifying nutritious feed resources for cattle such as pasture grasses and legumes, leguminous shrubs and multi-purpose trees, crop residues and agro-industrial by-products, milk production on dairy farms has remained low, in the range of 2–5 L per cow per day in some parts of the country (Mubiru et al, 2011).

REFERENCES

Aminah and C. P. Chen, (1991) FUTURE PROSPECTS FOR FODDER AND PASTURE PRODUCTION, Feeding dairy cows in the tropics.

Anthony Mugisha, Vincent Kayiizi, David Owiny, and John Mburu, (2014) Breeding Services and the Factors Influencing Their Use on Smallholder Dairy Farms in Central Uganda, College of Veterinary Medicine, Animal Resources and Biosecurity, Makerere University, P.O. Box 7062, Kampala, Uganda.

Arinaitwe.G & Bua.B (2012), determinants of milk production in Nyabubare sub county, Bushenyi district,Western Uganda.

Bahiigwa.G, (2001) Bunabuso Village, Uganda, LADDER Village Report No.3

Bandara, et.al (2011) Tropical Agricultural Research Vol. 22 (3): 314 - 323 (2011) Production and Economic Characteristics of Intensive and SemiIntensive Dairy Cattle Management Systems in Vegetable BasedFarming System in Welimada, Sri Lanka.

Batra.T, Lee.A(1986) Relationships of Reproduction Traits, Body weight And milk yield in dairy cattle.

David Balikowa, (2011) Dairy Development in Uganda, a review of Uganda's Dairy Industry

T. R. Batra, A. J. Lee, and A. J. Mcallister (1985) Relationships of Reproduction Traits, Body Weight and Milk yield in dairy cattle, Can. J. Anim. Sci. 66:53-65.

Ensminger.M(1991)Animal Science, chapter 25, Page 46, Ninth Edition, Inter State Publishers, Inc., Danville, Illionois.

Frank B. Morrison, Elsie B. Morrison, and Spencer H. Morrison, (1959) Feeds and Feeding , Twenty Second Edition, Chapter 6, Page 189, The Secretion of Milk, Clinton , Lowa The Morrison Publishing Company.

Habert S.K Nsubuga (1992) Pasture in the feeding of Cattle in Uganda, with Particular reference to zero grazing, Normadic Peoples 31:1992 Nsubuga,pp:85-90.

J.Ekou, 2014, Dairy Production and marketing in Uganda: current status, constraints and way forward. African journal of Agricultural Research 9(10), 883.

John.M (1911) Dairy Farming, Chapter XVII, Page23, and 24, Third edition, John.M, Former Professor of Dairying and Animal Husbandry in California State College of Agriculture.

John.P (1912) Dairying, A book for All those Who are engaged in production and management of milk, Chapter 9, Breeds: Jersey and Gurneys, Page 143, First Edition, Cassel and Company, Ltd., New York, London, Toronto, and Mourborne.

Kaguongo, S.J.S.a.W.N., 2003 The Ugandan Dairy Sub-Sector. International Livestock Research Institute.

Kashtanova.E, (2010), Global trends in milk production and trade: the impact on the European milk market, Biotechnology in Animal Husbandry 26 (1-2), p 129-134, 2010 ISSN 1450-9156.

Lusato R. Kurwijila, and Anthony Bennett, (2011) Dairy development institutions in East Africa.

M.J. Otte and P. Chilonda, (2002), Cattle population in 1994 in sub-Saharan Africa, estimated using a geographical information system, Cattle and small ruminant systems in sub-Saharan Africa.

Majiwa. E et al. (2012) Smallholder Dairying in Kenya: The Assessment of the Technical Efficiency Using the Stochastic Production Frontier Model, JAGST Vol. 14(2) 2012, Smallholder dairying in Kenya.

Mubiru and Baltenweck (2007), Dairy Farming in Uganda, Production Efficiency and Soil Nutrients under Different Farming Systems, Research Theme on Improving Market Opportunities

Muriuki Kiboi Muriithi, Guyo S. Huka, and Ibuathu Charles Njati (2014) Factors Influencing Growth of Dairy Farming Business in Amentia South District of Mere County, Kenya IOSR Journal of Business and Management (IOSR-JBM) e-ISSN: 2278-487X, p-ISSN: 2319-7668. Volume 16, Issue 4. Ver. III (Apr. 2014), PP 21-31.

Mwesigye, H.R. 2010. THE NATIONAL LIVESTOCK CENSUS REPORT 2008, MINISTRY OF AGRICULTURE, A.I.A.F.A.U.B.O.S., ed. (Entebbe,, Ministry of Agriculture, Animal Industry & Fisheries,).

N T Ngongoni, C Mapiye, M Mwale, and B Mupeta, (2006) Factors affecting milk production in the smallholder dairy sector of Zimbabwe.

R.A. Leng, (1991), Feeding Strategies for improving milk production of dairy animals managed by small-farmers in the tropics.

Rashid, D.W.N., 2008, Dairy Investment Opportunities in Uganda Report.

Sarwiyono et al. (1993) Housing and Management of Dairy Cattle in Small Scale Farms of Java, in Indonesia Department of Animal Production , Faculty of Animal Husbandry, Brawijaya University, Malang, East Java, Indonesia , AJAS 1993 Vol. (No. 3) 389-394.

Sharon Ngonde Manjekwa Ndandula(2011) Pathways to Technology Adoption: Understanding Small holders Dairy Farmers in Southern Zambia.

Staal & Kaguongo (2003) The Ugandan Dairy Sub-Sector Targeting Development Opportunities

Swaibu Mbowa, I.S.a.M.M.L., 2012, Dairy Sec tor Reforms and Transformation in Uganda since the 1990s. Economic Policy Research Centre (EPRC) Research Report No. 4.

Sylvia (2013) The Best Tropical Dairy Cows, Practical considerations in feeding dairy cows.

The History and Culture of Buyobo, (2011) including the impact of the Women's Microfinance Initiative Loan Program.

Waibu Mbowa, Isaac Shinyekwa and Musa Mayanja Lwanga (2012), Dairy Sector Reforms and Transformation in Uganda since the 1990s, Economic Policy Research Centre (EPRC) Research Report No. 4.

Walter. L & Hurley, (2009), milk Composition & Synthesis.

Webb.H, Johnson.H (1965) Fundamentals of Dairy Chemistry, Chapter One, Page 2, First Edition, The Avi Publishing, Inc., Westport, Connecticut.

Workneh Abebe and Ulfina Galmessa, (2011), Gender role in peri urban dairy production system of Ambo town, Ethiopia Journal of Agricultural Extension and Rural Development Vol. 3(13).

Wozemba.D and Nsanja.R (2008), Dairy Investment opportunities in Uganda-Report, Dairy Sector Analysis.

Zimbe.J (2012) Socio economic impact of dairy cattle zero grazing production system on the livelihoods of the rural poor in Uganda.