BUSITEMA UNIVERSITY

FACULTY OF NATURAL RESOURCES AND ENVIRONMENTAL SCIENCES

DEPARTMENT OF GEO-INFORMATION, EARTH OBSERVATION AND PHYSICAL LAND RESOURCES.

IMPACTS OF CLIMATE CHANGE ON AQUACULTIRE (POND CULTURE), A CASE STUDY OF SAMIA BUGWE NORTH CONSTITUENCY.

BY

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BU/UP/2016/267

A RESEARCH REPORT SUBMITTED IN PARTIAL FULLFILMENT OF THE REQUIREMENT FOR THE AWARD OF A DEGREE IN BACHELORS OF SCIENCE IN FISHERIES AND WATER RESOURCE MANAGEMENT OF BUSITEMA UNIVERSITY.

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DECLARATION

I **ERUMBI GLORIA OUMA**, declare that this research report submitted to the Faculty of Natural Resource and Environmental Sciences is my original work and to the best of my knowledge, it has not been submitted by any other person to any institution for the award of a degree in Bachelor of Science in Fisheries and water resource management.

Signature.....

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Date.....23/06/2019.....

APPROVAL

This is to certify that this research report titled **"Impacts of climate change on aquaculture (pond culture) in Samia Bugwe North constituency"** is the original work for ERUMBI GLORIA OUMA and it has been done under my supervision.

Signature..... DATE 25th / 06 / 2019

MS GIMBO REBBECA

SUPERVISOR

DEDICATION

I would like to dedicate this research report to my parents (Mr. Ouma Patrick Okiya and Mrs. NambudyeWinnefred) and brothers such as Eugen, Jovan, Joseph and Neavy for their great support towards my studies.

I would also like to dedicate this report to my friends who have been giving me all sorts of support be it advices, finances, and material support that I wanted from them and my God bless them abundantly.

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By God's grace things that seemed impossible to me, I was able to accomplish them easily therefore, Glory be to God.

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LIST OF ACRONYMS/ABBREVIATIONS

AU	African Union
CDO	Chief District Officers
DFID	Department For International Development
DFR	Department of Fisheries Resources.
FAO	Food and Agricultural Organization
FRI	Fisheries Research Institute
IPCC	Intergovernmental Panel on Climate Change
LC	Local Council
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
NAFIRRI	National Fisheries Resource Research Institute
NARO	National Agricultural Research Organization
NEMA	National Environmental Management Authority
NFA	National Forestry Authority
SPSS	Statistical Package for the Social sciences
UN	United Nations
UNDP	United Nations Development Programmes
USD	United States Dollar

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ABSTRACT

Climate change is an additional pressure on top of the many other aquaculture pressures, which fish stocks already experience. The impact of climate change was evaluated in the context of other anthropogenic pressures on pond culture. Factors that can shape climate are climate changes. These include such processes as variations in solar radiation, deviations in the earth's orbit, mountain building and continental drift, and changes in greenhouse gas concentrations.

The study used both qualitative and quantitative approach to collect data, analyze and present it. The methods of data collection used were interviews, questionnaires and field observations. The data was collected from a sample of seventy respondents, which include 61 males and 9 females. Data was processed in excel and later transported in SPSS for analysis, which included the drawing of pie charts, bar graphs and tables used to analyze the different variables.

From the study, fish farmers are facing a big problem of prolonged seasons of drought, which comes along with the climate changing. For aquaculture to take place, the key factor to consider is the source of water but due to the prolonged droughts the sources of water are drying up and most of the farms are putting their businesses to a standstill.

The fish farmers should ensure that they find alternative water sources, stock the fish in time and if possible stock quick maturing fish so as to adapt to the changing climate.

CHAPTER ONE: INTRODUCTION

1.0 INTRODUCTION

This chapter introduces the topic, the background of the study, the problem statement to the study, objectives, research questions to the study, significance of the study and the conceptual framework.

1.1 Background of the study.

Aquaculture is the science, art and business of farming or cultivating fish under controlled conditions. For statistical reasons, FAO defines aquaculture as "the farming of aquatic organisms, including fish, crustaceans, molluscs and aquatic plants" in Halwart et al (2000). Aquaculture has been referred to as "alternative agriculture" but this does not suggest that it is a new activity. The farming and husbandry of fresh water and marine organisms has been practiced for centuries. Oyster culture in ancient Rome and Carp reared in ponds in China during the 5th century B.C has been documented, Dan (2001).

Global aquaculture production (including aquatic plants) in 2016 was 110.2 million tonnes, with the first-sale value estimated at USD 243,5 billion. The first-sale value, re-estimated with newly available information for some major producing countries, is considerably higher than previous estimates. The total production included 80.0 million tonnes of food fish (USD 231.6 billion) and 30.1 million tonnes of aquatic plants (USD 11.7 billion) as well as 37 900 tonnes of non-food products (USD 214.6 million). The contribution of aquaculture to the global production of capture fisheries and aquaculture combined has risen continuously, reaching 46.8 percent in 2016, up from 25.7 percent in 2000. With 5.8 percent annual growth rate during the period 2001–2016, aquaculture continues to grow faster than other major food production sectors, but it no longer enjoys the high annual growth rates experienced in the 1980s and 1990s. Also, the disparity in the level of sectoral development and uneven production distribution remain great among the countries within the regions and across the world.

In 2016, aquaculture was the source of 96.5 percent by volume of the total 31.2 million tonnes of wild-collected and cultivated aquatic plants combined. Global production of farmed aquatic plants, overwhelmingly dominated by seaweeds, grew in output volume from 13.5 million tonnes in 1995 to just over 30 million tonnes in 2016.

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