



**BUSITEMA  
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**FACTORS INFLUENCING ADOPTION OF THERMOSTABLE NEWCASTLE DISEASE  
VACCINE (KUKUSTAR®) IN IKI- IKI SUB-COUNTY, BUDAKA DISTRICT**

BY



**NGARAMBE EMMANUEL**

**BU/UG/2011/234**

[ngarambeemmanuel2@gmail.com](mailto:ngarambeemmanuel2@gmail.com)

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BUSITEMA UNIVERSITY**

**JUNE, 2014**

**DECLARATION**

I **NGARAMBE EMMANUEL** declare that this dissertation is my work and has not been submitted to another university or any other institution of learning for any award.

Signature.....

Date.....5<sup>th</sup>/08/2014.....

**APPROVAL**

This dissertation has been submitted for examination with the approval of my supervisor;

**Dr. MATOVU HENRY.**

Lecturer

Department of Animal Production and Management,

Busitema University

Signature.....

Date.....



## **DEDICATION**

I dedicate this book to my lovely parents Mr. Sebukaire Andereya - R.I.P (I wish you were around watch your son slowly becoming a man), my mother, Sebukaire Esteri, my brother, Sebukaire Abdurahmaan. They know why.

And with lots of love I also dedicate this piece of work to Waiswa Midina Ngarambe, my brothers and sisters, thank you for always being by my side.

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## LIST OF ABBREVIATIONS

FAO	Food and Agriculture Organization
MAAIF	Ministry of Agriculture Animal Industry and Fisheries
NCD	Newcastle Disease
NDV	Newcastle disease vaccine
CV	Community Vaccinator
UBOS	Uganda Bureau of Statistics
NDV4-HR	Newcastle Disease Heat Resistant V4
DVO	District Veterinary Officer
LSRP	Livestock Systems Research Project
NARO	National Agricultural Research Organisation
KEVEVAPI	Kenya Veterinary Vaccine Production Institute
%	percent
et al.	and others

## ABSTRACT

Newcastle disease was identified as the major constraint to enhanced productivity in free-range poultry. In Uganda, the use of the ND I-2 thermostable vaccine is being promoted for Newcastle disease control in village chickens. This will eventually result into increased poultry production in rural households, thus, eradicating poverty in rural areas of Africa. The study was therefore conducted in Iki- Iki Sub County, Budaka district to assess factors influencing adoption of thermo stable Newcastle vaccine.

A total of 60 chicken farmers were randomly selected from the different villages in the Sub County and interviewed using a questionnaire and the corresponding answers were noted. Some research assistants were trained on how to collect the data. The information collected included, vaccine adoption factors such as, the vaccine's effectiveness, affordability, ease of availability, farmers' knowledge about the thermostable vaccine, and husbandry practices such as, housing, supplementary feeding, disease management, importance of chicken in the socio-economic life of the community. The data collected was analyzed using SPSS version 16 and the results presented using tables, graphs and pie charts.

The study revealed that 58.3% were females and 51.7% of these females kept birds under free range management system due to the influence by different women groups and associations. The study also showed that 64% kept the poultry mainly for home consumption and sale. The study further revealed that 67% of the respondents had chicken houses made from locally available materials like dried mud and 73.3% of the chicken houses were only used at night in order to protect the birds from bad weather, predators and also theft. The results of the study also showed that 95% of the respondents vaccinated their birds with 61.4% using neighbors who had some knowledge on the way of vaccine administration. From the study, initially, 95% of the respondents had adopted the thermostable vaccine but now, 87%, no longer use this vaccine.

The factors that influenced adoption included; availability, affordability and desire to try out a new product at 38.3%, 35% and 6.7% respectively. However, after one and a half years of vaccine usage, farmers stopped using this vaccine because it killed birds instead, especially the chicks. Community vaccinators and farmers should consider proper handling of the vaccine and need to be sensitized on factors which hinder effectiveness of vaccine.

## CHAPTER ONE: INTRODUCTION

### 1.0. Introduction

In Uganda, the total chicken population is estimated at 22.2 million (MAAIF Report, 2000) and indigenous type predominates with the biggest percentage of approximately 90 percent of the total population (Bamusonighe 1998, personal communication). According to a study by Awuni *et al.* (2006) in Uganda, the majority of people live in rural areas where there are limited opportunities for employment. Therefore, most of them resort to subsistence farming which unfortunately hardly meets their food requirements.

Despite the economic constraints which people in rural areas encounter, there exists potential for utilizing the existing resources for improving living standards through improved productivity. And among these resources available are the indigenous chickens (Ssewanyana *et al.*, 2006).

Newcastle disease was identified as the major constraint to enhanced productivity in free-range poultry (LSRP/NARO Report, 1999).

Poorest rural households entirely depend on indigenous chickens as the only livestock asset they own, and are the main or only source of cash and/or savings for basic necessities and household emergencies (Bagnol, 2001). Though, local chickens have low productivity of meat and eggs, this is mainly due to two factors: their inherently low genetic potential for those traits; and the high mortalities due to Newcastle Disease (Ssewanyana *et al.*, 2006).

The thermostable vaccines were created by growing a homogenous population from a single infectious virus with the aim of selecting a vaccine virus that gives less vaccine reaction and is thermal tolerant (Alders and Spadbrow, 2001). Vaccines from a virulent Australian New Castle Disease virus strains V4 and I-2 have been created (Alders and Spadbrow, 2001).

The Newcastle 1-2 thermostable vaccine can be used in rural communities because it is difficult to over dose with and has no evidence of respiratory signs or weight loss in chicks. In addition I-2 is affordable and does not require refrigeration (Alders and Spadbrow, 2001).

The Newcastle disease thermostable vaccines offer an appropriate and reliable technology for Newcastle disease control in rural areas where free-range poultry management systems are highly practiced and where the cold-chain facilities, logistics and husbandry factors need consideration (Alders and Spadbrow, 2001).

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