



**BUSITEMA  
UNIVERSITY**  
*Pursuing Excellence*

**HINDRANCES TO AND EXTENT OF ADOPTION OF ARTIFICIAL INSEMINATION  
TECHNOLOGY ON DAIRY HERDS IN SOROTI MUNICIPALITY, SOROTI DISTRICT**

**BY**

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**A DISSERTATION SUBMITTED TO THE FACULTY OF AGRICULTURE AND  
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AWARD OF A DEGREE OF A BACHELOR OF ANIMAL PRODUCTION AND  
MANAGEMENT OF BUSITEMA UNIVERSITY**

**SEPTEMBER, 2016**

**DECLARATION**

I Echoru Patrick do declare that the inclusions in this dissertation are my own making and have never been submitted to any institution of higher learning for any award of any academic qualification.

Signature  Date 29<sup>th</sup> 10/9/2016

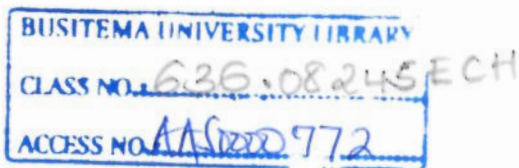
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## **DEDICATION**

I dedicate this piece of work to my Father and Auntie for their sacrifice and commitment to keep me moving in school till this far and their parental guidance they accorded me will ever remain a memorable contribution to my life. May Almighty God greatly reward and bless you.

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## LIST OF ABBREVIATIONS

<b>A.I.</b>	Artificial insemination
<b>CAIS</b>	Central Artificial Insemination Station
<b>DDA</b>	Dairy Development Authority
<b>FAO</b>	Food and Agricultural Organization
<b>KNAIS</b>	Kenya National Artificial Insemination Services
<b>MAAIF</b>	Ministry of Agriculture Animal Industry and Fisheries
<b>NGOs</b>	Non Government Organization
<b>RARDA</b>	Rwanda Animal Resource Development Authority
<b>SPSS</b>	Statistical Package for Social Scientists
<b>SSA</b>	Sub –Saharan Africa (SSA),
<b>US</b>	United States

## ABSTRACT

This was across sectional survey carried out in Soroti Municipality, Soroti district. The main objective the study was to determine the hindrances to the adoption of A.I. technology by dairy farmers in Soroti Municipality as an alternative breeding technology. The specific objectives of the study were to identify the extent of adoption of A.I. in the Municipality and to find the factors limiting the utilization of A.I. technology by the dairy farmers in the Municipality. Artificial Insemination is One of the most effective tools available to cattle producers to improve productivity and profitability of their cattle operations and it confers several advantages over natural mating. Its use has been of enormous economic benefit through genetic improvement of animals for milk production and the control of venereal diseases. Despite its presence in Uganda for over 60 years, less than 10% of the country's herd has been bred using this technology. Data was collected from 50 randomly selected respondents using questionnaires with both closed and open ended questions and was analyzed using Statistical Package for Social Scientists (SPSSs) version 16.0 and results presented using frequency tables and pie charts. The study revealed that only 24% of the dairy farmers in the Municipality were using A.I. technology while the majority (76%) preferred using natural mating system. The results also showed that (4%) of the farmers were totally ignorant about A.I. and those who sought that the technology was expensive because they could access natural mating free of cost. The study further identified the limiting factors to the utilization of A.I. in Soroti Municipality which included: A.I. facilities in place but sometimes there is lack of liquid nitrogen, A.I. equipments being very expensive, insufficient or no budget allocation for A.I. in the District, Semen facilities may be far, inadequate trained A.I. technicians, farmers failing on proper heat detection and farmers not reporting animals on heat on time. It is therefore concluded that Soroti Municipality is experiencing very many constraints to the adoption of A.I. technology, which constraints need immediate attention to enhance dairy productivity in Soroti Municipality.

Basing on the above mentioned factors limiting the use of A.I. it is recommended that farmers should be sensitized more about the advantages of A.I., Government to come in to subsidize the cost of A.I. to encourage more farmers to use the technology the relevant Authorities should train additional A.I. technicians and to properly facilitate and motivate the technicians.

## CHAPTER ONE

### INTRODUCTION

#### Background

Artificial insemination is the technique of transferring semen containing viable spermatozoa collected from a male animal into the reproductive tract of the female animal to facilitate conception. It is one of a group of technologies commonly known assisted reproduction technologies (Morrel, 2011). A.I. is widely used for livestock breeding around the world (Gamborg *et al.*, 2005). More than 70% of the animals in the developing world are being bred using this technology (Kaaya *et al.*, 2005). It is a necessary tool in sustainable farm animal breeding (Gamborg *et al.*, (2005). A.I. is an important technique that offers several advantages over natural mating (Eklundh *et al.*, 2013). It is used as a method of production, particularly in the dairy sector, has been enormous economic benefit through genetic improvement of milk production, the control of venereal and other diseases and lethal genes (Howle *et al.*, 2012).

The livestock population of Sri Lanka includes 1.73 million cattle, 0.86 million buffalos, 548,000 goats, 24,000 sheep, 86,400 pigs, 9 million poultry and 24,400 ducks, (Ministry of Live stock Development and Rural Industries). Genetic Upgrading of local cattle and buffaloes has been considered both natural breeding and artificial insemination were used as means of implementing the breeding policy but later strategy was pursued vigorously in the recent past and even after 50 years off consistent efforts. The institutions responsible for implementing genetic upgrading of cattle and buffaloes have been able to reach only a part of the national operation particularly in the west zone and to a limited extent in the intermediate zone, leaving the larger portion of the drier zone relatively untouched (Abeygunawardend, 1998). About 60% of the cattle in the dry zone, produce 45% of the cow's milk, whereas in wet zone, 20% of the cattle produce 40% of the milk and in the intermediate zone 19% of the cattle produce, 15% of the milk .Cattle breeding has been recognized as a critical issue for dairy sector with many programs schemes implemented during the last few decades, however, the expected improvements have not yet been seen and consequently these issues need to be examined more carefully to see how these programs can be made more effective (Ibrahim *et al.*, 1999 b). Based on the survey of the situation in 1962 by Nishikawa, (1964 ) it was estimated that approximately 59 million cattle in the world were being Artificial Inseminated at that time. Of this world total, 56 million were in

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