





SURVIVABILITY OF BOER GOAT CROSSES UNDER THE LOCAL ENVIRONMENT: A CASE STUDY OF USUK SUB COUNTY

BY

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DSECLARATION

I Ekunyuk Cyrus, declare that this research report has not been submitted to another university or any other higher institution of learning for the award of any certificate, diploma or degree.

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CLASS NO.1

DEDICATION

This report is a special dedication in memory of my biological father, Ogara George William (RIP) for his great contribution he made towards my education providing me with basic needs and above all the basic parental care he offered to me while he was still alive.

It is also a special dedication to my family members, my mother Amongin Joyce Mary, my father Ekunyuk Vincent, my wife Kongai Lilian, brothers Otim John Robert, Oseuk Simon Peter Abukai Job, Abukai James, Ongima Emmanuel Ariko, Eyamu David, my sisters Irosiat Betty, Imalingat Veronica, Adeke Esther, my friends especially Opio John, Kayondo Deus, Akol Esther, Mazanga Ronald, Amito Jane Ruth, Opio David Patrick, my uncle Akol Andrew and my fellow course mates in appreciation of their moral, social and financial support given to me in the course of my research preparation and data collection.

It is also a dedication to all those who will read and use the data contained in this report for future reference.

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LIST OF ABBREVIATIONS

NAADS National Agricultural Advisory Services

NGOs Non Governmental Organizations

Dr. Doctor

AASP Agricultural Advisory Service Provider

GDP Gross Domestic Product

MAAIF Ministry of Agriculture, Animal Industry and Fisheries

TDN Total Digestible Nutrients

DCP Digestible Crude Proteins

LWF Lutheran World Federation

OVC Orphans and Vulnerable Children

NUSAF Northern Uganda Social Action Fund

SPSS Statistical Package for Social Sciences

FY Financial Year

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ABSTRACT

This research was carried in Usuk Sub County on a sample of 125 respondents rearing Boer goat crosses in five parishes sampled from 7 arises in the sub county. The general objective of this research was to assess the factors influencing the survival of Boer goat crosses under a specific management system. The findings were that farmers reared their goats under semi intensive management system with tethering goats on natural pastures more dominant than herding. They only carried out feeding their goats on natural pasture with small supplementation with mainly agricultural by products. Boer goats were majorly affected by diseases, internal parasites and external parasites but the farmers were able to address such constraints in various ways as shown in tables 17, 18 and 19.

Nutritional constraints to Boer goat production among the farmers of Usuk Sub County included inadequate feed supply, low feeding value of the available feed resources and reduced efficiency of utilization of the available feed resources. Seasonal variations in quality and quantity of feed were attributed to seasonal variations in rainfall and farmers were not practicing pasture improvement.

It is important to have a suitable fodder conservation method for smallholder farmers to avoid the seasonal variations in quality and quantity of pastures during the dry season

Strengthening the veterinary service delivery systems to cover most rural communities so as to reduce or eradicate diseases challenges and properly control parasites.

The baseline information obtained in this study has indicated that rural goat production in general is still at subsistence level indicating that there is a need to improve by continuing to provide the rural farmers with improved goats in order to raise the income of the rural people and increase food security.

CHAPTER ONE

1.0 Introduction

There is an estimated population of about 7.6 million goats in Uganda and this is farmed by both the small scale farmers and the pastoralists and between 50% and 80% are kept by the rural households (Okello and Obwolo, 1984). Cattle production alone contributes about 25-30% to the total agricultural output per annum; livestock production in Uganda also contributes to 5.25% to the total GDP and 17% to agricultural GDP (MAAIF, 2001). This figure can be further increased by integrating improved Boer goats. The potential for export of goats and goat products to the Middle East countries exists in Uganda; this will earn farmers attractive prizes and hence improve on their household incomes. The indigenous breeds of goats kept in Uganda are; small East African goats, Mubende goats and the Kigezi goats. Imported breeds include; Boer goats from South Africa, Anglo Nubians, Toggenberg and Saanen. After realizing the importance of rearing improved goats, the government of Uganda has initiated a strategy study for the development of small ruminants in the country in the next 20 years (Okello, 2004). In Uganda, goats are reared on natural pastures and grazing land which is estimated to comprise 16 million hectares and of which 1/2 of that are rangelands while the improved pastures cover only 1.8 million hectares. Although there are abundant feed resources base, there deficiencies in total digestible nutrients (TDN), digestible crude proteins (DCP) and insufficient quantity of forage and browse for the goats most especially in the dry season in some parts of the country due to overstocking of livestock and limited grazing land since much of it is used for crop production and little is left for pasture growth.

1.1 Background

Goats exist in natural environments such as rangelands and are a means of life sustenance to resource-poor households, especially in areas where cropping is not feasible. Commercial goat production is gaining prominence in rangelands. In North East Uganda, goats have replaced cattle as capital investment and source of income. Small ruminants are ideally suitable to small holder production systems and increasingly important in gender development issues because of their small size, high reproductive capacity and rapid growth rates. They provide a source of protein (milk and meat) and cash that is used to buy grain, and household utensils among other household necessities particularly in rural households. But due to increased deaths of valuable exotic breeds for example Boer goats, and few survival cases especially in Usuk, there was need to investigate how the survivors adopted to the new environment so that conditions especially management practices can

REFERENCES

- Acocks, J.P.H., (1988). Veld Types of South Africa. Memoirs Botanical Survey South Africa.
 No. 58. Government Printer, Pretoria.
- 2. Aucamp, A.J., (1979). The production potential of the Valley Bushveld as pasture for Boer goats and Angora goats. D.Sc. (Agric.) dissertation, University of Pretoria, Pretoria.
- Campbell, Q.P. (1984). The development of a meat-producing goat in South Africa. Proceedings of the 2nd Congress on Sheep and Beef Cattle Breeding, Republic of South Africa. Author.
- 4. Casey N.H. and van Niekerk W.A. (1988). The Boer goat. Origin, performance testing, reproduction and milk production. Small Ruminant Research. 1(3): 291-302.
- CMS/GAF Consult, (1999). Strategic study for the development of small Ruminants and Rabbits in Uganda. Field results and consultants calculations.
- 6. Colleen P., Tatiana S., and Peter S. (2002). Goats in the woods. Cornell University, Department of Natural Resources, Ithaca. New York.
- Epstein H. (1971). The origin of the domestic animals of Africa Volume I. Africana Publishing Corporation. New York. London. Munich. pp. 261-263.
- 8. Erasmus, J.A., Fourie, A.J., Venter, J.J., (1985). Influence of age on reproductive performance of the Improved Boer goat doe. South Africa Journal of Animal Science. 15, pp 5-7.
- Gudrun F Ingratubun., Emyr Owen., Nicolaus F Massawe., Louis A Mtenga., and E G Mtengeti., (2003). Effect of upgrading small East African goats on feed resource utilization in the Uluguru Mountains in Tanzania; a farmers' perspective. University of Reading, UK and Sokoine University of Agriculture, Tanzania.
- 10. Karue, J.H., (1969). The role of livestock; beef, pigs, sheep and goat production. Annual conference of 1969. Entebbe Uganda Department of Veterinary Services and Animal Industry.
- 11. Malan S.W. (2000). The improved Boer goat. Small Ruminant Research. 36(2): 165-170.
- 12. Mamoon R. (2008). Goat health management. Manitoba Agriculture, Food and Rural Initiative.
- Mason, I.L. and Maule, J.P. (1960). The indigenous livestock of Eastern and Southern Africa.
 Farnham Royals, Bucks, UK. Commonwealth Agricultural Bureax. Pp 14-15.
- Okello, K.L and Obwolo, M.J., (1984). Uganda Review of the potentialities of goat production.
 World Animal Review 53:27-32.
- 15. Okello, K.L., (1994). The response of Mubende goats to selected food supplements. Mcs. Thesis, Makerere University, Kampala-Uganda.

- 16. Onwuka, C.F.I. and Akinsoyinu, A.O., (1989). Protein and Energy requirements for maintenance and weight gain for West African Dwarf goats fed on cassava leaves with peels as supplements. Small Ruminant Research 23:291-298.
- 17. Peacock, C. (1996). Improving Goat Production in the Tropics. A manual for Development workers. Oxfam, UK and Ireland.
- 18. Pinkerton, B., and F. Pinkerton. (1996). Managing Forages for Meat Goats. Meat Goat Production and Marketing Handbook, Rural Economic Development Center, Raleigh, North Carolina and Mid Carolina Council of Governments, Fayetteville, NC.
- 19 Watson, J., (2001). How to determine the sample size. University of Park PA: Pem State Cooperative Extension.