

**EFFECTS OF INDUSTRIALISATION ON WETLAND DEGRADATION
CASE STUDY: NSOOBA -LUBIGI WETLAND SYSTEM, KAWEMPE**

DIVISION

By

LWETUTTE SAMUEL

Reg no: BU/UG/2010/235




**A RESEARCH REPORT SUBMITTED TO THE FACULTY OF NATURAL
RESOURCES AND ENVIRONMENTAL SCIENCES IN PARTIAL FULFILMENT
FOR THE AWARD OF THE BACHELOR'S DEGREE OF SCIENCE IN NATURAL
RESOURCE ECONOMICS OF BUSITEMA UNIVERSITY**

MAY, 2013

DECLARATION

I Lwetutte Samuel hereby declare that this report is my original work. It has never been submitted to any university or any higher institution of learning for any academic award. Thus, I accept to be responsible for everything contained in it.

Sign


.....

LWETUTTE SAMUEL.

Date.....13/05/2013.....

APPROVAL

This is to acknowledge that the work entitled "Effects of industrialization on wetland degradation" has been done under my supervision and is now ready for submission to the faculty of Natural resources and environmental sciences.

Signature.



Mr. Kakungulu Moses

Supervisor

Date... 13/05/2013

DEDICATION

I dedicate this work to my family and friends especially my parents, Mr. and Mrs. Kibuuka who have sacrificed everything to ensure my academic success. Thank you for giving me such a moral foundation on which I have managed to come this far. May the good lord reward you abundantly

ACKNOWLEDGEMENT

I thank God for enabling me to reach this far in my academic struggles. My indebtedness goes to my family for their unfailing support mentally, financially and morally. I am so thankful to both my parents, Mr. Kibuuka Jackson and Mrs. Nabyonga Edith for my child upbringing, inspiration, moral support, financial support and my education.

I am also grateful to my supervisor Mr. Kakungulu Moses for his patience and guidance that have helped me complete this research.

I would also like to extend my deep indebtedness to the staff of Busitema university Namasagali campus whose moral, friendly and academic support has enabled me to accomplish this work. Thank you so much for your encouragement, guidance and supervision.

I also express my sincere gratitude to all my friends especially the pioneers and everyone who has provided academic and friendly support during the hard times.

GOD BLESS YOU VERY MUCH.

TABLE OF CONTENT

| | |
|---------------------------------------|------|
| DECLARATION..... | i |
| APPROVAL..... | ii |
| DEDICATION..... | iii |
| ACKNOWLEDGEMENT..... | iv |
| TABLE OF CONTENTS..... | v |
| LIST OF TABLES..... | viii |
| LIST OF FIGURES..... | ix |
| LIST OF ACRONYMS / ABBREVIATIONS..... | x |
| ABSTRACT..... | xi |

CHAPTER ONE: INTRODUCTION

| | |
|-------------------------------------|---|
| 1.1 Introduction..... | 1 |
| 1.2 Background of the study..... | 1 |
| 1.3 Statement of the problem..... | 5 |
| 1.4 Objectives of the study..... | 6 |
| 1.4.1 Major objective..... | 6 |
| 1.4.2 Specific objective..... | 6 |
| 1.5 Research Question..... | 6 |
| 1.6 Conceptual frame work..... | 7 |
| 1.7 Significance of the study..... | 7 |
| 1.8 Justification of the study..... | 8 |
| 1.9 Scope of the study..... | 8 |
| 1.9.1 Content scope..... | 8 |
| 1.9.2 Geographical scope..... | 8 |
| 1.9.3 Time scope..... | 8 |
| 1.10 Operational definitions..... | 8 |
| 1.11 Organization of the study..... | 9 |

CHAPTER TWO: LITERATURE REVIEW

| | |
|---|----|
| 2.1 Introduction..... | 10 |
| 2.3 Wetland degradation in relation to industrial location..... | 10 |
| 2.4 Industrial waste disposal and wetland degradation..... | 12 |
| 2.5 Industrial inputs and wetland degradation..... | 14 |

CHAPTER THREE: RESEARCH METHODOLOGY.

| | |
|--|----|
| 3.1 Introduction..... | 16 |
| 3.2 Research Design..... | 16 |
| 3.3 Study population..... | 16 |
| 3.4 Sampling procedures and sample size..... | 16 |
| 3.4.1 Sampling procedures..... | 16 |
| 3.4.2 Sample size determination..... | 17 |
| 3.5 Data types, sources and collection methods..... | 17 |
| 3.5.1 Data types and sources..... | 17 |
| 3.5.2 Data collection methods..... | 17 |
| 3.6 Validity and reliability of data collection instruments..... | 18 |
| 3.6.1 Validity of data collection instruments..... | 18 |
| 3.6.2 Reliability of data collection instruments..... | 18 |
| 3.7 Data management and analysis..... | 18 |
| 3.7.1 Data processing..... | 18 |

| | |
|---|-----------|
| 3.7.2 Data analysis..... | 19 |
| 3.8 Ethical consideration..... | 19 |
| 3.8 Limitations of the study..... | 19 |
| CHAPTER FOUR: PRESENTATION AND DISCUSSION OF RESEARCH FINDINGS | |
| 4.1 Introduction..... | 21 |
| 4.2 Background information of the respondents..... | 21 |
| 4.3 Industrial location on wetland degradation..... | 24 |
| 4.4 Industrial waste disposal and wetland degradation*..... | 27 |
| 4.4 Industrial inputs and wetland degradation..... | 30 |
| CHAPTER FIVE : SUMMARY, CONCLUSIONS AND RECOMENDATIONS. | |
| 5.1 Introduction..... | 33 |
| 5.2 Summary of the findings..... | 33 |
| 5.3 Conclusions of the study..... | 34 |
| 5.4 Recommendations..... | 35 |
| 5.5 Areas of further study..... | 36 |
| REFERENCES..... | 37 |
| Appendix i: Questionnaire..... | 39 |
| Appendix ii: Interview guide..... | 44 |
| Appendix iv: Photos..... | 45 |

LIST OF TABLES

| | | |
|-----------|---|----|
| Table 4.1 | Background information of respondents..... | 21 |
| Table 4.2 | Industrial location and wetland degradation | 25 |
| Table 4.3 | Industrial waste and wetland degradation..... | 27 |
| Table 4.4 | Industrial inputs and wetland degradation..... | 31 |

LIST OF FIGURES

| | Page |
|--|-------------|
| Figure 4.1 A pie chart showing the types of industries in the study area | 24 |

LIST OF ABBREVIATIONS/ACRYONMS

| | | |
|-------|---|--|
| NEMA | : | National Environment Authority |
| EIA | : | Environmental Impact Assessment |
| KCCA | : | Kampala Capital City Authority |
| MONRs | : | Ministry of Natural Resources |
| NAPE | : | National Association of Professional Environment |
| NWSC | : | National Water and Sewage Corporation |

ABSTRACT

The study examined the effects of industrialization on wetland degradation using Nsooba – Lubigi wetland system in Kawempe division as a case study.

The overall objective was to determine the effects of industrialization (industrial location, industrial wastes and industrial wetland inputs) on wetland degradation with Nsooba-Lubigi wetland system in Kawempe division as the case study

The study was cross sectional and used both qualitative and quantitative approaches 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 fifty eight respondents and analyzed using excel and SPSS, version 20 which facilitated the formation of frequency tables and pie charts.

The study was based on primary data collected through field observations, the use of questionnaires, interview guides that were randomly distributed to the respondents in the different cluster areas of Kale we kibe zone, Bwaise industrial area, Mayinja zone and Kawala in Kawempe division.

From the findings, it was established that industries have significantly contributed to the destruction of Nsooba – Lubigi wetland system in Kawempe division. Wetland degradation has manifested through reduction of wetland acreage, water contamination, flooding, habitat loss and extinction of wetland flora and fauna. The study revealed that the various laws relating to industrial solid waste management are not considered, there are increased flood patterns due to infillings, industrial wastes that broke drainage channel and that most of the industries in the study area do not use inputs from the wetland.

Basing on the research findings it is recommended that wetland policies be made more comprehensive to include issues such as environmental monitoring of environmental standards, need for environmental audits and environmental impact assessments for existing industries and enforcement of policies be strengthened by equipping law enforcement agencies to apply wetland policies and monitor compliance.

CHAPTER ONE

INTRODUCTION

1.1 Introduction

The growing environmental degradation in urban areas has raised greater concern. Urban areas are victims in this unfolding drama of industrial activities, which have recently led to problems like floods, mushrooming slums, toxic waste generation and global warming.

This chapter includes the background of the study, the problem statement, research objectives, and research questions, significance of the study, justification of the study, scope of the study, conceptual framework, operational definitions and the organization of the study.

1.2 Background to the study

Wetland conservation has become a catchword worldwide today than ever before. The serious concern for wetland conservation has been caused by serious wetland degradation. The global environmental awareness campaign for protection and conservation of wet lands has been manifested by international concern expected in such international foray as Ramsar conventions and other environmental organizations addressing environmental concerns like unions for conservation of Nature and the environment.

Wetlands are some of the most important biologically diverse areas in the world and provide essential habitats for many species. Coral reefs, peat lands, freshwater lakes, water birds, amphibians and wetland-dependent mammals such as hippopotamus, manatees and river dolphins are among those examples of biodiversity covered by the global Ramsar Convention network of "Wetlands of International Importance", which comprises over 2,000 sites covering over 1.9 million km.

According to the Millennium Ecosystem Assessment, wetlands are the habitat that has been most affected by development and are being lost more rapidly than any other habitat in the world. However, 80% of the global peat land area is still pristine and not severely modified by human activities. Globally, natural peat lands are destroyed at a rate of 4000 square kilometers per year, with 50% attributed to agriculture, 30% to industry and 10% to peat extraction. In Uganda, wetlands are one of the most valuable ecosystems and cover about 30,105 square kilometers, representing 13% of the country's total area (National Environment Management Authority,

REFERENCES.

Lars Chriten, etal (1999)

Dalal-Clayton, B. & Sadler, B.(2003): The Status and Potential of Strategic Environmental Assessment. HED, London, UK.

Andrew Goude (1988), Human Impacts on the Environment.

Dugan, P.j (1990). Wetland Conservation. A review of Current issues and Required Actions

State of Environment Report 1993

Amin.M.E, 2005, Social Science Research. Conception, Methodology and Analysis. Kampala, Makerere University Printery.

State of Environment Report 1998

John H. Bernstein(1998) . The Impact of Federal Programs on Wetlands

UNEP Report 1992, Industry and Environment

World Resource Environment Aliminae 1993

Daily monitor(27/12/2012)

<http://www.cbd.int/doc/meetings/cop/cop-11/information/cop-11-inf-22-en.pdf>

<http://www.dep.state.il.us/water/wetlands/erp/index.ht>

www.water.nesu.edu/watershedss/info/wetlands/wetloss.html

dnr.wi.gov/topic/Waterways/construction/wetlands.html

Millennium Ecosystem Assessment. 2005. Ecosystems and human well-being: Wetlands and Water Synthesis. A report of the Millennium Ecosystem Assessment. World Resources Institute, Washington, DC.

State of the Environment Report for Uganda. 2004. Kampala. Uganda National Environment Management Authority.

Oyam. 2008. Oyam District Development Plan, 2008-2011

www.maine.gov/dep/water/wetlands/ipwetfv2.html

Daily monitor news paper 3rd/October/2010

New vision news paper 2nd/February/2003

Oso.Y.W and Onen. D. 2008. A general guide to writing research proposal and report: a hand book for beginning researchers. 2nd edition, Kampala. Makerere University Printery.

Odiya.J.N.2009 Scholarly writing, Research proposal and reports in APA or MLA Publication style, Kampala, Makerere University Printery.