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IMPACT OF ABATTOIR WASTE ON THE ENVIRONMENT AND HUMAN HEALTH,  
CASE STUDY BUBULO ABATTOIR IN MANAFWA TOWN COUNCIL, MANAFWA  
DISTRICT

BY

MUKHWANA BENJAMIN

BU/UP/2018/3465

Email: [mukhwanaben197@gmail.com](mailto:mukhwanaben197@gmail.com)

**SUPERVISOR: Mr. OCHAN MARTIN LUTHER**

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**DECLARATION**

I **MUKHWANA BENJAMIN, REG NO. BU/UP/2018/3465**, declare that the content of this dissertation I have carried out as a requirement for an award of a bachelors in science education are as a result of my own efforts. It has never been submitted to any institution of learning for an academic award.

Signature..... Date.....

The research has also been under the supervision of an academic supervisor who approved it.

**MR.OCHAN MARTIN LUTHER**

Department of agriculture

Faculty of science and Education

Busitema University

Signature..... Date.....

## **DEDICATION**

I dedicate this dissertation to my academic supervisor Mr. Ochan Martin Luther who guided me in carrying out this research and my father Mr. Makai Ignatius and mother Ms. Nanzala Mary who supported me during my research both financially and morally.

## **ACKNOWLEDGEMENT**

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## **LIST OF ACRONYMS**

AHU- Abattoir Health Unit

EIA- Environmental Impact Assessment

RC- Rumen Content

CP- Cleaner Production

WHO- World Health Organization

PMI- Post Mortem Inspection

AM- Ante Mortem Inspection

DVO- District Veterinary officer

SPSS- Statistical Package for Social Scientists

e.g. - for example

i.e. - That is to say

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## **ABSTRACT**

Poor management of abattoir wastes results in air and water pollution especially residents in their close proximity. The study conducted aimed to investigate the effect of abattoir waste on the environment and on public health. Abattoir wastes consist of several pollutants such as animal faeces, blood, bone, fat, animal trimmings, paunch content and urine from operations or areas like lairage, stunning or bleeding, carcass processing and by-product processing. These abattoir wastes can be classified as solid, liquid and gaseous forms. Abattoir wastes can have a detrimental effect on the environment, public health, animal health and economy of the country if they are not effectively managed and controlled. Abattoirs often have difficulties in disposing, treating and processing of these wastes in an environmentally acceptable fashion. Manafwa town council Abattoir generates large quantities of highly concentrated effluent which adversely impacts the environment. Blood collection and dry cleaning should be adopted in order to reduce the effluent concentration and volume. Due to this reasons there is high risk on environmental pollutions like underground water pollution, air pollution, nuisance, odor, soil pollution and public health risks through transmission of zoonotic diseases to human. Good manufacturing and good hygienic practices, liquid, solid and gaseous waste management practices, are highly necessary to minimize the harmful effect of abattoir wastes. Safe disposal, treatment and processing methods like burial, composting, rendering, incineration, anaerobic digestion and blood processing are also highly important to absorb our economic benefits from abattoir wastes /by-products rather than controlling public health risks and environmental pollution

# CHAPTER ONE

## INTRODUCTION

### 1.0. BACKGROUND

Abattoirs play a vital role in environmental pollution and negatively affecting health of the people living around and even those who stay away from them through the air, water and food contamination. Such diseases include zoonotic diseases such as Brucellosis, Tuberculosis, fasciolasis, Campylobacteriosis as a result of contacting infected animals and contaminated meat, meant for human consumption, plus other body contents if utilized ineffectively (*Shima, Mosugu, & Apaa, 2015*). This can only be achieved through proper waste management for the clean environment and better human health. Abattoir waste just like any other waste can be detrimental to humans and the environment if definite precautions are not taken. Some slaughter houses are littered with non-meat products and wastes that need to be recycled into useful by-products for further agricultural hygiene and other industrial uses. This constitutes public health and nuisance in most slaughter houses spread across markets, producing air, soil and water pollution as reduced spoilage and fraud and improved environmental well as infestation of flies and other disease vectors. For hygienic reasons abattoirs use large amount of water in processing operations; this produces large amount of waste water. The major environmental problem associated with this abattoir wastewater is the large amount of suspended solids and liquid waste as well as odor generation. Ground water qualities in vicinity of environment were adversely affected by seepage of abattoir effluent as well as water quality of receiving stream that was located away from the abattoir.

The key proper waste management procedures in the abattoir include; burying, burning, incineration, composting and recycling, unloading from the vehicle and this is achieved via the use of an unloading ramp as this prevents the animals from getting injured, resting of the animals in the lairage or at least 24 hours. During this period, one should check for injured animals and carryout emergency slaughter, examination of live animals before slaughter (ante mortem inspection), stunning which renders the animal immobile which is followed by slaughtering, evisceration, carcass inspection (post mortem inspection), and waste disposal. All these are crucial to the delivery of wholesome meat and surveillance of wholesome diseases especially those of public importance. (*Al haji & Baiwa, 2015*).

Continuous failure to manage wastes in abattoirs especially in the developing countries has resulted into meat contamination and poor waste disposal with consequent effects of environment such as causing land pollution when solid wastes such as bones, pieces of flesh and dung are left unattended in open spaces (*Omole & Ogbiye, 2013*) and human health problems (*AL haji & Baiwa, 2015*).

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