

**COST-BENEFIT ANALYSIS OF SUGARCANE GROWING IN
BULONGO SUB COUNTY- LUUKA DISTRICT**

BY

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**A RESEARCH REPORT SUBMITTED IN PARTIAL FULLFILMENT OF THE
REQUIREMENT FOR THE AWARD OF A DEGREE IN BACHELOR OF SCIENCE IN
NATURAL RESOURCE ECONOMICS OF BUSITEMA UNIVERSITY**

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DECLARATION

I Kabandha Deo declare that this is my original work and has not been submitted to any institution of higher learning for any award of a degree or any other qualification.

Signature... 

KABANDHA DEO

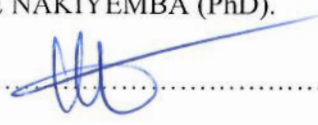
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APPROVAL

This is to certify that this research report Titled: Cost-Benefit analysis of sugarcane growing in Bulongo sub county-Luuka district is the original work for KABANDHA DEO. It has been done under my supervision.

DR. ALICE NAKIYEMBA (PhD).

Signature.....



Date.....



DEDICATION

I dedicate this report to my parents, brothers, sisters, friends; and the staff and directors of Nile High School-Kiyunga (NHSK).

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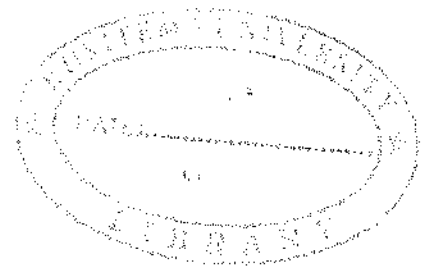
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ACRONYMS

BMP	Better Management Practices
COMESA	Common Market for East and South Africa
EAC	East African Community
FAO	Food and Agriculture Organization
GDP	Gross Domestic Product
Ha	hectare
KORD	Kakira Out growers Rural Development
KSL	Kakira Sugar Limited
MSL	Mayuge Sugar Limited
MW	Mega Watt(s)
NAADS	National Agricultural Advisory Services
NGO	Non Governmental Organization
SACCOS	Savings and Credit Co-Operative Societies
SAIL	Sugar and Allied Industries Limited
SCOUL	Sugar Corporation of Uganda Limited
t/ha	Ton per hectare
t/ha/yr	Ton per hectare per year
UBOS	Uganda Bureau of Statistics
UNASGO	Uganda National Association of Sugar cane out Growers
UPE	Universal Primary Education
USE	Universal Secondary Education

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ABSTRACT

The study was carried out in Bulongo Sub County in Luuka district to assess the Cost- Benefit analysis of sugarcane growing. Sugarcane growing has led to the replacement of cash crops like cotton, coffee among others, for sugarcane. Most of the farmers in the country grow sugarcane for sale while ignoring other consequences of sugarcane growing like food insecurity leading to rampant starvation and malnutrition, loss of biodiversity through habitat destruction, loss of soil fertility, climatic change leading to diseases, increased school drop outs. The general objective of the study was to assess Costs Versus Benefits of sugarcane growing to livelihoods of the people of Bulongo Sub-county and the Specific Objectives included; To find out the drivers of sugar cane growing, To identify the costs incurred and the benefits obtained from sugarcane growing to the people, To suggest the best approaches to sustainable sugarcane growing in the Sub County.

The study targeted sugarcane farmers and data was obtained from a sample of 70 respondents of the age ranging from 20 & above years. The study involved the use of mixed methods and farm households were selected by purposive and snow ball sampling techniques. The methods of data collection that were used are self administered Questionnaire, Interview, Observation and finally recording the obtained data in a notebook. Data after being collected, was coded, edited, summarized in a manual sheet and entered in statistical packages of Microsoft Excel and SPSS for analysis. This resulted into generated frequency tables, Pie Charts and bar graphs.

From the findings, it was generally concluded that benefits from growing sugarcane are greater than the costs incurred in its production (80% of the respondents said that the benefits they obtain from growing sugarcane are greater than costs they incur during the activity). The study recommended increased sensitization of the people about the sustainable use of available natural resources and, the set rules and regulations governing sugarcane growing. The study also recommended government to protect sugarcane out growers against exploitation by the Sugar factories by setting minimum price for the sugarcane product. It also recommended enforcing the law by local leaders and the police to arrest and prosecute plantation owners who are found using children under the age of schooling.

CHAPTER ONE: INTRODUCTION

1.1 Introduction

Chapter one entails the background of the study, Statement of the problem, objectives of the study and the scope of the study.

1.2 Background

Sugarcane is the world's largest crop by production quantity (FAO, 2014). In 2012, FAO estimates it was cultivated on about 26.0 million hectares, in more than 90 countries, with a worldwide harvest of 1.83 billion tonnes. Brazil was the largest producer of sugar cane in the world. The next five major producers, in decreasing amounts of production, were India, China, Thailand, Pakistan and Mexico.

More than 145 million tonnes of sugar (sucrose) is produced per year in about 120 countries; open pan (artisanal) sugar production in Asia probably adds more than ten million tonnes to this total. Annual consumption is expanding each year by about two million tonnes. Around 60-70 % is produced from sugar cane with the remainder from sugar beet (Willer and Youssefi, 2007).

It is estimated that Uganda's domestic demand shall be close to 500,000 metric tonnes by 2015; hence the planned expansions in this sub sector should be able to meet this domestic demand. Significant capital investment in order to expand sugar production capacities as well as diversification of by-products to achieve economies of scale; is envisaged with all the major sugar mills. In addition, the factories will be encouraged to produce close to 100MW of "green" electricity from burning bagasse, mainly for their own use and the surplus will be offloaded for sale to the national grid. This will help ease the power shortfall that Uganda is currently facing (The National Sugar Policy, 2010).

It is good to note that much of the cane supply for this expansion shall come from out grower farmers who are currently supplying about 50% of total cane requirement of the major sugar factories. This intervention is in line with government programme of poverty eradication and prosperity for all Ugandans (The National Sugar Policy, 2010).

Producing Sugar from cane how ever comes with; Habitat loss, cumulative impacts and impacts on

REFERENCES

- "Sugar cane-history". Royal Botanical Gardens, Kew. 2004.
- Anguyo Innocent Alia, 2013. <http://www.blogger.com/profile/16774707726609773794>.
Post date 2nd July 2013.
- Bureau of Statistics, Entebbe, Uganda. www.ubos.org
- Cheesman, O.D. (2004). Environmental Impacts of Sugar Production: the Cultivation and Processing of Sugarcane and Sugar Beet. CAB International, Wallingford, UK. (www.cabi-publishing.org)
- Clay, J. (2004). World Agriculture and the Environment: a Commodity-by-Commodity Guide to Impacts and Practices. Island Press. (www.islandpress.org)
- Dahlia et al., 2009. "Consumer Preference for Indigenous Vegetables". World Agroforestry Centre
- FAO Stat (2012) <http://faostat.fao.org/site/339/default.aspx> Sunday, May 06, 2012
Food and Agriculture Organization of the United Nations. Retrieved 2014
- Ghosh, Nilabja (2003), Organic Farming in North – East Hill Region in India, 3Biennial Conference on "Biodiversity and Quality of Life", 18-20 December, Calcutta
<http://en.wikipedia.org/wiki/file>
- IFC/WWF. (2004). Better Management Practices and Agribusiness Commodities, Phase Two: Commodity Guides (Research Report for IFC Corporate Citizenship Facility and WWF-US).
- Journal of the American Society of Sugar Cane Technologists, 2012
- Niki Stojnic, 2014. eHowBusinessBusiness & SocietyBusiness & the EnvironmentNegative Effects of Sugar Cane Production on Countries.
- Pachauri, R. K and P. V. Sridharan (1998), Looking Back to Think Ahead: Green India, Tata Energy Research

Parrott, N. and T Marsden (2002), *The Real Green Revolution – Organic and Agro-ecological Farming in the South*. Green Peace Environmental Trust, London-Institute, New Delhi, pp. 346.

Rabobank. (1999). *The World of Sugar and Sweeteners*. Rabobank International. Utrecht. The Netherlands1.

Rena Perez, 1997. "Feeding pigs in the tropics". Food and Agriculture Organization of the United Nations.

Samuel Nabwiiso, 2012.the Observer

Sharpe, Peter (1998). "Sugar Cane: Past and Present". Southern Illinois University. Retrieved 2012-04-02

Singh, I P, B Singh and H S Pal (1987), Indiscriminate Fertilizer Use vis-à-vis Groundwater Pollution in Central Punjab, *Indian Journal of Agricultural Economics*, 42 (3):404-409.

The National Sugar Policy, 2010: Ministry of Tourism, Trade and Industry

Trevor Solomon Baleke. 2013: The Observer. Post date: 5th March 2013

UBoS (2001) Uganda National household survey 1999/2000; Report on the socioeconomic. Uganda

Uganda Bureau of Statistic 2012 Statistical Abstract

USCTA (2001) The Uganda Sugarcane Technologist's Association, Fourth Annual Report, 2001, Kakira, Uganda

USCTA (2006). The Uganda Sugar Cane Technologists Association annual report of 2006

Watson, Andrew. Agricultural innovation in the early Islamic world. Cambridge University Press. p. 26–7.

Willer, Helga and Minou Youssefi (2007), *The World of Organic Agriculture: Statistics and Emerging Trends*, International Federation of Organic Agriculture Movements (IFOAM), 9Revised Edition, Bonn, Germany

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