

# THE CONTRIBUTION OF SMALL SCALE DAIRY FARMING TO HOUSEHOLD WELFARE IN BUKASAKYA SUB COUNTY, MBALE DISTRICT

BY

KATABI ADAM

BU/UG/2010/174



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

AUGUST, 2013.

### **DECLARATION**

I KATABI	ADAM	declare	that	this	dissertation	is	original	and	has	not	been	submitted	to
another unive	ersity or a	any othe	r inst	itutic	on of learning	g fo	r the awa	ard o	f any	deg	ree		

Signature	Date 0409/2013.
APPROVAL	
This dissertation has been submitted for examination values following supervisor:  DR. OKWANY PATRICK (BVM)  Department of animal production and management, Busite	
Faculty of agriculture and animal science	
Busitema University	
Signature	Date
	04th 09/2013

©Katabi Adam 2013-Busitema University, all rights reserved.

CLASS NO. ACCESS NO. A

# DEDICATION

To my parents, Mrs. & Mr. Mbogo Mubarak, brothers, sisters also my friends and my classmates. I owe them my greatest gratitude.

#### ACKNOWLEDGEMENT

I would like to extend my profound gratitude to my supervisor Dr. Okwany Patrick for the generous help he has given me in various aspects and guidance offered in supervising this work.

I also thank Busitema University for the financial support and the staff for their guidance throughout the research

Sincere thanks go to my parents Mr Mbogo Mubarak and Mrs Sumaya Mubarak and also my big Sister Mwamin Mubarak for the financial support offered to me during the entire course of my studies.

My sincere gratitude goes to Bukasakya sub county staff for the desirable information and assistance given to me

My classmates and my friends, Kiwanuka Gerald, Jodrio Geoffrey, Koluo John Micheal, Logose Diana Flavia. Otusasire Christine and many more for the assistance rendered to me during my project.

Lastly to my family and relatives who supported me in many ways during my education.

Thank you very much.

### TABLE OF CONTENTS

DECLARATION	*
DEDICATION	,iii
ACKNOWLEDGEMENT	iii
LIST OF TABLES	vi
LIST OF FIGURES	vii
LIST OF ACRONYMS AND SYMBOLS	viii
ABSTRACT	ix
CHAPTER ONE: INTRODUCTION	
1.0. Background	1
1.1. Statement of problem	2
1.2. General objective	2
1.3. Specific objective	3
1.4. Research questions	3
1.5. Significance of study	3
1.6. Justification	3
1.7. Scope	4
CHAPTER TWO: LITERATURE REVIEW	5
2.0. Small scale dairy farming	5
2.1. Dairy management/production systems and milk estimated	6
2.2. Constraints facing the small scale dairy farming	7
2.3. Economic contribution of small scale dairy farming to household welfare	8
2.4. Rural development	10
CHAPTER THREE: MATERIALS AND METHODS	12
3.1. Area of study	12

3.2. Research approach
3.3. Sampling design and Sampling Procedure
3.4. Data collection
3.5. Statistical analysis
CHAPTER FOUR: RESULTS
4.0. Household characteristics of the respondents
4.1. Breed of cattle kept
4.2. Management system practiced
4.3. Economic benefit or gain got from the dairy Cattle
4.4. Purpose of keeping dairy cattle
4.5. Milk production and income generated
4.6. Social contribution of small scale dairy farming to household welfare
CHAPTER FIVE: DISCUSSION21
CHAPTER SIX: CONCLUSIONS AND RECOMMENDATIONS24
6.0. CONCLUSION
6.1. RECOMMENDATION
REFERENCES25
APPENDIX
QUESTIONNAIRE:30

## LIST OF TABLES

Table 1: Showing the age, sex and marital status of the respondents	12
Table 2: Showing the educational level and occupation of the respondents.	15
Table 3: Showing the land acreage and the number of animals owned by the respondents	16
Table 4 Highest level of education attained and amount of milk obtained per day	16
Table 5: Showing the breeds of cattle kept	17
Table 6: Management system practiced.	17
Table 7: Economic benefit or gain got from the dairy cattle	18
Table 8: Purpose of keeping the dairy cattle	18
Table 9: Litres of milk per day	19
Table 10: Income generated from sale of milk/month	19
Table 11: Social contribution of small scale dairy farming to household welfare	20

# LIST OF FIGURES

Figure 1 Map of Uganda showing Mbale districts
Fgure 2 Map of Mbale showing the Counties29

### LIST OF ACRONYMS AND SYMBOLS

MAAIF Ministry of Agriculture Animal Industry and Fisheries

Dr. Doctor

GDP Growth Domestic Product

SSDF Small Scale Dairy Farmer

FAO Food and Agricultural Organization of the United States

SSA Sub Saharan Africa

DDA Dairy Development Authority

CIA Central Intelligence Agency

NAADs National Agricultural Advisory Services

NUSAF Northern Uganda Social Action Fund

NGOs Non-Government Organisation

MDG Millennium Development Goal

ILRI International Livestock Research Institute

% Percent

Km Kilometer

L.C local council

NDP National Development Plan

E East

N North

et.al. and others

### ABSTRACT

The study was conducted in Bukasakya Sub County, Mbale District to study/analyze the contribution of small scale dairy farming to household welfare. The main focus was on identification of the production level of milk from the dairy cows, amount of income earned by the dairy farmers, items on which income from the dairy enterprise is spent. The Data were collected through face to face interviews and personal visits using questionnaires administered on 65 SSDF who were purposively selected. Information was collected on the contribution of the dairy enterprise to the family income, level of education of the respondents, employment status of respondents and the socio economic contribution of small scale dairy farming to household welfare. Analysis of data was carried out using frequency counts and percentages and presented using tables. About 64.6 percent of the respondents were between the age ranges of 30-50 years, 67.7 percent were male, 80 percent were married, 64.6 percent had attained education from secondary and above, and 73.9 percent had more than three dairy cattle in their herd. Most of the respondents produced between 5-10litres of milk per day with majority earned less than 200,000 Ushs per month from milk sale. Income from the dairy enterprise was used to meet costs of various items including; buying food, medical, school fees, house construction and others. It can therefore be concluded from this study that small-scale dairy farming has a potential of improying the welfare of households. Therefore the researcher recommends that there is need to train the SSDF on the management of dairy cattle/farm as a business enterprises, formation of co-operative societies through which they could establish milk collecting centers which could assist them to earn more income and also women should be empowered to start up small scale dairyenterprises.

#### CHAPTER ONE:INTRODUCTION

### 1.0. Background

Livestock production systems are important component in local economies at both the national and farm household level where cattle constitute the main livestock species kept by farmers (Mlambol, et al, 1998). In Uganda, livestock production is an integral part of agricultural production system (Ministry of Agriculture Animal Industry and Fisheries (MAAIF), 2004).

The agricultural sector grew by 22.5 percent that is an average of 5.2 percent per annum between 1997/98 and 2001/02 (National Bureau of Statistics (UNBS): Dairy Development Authority (DDA, 2002). It contributes over 60 percent of total revenue and employs more than 80 percent of the total labor force, providing half of total income for the poorest three-quarters of the population, (Goitom, 2009). The livestock sub-sector contributes 17 percent to 19 percent of the agricultural GDP and 7 to 9 percent of the National GDP with dairy industry estimated to contribute 40 to 50 percent (kasirye, 2003).

According to the Dairy Development Authority, the cattle population has increased steadily from 5.50 million herds in 1996 to about 7.5million herds in 2012 (Wozemba and Nsanja., 2008) with mixed farming smallholders and pastoralists together owning over 90 percent of the national cattle herd (FAO., 2004) and 60 percent of the households keep mostly (95 percent) indigenous cattle while the exotic and crosses accounting for the balance (NADDS: King., 2002). The increase in cattle population has been attributed to general improved animal health as result of the nationwide disease control, improved breeding programmes and better management practices.

Milk and milk products in Uganda are mostly from eattle and about 34 per cent of the present eattle population are dairy eattle. Because of the high productivity associated with intensive dairy farming methods such as zero grazing of improved breeds, most farmers have adopted modern farming techniques at various levels of production, (Wozemba and Nsanja 2008).

Within the livestock industry, dairy development continues to receive the greatest attention in the development of the animal industry in Uganda. Consequently, total national milk production has grown from 365 million litres in 1991 to over 900 million by end of 2001 and 1,400million in

#### REFERENCES

A Study on Dairy Cattle Management Aspects in Smallholder Production Systems in Tanga Region. Tanzania. The Live Stock Production and the Environment, Proceedings of the 24<sup>th</sup> Scientific Conference LITI-TENGERU, Arusha. Tanzania. TSAP Conference series, vol. 24 Aboud, A. O., Biwi, K. O. and Juma, Kh. A. (1995), Abstract: Some aspects of Milk production and reproductive performance of cows under smallholder systems in Pemba. In: Proceedings of the 22nd Scientific Conference of the Tanzania Society of Animal Production (TSAP) 22:pp22.

Agyemang, K., Dwinger, R.H., Little, D.A. and Rowlands, G.J. (1997). Village N'Dama cattle production in West Africa: Six years of research in The Gambia. International Livestock Research Institute, Nairobi, Kenya, and International Trypanotolerance Centre, Banjul, the Gambia. 131pp.

Aras, F. and Izmili, R. (1996), Economic Analysis of Dairy farms in Izmir province in Turkish. Journal of animal Science.51 (1) pp. 18-23.

Biwi, K. M. (1993). Development of smallholder dairying in Zanzibar. In: Future of livestock industries in East and Southern Africa. In: Proceedings of a Workshop held at Kadoma Ranch

Carlton. A., H. Manndorff, Obara. A., Walter.R., (2010). Microfinance in Uganda, UBOS CIA world fact book (2012).

Dairy Development Authority (2002), Annual Performance Report 2001/2002.

Dairy Production in Uganda: Production Efficiency and Soil Management Strategies under Different Farming Systems. ILRI Research Report 1.International Livestock Research Institute, Nairobi, Kenya.

David .W., Rashid, N., (2008), Dairy Investment Opportunities in Uganda, FAO.

De Leeuw, P.N., Omore, A., Staal, S. and Thorpe. W. (1999). Dairy production systems in the tropics. In: Smallholder Dairying in the Tropics. Falvey, L. and Chantalakhana, C. (eds). ILRI (International Livestock Research Institute), Nairobi, Kenya.

De Wit, J. N (1990); Interactions of milk components with other ingredients in food systems. In: of the XXIII international Dairy congress. October 8-12, 1990, Montreal Canada Dairying in changing World. Vol. (1437-1447).

Demircan, T. Binici, H. Koknarwoglu, A.R and Aktas, E (2006). Economic Analysis of different Dairy Farm sizes in Burdur province in Turkey. *Journal of Animal Science*. 51 (1) pp 8-17.

**Devendra C.** (2001). Productivity enhancement and animal production systems in Asia. /Proceedings of the Asian Agriculture Congress held at Manila/, Philippines (In press).

Ferguson, W. 1988. Factors influencing the production potential of trypanotolerant livestock. Proceedings of a meeting held in Nairobi from 23rd to 27th November 1987.ILCA (International Livestock Centre for Africa) and ILRAD (International Laboratory for Research on Animal Diseases). 187-209 pp

Food and Agriculture Organization of the United Nations (FAO).(2004).FAOSTAT data Food and Agriculture Organization of the United Nations.

Goitom .A. (2009). Commercialization of Smallholder Farming: Determinants and Welfare Outcomes. A Cross-sectional study in Enderta District, Tigrai, Ethiopia, University of Agder

Hanyani – Mlambo, B.T. Sibanda, S and Ostergaard. (1998): Socio- economic aspects of small holder dairying in Zimbabwe. Livestock Research for Rural Development University of Zimbabwe. Institute of Agricultural Sciences. Pp34-45

Hossain et. Al (2005), Dairy Farming Practice in a Selective Area of Bangladesh, Pakistan Journal of Nutrition 4 (4): 215-221.

Hotel, Zimbabwe, 20-23 July (1992). (Edited by Kategile, J. A. and Mubi, S.). ILCA, AdisAbaba, Ethiopia, Pp 173-176

Irol. (2005). Livestock Transportation and Marketing in Sokoto state, Nigeria proceedings of the 39th Annual Conference of Agricultural society of Nigeria held at University of Benin. pp. 96-103.

K2-Consult and Land 'O' Lakes. (2000). Report on: Dairy Sector Supply, Demand and Competitiveness Study.

Kasirye, F. N. M., (2003), the Small Scale Dairy Sector - Uganda, FAO

King, Alan. (2002). Joint donor agencies study on the performance of and growth prospects for strategic exports in Uganda: Annex to case study on livestock and livestock products.

MAAIF/ ILRI. (1996). the Uganda Dairy Sub-Sector. A Rapid Appraisal. By International Livestock Research Institute (ILRI) Nairobi, Kenya, Ministry of Agriculture, Animal

Industry and Fisheries, Entebbe and National Agricultural Research Organization, Entebbe and Makerere University, Kampala.

Mdoe, N.S. Y and Kurwijila L.R. B, (1998). Economic reforms in Tanzania: Impacts on dairy production, marketing and processing approaches to increased livestock production in the 21st century. Proceedings of the 25th TSAP conference held in Holland pp 75-82.

Ministry of Agriculture, Animal Industry and Fisheries (2001)

Mlambol, B.T. Ozen, N and Olug H.H., (1998). Problems of the dairy cattle production in Burdur and some suggestions to solve them in Turkish., Antalya publisher Tanzania pp 309-321.

Mollel, E.L Lekule, F.P., Kurwijila, R.L. Turuka, F.M and Petersen, P.H.(1999) Socio-economic study on the role of gender in small scale crop-livestock o farming in morogoro. Proceedings of the 26th Scientific Conference of LITI –TENGERU hled at Arush, Tanzaniapp 27-34.

Mubiru S L, Tenywa J S, Halberg N, Romney D, Nanyeenya W, Baltenweck I and Staal S (2007): Categorisation of dairy production systems: A strategy for targeting meaningful development of the systems in Uganda. Livestock Research for Rural Development Vol 19,

Mulangila, R. C.T. (1997). A study on Dairy Cattle Productivity in Tanga Region. MSc. Dissertation Sokoine University of Agriculture. Pp 13.

Mulangila, R.C Mtenga, L.A. Kifaro, G.C Minja, F.N.J. Schooman, I and Rutamu (1997). Dairy cattle Management Aspects in small holder production systems. *Proceedings of the 24th Scientific conference of LITI-TENGERU*, held at Arusha, Tanzania. pp. 24-35.

Mwankemwa A.S.A. (2004). Performance of saving and credit co-operative societies and their impact on rural livelihoods: A case study of Morogoro rural and Myomero districts, Tanzania. Msc. Dissertation, Sokoine University of Agriculture, Morogoro, Tanzania, 132pp. NADDS (Personal communication with headquarter staff on August 2006)

Nyange, D.A and Mdoe, N.S.Y (1995). Dairy industry in Tanzania and the prospect for small-scale milk producers: Strategies for market orientation of small-scale milk producers and their organizations; proceeding of workshop held at Morogoro Hotel, Morogoro, Tanzania (pp 39-44 and 45).

Okidi, J. A., Ssewanyana S. Bategeka.L. and Muhumuza.F. (2004). Operationalising Pro-Poor Growth: A Country Case Study on Uganda: AFD, BMZ, DFID, and the World Bank.

S. Wayne martin, Allan .H. Meek (1987), veterinary epidemiology in principle and methods

Sarwatt, S.V and Njau, F.B. C (1990), Feeding systems for small holder dairy farmers in Morogoro sub – urban. The role and prospects of small holder livestock production in Tanzania. Proceedings of the 17th annual conference of TSAP held at Morogoro in Tanzania.pp56-61.

Sarwatt, S.V. and Njau, F.B.C (1990). Feeding systems for smallholder dairy farmers in Morogoro urban: The role and prospects of smallholder livestock production in Tanzania; TSAP conference series Vol. 17 (pp 98).

Somda, J., Kamuanga, M., Münstermann, S., Bittaye, A., (2003). Socio-economic characterization of smallholder dairy systems in The Gambia: Milk production, marketing and consumption. Socio-economic research Working Paper 1. ITC (International Trypanotolerance Centre), Banjul, the Gambia, 61 pp

Staal.J. &W.N.Kaguongo., (2003), the Uganda sub-sector. International Livestock Research Institute (ILRI)

Uganda bureau of statistics, (2010). Uganda national household survey report 2009/2010.plot 9 Colville Street

Uganda Bureau of Statistics, Statistical Abstract, (June 2002).

Urassa, J.K. and Raphael, E. (1999) Contribution of small scale dairy farming to community welfare in Morogoro municipality of Tanzania.

Vaarst.V. (2007).Participatory Common Learning in Groups of Dairy Farmers in Uganda (FFS approach) and Danish Stable Schools