

# **BUSITEMA UNIVERSITY**

**FACULTY OF NATURAL RESOURCE AND ENVIRONMENTAL  
SCIENCES  
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCE  
ECONOMICS**

**ECONOMIC VALUATION OF ROAD CONSTRUCTION EFFECTS ON  
SELECTED WATER CATCHMENTS  
A CASE STUDY OF THE KAMWENGE-FORT PORTAL ROAD**

**BY**

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**A RESEARCH REPORT SUBMITTED TO THE FACULTY OF  
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AWARD OF A BACHELOR OF SCIENCE IN NATURAL RESOURCE  
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**JUNE, 2015**

## DECLARATION

I **TWONGYEIRWE HELLEN** do hereby declare that this is my original work and has never been submitted in for any award in Busitema University or any other university or tertiary institution.

Signature: -----

Date: 25/06/2015

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## APPROVAL

This is to certify that **TWONGYEIRWE HELLEN** of Busitema University carried out her research under my supervision. This is a true record of the work that she was able to produce and recommend it for submission to the Faculty of Natural Resources and Environmental Sciences for assessment.

Signature.....

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Date.....25/6/2015.....

## **DEDICATION**

I dedicate this report to my beloved parents; Mr. KATWESIGYE JOHN and Ms. KATUSHABE JENIVA who have cared, facilitated, and contributed to the development of my educational career up to this level. I also dedicate this report to my dear brothers; Anthony, Andrew, Aidan and Conrad, sisters; praise and faith lucky and friends; Mr Nahayo Wycliff, Mr oshea, Mr. Collins ,Ms Kyomugasho Sharon, Ms Areto Dorcus, Ms Nyangoma Imelda, Ms. Asimwe Slovia and Ms Nangobi Sumaya for their support, love, counsel, prayers, moral support and financial support. They are indeed a cornerstone in my life, am glad to have all of you .God bless them.

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# TABLE OF CONTENTS

DECLARATION.....	i
APPROVAL.....	ii
DEDICATION.....	iii
ACKNOWLEDGEMENT.....	iv
TABLE OF CONTENTS.....	v
LIST OF FIGURES.....	ix
LIST OF TABLES.....	xi
LIST OF ACRONYMS.....	xii
ABSTRACT.....	xiii
CHAPTER ONE.....	1
1.0. INTRODUCTION.....	1
1.1 . Background.....	1
1.1.1. Global perceptive of water catchments.....	1
1.1.2. Uganda perceptive of road construction impact on water catchments.....	2
1.2 . Statement of the problem.....	2
1.3 Aim and Objectives.....	3
1.3.1. Aim.....	3
1.3.2. Objectives.....	3
1.4 Significance of the Study.....	4
1.5 . Limitations of the study.....	4
CHAPTER TWO:.....	5
2.0.LITERATURE REVIEW.....	5
2.1 Environmental effects of road construction works.....	5
2.1.1 Socio-economic impacts.....	5
2.1.2. Ecological impacts.....	6
2.2. Total economic value of water catchments in road affected areas.....	8
2.2.1 Direct and indirect use values.....	9
2.2.2 Non-use values.....	12
2.2.3 Common methods of valuing water catchments.....	13
2.3 Mitigation measures.....	16
CHAPTER THREE.....	19

3.0.	RESEARCH METHODS.....	19
3.1.	Research design.....	19
3.2.	STUDY AREA.....	19
3.2.1.	Description of the study area.....	19
3.2.2.	Location.....	19
3.2.3.	Climate.....	20
3.2.4.	Population.....	21
3.2.5.	Rainfall.....	21
3.2.6.	Soils.....	21
3.2.7.	Geology.....	21
3.2.8.	Flora.....	22
3.2.9.	Fauna.....	22
3.2.10.	Economic activities.....	22
3.3.	Study population.....	22
3.4.	Data collection.....	22
3.4.1.	Data types.....	22
3.4.2.	Data collection methods.....	23
3.5.	Data processing and analysis.....	24
	CHAPTER FOUR.....	25
4.0.	DATA PRESENTATION AND ANALYSIS.....	25
4.1.	Introduction.....	25
4.1.1.	Gender of water catchments users.....	25
4.1.2.	Age of water catchments users.....	25
4.1.3.	Comparison of age of the water catchments users by gender.....	26
4.1.4.	Level of education.....	26
4.1.5.	Household size.....	27
4.2.	The water catchments along the road.....	28
4.2.1.	Distance of the water catchment from road.....	28
4.2.2.	Main source of water of the water catchments users.....	29
4.2.3.	State of water source.....	29
4.3.	.....Influence of water catchment destruction by the road constructing activities on the different livelihoods.....	30
4.3.1.	Livelihood activities practiced near the road.....	30
4.3.2.	Average income from livelihood activities.....	30

4.3.4	The road construction effect on livelihood activities .....	31
4.4.	The economic use value of and benefits of the catchments in road project sites. ....	32
4.4.1	The usefulness of water catchments.....	32
4.4.2.	Willingness to pay for soil erosion service .....	32
4.4.3.	Willingness to pay for soil erosion service in relation to gender of the respondent .....	33
4.4.4.	Effect of water catchment users earnings from the activities they carry out from the catchments per month on the amount they were willing to pay for soil erosion service. ....	34
4.4.5	Willingness to pay for water purification service.....	34
4.4.6	Comparison of WTP for water purification of based on the amount water catchment user's income per month .....	35
4.4.7	Willingness to pay for recreation service by water catchment users .....	35
4.4.8.	Comparison of willingness to pay for recreation service according to age .....	36
4.4.9	Willingness to pay for cultural service by water catchment users.....	36
4.4.10.	Comparison of willingness to pay for cultural service according to average income from livelihood activities .....	37
4.4.11.	Willingness to pay for medicine service by water catchment users .....	37
4.4.12.	Comparison of willingness to pay for medicine service according to level of education of the respondent.....	38
4.5.	Road project impacts on water catchments .....	39
4.5.2.	Impacts resulting from road construction on the water catchments .....	39
4.5.3.	Individual's WTP for conservation basing on the services that the catchments provide according to average incomes.....	40
4.5.4	Relationship between water catchment user's level of education and the amount they were willing to pay for the conservation of the wetland basing on the services it provides to water catchment users.....	40
4.5.5.	Estimated total economic value of the ecosystem services.....	41
5.0.	DISCUSSION, CONCLUSION AND RECOMMENDATIONS .....	42
5.1.	Discussion .....	42
5.1.2.	The extent to which water catchment destruction by the road constructing activities influence the different livelihood activities .....	43
5.1.3.	The economic use value and benefits of the catchments in road project affected areas as perceived from the community activities.....	44
5.1.4.	Road project impacts on water catchments.....	44
5.2.	CONCLUSION .....	46
5.3.	RECOMMENDATIONS.....	46
	REFERENCES .....	48



APPENDICES.....	51
APPENDIX 1. Questionnaire for data collection.....	51
APPENDIX TWO. Estimated total economic value of the ecosystem service.....	56
APPENDIX THREE; Effects of road construction works on the water catchments along Kamwenge- Fort Portal road.....	56

## LIST OF FIGURES

Figure4. 1.	Gender of water catchments users.....	25
Figure4. 2.	Age of water catchments users.....	25
Figure 4. 3.	Comparison of age of water catchment users by gender of water catchments users	26
Figure 4. 4.	Comparison of education attained by water catchments users.....	26
Figure 4. 5.	Household sizes of water catchments users .....	27
Figure 4. 6.	Occupations of water catchments users .....	27
Figure 4. 7.	House hold income per month of water catchments users .....	28
Figure 4. 8	Distance of water catchments from the road .....	28
Figure4. 9.	Main source of water.....	29
Figure 4. 10.	Comparison of the state of water by water catchments users.....	29
Figure 4. 11.	Livelihood activities of water catchments users.....	30
Figure 4. 12.	Average income from the livelihood activities.....	30
Figure 4. 13	Comparison of income earned from different livelihood activities, .....	31
Figure 4. 14	The impact of road construction on livelihood activities.....	31
Figure 4. 15	the usefulness of water catchments .....	32
Figure 4. 16	Willingness to pay for soil erosion service .....	33
Figure 4. 17	Comparison of willingness to pay for soil erosion service by gender of the water catchment users .....	33
Figure 4. 18.	Comparison of the effect of water catchments' earnings from the activities they carry out from the catchments per month on the amount they were willing to pay for soil erosion service	34
Figure 4. 19.	Willingness to pay for water purification service program .....	35
Figure 4. 20	Comparison of WTP for water purification of based on the amount water catchment user's income per month.....	35
Figure 4. 21	Willingness to pay for recreation service .....	36
Figure 4. 22	comparison of willingness to pay for recreation service according to age. ....	36
Figure 4. 23	willingness to pay for cultural service by water catchments.....	37
Figure 4. 24	Comparison of willingness to pay for cultural service according to average income from livelihood activities.....	37

Figure 4. 25	Willingness to pay for medicine service .....	38
Figure 4. 26	Comparison of willingness to pay for medicine service according to level of education of the respondent.....	38
Figure 4. 27	Road project impacts on water catchments .....	39
Figure 4. 28	Representations of impacts resulting from road construction on the water catchments. 39	
Figure 4. 29	Comparison of Individual's WTP for conservation basing on the services that the catchments provide by average incomes .....	40
Figure 4. 30.	Relationship between water catchment user's level of education and the amount they were willing to pay for the conservation of the wetland basing on the services it provides to water catchment users .....	41

## LIST OF TABLES

Table 4. 1: Estimated total economic value of the ecosystem services .....	41
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## LIST OF ACRONYMS

AfDB	African Development Bank
CBO	Community Based Organisation
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
ESIS	Environmental and Social Impact Statement
LEC	Local Environment Committee
MoWT	Ministry of Works and Transport
NEMA	National Environment Management Authority
PAP	Project Affected People
RAP	Resettlement Action Plan
RDC	Resident District Commissioner
UNRA	Uganda National Roads Authority
WB	World Bank
WMD	Wetlands Management Department
NAADS	National Agricultural Advisory Services
NFA	National Forestry Authority
NGO	Non-Governmental Organisation
NMT	Non-Motorised Transport
MAAIF	Ministry of Agriculture Animal Industry and Fisheries
MWE	Ministry of Water and Environment
AWE	Air Water earth Engineers

## ABSTRACT

The hydrology of water catchments of River Dura in Kamwenge and Fort-Portal is not very well documented, but it has various biological, ecological, social, cultural and economic values which are still evident in some parts of it. Current road construction of Kamwenge-Fort Portal road led to massive soil erosion into the water catchments of Dura river. The general objective of the study was to generate information on the economic value of ecological and environmental effects of the road construction activities to the services of selected catchments.

The study focuses on measuring the economic value of the use and non-use values of the catchments in road project affected areas as perceived from the community activities and determining the economically viable mitigative measures to threats to different livelihoods. The sample size was focusing on 60 respondents. Questionnaires and interviews were used to gather information from 1 Road contractor, 1 environmental engineer, 30 road seasonal workers, 23 water catchment users and 4 local leaders. Primary data was collected from the five sub-counties of Kahunge, Nyabani, Kamwenge TC and Ruteete. . Secondary data was collected from internet and research centres.

The monetary value for the different water catchment benefits that accrue to the people was calculated using the CVM by summing the direct use value with the indirect use value. It was found out that most individuals use the water catchments either for grazing or crop growing consequently, the estimated total economic value of the ecosystem services was US\$ 9664400. . The increased engagement in water catchment utilisation puts the future existence of the wetland and shallow wells along River Dura at risk. A policy to harmonise conservation and livelihood improvement be developed for the area to enable people continuously receive services from the water catchments..

# CHAPTER ONE

## 1.0. INTRODUCTION

### 1.1. Background

#### 1.1.1. Global perceptive of water catchments

Ashton & Haasbroek (2001) notes that water catchment supplies continue to dwindle because of resource depletion and pollution, whilst demand is rising fast because population growth is coupled with rapid industrialization, mechanization and urbanization. (Haasbroek, 2001) further observed that the hydrology of water catchments is not very well documented, but it has various biological, ecological, social, cultural and economic values which are still evident in some parts of it.

Throughout the world, water catchments are recognized as the most fundamental and indispensable natural resources and it is clear that neither social and economic development, nor environmental diversity, can be sustained without water (Ashton & Haasbroek, 2001). Ashton (2001) also notes that today, virtually every country faces severe and growing challenges in their efforts to meet the rapidly escalating demand for water that is driven by burgeoning populations. Water supplies continue to dwindle because of resource depletion and pollution, whilst demand is rising fast because population growth is coupled with rapid industrialization, mechanization and urbanization (Paul and Karen, 2004).

Ashton & Haasbroek (2001) notes that direct negative impacts will include soil erosion, scouring of the landscape due to opening of borrow pits, inadequate revegetation, dust, noise and vibrations during road construction, increased sediment loads to wetland system, and occupational safety hazards, traffic diversion and accidents. Haasbroek (2001) also noted that in addition, improved road likely to increase access to illegal or excessive exploitation of the water catchments. However, positive impacts from road improvement activities will occur and indeed justify this project. Paul and Karen (2004) also observed that secondary beneficial impacts include improved accessibility, reduced public transport costs, road safety, improved access to social services, improved local economies and induced development. Karen (2004) further notes that other benefits include stimulation and development of roadside economic activities, increased social mobility and access to social services especially health

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