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**PREVALENCE OF BRUCELLOSIS IN CATTLE IN RENGEN SUB-COUNTY,
KOTIDO DISTRICT**

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DECLARATION

I, **Ogwang Constantine**, declare that this dissertation is original and has not been submitted to any University or any other higher institutions of learning of for any academic award.

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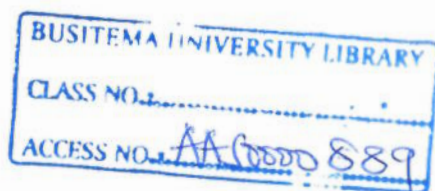
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DEDICATION

I dedicate this work first and foremost to God, my parents, Akwangu Kabala and Aching Albina, my wife, Awilli Ajuleta, relatives and siblings

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LIST OF ABBREVIATIONS

C & D:	Institute for International Cooperation and Development
FAO:	Food and Agricultural Organization of the United Nations
KVL:	Karamoja Veterinary Laboratory
OIE:	Office Internationale des Epizootics
RBT:	Rose Bengal Test
SAT:	Serum Agglutination Test
WHO:	World Health Organization
MOES:	Ministry of education and sports
ABEK:	Alternative Basic Education for Karamoja

ABSTRACT

Brucellosis is a bacterial disease that affects both man and animals. This study was to establish the prevalence of *brucellosis* in livestock in Rengen sub-county Kotido district. (three hundred and ninety) 396 serum samples were tested for *Brucella* antibody using Rose Bengal test. A structural questionnaire was used to collect epidemiological information on the animals. The overall serological prevalence derived from the samples was 8.55%. The prevalence of *Brucellosis* was determined in cattle according to the villages as follows: Natuket, 4.04%; Lokatap, 0.75%; Umum north 1.76%; Umum south 2.27%. As depicted by sex, *Brucella* prevalence is higher in female animals (11.5%) compared to that of their male counterparts (6.1%). A significant association was found between the age of the animal and occurrence of cattle brucellosis as adult animals have more prevalence compared to calves and sex of the animals was also found to be associated with the prevalence of cattle brucellosis however; there was no association between villages and prevalence of cattle brucellosis. A significant association was also found between abortion and methods of breeding. The overall *Brucella* prevalence in Rengen Sub County was 8.55%. Young animals are less susceptible to *Brucella* pathogens compared to mature animals. There is need to sensitize communities on the risk factors to Brucellosis as well as preventive measures.

CHAPTER ONE: INTRODUCTION

1.1 Background

Brucellosis is a collective term that refers to the disease caused by bacteria of the genus *Brucella*, characterized by epizootic abortions, chronic endometritis, infertility, arthritis, orchitis or chronic infections in domestic animals (Mangen *et al.*, 2006). In humans the disease is characterized by septicemia which manifests itself as recurrent fever, and localized chronic infections.

According to the Food and Agriculture Organization (FAO), the World Health Organization (WHO) and the Office International des Epizooties (OIE), brucellosis is still one of the most important and widespread zoonosis in the world. The disease is more restricted to regions such as southern Europe, west and central Asia, South America (Nielsen & Demcan, 1997; Godfroid *et al.*, 2005). Infections are caused by various bacteria of the genus *Brucella*, which tend to infect a specific animal species. However, most species of *Brucella* are able to infect other animal species as well and some of them have zoonotic potential (Young *et al.*, 1995). In humans, brucellosis can be caused by *B. abortus*, *B. melitensis*, *B. suis* biovars (Scholz *et al.*, 2008), and, rarely, *B. canis* or marine mammal *Brucella*. *B. ovis*, *B. eotomae*, and *B. suis* biovar (Corbel, 1997).

In Africa, the whole south and east as well as west and northwest Africa are considered to have a moderate degree of infection with the incidence ranging from 11 to 20% of cattle herd. A high incidence is said to be in countries situated in the wet and dry savanna areas and tropical rain forest zones of west, central and east Africa. (Thimm and Wundt 1976; Corbal, 1997). Brucellosis has been reported to occur at the prevalence of 15.2% in Arusha (Mafila, 1967), 12.2% in Kilimanjaro (Swai *et al.*, 2005). In the western mountains region in Libya, 42% of cattle were found to be seropositive for cattle brucellosis (Ahmed *et al.*, 2009)

In Uganda the prevalence of brucellosis in cattle has been reported to be 15.8% in Mbarara (Western) in 2005, 34% in the pastoral dairy system of Nakasongola (Central), 3.3% in the zero-grazing system of South Eastern districts in 2009, and 13.6% in central and southern parts in 1994 (Makita *et al.*, 2011).

In Karamoja, the transmission and spread of large and small ruminants brucellosis is affected by a variety of factors and good knowledge of these is essential to the success of a control

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