BUSITEMA UNIVERSITY

Faculty of Natural Resource and Environmental Sciences

Department of Natural Resource and Environmental economics

Contribution of biodiversity and ecosystem services protection on household and national economies: A case study of Mabira forest, Buikwe district, central Uganda

BY

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A report submitted to the department for consideration in partial fulfillment for the award of the degree of Bachelor in Natural Resource Economics of Busitema University

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DECLARAT ION

I, **Mpande Mahad Kalyesubula**, do declare that the work presented herein is my own, except where it is acknowledged and that it has never been presented anywhere for the award of any degree or other certificate

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APPROVAL

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DEDICATION

This work is dedicated to:

-My dear brothers and sisters,

-Eng. Dr. MUNYULI Théodore

-Academic Staff of the Faculty of Natural Resource and Environmental sciences

-Students at Namasagali Campus, mainlyMariam Nalunkuma, Lumu Ahmed Yusuf,Mpomwenda Veronica and Kagoya Esther.

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LISOF ACRONYMS AND ABBREVIATIONS

CBO: Community Based Organisation.
MAFICO: Mabira Forest Intergrated Corporative Organisation.
NFA: National Forestry Authority.
OECD: Organisation for Economic Cooperation and Development
CFM: Collaborative Forest Management
GDP: Gross Domestic Product
CFR: Central Forest Reserve
PES: Payment for Ecosystem Services
CV: Contingent Valuation
UBOS: Uganda Bureau of Statistics
SPSS: Statistical Package for Social Services
ANOVA: Analysis of Variance
US: United States
UN: United Nations
SMFE: Small and Medium scale Forest Enterprise
NGO: Non Government Organisation
MSY: Maximum Sustainable Yield
FAO: Food Agricultural Organisation
CBD: Convention on Biological Diversity
AIC: Akaike's Information Criterion
BIC: Schwarz's Bayesian Criterion
WRI: World Resources Institute
SAO: Share an Opportunity

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ABSTRACT

A study was conducted to examine the contribution of biodiversity and the protection of ecosystems to the well-being of the people and the national economy at around Mabira forest in Buikwe District, central Uganda. Data collection consisted at assessing how people living in the forest make use of different biological species and the ecosystem services from the forest. Secondary data was obtained from literature in order to help the researcher understand better the topic. The study was of across sectional type. Both qualitative and quantitative approaches were applied to collect and analyze the data. Data was collected by conducting interviews using a questionnaire. The data was collected from a sample of 78respondents. Data was analyzed usingSTATA (version 8),Excel and Minitab (version15) while interested in carrying out descriptive statistics of the data. The results indicated a high economic value that forest plays in form of supporting life of species ranging from animals, birds and man himself. The ecosystem service such as the provision of fertility level were valued in terms of output from the agricultural land use by Maize; and was estimated to be worth US$143360 $ha^{-1}yr^{-1}$. Hunting as another service was estimated to accounts for US935860ha^{-1}yr^{-1}$. The results suggest that there is a need to invest in conservation of natural resources given the stream of benefits that underlie the forest and the lives that the forest supports in general. It was concluded that biodiversity and ecosystem services protection have a large contribution to the households as a major source of livelihood and to the national economy at large. It was recommended that adoption of prudent land-uses may help to protect the forest and the ecosystem services. Also, development goals by the government should take care of the sustainability issue with forest conservation in the region.

Keywords: *Mabira Forest, Biodiversity, Ecosystem services, Livelihoods, Valuation, central Uganda*

Figure 1A picnic site in Mabira Forest where recreation services take place.

CHAPTER ONE:GENERAL INTRODUCTION

1.1 Introduction

The research looked at the contribution of biodiversity and the protection of ecosystems to households and national economy in Uganda using a case study of Mabira Forest in Najjembe sub county of Buikwe district. This chapter covers the background of the study, problem statement. Objectives, research questions, scope of the study, justification of the study. conceptual framework, key terms used and the organisation of the research.

1.2 Background of the study.

Biodiversity has been most generally defined as the "full variety of life on Earth"(Takacs, 1996). More specifically, biodiversity is the study of the processes that create and maintain variation. It is concerned with the variety of individuals within populations, the diversity of species within communities, and the range of ecological roles within ecosystems (Graham Bell, pers. comm.).

If this seems like a vague definition, that's because it is. There is no agreement on what exactly biodiversity means. It can refer to genetic diversity, to species diversity or to the diversity of environments or habitats. Some believe that it has simply replaced the terms "nature" or "wilderness" (Chadwick, 1993).

Furthermore, researchers and conservationists all employ a working definition of biodiversity shaped by their values, interests and goals. There is a great variety of human perception about what biodiversity is and, therefore, there are many different reasons why it important to conserve biological diversity (Biodiversity theory).

An ecosystem is a community of living organisms (plants, animals and microbes) in conjunction with the nonliving components of their environment (things like air, water and mineral soil), interacting as a system (Tansley 1934; Molles 1999). These biotic and abiotic components are regarded as linked together through nutrient cycles and energy flows(Odum 1971).

As ecosystems are defined by the network of interactions among organisms, and between organisms and their environment(Schulze et al 2005). they can come in any size but usually encompass specific, limited spaces(Chapin et al2002) (although some scientists say that the entire planet is an ecosystem) (Willis1997).

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