



**BUSITEMA
UNIVERSITY**
Pursuing Excellence

FACULTY OF NATURAL RESOURCES AND ENVIRONMENTAL SCIENCE

DEPARTMENT OF NATURAL RESOURCE ECONOMICS

**ASSESSING FACTORS RESPONSIBLE FOR LOW ADOPTION OF IMPROVED FIRE
COOK STOVES IN AKERIAU SUB COUNTY, AMURIA DISTRICT.**

BY

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AKERIAU SUB COUNTY HEADQUARTERS, ORUNGO COUNTY, AMURIA DISTRICT, N.EASTERN (u)



a



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A TRADITIONAL THREE-STONE OPEN FIRE STOVE, A LEADING CAUSE OF RESPIRATORY ILLNESSES

DECLARATION

I hereby declare that this report is the original version of my academic study which has never been submitted elsewhere.

Signature.......... Date.....8/07/2016.....

APPROVAL

This report conducted in Akeriau Sub County reflects findings of the topic selected and has been approved to be submitted to the Faculty of Natural Resource and Environmental Science for a partial fulfillment of the award of a Bachelor of Science Degree in Natural Resources Economics.


.....

Date 11/7/2016.....

Henry Kisu-Kisira (Lecturer)

DEDICATION

I humbly dedicate this study report to all my family members; Esther Caroline Amayo in particular, my parents Mr. and Ms Edoku John Robert, my friends, all my University lecturers most especially Mr. Kisu-Kisira my Supervisor and long time academic mentor.

ACKNOWLEDGEMENT

I would like to acknowledge God's power and love for mankind that has kept me all through my academic journey and success, Glory is to His Name Amen.

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ABBREVIATIONS

ANRS	Amhara National Regional State.
ASB	Albeit Samaritan Band
CDF	Community Development Facilitator
CMFFSHS	Construction Manual For the Firewood Saving house hold Stoves.
COPD	Chronic Obstructive Pulmonary Disease
DAO	District Agricultural officer
DEO	District Environment Officer
DFO	District Forest Officer
DNRO	District Natural Resource Officer
DPO	District Production Officer
EPAE	Extended Protection Amendatory Endorsement
FAO	Food and Agriculture organization
FAOSTAT	Food and Agriculture Organization Statistics.
GACC	Gatwick Area Conservation Campaign
GSS	General Social Survey
GVEPI	Global village energy partnership International.
HHs	House holds.
ICS	Improved Cook Stoves
IJES	International Journal of Energy Science (IJES)
LPG	Liquidified Petroleum Gas
MEMD	Ministry of Energy and Mineral Development
ONIL	Improved Cook stove name developed by ONIL
PM	Particulate matter.
PREEEP	Renewable Energy and Energy Efficiency Programme.
RESPIRE	Randomized Exposure Study of Pollution Indoors and Respiratory Effects
USD	United States Dollar
WDI	World Development Indicator
WHO	World Health Organization

ABSTRACT

This study was carried out in Akeriau Sub County, Amuria district of North Eastern Uganda. The main objective of the study was to assess the factors responsible for low adoption of improved fire cook stove technology in Akeriau Sub County. The specific objectives were; to find out the different types of improved fire cook stoves used by house holds in Akeriau Sub County, to establish the different sources of fuel wood materials used for cooking and their impacts to house hold health and the environment in Akeriau Sub County, and to find out the rationale for improved fire cook stoves adoption and family wood lots in food preparation and other cooking related activities.

A descriptive study design was used involving 82 respondents drawn from all different parishes in Akeriau Sub County, the technical sub county and District staffs were also interviewed. Questionnaires were self administered observing the cook stoves types in use, Akeriau sub county five year plan, Amuria district statistical Abstract, and Akeriau Sub county housing census report was sought for more data.

The findings reveal that nearness to cooking materials and their availability dictate on acceptance of a cook stove, in a typical rural setting rather than age, education level, cost, culture, gender, income level as asserted by different scholars. The results further reveal that biomass burning in open fires is a leading cause of indoor air pollution at homes.

The researcher recommends the introduction of a new policy-The Integrated Kitchen Environment Care Policy (TIKECP), establishment of demo sites for demo construction, introduction of cook stove energy law focusing on compulsory use of improved fire stoves and setting up pocket friendly prices.

Akeriau sub county community, all technical and political leadership and the sub county local government should focus on implementing the recommended policy and other suggested ways.

CHAPTER ONE: INTRODUCTION

1.1 Introduction

According to World Health Organization 2011, three billion people cook and heat their homes using open fires globally and estimates are that nearly two million people die prematurely from illness attributable to indoor air pollution from solid fuel used. In East Africa, the situation is not different, cooking takes place with biomass, on open fires using rudimentary stoves and as a result, donor led programs have promoted improved cook stove technologies over the past 30 years (GVEP 2011).

In Uganda, firewood and agricultural crop residues are used to provide energy for various purposes such as food preparation, brick burning, bakery works, distillation, agro processing and jaggeries. These activities are performed in poorly ventilated structures and incomplete combustion of these fuels results in high indoor concentrations of health damaging pollutants including particulate matter and carbon monoxide (Jetter and Kariher, 2009; Rehfuess, 2006).

1.2 Background of the study

Akeriau Sub County lies in Orungo county, Amuria district of Eastern Uganda. It faces a biomass energy crisis marked by an increasing imbalance between the supply and the demand for the fire wood by households, institutions like schools and small scale industries like brick making. One of the most effective strategies to sustainably contribute towards the reduction of this problem is through an extensive dissemination of biomass energy efficient technologies. According to (CMFFSHS- MEMD 2008) improved stoves help the users to have firewood savings of 50-60% when compared to the traditional (open) 3-stone stove.

House holds use the traditional open three stone stove to perform a number of cooking related activities such as food preparation, body warming, routine cultural morning/evening family sittings locally known as *etem*, roasting of fermented millet/cassava for the preparation of a local drink known as *ajon for millet* and *emeeka* for cassava. To make matters worse, distillation of crude waragi into alcohol (*emeeka*) requires heavy fuel wood that burns to heat the metallic drum to stimulate and sustain distillation process. Drinking of the local

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