BUSITEMA UNIVERSITY

FACULTY OF NATURAL RESOURCE AND ENVIRONMENTAL SCIENCES

THE ECONOMIC VALUE OF WETLAND RESOURCES: A CASE STUDY OF LWAJJALI WETLAND, KYAMPISI SUB COUNTY, MUKONO DISTRICT

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DECLARATION

I **Kibira N Waliyyah** hereby declare that this research report is my own work and has never been submitted to any institution of higher learning for any academic reward.

Signature ..... Date 14th/06/2017

APPROVAL

This research report has been successfully done and completed under my supervision:

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DEDICATION

I dedicate this piece of work to my lovely parents; Hajat Kibira Khadija and Hajj Kibira Sulaiman who have supported me all throughout my education, my brothers especially Ssenoga Umar, my sisters and the rest who contributed towards my studies. Thank you and God bless you all.

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ABBREVIATIONS

TEV	Total Economic Value
WTP	Willingness to Pay
NPV	Net Present Value
NFA	National Forestry Authority
GDP	Gross Domestic Product
MWE	Ministry Of Water and Environment

ABSTRACT

The study was under taken to determine the total economic value of Lwajjali wetland Kyampisi Sub County, Mukono district. The study utilised the contingent valuation method and the market price method to determine values of goods and services provided by Lwajjali wetland.

The findings of the study show that Lwajjali wetland provides ecosystem goods and services which include: crops, fish, mushrooms, fresh water, fuel wood, thatching grass, sand, papyrus, clay soils and building poles; non- marketed goods and services generated by the wetland were climate change regulation, medicinal plants and water purification. The highest value for goods obtained was that of fresh water estimated at 9,161,904UGX and the lowest was thatching grass estimated at 516,312UG and the highest valued ecosystem service was water retention with 12,365,086UGX and the lowest valued was recreation and tourism estimated at 923,136UGX. The total economic value of Lwajjali wetland in Kyampisi sub county, Mukono district was estimated at 48,967,896UGX.Lwajjali wetland provides a high economic value (48,967,896UGX) to the surrounding communities however, in its current state, the sustainability of the wetland is questionable as there are no institutions on the ground to control the use and management of the wetland resources.

It is therefore recommended that the government, through key ministries (Water and Environment) should set up the government institutions, facilitate the formation of a Community Based Natural Resource Management (CBNRM) teams and empower the teams and the institution to manage resource use and management in the wetlands.

CHAPTER ONE: INTRODUCTION

1.1 Background to the study

Wetlands are "areas of marsh, fen, peat land or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish, or salty including areas of marine water the depth of which at low tides does not exceed six meters"(Whiteoak & Binney, 2012). Wetlands are also defined as the transitional ecosystems that exist between terrestrial and aquatic systems. They form the inter linkages between the land and water ecosystems which are typically different and yet so highly dependent on each other.

Throughout human history, the term wetlands conjured up for many people a swamp full of slimy creatures, harboring diseases such as malaria. Indeed it is this view of wetlands as wastelands that has led to extensive drainage and conversion of wetlands for intensive agriculture, fish ponds, industrial or residential land or to improve public health. (Gumm, 2011) However, in recent years there has been increasing awareness of the fact that natural wetlands provide free of charge many valuable functions (e.g., flood alleviation, groundwater recharge, retention of pollutants), products (e.g., fish, fuel wood, timber, rich sediments used for agriculture in the floodplains, tourist attractions), and attributes (biodiversity, aesthetic beauty, cultural heritage and archaeology) (Franco et al., 2008).

Wetlands provide a variety of goods, services and attributes. Some of these are locally relevant; others have a regional, national or international importance. All together, the goods, services and attributes constitute a considerable ecological, social and economic value, which may be lost when wetlands are converted or altered. Wetlands are definitely not wastelands but "wealth land" contributing to the gross national product both visible and more intangible benefits.

The socio-economic benefits of wetland are better understood, as they involve immediate human interaction with the wetland. Human activities in wetlands generate a wide range of products, which are used locally, or traded over hundreds of kilometres. Many of the socio-economic values are essential for the wellbeing of local communities adjacent to the wetlands. Ugandans interface with wetlands on a regular basis, and the resources in the natural wetlands contribute directly and significantly to their sustenance. (Namakambo, n.d)

About thirteen percent of the national territory of Uganda is covered by wetlands, and it is therefore one of the most prominent land cover types. Some wetlands act as basins for tertiary

REFERENCES

Barbier, E. B. 2008. Ecosystems as Natural Assets. *Foundations and Trends in Microeconomics* 4:611–681.

Boyd, J., & Krupnick, A. (2009). The definition and choice of environmental commodities for nonmarket valuation. DP-09-35. Washington, DC: Resources for the Future.

Escudero, G. S. (2009). The willingness-to-pay, *43*(2).

Franco, D., Mannino, I., Piccioni, E., Favero, L., & Mattiuzzo, E. (2008). The Total Economic Value of wetlands in a European Region, (1971), 1–22.

Erwin, K. L. (2009). Wetlands and global climate change: the role of wetland restoration in a changing world. *Wetlands Ecology and Management*, 17:71-84.

Evans, A., & Jinapala, K. (2010). *Water Quality, Environment and Climate Change. Proceedings of National Conference on Water, Food Security and Climate Change in Sri Lanka* (Vol. 2). https://doi.org/10.3910/2010.205

Ghermandi, A., Bergh, J., Brander, L., De Groot, R., & Nunes, P. (2008) The Economic Value Of Wetland Conservation and Creation: A Meta-Analysis. *Research in agriculture and Applied science,* VU Amsterdam.

Gumm, E. (2011). The Use and Misuse of Wetlands in Kampala. Independent Study Program collection, paper 1022. Kampala, Uganda.

Hanley, N., & Barbier, E. (2009). Pricing nature: cost-benefit analysis and environmental policy. Edward Elgar Publishing, Cheltenham, UK.

Ivan, A., & Lucy, I. (2010). A Socio-Economic Baseline Survey Of Communities Adjacent To Lake Bisina / Opeta And Lake Mburo / Nakivali Wetland Systems.

Johnston, R. J., & Rosenberger, R. S. (2010). Methods, trends and controversies in contemporary benefit transfer. *Journal of Economic Surveys* 24:479–510.

Kuang, M., Rusli, M., Radam, A., & Adamu, A. (2015). Estimating willingness to pay for wetland conservation : a contingent valuation study of Paya Indah Wetland , Selangor

Lannas, L., & Turpie, J. (2009) Valuing the provisioning services of wetlands: contrasting a rural wetland in Lesotho with a peri-urban wetland in South Africa. *Ecology and Society* 14(2): 18. *[Online] URL: http://www.ecologyandsociety.org/vol14/iss2/art18/*

Lynam, W., Jong, D., Sheil, Kusumanto, T., & Evans, K (2007) A review of tools for incorporating community knowledge, preferences, and values into decision making in natural resources management,: *Ecology and Society* 12(1).

Morris, J., & Camino, M. (2011). Economic Assessment of Freshwater, Wetland and Floodplain(FWF) Ecosystem Services. *European Environment*, 78.

Nice, W, N. 2010. Livelihoods and Economic Benefits of Wetland Utilization in the Little Ruaha Sub-Catchment, Mufindi, Iringa.

Norah Namakabo (n.d): Un published report on wetlands in Mukono district.

Pascual, U., Muradian, R., Brander, L., Gómez-baggethun, E., Martín-lópez, B., Verma, M., … Simpson, R. D. (2010). Chapter 5 The economics of valuing ecosystem services and biodiversity, (March).

Smith, M. J., E., Sabine, G., Schreiber, M., Kohout, K., Ough, R., Lennie, D., Turnbull, C., & JIN, T. (2007). Wetlands as landscape units: spatial patterns in salinity and water chemistry. *Wetlands Ecology and Management*, 15: 95–103, Integration for Policy-Relevant Research. *Ecological Applications*, 18: 2050-2067. South Africa.

Thokozani, S, M. (2009). Small Scale Farming On Wetland Resource Utilisation: A Case Study of Mandlanzini, Richards Bay.

Whiteoak, K., & Binney, J. (2012). Literature Review of the Economic Value of Ecosystem Services that Wetlands Provide Final Report. *Financial & Economic Consultants ABN*, *66*(324), 79. Retrieved from http://www.marsdenjacob.com.au