



**BUSITEMA
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Pursuing Excellence

**FACTORS CONTRIBUTING TO THE TRANSMISSION OF FOOT AND MOUTH
DISEASE IN NAKALOKI SUB COUNTY, MBALE DISTRICT**

BY



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JUNE, 2015

DECLARATION

I, **Wagali Philip** declare that this research has never been submitted to any university or any other institution of learning for any academic credit.

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DEDICATION

I dedicate this report to my Dad Mr. Madenje Michael Senior, My Mum Mrs. Kituyi Loyanasi, My brothers; Wamala Isaac Samson, Madenje Joseph Peter and Madenje Michael Junior and Sisters; Nabukonde Scovia, Nandudu Beatrice, Nambozo Barbara, Agnes and Sylvia. My Uncle Wamateke David Morris and Aunt Helen Nabukwasi. Finally to my best friend Wamono Edmond and coursemate Alupo Gertrude that contributed in various ways for the success of the research.

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LIST OF ABBREVIATIONS

<	Less than
>	Greater than
DVO	District Veterinary Officer
FAO	Food and Agriculture Organisation of the United Nations
FMD	Foot and Mouth Disease
FMDV	Foot and Mouth Disease Virus
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
NADDEC	National Animal Disease Diagnostics and Epidemiology Centre
NCRs	Non-Coding Regions
OIE	Office of International des Epizooties
ORF	Open Reading Frame
P value	Probability value
S.S.A	Sub Saharan Africa
SAT	South African Territories
SPSS	Statistical Package for the Social Sciences
UBOS	Uganda Bureau of Statistics
χ^2	Chi square

ABSTRACT

The purpose of this study was to generate information from a sample population of 100 households owning livestock (cattle, goats and sheep) on the factors contributing to the transmission of Foot and Mouth Disease (FMD) in Nakaloke Sub county, Mbale district which would be used by the various stakeholders in the prevention and control of FMD. The specific objectives were comparing the cattle, goats and sheep management systems with transmission of FMD, evaluation of farmers' participation in the FMD Vaccination programmes and assessment of the biosecurity measures used to prevent and control FMD in Nakaloke Sub County, Mbale District. The results of management indicated that there was a statistically significant relationship ($\chi^2=6.080$, $P<0.05$) between grazing system and transmission of FMD. From the study, chi square tests indicated a statistically significant relationship ($\chi^2=5.991$, $P<0.05$) between farmers' participation in FMD vaccination programs and FMD transmission. Chi square tests of the findings on biosecurity measures to prevent and control FMD revealed that there was a statistically significant relationship ($\chi^2=3.769$, $P<0.05$) between introduction of animals, source ($\chi^2=8.092$, $P<0.05$), exchange of livestock ($\chi^2=5.568$, $P<0.05$) and transmission of FMD. Therefore, grazing systems (in particular communal and tethering). Additionally few of respondents were aware of the prevention and control methods. In spite of the fact that vaccination was carried out, vaccination draw backs which could have led to the transmission of FMD. Introduction of animals from unknown sources, exchange of livestock and not examining livestock during purchase could as well have led to the transmission of FMD. Separate livestock according to breed/types to avoid disease transmission. There should be routine vaccination programmes, subsidization vaccines and hire or recruit more vaccination personnel, conduction of research to identify the strain of FMDV prevailing in order to administer the right vaccine and train the farmers in disease identification and timely reporting of any disease outbreaks. Additionally, there should be rapid laboratory tests to confirm disease outbreaks and serological tests to confirm the antigenic strain in order to administer the right vaccine encourage stall grazing as there is minimal interaction between susceptible and infected animals and livestock should be purchased from known disease free sources. Livestock should be inspected during purchase and a certificate issued and avoid exchange of livestock to reduce the chances of infected livestock in a disease free herd.

CHAPTER ONE: INTRODUCTION

1.1 INTRODUCTION

Livestock production contributes 17% of Agricultural gross domestic product, representing about 7.5% of total gross domestic product (Byarugaba, 2007) in Uganda. There were estimates of about 11.4 million cattle, 12.5 million and 3.5 goats and sheep respectively in Uganda (MAAIF, 2009) and Nakaloke Sub County had 2,440 cattle, 5,669 goats and 88 sheep ("Mbale district veterinary department livestock census report", 2008). Livestock production is attractive for poverty reduction and improvement of family food security and livelihood. This is due to modest starting capital easily acquired by the poor, easily tended by the weak, women, and children; provide valuable nutrients and the growing demand for animal proteins. Livestock production systems are currently characterized by a high diversity of management type and production intensity (Carla, 2006). The communal grazing systems in particular leverage the spread of diseases Foot and Mouth Disease (FMD) which is one of the most important modern livestock diseases.

1.2 BACKGROUND

Nakaloke is a county located in Mbale district which in the past five has had recurrent FMD outbreaks with the most recent having occurred in 2014. Although there are unique ruminant animal husbandry practices, the livestock industry only makes a great contribution to the economy. The presence of specific diseases, FMD which is considered one of the most significant threats to the livestock industry because of its impact on production, interference with access to international markets and effect on the economy (Kitching, 1998; James & Rushton, 2002). Currently FMD is endemic in Uganda, although there are on-going prevention and control measures against the disease undertaken in the whole country. The control measures adopted include vaccination, movement control and physical examination of livestock prior to movement. Despite these efforts, numerous outbreaks occur each year. The epidemiology of FMD has been explored extensively in developed countries. However, the situation is different for developing countries, such as Uganda. There is little information available on the

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