BUSITEMA UNIVERSITY

Faculty of Natural Resources and Environmental Science

Department of Natural Resource Economics

COMMUNITY PERCEPTION OF THE ECONOMIC VALUE OF WATER RESOURCES AND SUSTAINABILITY OF THE ECONOMICS OF RAIN WATER HARVESTING TECHNOLOGIES IN CENTRAL UGANDA

BY

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DECLARATION

I **WAMALA BAZIRIO** declare that the interesting work in this research has been neither manipulated nor reproduced anywhere but attributed to the best of my knowledge, ability, research and academic experience.

Signed..... Date..26/06/2015.....

WAMALA BAZIRIO

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APPROVAL

This serves to certify that WAMALA BAZIRID did research that I had the pleasure to supervise. I confirm that this report is a true representation of the findings in it.

I am therefore recommending that the report be submitted to the Faculty of Natural Resources and Environmental Sciences of Busitema University.

..... Date 26/06/2015

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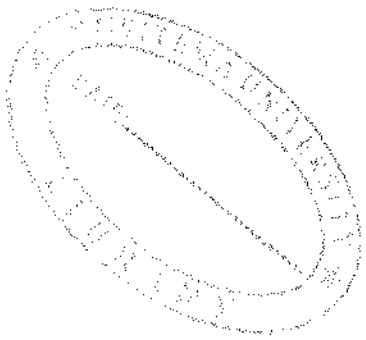
DEDICATION

On my free will, I dedicate a copy of this report to my humble mum who has made my education a first priority by allowing luxurious and ridiculous expenditures an opportunity cost.



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In the first place, it would be of my own fate if not a mockery of my own intentions for not thanking God for having blessed this fruitful work.

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ACRONYMS & ABREVIATION

SDIs	Sustainable development indicators
WSDF	Water and sanitation development facilities
UWSs	Urban water systems
NWSC	National water and sewage cooperation
RFWH	Runoff Farming Water Harvesting
OECD	Organization of economic cooperation for development
PES	Payment for ecosystem services
SSA	Sub-Saharan Africa
SADC	Southern African Development Community
CBA	Cost-benefit analysis
UWSs	Urban water systems
RWH	Rain Water Harvesting
HH	Household

ABSTRACT

Water is a vital production factor and an economic benefit for human life and biodiversity throughout the world whose commercial value differs from that of normal market goods. As water resources become increasingly scarce in Africa, the need for the use of economic tools to aid in decision making and management becomes susceptible (Turpie 2005). Multistage sampling in combination with simple random and purposive sampling techniques jointly with questionnaires and interviews guided the collection of information from Wakiso and Mpigi districts each from which two sub counties were selected; Wakiso, Nsangi, Mpigi and Buwama respectively. Market price and contingent valuation methods were used to find the value of ground running water sources and the value of water from the harvesting and conservation technology perspective. The study also accessed the sustainability of water supply systems. The total value of ground running water sources inclusive of the services, direct products and other products apart from water was found to be USUS$692550.94 for Wakiso, USUS$902350.65 for Nsangi, USUS$713225.72 for Mpigi and USUS$850341.3 for Buwama. Areas without piped water, Nsangi (USUS$902318.25) and Buwama (USUS$850187.7) had a higher value of the water from these sources. The total value of water from the harvesting and conservation technology perspective was USUS$205171.54 in Wakiso, USUS$149866.88 in Nsangi, USUS$85398.96 in Mpigi and USUS$101727.82 in Buwama. Wakiso and Nsangi had a higher value indicating a higher investment in water harvesting. Cross correlation matrices and regression analysis using the Gaussian Identity and Log Models were used to test for the significance of the reasons as to why people buy water and among others, independent variables like challenges faced in rainwater harvesting ($P<0.001$) and access to ground running water sources ($P<0.001$) were found significant. It is therefore recommended that government invests in equipping people especially in the rural communities with appropriate technologies and skills to enable them harvest rain water and excavate underground water together with effective management.

Key words: *Water, Total value, Sustainability, Central Uganda.*

CHAPTER-I: GENERAL INTRODUCTION

1.1 Introduction

This chapter includes Back ground and rational of the study, analysis of the research problem, the research objectives, hypotheses, conceptual framework, the scope and study limitations.

1.2 Back ground and rational of the study

Water is one of the most precious assets. It is an essential element of the economic, environmental aesthetic and social health of the state. The overall quality of life for all of the state's residents, human, plant and animal is inextricably linked to the quality and quantity of our water resources (Dave Marcouiller et al. 1999) Water uses are limitless.

At home, water is essential to our everyday activities, drinking, cooking, bathing, washing clothes and watering lawns. Farmers use water to irrigate their crops, beverage, food and paper producers employs water directly in their manufacturing processes. Electric companies create hydroelectric power with water. Other industries transport their products to market via lakes and rivers (Dave Marcouiller et al. 1999).

As our climate changes and the earth warms, the most immediate impact is on the hydrologic cycle. Warming impacts where precipitation falls, how much falls, and in what form. These changes directly affect the water supply available for drinking, irrigating crops, generating electricity, supplying industry and filling our lakes and rivers.

Ground running water resources provide a range of goods and services to people however the benefits provided by these goods and services are often not fully appreciated and factored into decisions about groundwater management and use.

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