EFFECT OF MUHORONI SUGAR COMPANY'S PRACTICES ON LIVELIHOOD OF SUGARCANE OUT-GROWERS IN MUHORONI DISTRICT, KENYA

BY

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DECLARATION

This Research Project Report is my original work and has not been submitted for any award in any other University or College.

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DEDICATION

This work is dedicated to my father Washington Oliech, my mother Serfine Osieko, my brother Nashon Osieko, my beloved wife Judith Omanga and my son Nevine Osieko. Your love support and encouragement inspired me.

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TABLE OF CONTENT

CHAPTER TWO

LITERATURE REVIEW

CHAPTER THREE

RESEARCH METHODOLOGY

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSIONS

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS AND ACRONYMNS

AIDS	Acquired Immune Deficiency Syndrome
APHRC	African Population and Health Research Centre
DFID	Department for International Development
EPZ	Export Processing Zone Authority
ERS	Economic Recovery Strategy
FAO	Food and Agriculture Organization
G.O.K	Government of Kenya
HDI	Human development Index
KIHBS	Kenya Integrated Household Budget Survey
MUSCO	Muhoroni Sugar Company
N.G.O	Non Governmental Organization
UNCHR	United Nations Higher Commission for Human Rights
SL	Sustainable Livelihood
UK	United Kingdom
UN	United Nations
UNCTAD	United Nations Conference on Trade
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNPF	United Nation Population Fund
USA	United States of America
WHO	World Health Organization

ABSTRACT

A person's livelihood refers to their "means of securing the necessities of life", it entails a set of economic activities, involving self employment or wage employment by using ones endowment (both human and material) to generate adequate resources for meeting their requirements of self and household on a sustainable basis with dignity. Sugarcane out-growers' livelihood depends on availability and accessibility of farm production. There is little empirical evidence on effect sugar company practices on livelihood of sugarcane out-growers that would facilitate evidence based planning, a gap which the study intended to fill. The study sought to assess sugarcane out-growers views on effect Muhoroni sugar Company practices on their livelihood in Muhoroni district, Kenya. The study was guided by four objectives which included; to establish effect of company practices on education of sugarcane out growers in Muhoroni district, to examine effect of company practices on health of sugarcane out growers in Muhoroni district, to determine effect of company practices on food security of sugarcane out growers in Muhoroni district, to assess the effect of company practices on housing of sugarcane out-growers in Muhoroni district. The study adopted descriptive survey research design to seek views of 370 sugarcane out-growers chosen by stratified random sampling technique from the target population of 5000 sugarcane out-growers in four admistrative divisions in Muhoroni sub - county namely Koru, Muhoroni, Chemelil and Fourt Tenan. Questionnaires were used in the study for data collection. The quantitative data was analyzed using descriptive statistics based on frequency distribution and percentage counts while qualitative data was organized into various themes of the study and reported narratively. Statistical Package for Social Sciences (SPSS) was used as tools for data analysis. The researcher came up with findings, conclusion and recommendations that may influence policy formulation. The study findings revealed that most sugarcane out –growers 216 (59%) were not satisfied with remuneration offered by the company in terms of delay in remitting the cash and reluctance in reviewing remuneration to be in tendon with the current economic reality, as a result majority of the farmers were unable to sustain their children in school due to lack of school fees. The findings also showed that majority of sugarcane out –growers 221(60.5%) cannot afford the minimum number of three meals per day. On health, the study established that most cane farmers 217(59.5%) preferred health facilities for their source of medication but the problem was that majority at 259 (71%) could not afford the drugs prescribed by the doctors . Further findings revealed that most farmers at 239(65.4%) rated the general condition of their houses to be poor. Some of the conclusion drawn from the findings were that most sugarcane out –growers were not able to educate their children due to delay in payment by the company, most farmers were not able to afford meals as they desire, live in bad houses and unable to afford drugs prescribed due to financial constraints. This study recommends that the company improves the remuneration offered to farmers and make an effort to release the cash in time to enable sugarcane out –growers have decent livelihood.

INTRODUCTION

1.1Background of the study

In social sciences, the concept of livelihood extends to include social and cultural means, i.e. "the command an individual, family, or other social group has over an income and/or bundles of resources that can be used or exchanged to satisfy its needs. This may involve information, cultural knowledge, social networks and legal rights as well as tools, land and other physical resources (Blaikie P., Cannon T., Davis I., Wisner B., 2004) The sugar industries globally have had effects on the livelihood of out growers in the sense that sugarcane out -grower schemes have advantages for in regard to market for crops, inputs, innovation and application of new technologies and extension services; and the realization of income through the cultivation of high value crops. This has in turn led to sustainable livelihoods such as coping with immediate shocks and stresses, local capacities and knowledge are promoted, and existing institutions strengthened and agenda of work extended.

In United States (U.S.A), the year 2009/2010 crop year, sugarcane was planted on 812000acres with yield averaging 35 tons per acre, which corresponds to over 28 million tons of cane produced. Roughly 90% sugar production took place in Florida and Louisiana with the remainder coming from Texas and Hawaii. (American Sugar Alliance, 2011). There are a total of 739 independent cane farmers in U.S.A and 518 unpaid family members adjacent to a fulltime equivalent, this coupled with 1129 fulltime employees, 312 seasonal workers employed in both family farms in Florida and Hawaii. The total economic impact

from raw sugarcane production in US with direct and induced effect is $5.4 billion (American Sugar Alliance, 2011).

Brazil has undergone profound social economic changes; its economy has become dominated by large industrialized sector in a relatively short time, Brazil society which has been predominantly rural has increasingly become urbanized (Baer, 2008). According to industry figures 65% of sugar produced worldwide comes from four countries Brazil, Australia, Cuba and Thailand (Kimera, 2005). During the past 30 years, Brazil became the major producer of sugar cane and today it accounts for about one third of the world's product. It is also the most efficient in sugar production. Brazilian sugar cane based complex has three major product lines namely sugar, bio ethanol and bio electricity. It is the largest exporter of bio ethanol (Kimera,2005).

Swaziland is considered to be one of the lowest cost producers in the world. According to United Nations Conference on Trade UN (2000), the sugarcane industry, which includes the growing of cane, It's processing to products is of great importance to the Swaziland economy. In 1998, it accounted for 18% of national output, 22% of private sector employment, and 15% of national employment and a third of total export value. In both 1997 and 1998, they produced a total of 3.9 million tons of cane. There are three sugar mills in the country and each with a capacity to produce 160000 tons of sugar per year. Sugar cane is the main stay of Swaziland economy with sugar cane growing accounting for 53% of the agricultural output and 34% 0f agricultural wage employment (UN, 2000).

In Tanzania ,sugar industry is one of the oldest industries in the country with history dating back to late 1920s.The first sugar industry was established in 1934 at Tanganyika

Planting company limited in Moshi, followed by Mtibwa in 1960 and Kilombero in 1962. The 3 sugar industry employs over 25000 employees as permanent, contract or casuals'. Out growers schemes in the respective areas have played a crucial role and impacted positively in community and national economy (Kimera, 2005). The sugar industry in Uganda dates back to 1924, the first was Lugazi, followed by Kakira in 1930, then Sango bay in Rakai district and National sugar work Kinyara.The three sugar industries employ about 21,749 employees as permanent, contract and casuals, and about 80-90% of the sector employees are members of the National Union of Plantation Workers for Uganda.

In Kenya, sugar industry dates back to 1922, with the establishment of the first sugar factories. The industry directly and indirectly supports the livelihood of 5 million Kenyans representing about 16% of the entire Kenyan population. Sugar cane growing is also a major source of income to over 150,000 shareholders (Central Bureau of Statistic, 2004). Sugarcane is grown on fairly flat regions in the Western, Nyanza and Coast Provinces. About 85% of the total cane supply is from small-scale growers whose livelihood depends on it while the remaining is from the nucleus estates of the sugar factories (Central Bureau of Statistic, 2004).

In Kisumu County, the first sugarcane factory was set up in Miwani in 1922, then Ramisi in 1927, in 1966 Muhoroni, followed by Chemelil in 1968, Mumias 1973, Nzoia 1978 and Sony 1979 (Kegode, 2005). The sector is at cross road which demands urgent reforms in substantial injections of a new investment to keep the sector from going under (Kegode, 2005). According to Export Processing Zone Authority EPZ (2005), the growth of the sector is vital to the economic development of a country as this ensures increased

income and employment of rural population especially small scale producers who constitute 75% of the Kenyan population.

According to institute of economic affairs (2005), sugar industry ensures food security and improves rural livelihood, it also provides sustainable livelihood to millions of Kenyans however it is under constant threat of collapsing due to perennial challenges. Some of the stakeholders in the sector include farmers, government, sugar factories , out-grower associations, importers, financial institutions, consumers; lobby groups like Sugar Campaign for Change (SUCAM), unfortunately not all of them have been involved in due processes.

Most of the industry actors want a stakeholder system benefitting all. The farmers should be given more powers to manage the industry without interference Ochola (2005). The study therefore sought views of farmers who grow and supply sugarcane to the company on effect of Muhoroni Sugar Company's practices on their livelihood to provide data that will aid in policy formulation.

1.2Statement of the Problem

The sugar industry is a major contributor to the agricultural sector which is the mainstay of the economy and supports livelihoods of at least 25% of Kenyan population. The subsector accounts for about 15% of agricultural GDP, is a dominant employer and source of livelihoods for most households in the Western Kenya comprising Nyanza, Rift valley and Western (Central Bureau of Statistics, 2004).

Muhoroni Sugar Company (MUSCO) relies heavily on the sugarcane produced by out growers (farmers) for its sustainability. It takes one and a half year (18months) for cane

to be ready for harvesting. The farmer meets all the operational costs land purchase, land preparation, planting, maintenance and transport the cane to the millers for processing. Most sugarcane out growers devotes large parcels of their land to cane farming.

Currently the company pays Ksh.3500 per ton for cane delivered. Sugar industry is a massive investment and its presence is expected to be reflected on the quality of life of farmers. Sugar companies will cripple the sector, while sugar millers are making profits, cane farmers still earn same pay as what they used to earn several years ago Otiende P. (2013) in Ontomwa and Okoth (2013). Even though many millers are in value addition farmers are yet to experience any improvements in what they are paid for the cane and it is upon the county government to device a way to ensure all stakeholders are brought on board and solutions are found that would benefit cane farmers (Ontomwa and Okoth, 2013).

The study therefore sought to fill this gap by incorporating views and suggestions of sugarcane out-growers that may influence policy formulation as far as the their welfare is concerned. Therefore to understand the effect of Muhoroni sugar company's practices on the livelihood of sugarcane out growers, a detailed analysis on its influence on education standard, health, food security and type of housing warranted this study .

1.3 Purpose of the Study

The purpose of this study was to assess the effect of Muhoroni Sugar Company's practices on the livelihood of sugarcane out growers in Muhoroni Sub County.

1.4 Objective of the Study

The study was guided by the following objectives;

i. To establish the effect of Muhoroni Sugar Company practices on education of sugarcane out growers.

ii. To examine the effect of Muhoroni Sugar Company practices on health of sugarcane out growers.

iii. To assess the role of Muhoroni Sugar Company practices on food security of sugarcane out- growers.

iv. To determine the effect of Muhoroni Sugar Company practices on housing of sugarcane out growers.

1.5 Research Questions

The study sought to answer the following research questions;

i. What is the effect of Muhoroni sugar company practices on education of sugarcane out growers?

ii. How has Muhoroni sugar company practices influenced the health of sugarcane out growers?

iii. What is the role of Muhoroni sugar company practices on food security of sugarcane out growers?

iv. What is the effect of Muhoroni sugar company practices on housing of sugarcane out growers?

1.6 Significance of the Study

It is hoped that the study would help government agencies in policy formulation regarding the welfare of sugarcane out growers. The knowledge gained from the study would act as a basis for further research in various aspects of companies in relation to suppliers of raw materials.

The information in the study would also be useful to Non-Governmental Organizations (N.G.Os) that advocate for economic welfare of the citizens. Last but not least, sugarcane out growers would also be able to evaluate the viability of sugarcane farming as compared to other economic uses of land.

1.7 Basic Assumptions of the Study

The study assumed that sugarcane out –growers in Muhoroni sub – county majorly depend on Muhoroni Sugar Company for their livelihood. The study assumed that participants in the research were willing to participate freely and give honest opinions in the study. It is also assumed that the sample chosen for the study was a fair representation of the entire target population. Finally, the instruments used in the study captured the variables under investigation.

1.8 Limitation of the Study

The study would have been carried out in all sugar companies to increase its external validity. But this was not possible due to the vastness of the study and the limited time span in conducting the study. T he researcher reduced this limitation by confining the study to sugarcane out – grows within Muhoroni district. For these reasons, however useful the

findings of the study may be, such findings will only be relevant to Muhoroni Sugar Company where the research was conducted.

1.9 Delimitation of the Study

The study was carried out in Muhoroni Sugar Company which is situated in Muhoroni Division, within Muhoroni Sub County, Kisumu County.

1.10 Definitions of Significant Terms Used in the Study

Company Practices Policies, activities and rules that affect sugarcane out-growers

Education Acquisition of knowledge, and Skills by sugarcane out-growers.

Employment Gainful economic activity which generates income to out-growers.

Health Access and availability of medical services to sugarcane out-growers.

Livelihood Means of securing necessities of life due to sugar production.

Out Growers Farmers who grow and supply sugarcane to Muhoroni sugar company.

1.11 Organization of the Study

The study was organized into five chapters; chapter one basically gives the introduction and described the background of the study, statement of the problem, purpose of the study, objectives of the study, research questions, significance of the study, basic assumptions of the study, limitations of the study and delimitations of the study . Chapter two provided a review of literature related to the study thematically as per the research objectives Chapter three focused on the research methodology discussed under the following sub-headings; research design, target population, sample size, sample selection, research instruments, data collection procedures, data analysis technique and ethical issues in research. Chapter four focuses on the study findings, analysis, interpretations and discussions. Chapter five, which is the last chapter, focuses on summary of the findings, conclusion, recommendations for policy action, and suggestions.

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CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviewed the literature related to the study. It covered the following themes: Concept of the livelihood, Sugar company practices, Sugar Company practices effect on livelihood sugarcane out-growers, effect of food security on livelihood of sugarcane out-growers, effect housing on livelihood of sugarcane out-growers, effect of health on livelihood of sugarcane out-growers, theoretical framework, conceptual framework and Summary of the literature reviewed.

2.2 Concept of livelihood

A livelihood comprises the capabilities, assets (stores, resources, claims and access) and activities required for a means of living. A livelihood is sustainable when one can cope with and recover from stress and shocks, maintain and enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation; and which contributes net benefits to other livelihoods at the local and global levels and in the short and long term" (Chambers and Conway, 1992). According to this view, poverty reduction interventions should focus on empowering the poor to build on their own opportunities, supporting their access to assets, and developing an enabling policy and institutional environment. It is easy to see that livelihoods approaches place people and their priorities at the centre of development, trying to understand the differences between groups of people

and working with them in a way that is appropriate to their current livelihood strategies, social environment and ability to adapt (Romano *et al.*, 2011).

The way a household copes with and withstands economic shocks depends on the options available in terms of capabilities, assets (including both material and social resources) and activities, i.e., on the household livelihood strategy (Dercon and Krishnan, 1996; Ellis, 1998). "Livelihoods thinking" is mainly an offspring of British development think tanks and organizations (IDS, ODI and DFID, among others), which was enthusiastically embraced by several important NGOs (for example, CARE, Oxfam) and development agencies for example, UNDP and FAO (Romano *et al.*, 2010). The livelihood approach dates back to the contributions of several scholars between the mid-1980s and the early 1990s as a new way of thinking about the objectives, scope and priorities for development. Its emergence had all the qualities of a classic "paradigm shift Solesbury, (2003). For the researchers, the sustainable livelihoods concept provided a rich new agenda. It quickly became an international focus for both empirical and theoretical work. The UK Government endorsed it in its 1997 White Paper on International Development and between 1998 and 2002 the Department for International Development (DFID) placed considerable emphasis on the development and rolling out of the approach (Romano *et al.*, 2010).

Today, livelihoods approaches are most useful as an analytical or heuristic tool (Clark and Carney, 2008). They provide a way to order information and understand not only the nature of poverty, but also the links between different aspects of people's

livelihoods. In this way, they help users to understand complex and changing situations. They broaden the policy dialogue and assist in identifying the relevance of programs as well as where key constraints and opportunities lie. Furthermore, livelihoods approaches are still essential within social and economic research on poverty and food security, both as embedded in research strategies or as a research tool (Carter and May,1997; Orr and Mwale, 2001; Barrett *et al.,* 2001; Brown *et al.,* 2006; Devereux, 2006; Ellis and Freeman, 2007; Babulo *et al.,* 2008). Livelihood outcomes are the goals to which people aspire, the results of pursuing their livelihood strategies, such as increased income, reduced vulnerability, increased well-being, improved food security, and more sustainable use of natural resources. Livelihoods outcomes are important because they help the analyst to understand the results of peoples' livelihoods strategies in a particular context, why people pursue particular strategies and what their priorities are, and how people are likely to respond to new opportunities or constraints (Romano *et al.,* 2010).

The concept of livelihood is increasingly used in development debates in which peoples capabilities and social as well as material assets are recognized to be important standard of living indicators (Tacoli *et al.,* 2005). Kenya Vision 2030 is the country's development blueprint covering the period 2008 to 2030. Its objective is to help transform Kenya into a middle-income country providing a high quality life to all its citizens by the year 2030 (Bolo and Nkirote, 2012).The livelihoods approach differs from conventional evaluations in its central focus on people's lives rather than on resources or defined project outputs (Bolo and Nkirote, 2012). As we have gained an improved understanding of poverty in recent years, three key facts have been highlighted. First, well-being is not only

about increased income. Other dimensions of poverty that must be addressed include food insecurity, social inferiority, exclusion, lack of physical assets, and vulnerability. Second, household poverty is determined by many factors, particularly access to assets and the influence of policies and institutions. Third, livelihood priorities vary; outsiders cannot assume knowledge of the objectives of a given household or group. Project impact assessment must therefore be based upon a prior understanding of people's objectives as well as on an informed view of how their livelihoods are constructed and which factors are the essential causes and manifestations of their poverty (Ashley and Hussein, 2000).

The sustainable livelihoods (SL) approach to development and poverty reduction tries to take all these concerns into account. It aims to promote development that is sustainable not just ecologically, but also institutionally, socially and economically and to produce genuinely positive livelihood outcomes (rather than concerning themselves with narrow project outcomes, with resources or with output (Ashley and Carney, 1999). When it comes to impact assessment, this means that changes in measurable (e.g. cash, yield) must be assessed not in their own right, but in terms of the contribution they make to livelihoods. That contribution may be *direct* (e.g. adding to income, health, food etc.) or *indirect* (affecting their assets, activities and options, and ability to cope with shocks).

Changes in the *way* people live their lives may be just as important as more obvious changes in *what* they achieve. Both are considered within livelihoods assessments (Ashley and Hussein, 2000). The aim of a livelihoods assessment is to gain an understanding of the significance of the project to the livelihoods of project participants and other local residents. Such an assessment is based on the premise that the project and project

participants shared a core aim: the enhancement of local people's livelihoods (Ashley and Hussein, 2000).

2.3 Sugar Company Practices

In United States (U.S.A), the year 2009/2010 crop year, sugarcane was planted on 812000 acres with yield averaging 35 tons per acre, which corresponds to over 28 milions tons of cane produced. Roughly 90% sugar production took place in Florida and Louisiana with the remainder coming from Texas and Hawaii (American Sugar Alliance, 2011).There are a total of 739 independent cane farmers in U.S.A and 518 unpaid family members adjacent to a fulltime equivalent, this coupled with 1129 fulltime employees, 312 seasonal workers employed in both family farms in Florida and Hawaii.

The total economic impact from raw sugarcane production in US with direct and induced effect is $5.4 billion (American sugar Alliance, 2011) like all industries; the US sugar sector has a broader impact on the overall economy (LMC, 2011). Between 1993/94 and 2009/10, the direct economic impact of the US sugar industry on the US economy increased by more than 80%, from $10.6 to $19.4 billion when indirect and induced impacts are included – a reflection of slightly greater domestic production and a sharp increase in commodity prices worldwide (LMC, 2011). During the past 30 years, Brazil became the major producer of sugar cane and today it accounts for about one third of the world's product. It is also the most efficient in sugar production. Brazilian sugar cane based complex has three major product lines namely sugar, bio ethanol and bio electricity. It is the largest exporter of bio ethanol (Vooren, 2009).

Brazil has undergone profound social economic changes; its economy has become dominated by large industrialized sector in a relatively short time (Baer, 2008). Brazil society which has been predominantly rural has increasingly become urbanized According to industry figures 65% of sugar produced worldwide comes from four countries Brazil, Australia, Cuba and Thailand (Kimera, 2005). In 2003, 89.6 percent of households had access to water supply systems, 55.3 percent were connected with a general sewage system, 99.5 percent had electricity, 88.6 percent had regular garbage collection services,91.7 percent had a refrigerator, 90.3 percent had a television set, 38.4 percent had a washing machine, 57.8 percent had a landline telephone and 17.5 percent had a computer (13.2 percent with access to the Internet) (Baer, 2008). In 2004, there were 20.6 physicians per 10,000 inhabitants in Brazil, compared to 27.9 in the United States and 33.7 in Sweden (Kimera, 2005).In the same year there were 5.2 nurses and midwives per 10,000 inhabitants in Brazil, compared to 97.2in the United States and 108.7 in Sweden. The infant mortality rate per 1,000 was 69.1 in Brazil in 1980, and fell to 29.6 in 2005, compared with 6.5 in the United States and 2.8 in Sweden (Baer, 2008). The literacy rate for Brazilians 15 years and older increased from 49 percent in 1950, to 61 percent in 1970, and to 88 percent in 2004.(Baer, 2008).By 2004, primary school enrollment as a percentage of the 7–13 year age group stood at 99.5 percent; secondary school enrollment for the 14–19year age group was 74.9 percent, and higher education enrollment for the 20–24 year age group was 20.1 percent (Baer, 2008).

Swaziland has three sugar mills, all milling roughly the same amount of cane and capable of producing the same amount of sugar, approximately 160,000 tons per year.

They are owned by three different companies (UN, 2000).Sugar is the mainstay of the Swaziland economy, with cane-growing accounting for 53 per cent of agricultural output and 34 per cent of agricultural wage employment for the period 1995-1996. Milling accounted for 37 per cent of total manufacturing output and 22 per cent of manufacturing wage employment for the same period. In addition to these direct contributions a whole host of support services and industries are dependent on the sugar industry (UN, 2000).The millers and some of the larger growers make a very significant contribution to development. They provide pre-primary, primary, and high schools on the estate and sponsor further education for some students by means of scholarships. Estate schools are some of the best-equipped and best-staffed in the country. They also supply free medical service to employees and their families. Free or subsidized housing, electricity and water are usually offered as well, and some of the larger estates provide home ownership schemes (UN, 2000).

All cane grown in Swaziland is grown under irrigation. The area under furrow irrigation has declined from 55 per cent in 1994/1995 to 39 per cent in 1998/1999. A further 54 percent is under sprinkler irrigation, while 4 per cent is under drip irrigation and 3 per cent under centre pivot. There is a trend away from furrow and sprinkler irrigation to drip and centre pivot systems, which use less, water —the main constraint to expansion — and have a higher efficiency of application (UN, 2000).

The plant crop is harvested after 12-13 months and subsequent ratoon crops every 11--12months. Sugar cane is a perennial grass that grows from the eyes or buds on the stem nodes. ratoons (regrows) from the stool or stump that is left after harvest, and will regrow

many times. It is only ploughed out and replanted when yields are sub-economic. In the best growing areas and with good management up to 25 ratoons have been achieved (UN, 2000).

In Tanzania ,sugar industry is one of the oldest industries in the country with history dating back to late 1920s.The first sugar industry was established in 1934 at Tanganyika Planting company limited in Moshi, followed by Mtibwa in 1960 and Kilombero in 1962. The 3 sugar industry employs over 25000 employees as permanent, contract or casuals' .Out growers schemes in the respective areas have played a crucial role and impacted positively in community and national economy (Kimera, 2005).The sugar industry in Uganda dates back to 1924, the first was Lugazi, followed by Kakira in 1930, then Sango bay in Rakai district and National sugar work Kinyara. The three sugar industries employ about 21,749 employees as permanent, contract and casuals. About 80-90% of the sector employees are members of the National Union of Plantation Workers for Uganda (Kimera, 2005).

In Kenya, sugarcane as a crop was introduced in 1902.The first sugarcane factory was set up in Miwani in Kisumu county in 1922,then Ramisi in 1927, in 1966 Muhoroni, followed by Chemelil in 1968, Mumias 1973, Nzoia 1978 and Sony 1979. (Kegode, 2005).The sector is at cross road which demands urgent reforms in a substantial injection of a new investment to keep the sector from going under (Kegode, 2005).The sugar sector is a case study of Kenyans development challenges and opportunities (Fenger, 2012) .According to Export Processing Zone Authority EPZ (2005), the growth of the sector is vital to the economic development of a country as this ensures increased income and

employment of rural population especially small scale producers who constitute 75% of the Kenyan population.

Muhoroni Sugar Company (MUSCO) relies heavily on the sugarcane produced by out growers (farmers) for its sustainability. It takes one and a half year (18 months) for cane to be ready for harvesting. The farmer meets all the operational costs land purchase, land preparation, planting, maintenance and transport the cane to the millers for processing. Most out growers devote large parcels of their land to cane farming. Currently the company pays Ksh.3500 per ton for cane delivered. Sugar industry is a massive investment and its presence is expected to be reflected on the quality of life of farmers. The study therefore seeks to assess the effect of Muhoroni sugar company's practices on the livelihood of sugarcane out growers .

2.4 Effect of Education on Livelihood of Sugarcane out-growers

It is well established that the distribution of personal incomes in society is strongly related to the amount of education people have had. Generally speaking more schooling means higher lifetime incomes (UNESCO, 2005). Thus, any noticeable effects of the current quality of schooling on the distribution of skills and income will become apparent some years in the future, when those now in school become a significant part of the labor force (UNESCO, 2005). A number of empirical studies have found a strong correlation between earning of parents and of the children with intergenerational correlation of o.6 in U.K (Chavalier *et al.*, 2005).

It seems, then, that there is good evidence to suggest that the quality of education – as measured by test scores – has an influence upon the speed with which societies can become

richer and the extent to which individuals can improve their own productivity and incomes. We also know that years of education and acquisition of cognitive skills particularly the core skills of literacy and numeracy – have economic and social pay-offs as regards income enhancement, improved productivity in both rural non-farm and urban environments and strengthened efficacy of household behavior and family life (Jolliffe, 1998; Rosenzweig, 1995).

The mounting evidence of HIV/AIDS' impact in many countries indicates the potential importance of links between HIV/AIDS education and behavioral change. We readily and reasonably assume that the provision of clear information about the sources of HIV/AIDS infection and, indeed, improved general levels of literacy, will allow those at risk to understand and judge their options better (UNESCO, 2005)

Republic of Korea's determination to become and remain globally competitive, Cuba's will to defend the revolution, Canada's belief that its strength as a nation lies in cultural diversity, and Finland's deep commitment to human development and equality – each, in its own way, has profoundly affected education policies and outcomes (UNESCO, 2005)

Senegal has been strongly committed to basic education and has rapidly expanded access. Between 1990 and 2000, its net enrolment ratio rose from 48.2 to 63.1, with the gender parity index increasing from 0.75 to 0.90 (UNESCO, 2005).Chile, like Finland, consciously chose education as a core strategy for socio-economic development (UNESCO, 2005).Where formal education systems are flanked by programs of early

learning and literacy and skills development, additional benefits accrue to the individual, the community, society, and formal education itself (UNESCO, 2005).

Education is widely seen as one of the most promising paths for individuals to realize better, more productive lives and as one of the primary drivers of national economic development. The citizens and the government of Kenya have invested heavily in improving both the access and quality of education, in an effort to realize the promise of education as well as to achieve the education-related Millennium Development Goals and Vision 2030 (Glennerster*et al.,* 2011). The Kenyan formal education system is structured in a four-tier framework, pre-primary, Primary, secondary and tertiary (G.O.K, 2000).

2.5 Effect of Health on livelihood of sugarcane out-growers

Poverty not only excludes people from the benefits of the health care system, but also restricts them from participating in decisions that affect their health (APHRC, 2002).Diseases related to the unsanitary living environment, lack of water, HIV/AIDS, and inadequate nutrition formed the majority of reported illnesses both by the health workers and mothers. Child health problems such as diarrhea and vomiting, typhoid, malaria, worm infestation, pneumonia, skin problems (scabies, ringworms), and common colds/coughs were frequently cited as important health concerns by mothers (APHRC, 2002). The unhealthy social and physical living environments exclude these poorest segments of the urban poor from decent livelihood and exacerbate the unacceptable health outcomes (APHRC, 2002).

The level of resource endowments has a bearing not only on how individuals are sheltered and fed, but also subsequently on their health status (APHRC, 2002). Individuals

with a low socio-economic status typically suffer from severe shortcomings in terms of income, education, food security and health (UN Report, 2011). In order to achieve a sustainable livelihood situation, the target group must receive support that leads to increased income and well-being. Typical examples are just and equitable pay for work, decent housing, higher food security, sustainable use of the natural resources base and a reduction in vulnerability to sudden changes or shocks (UN Report, 2011).

Parents suffering from economic stress face more difficulties in positively influencing their children, because their own stress negatively affects their parenting ability. Economic stress frequently affect the relationship between parents, resulting in demoralization, leading to marital conflict and divorce, which often results in further economic loss (UN Report, 2011). The right to health is a fundamental part of our human rights and of our understanding of a life in dignity (OHCHR, 2008) . As human beings, our health and the health of those we care about is a matter of daily concern. Regardless of our age, gender, socio-economic or ethnic background, we consider our health to be our most basic and essential asset (OHCHR, 2008).

Internationally, it was first articulated in the 1946 Constitution of the World Health Organization (WHO), whose preamble defines health as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”. The preamble further states that “the enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition” (OHCHR, 2008). Human rights are interdependent, indivisible and interrelated. This means that violating the right to health

may often impair the enjoyment of other human rights, such as the rights to education or work, and vice versa (OHCHR, 2008).

United Nations agencies, in particular UNICEF, the Joint United Nations Programme on HIV/AIDS (UNAIDS), the United Nations Population Fund (UNFPA) and WHO, have stepped up their work on health and human rights (OHCHR, 2008).Businesses can affect the right to health in several ways. Companies marketing pharmaceutical products or medical equipment may contribute positively to the enjoyment of the right to health but may also make health care more difficult to access or afford, for instance by keeping the price of medicines, such as those for HIV/AIDS treatment, high. Extractive and manufacturing industries may also indirectly infringe upon the right to health by polluting water, air and soil (OHCHR, 2008). Businesses are considered to have some responsibilities with respect to human rights, although the exact nature and scope of these are unclear, Nevertheless, States are, ultimately, accountable for any violation of human rights (OHCHR, 2008).

2.6 Effect of Food Security on livelihood of sugarcane out-growers

Food security, or rather insecurity, is at the heart of food crises and food-related emergencies. It is an underlying cause of malnutrition and mortality (Khogali, *et al* 2001). The concept of 'food security' has developed over the past three decades. Concerns about food security up to the end of the 1970s were directed more at the national and international level, and concerned the ability of countries to secure adequate food supplies. Only later did the level of analysis shift to include a focus on food security at local level, even down to households and individuals (Khogali, *et al* 2001). Understanding the severity

of food insecurity is essential for determining the best type of response. In a livelihoods approach, the severity of food insecurity is gauged by its impact on people's ability to feed themselves in the short term (risk to lives), and its impact on livelihoods and self-sufficiency in the longer term (risks to livelihoods) (Khogali, *et al.,* 2001). Nutrition surveys can therefore be extremely useful in assessing the wider impact of food Understanding the effects of food insecurity on livelihoods and self-sufficiency in the longer term requires an analysis of vulnerability and risk. Vulnerability to food insecurity has two aspects, one external to the household, and the other internal to it (Chambers, 1989).

A livelihoods approach to food-security assessments considers both the severity of food insecurity (in terms of people's ability to feed themselves and the impact on nutritional status), and the processes that generate food insecurity (vulnerability, risk and coping), and that have a long-term impact on livelihoods (Khogali, *et al* 2001). Food aid may also be a form of livelihood support; however food aid alone is not sufficient to support livelihoods (Khogali, *et al* 2001). Emergency interventions began following the government's declaration of a state of emergency in May 2000. The government and the WFP have been the major food-aid providers (Khogali, *et al.,* 2001). Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food for a healthy and active life (World Food Summit, 1996).

The Millennium Development Goal 1 strives to eradicate extreme poverty and hunger, and aims to halve by 2015 the proportion of people who suffer from hunger, The World Food Summit goal is to reduce, by 2015, the number of undernourished people by

half (FAO, 2011).A recent FAO evaluation also recommended improved information systems for food security that respond to identified needs and promote long-lasting capacity development and national multi stakeholder partnerships. It also emphasized the strong demand for improved communication, presentation and timing of information, with greater attention to short, targeted policy briefs to inform decision-makers (FAO, 2011).

To adequately protect agricultural livelihoods and it is critical to reduce the underlying drivers of risk and to build the resilience of farmers (FAO, 2011). Food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life (FAO, 2002). Any changes to food availability (arising from changes in production or trade) and to food access (arising from changes in economic entitlements) should be identified in a food security and livelihood assessment (ACF, 2010).

2.7 Effect of Housing on livelihood of sugarcane out -growers

While rights relating to housing pervade literally every single human rights treaty, the most important statement on housing rights comes from the International Covenant on Economic, Social and Cultural Rights (ICESCR), which recognizes the right of everyone to adequate housing (COHRE, 2004). In the UK, the Homelessness Act provides a right to access to housing for a limited number of homeless people (COHRE, 2004). While many housing rights problems remain in South Africa, the legal framework established since the fall of apartheid is in many respects a model for nations such as Australia to follow. COHRE, 2004 As one of the most affluent and stable societies in the world, Australia has as great a capacity to adequately house its people as any nation in the world (COHRE,

2004). The right to adequate housing has undergone unprecedented legal development recently, through covenants, legislation, court decisions and other jurisprudence at the national, regional and international levels (COHRE, 2004).

According to United Nations international human rights law recognizes everyone's right to an adequate standard of living, including adequate housing. Adequate housing was recognized as part of the right to an adequate standard of living in the 1948 Universal Declaration of Human Rights, and in 1966 International Covenant on Economic, Social and Cultural Rights. Adequate shelter ideally includes adequate privacy; adequate space; physical accessibility; adequate security; security of tenure; structural stability and durability; adequate lighting, heating and ventilation; adequate basic infrastructure, such as water-supply, sanitation and waste-management facilities; suitable environmental quality and health-related factors; and adequate and accessible location with regard to work and basic facilities: all of which should be available at an affordable cost (UNCHS, 1997).

2.8 Theoretical Framework

The study was based on Maslow's theory of needs. The theory recognizes basic human need that should be met first which forms the basis of livelihood. These needs include food, housing and shelter. The study finds this theory appropriate as it would enable the sugarcane out growers visualize the extent to which sugarcane farming has influenced their living standards. The theory explains that human can only seek higher needs after the basic needs have been met.

2.9 Conceptual Framework

Figure 1: Source Researcher

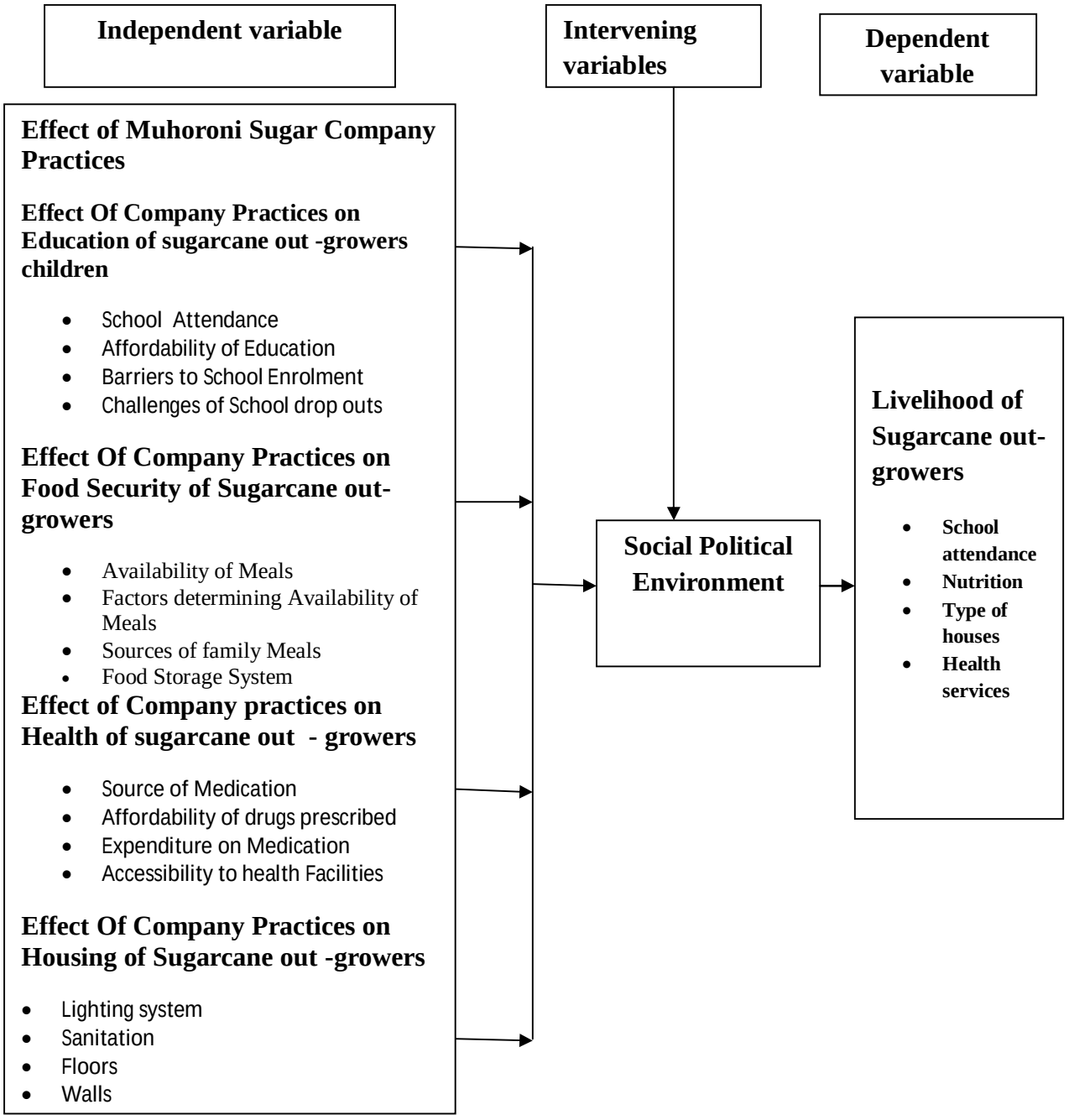

*Figure 1.*Conceptual framework showing relationship between variables.

The independent variable will be Muhoroni Sugar Company Practices while the dependent variable will be the Livelihood of sugarcane out-growers. Company practices on education, health, food security and housing have a bearing on the livelihood of sugarcane out-growers. The success or failure of the company in implementing these practices may depend on the social political environment prevailing as at that time

2.9.1 Summary of Literature Review.

The literature captured in this section includes concept of livelihood from various authors, effects of company practices on livelihoods from global to regional arena, effects of education on livelihood, effect of food security on livelihood, effect of health on livelihood and effect of housing on livelihood of sugarcane out -growers.

Sugarcane farming is carried in many countries. In United States, the year 2009/2010 sugarcane was planted in 812000 acres with a yield averaging 35 tons per acre. Brazil is the major producer of sugar today and it is also the most efficient in sugar production. Sugar cane farming is the mainstay of Swaziland economy and it accounts for 35% of the agricultural output. Sugarcane is also carried out in South Africa and other African countries including Tanzania, Uganda and Kenya.

The distribution of income in society is related to the amount of education people have. Millers make very significant contribution to this development.

They provide pre- primary, primary and high school education for some students in form of scholarships to families of employees in the company and not the sugarcane out-growers which constitute the supplier of 90% of the raw materials in most companies.

Poverty excludes people from the benefits of healthcare system, a number of sugar companies have health facilities but in some cases the medical costs are beyond the reach of most farmers. The level of resource endowments has a bearing not only on how individuals are fed and sheltered but also on their health status. In most cases company health facilities provide health subsidies but mainly to company employees. This section also explains why the study is based on Maslow's hierarchy of needs and diagrammatic representation of conceptual framework that shows how independent variable interplays with the dependent variable with the intervention of intervening variable.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter described the procedure that was followed in conducting the study. It began with research design, target population, sample size, sampling techniques and data collection instruments. It also presented data collection procedures, data analysis techniques and ethical issues in research.

3.2 Research Design

A research design is the conceptual structure within which research is conducted (Kothari, 2007). This study adopted descriptive survey study design. Descriptive survey is a research design which seeks to ascertain respondents' perspective or experiences on a specified subject in a predetermined structured manner (Gay, 1993). Descriptive survey design is a method of collecting information by interviewing or administering questionnaires to samples of individuals. This design not only offers descriptions and explanations, but it also identifies and predicts relationships between variables of the study (Mugenda and Mugenda, 1996). Descriptive survey design was appropriate for this study because it enabled the researcher to adopt both qualitative and quantitative approaches to data collection. By extension, through descriptive survey research design, the researcher will be in a position to analyze data using both qualitative and quantitative techniques.

3.3 Target Population

Target population is the collection of elements that posses' information sought for by a researcher to support the study (Oso &Onen, 2005). The target population for this study consisted 5000sugarcane out growers within Muhoroni District from which a samples were drawn.

3.4 Sample Size and Sampling Procedures

The section discussed sample size and sampling procedures that was used in the study.

3.4.1 Sample Size

The size of the sample should be neither too large nor too small (Kothari 2007). An optimal sample was selected for this study. Kothari (2007) observed that an optimal sample is one which fulfils the requirements of efficiency, representativeness, reliability and flexibility. The sample size for this study was consisting of 370 sugarcane out- growers. The Sample size was determined through the help of Glenn (1992) at 5% margin of error (degree of confidence) using 95% confidence level (See Appendix (III).

3.4.2 Sampling procedures

Sampling is the process of selecting elements from a population in such a way that the elements selected represent the entire population (Orodho, 2005). It is a statistical practice concerned with the selection of individuals intended to yield some knowledge about a population of interest. Sampling is useful in research because one learns some information about a group by studying a few of its members thus saving time and money.

Stratified random sampling technique was employed in selecting Muhoroni sugarcane out growers'.

The researcher utilized stratified random sampling technique to select sample from the four administrative zones in Muhoroni District. These administrative zones included; Koru ward, Muhoroni ward, Chemelil ward and Fort Tenan ward. The researcher selected sugar cane out growers using proportionate method. Under proportionate method, the researcher selected samples from each administrative zones depending on the number of out growers found within the zones. In lieu of this, samples were selected based on this formula;

$$\text{Sample size per Ward} = \frac{\text{Total out growers Per Location}}{\text{Total out growers in Muhoroni District}} \times \text{Sample Size}$$

The results of the sample size selection is as envisaged in Table 3.1

Table 3.1 Table for Selecting Sample Size

Administrative Division	**Target Population**	**Sample Size**
Koru ward	1550	115
Muhoroni ward	1450	107
Chemelil ward	1270	93
Fort Tenan	730	55
Total	**5000**	**370**

3.5 Data Collection Instruments

Research instruments according to (Oso & Onen, 2009) are the tools used to collect data. The researcher used questionnaires to collect data from sugarcane out growers. A questionnaire is a collection of items to which the respondent is expected to react, usually in writing (Kothari, 2004). The questionnaire being the main research tool for this study was conducive based on the nature of the study time and objectives of the study. The items on the questionnaire were developed on the basis of the objectives of the study. The questionnaire was divided into sections intended to capture each objective of the study.

Section A of the questionnaire captured questions concerning personal data of the respondent; this section will provide elaborate information on demographic characteristics of respondents. Section B contained information on effect of company practices on education of sugarcane out growers, Section C of the questionnaire provided an insight on effect of company practices on health of sugarcane out growers. Section D of the questionnaire focused on effect of company practices on food security of sugarcane out growers while Section E on the other hand looked at effect of company practices on housing of sugarcane out growers.

Kombo *et al.*, (2009) noted that, the use of questionnaire as an instrument of research gives respondents adequate time to provide well thought responses in the questionnaire items and enables large samples to be covered within a short time. Qualitative data was collected using the open ended sections of the questionnaires.

3.5.1 Pilot testing

Mugenda and Mugenda (1999) assert that pilot testing is a very important step in any study. Pilot testing is a trial run of procedures and instruments that one plans to use. Pilot testing may prevent costly mistakes. Pilot testing enabled the researcher to test and retest the techniques to ensure that they are reliable and valid. According to Mugenda and Mugenda (2003), a pre-test sample of a tenth of the total sample with homogeneous characteristics is appropriate for a pilot study. For this study, 37 respondents which is equivalent to 10% of the sample size were given questionnaires to fill during pilot testing. Respondents selected for pilot testing were not included in the sample during the actual data collection phase. The researcher made formal arrangements with relevant administrative division authorities on the most appropriate date and time of conducting the pilot testing. The information gathered during pilot testing was used to improve the instruments.

3.5.2 Validity of the instruments

Validity is defined as the degree to which an instrument measures what it is supposed to measure (Mugenda and Mugenda 2008). According to Nachmias and Nachmias (2005), validity is concerned with the question “Am I measuring what I intended to measure.” Validity indicates the degree to which an instrument measures what it is supposed to measure (Kothari, 2007). Peer review of instruments and use of expert judgment was used to enhance content validity. The researcher carried out peer review process of the instrument by exposing it to his colleagues (fellow masters’ students) to scrutinize and check the consistency of the instrument with research objectives. By extension, the

instrument was presented to supervisors in the School of Continuing and Distance Education, Department of Extra-Mural studies at the University of Nairobi, Kisumu Campus.

Supervisors ascertained whether the instrument conformed to the study objectives and answered the research questions. Input from peer review of the instrument as well as expert judgment was used to make necessary corrections in the instrument.

3.5.3 Reliability of instruments

The test re-test method was used to assess the reliability of the instruments. This involved administering the same questionnaires twice to household respondents at Chemelil Location, and correlating their responses independently. After administering the questionnaires, a correlation co-efficient was calculated using appropriate formula to establish the relationship between the two set of scores. Spearman's Brown Prophecy formula was applied as shown below;

$$\text{Reliability of the entire test} = \frac{(\text{Reliability of 0.5 test})\ (r)}{1 + (\text{Reliability of 0.5 test})\ (r)}$$

Where r is Coefficient of correlation.

r is the quantitative measure of reliability on a scale of 0-1, such that as tends to 1, the stronger the reliability and vice versa (Salemi, 2008). For this study, it was 0.74, which was acceptable.

3.6 Data Collection Procedure

In order to collect data from the targeted respondents, the researcher obtained an introductory letter from the University of Nairobi. The researcher then proceeded to obtain permit from the National Council for Science and Technology under the Ministry of Higher Education, Science and Technology before going to the field. The researcher then reported to the office of the District Commissioner-Muhoroni District. An introductory letter accompanying each questionnaire was sent to each administrative division head (each ward head) in Muhoroni Sugar Company one week before the actual data collection day. The researcher collected data in person with assistance from three research assistants who were also company field officers.

To ensure high response rate, the researcher clarified unclear areas asked by respondents. The researcher also ensured that questions were brief, concise and to the point. Questionnaires were collected immediately after being filled by respondents in order to eliminate loss of questionnaires from respondents.

After obtaining permission from the Muhoroni Sugar Company, District Education office, Ministry of Higher Education, University of Nairobi, Provincial administration and other relevant authority to carry out the study, the researcher administered the questionnaire to the respondents who answered the questions in the questionnaires. The researcher trained three research assistants to help him distribute questionnaires and collect data from the respondents.

3.7 Data Processing and Analysis

Both qualitative and quantitative approaches was applied to process and analyze the data. Quantitative analysis began with listing and coding open ended data for analysis by Statistical Package Social Sciences (SPSS). Data was then cleaned, verified and used to generate frequency distributions with percentage counts. In qualitative dimension, data was listed and organized followed by data description and interpretation.

3.8 Ethical Considerations

Information obtained from other sources or from authors to support the relevance of this research was acknowledged in the form of references while plagiarism was minimized as much as possible. The researcher provided adequate and clear explanation on the purpose of the study to each respondent. The researcher sought respondent's consent to participate in the study, while assuring them that their participation is voluntary. All the participants were assured of total confidentiality and the information they provided was used for research purposes only. The researcher also sought consent from the relevant authorities to conduct the research.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSION

4.1 Introduction

This chapter presents findings of the study which have been discussed under thematic sub sections in line with the study objectives. The thematic areas include: Questionnaire return rate; Demographic characteristics of the respondents', Effect of Muhoroni Sugar Company Practices on Education; Role of Muhoroni Sugar Company Practices on Food Security; Influence Muhoroni Sugar Company Practices on Health and finally, the study discusses the effect of Muhoroni Sugar Company Practices on Housing of Sugarcane out-growers.

4.2 Questionnaire Return Rate

The study targeted 370 respondents; only 365 respondents were able to respond to the instruments giving a response rate of 98.64%. The study managed to get this response rate due to proper organization of the field work and the efficiency of the field assistants after conducting a successful pilot survey. The high questionnaire return rate can also be attributed to the respondents' cooperation, adequate time allowed for the completion of questionnaires and the consistent follow–ups made by the researcher and his assistants. This return rate was still acceptable because it was above 60% return rate recommended by Amin (2005). According to Mugenda and Mugenda (2003), a response rate of 50% is adequate for analysis and reporting, while a response rate of 60% is good and that of 70% and above is very good. The response rate of 98.64% achieved in this study was indeed sufficient for analysis and reporting.

4.3 Demographic Characteristics of Respondents

Respondents in the study were sugarcane out- growers who grow and supply sugarcane in Muhoroni factory for processing. The researcher sought to establish the distribution of respondents' by age, sex, marital status and level of education to enable the researcher demonstrate the diversity of the respondents involved in the survey. Respondents' were therefore asked to provide the necessary demographic data of which the results were presented and discussed in the following subsequent sub- themes:

4.3.1 Distribution of Respondents by Age

The study sought to determine the ages of respondents who participated in the study. This was considered important as it could reveal information on the age bracket of the respondents who largely took part in the study. Hence, a question was posed to find out the age of respondents in the questionnaire. The results were as reflected in Table 4.1.

Table 4.1: Distribution of Respondents by Age bracket

Age bracket(Years)	Frequencies	Percentage(%)
18-30 Years	62	16.97
31-40 Years	101	27.67
41-50 Years	111	30.43
Above 50 Years	91	24.93
Total	**365**	**100.00**

Out of 365 respondents who participated in the study, 62 (16.97%) were between the ages of 18-30 years, 101 (27.67%) were between 31-40 years, 111 (30.43%) were between 41-50 years, and 91 (24.93%) were above 51 years. This implies that majority of those involved in this survey and generally sugarcane farmers were aged between 41-50 years. Due to the fact that age comes with maturity, respondents falling within the age category of 40-50 years were likely to be owners of most of the sugar cane farms, an aspect which explains why majority of the respondents fell within the age bracket of 40-50 years.

4.3.2 Distribution of Respondents by Gender

The study sought to determine the gender of respondents who participated in the study. This was considered important as it could reveal information on the gender of respondents who largely took part in the study. For this reason, respondents were asked to state their gender. Findings of the study were as illustrated in Table 4.2

Table 4.2: Distribution of Respondents by Gender

Gender	Frequency	Percent%
Male	265	72.6
Female	100	27.4
Total	**365**	**100.0**

Out of 365 respondents who participated in the study, 265 (72.6%) were males while 100 (27.4%). This shows that majority 265 (72.6%) of sugarcane farmers are mainly male who form part of household heads and are likely to have more authority over land ownership as compared to females.

4.3.3 Distribution of Respondents by Marital Status

The study sought to find out the marital status of respondents who participated in the study. This was considered important as it could reveal information on the social diversity of respondents. Due to this, respondents were asked to state their marital status. Their responses were as tabulated in Table 4.3

Table 4.3 : Distribution of Respondents by Marital Status

Marital Status	Frequency	Percent%
Single	50	13.7
Married	291	79.7
Separated	3	.8
Divorced	3	.8
Widowed	18	4.9
Total	**365**	**100.0**

Out of 365 respondents who participated in the study, 50 (13.7%) were Single, 291 (79.7%) were married, separated and divorced had the same frequency and percentage at 3(0.80%) while widowed were 18(4.9%). This implies that majority of those who carry out cane farming are the married 291 (79.7%) as compared to the singles who maybe having limited resources.

4.3.4 Distribution of Respondents by Level of Education

The study sought to establish the educational level of respondents who participated in the study. This was considered important as it could reveal information on the role of education in facilitating the livelihood of out-growers. Respondents were asked to state their highest level of education. Their responses were as depicted in Table 4.4

Table 4.4: Distribution of Respondents by Level of Education

Highest Education Level	Frequency	Percent%
None	6	1.6
Primary	15	4.1
Secondary	172	47.1
College	116	31.8
University	56	15.3
Total	**365**	**100.0**

Out of 365 respondents who participated in the study, most respondents had attained secondary level of education represented at 172 (47.1%), followed by college level at 116 (31.80%). Those with no education represented 6 (1.6%), those with primary level represented 15 (4.1%) while 56(15.3%) were educated up-to university level. Based on the findings, it can be concluded that majority of those involved in the study had attained the secondary school level of education 172 (47.1%). This level of education supported them on utilization of modern technology while carrying out sugarcane farming, thus improving on their income.

4.4 Effect of Muhoroni Sugar Company Practices on Education of Sugarcane Out-Growers

This section sought to present findings in an effort to establish the extent to which Muhoroni Sugar company practices had influenced education of sugarcane out-growers' children, in Muhoroni sub County under the following sub themes; School attendance, affordability of education, barriers to school enrolment, challenges facing school drop outs and determinants of low and high school enrolments.

4.4.1 School Attendance

The study sought to find out whether respondents' children who were at risk of dropping from school due to lack of school fees or not. This was necessary in order to establish the effect of the company on the livelihood of out-growers' children in as far as education is concerned. In view of this, respondents were asked to indicate if their children were at risk of dropping out of school due to lack of school or not. Their responses were as tabulated in Table 4.5

Table 4.5: Children at risk of dropping out of school due to lack of school fees

Response	Frequency	Percent%
Yes	253	69.3
No	112	30.7
Total	**365**	**100.0**

Out of 365 respondents who participated in the study, a whooping majority of respondents 253(69.3%) alluded to the fact that their children were at risk of dropping out of school due to lack of school fees. This implies that the company delay in paying farmers in time or fail to review positively their terms of engagement. Only 112 (30.7%) of the respodents were confident of retainining their children in school.

In order to further establish the effect of Muhoroni Sugar Company on the education of out-growers children, a cross tabulation of child/ children at risk of dropping out of school due to lack of fees and rating of the level of satisfaction on what is being offered by the sugar company was done. The results were as indicated in Table 4.6

`Table 4.6: Child/ Children at risk of dropping out of school due to lack of fees and rating of the level of satisfaction on what is being offered by the sugar company

	Child at risk of dropping out of school		**Level of satisfaction on what is being offered by the sugar company.**			
			VERY SATISFIED	**SATISFIED**	**LESS SATISFIED**	**Total**
	Yes	Count	13	24	216	253
			3.5%	6.6%	59%	69.1%
	No	Count	0	27	85	112
		%	.0%	7.4%	23.2%	30.6%
Total		Count	13	51	301	365

Out of 365 respondents who participated in the study, 13(3.5%) indicated that they were very much satisfied with what was being offered by the company, 24(6.6%) of the respondents were satisfied, majority of the respondents 216(59%) were less satisfied. The table 4.5 above shows that majority of the farmers 216(59%) who are less satisfied also had children at risk of dropping out of school. Findings of this study insinuate that most sugarcane out growers 216(59%) were not satisfied with remuneration offered by the company in terms of delay in remitting the cash and reluctance in reviewing the remuneration to be in tendon with the present economic reality. As a result, majority of the sugarcane out-growers were unable to sustain their children in school due to lack of school fees. This findings concurs with Krueger (2004) in Chavalier (2005) whose study revealed that financial constraints significantly impact on education attainment.

4.4.2 Affordability of Education

In order to further establish the effect of Muhoroni Sugar Company practices on education of sugarcane out-growers' children, the researcher went ahead to ascertain the affordability of education to the out-growers. This was paramount in order to establish if the income the company offers to the out-growers was reasonable and could enable out-growers send their children to school. For this reason, respondents were asked to rate the cost of affordability based on the average income earned from the Company. Findings were as illustrated in Table 4.7.

Table 4.7: Rating on affordability of education

Rating	Frequency	Percent%
Very High	235	64.4
High	41	11.2
Average	52	14.2
Low	33	9.0
Very Low	4	1.1
Total	**365**	**100.0**

Out of 365 respondents who participated in the study, majority of the respondents 235(64.4%) felt that the cost of education was very high. 41(11.2%) held the opinion that the cost of education was high. 52(14.2%) of the respondents asserted that the cost of education was average. 33(9.0%) of the respondents indicated that the cost of education was low where as minority of the respondents 4(1.1%) said that the cost of education was very low. Based on the findings of the study, majority of the sugarcane out-growers were burdened by the cost of education since majority of them echoed that the cost of education was very high compared to the average income they earn from the Conpany. This finding indicate that sugarcane out-growers were not well renumerated, a factor which compomises on provision to their families on education, medical care, standards of living etc.

To enable the researcher further determine the effect of Muhoroni Sugar Company practices on the education of out-growers children, a cross tabulation of cost of affordability to school based on average income of out-growers and rating of the level of satisfaction on what is being offered by the Sugar Company was carried out. Findings were as reflected in Table 4.8

Table 4.8: Cross Tabulation of affordability to school based on average income and rating of the level of satisfaction on what is being offered by the Sugar Company

	Cost of affordability to school on average income		Level of satisfaction on what is being offered by the sugar company.			
			VERY SATISFIED	SATISFIED	LESS SATISFIED	Total
	Very High	Count	13	24	198	235
		%	3.5%	6.6%	54%	64.1%
	High	Count	0	3	38	41
		%	0%	0.8%	10.4%	11.2%
	Average	Count	0	12	40	52
		%	.0%	3.28%	11%	14.2%
	Low	Count	0	12	21	33
		%	.0%	3.28	5.8%	9.1%
	Very Low	Count	0	0	4	4
		%	0	0	1.1%	1.1%

Out of 365 respondents who participated in the study, majority of the respondents rated the cost of affordability to school based on the average income provided by the company as very high. In lieu of this, 198 (54%) were less satisfied with the income being offered by the sugar cane company, 24 (6.6%) of the respondents were satisfied with income being offered by the conmpany. A minority of the respondents, 13 (3.5%) were very much satisfied. Findings of the study indicate that, majority of sugarcane out- growers 198 (54%) find the cost of affordability of education as very high. This results shows that most of the sugar cane out-growers cannot freely send their children to school, a factor that is proved by the highest number of out-growers who indicated that they were less satisfied with the income offered by the sugar cane company.

4.4.3 Barriers to School Enrolment

The study sought to establish the barriers that hinder the children to school enrolment in order to establish the effect of Muhoroni Sugar Company practices on education of sugarcane out-growers' children. Respondents were asked to state the barriers that hinder children from accessing school. Findings were as presented in Table 4.9

Table 4.9: Barriers to School Enrolment

Barriers that hinder children to school enrolment	Frequency	Percent%
Accessibility to School	18	4.9
Lack of finance	298	81.6
Mentally Handicapped	4	1.1
None	24	6.6
Poverty	12	3.3
Unemployment	9	2.5
Total	**365**	**100.0**

Out of 365 respondents who took part in the study, examination of the Probe on the barriers to school enrolment revealed that 298 (81.6%) of the respodents were not able to enrol their children to school due to lack of finances, 24(6.6%) of the respondents indicated that poverty was their major barrier to school enrolment, 18(4.9%) of the respodents felt the schools were far from where they lived. 9(2.5%) of the respondents said that they could not access school due to unemployment. The highest number of the out-growers sighted

lack of finance as a limiting factor. This financial constraints could be attributed to low renumeration offered by the company.

4.4.4 Ages of children dropping from school

In order to understand the nature of children dropping out of school, the researcher resorted to identify the ages of children who were dropping from school. In order to capture this important information, respondents were asked to state the age bracket within which most children drop out of school. The results were as revealed in Table 4.10.

Table 4.10: Ages of children dropping out of school

Age bracket of children	Frequency	Percent%
3-6 Years	52	14.2
7-9 Years	6	1.6
10-13 Years	22	6.0
14-18 Years	266	72.9
19-22 Years	19	5.2
Total	**365**	**100.0**

Out of 365 respondents who participated in the study, findings reveal that majority of children 266 (72.9%) within the age bracket of 14-18years were likely to drop out of school. 52 (14.2%) of children were likely to drop out of school were 3-6 years old, 6(1.6%) of children were likely to drop out of school were 7-9 years old while 22(6.0%) of children were likely to drop out of school were 10-13 years. Results of the findings disclose that children within the age bracket of 14-18 years were likely to drop out of school.

This is the age bracket for students in secondary schools, which means most farmers find it very difficult to take their children through high school. The emprical study by Pamela & Davis (2005) revealed that there is close association of family income and parents education with children academic achievement.This study agree with this findings as some chilren of the farmers drop out due to poor performance as a result of missing classes.

4.4.5 Challenges of children who drop out from school

The researcher was interested in identifying the lifestyle children who drop out of school. For this reason, respondents were asked to identify challenges that face children who drop out of school. Findings were as presented in Table 4.11

Table 4.11: Lifestyle of children who drop out from school

Lifestyle of children who drop out of school	Frequency	Percent%
Become thieves	27	7.4
Get married	61	16.7
Work as maids	12	3.3
Boda Boda ridding	22	6
Resort to cane cutting	175	47.9
Resort to drugs	68	18.6
Total	**365**	**100.0**

Out of 365 respondents who took part in the study, majority of the respondents 175(47.9%) indicated that children who drop out of school resort to cane cutting. 18(4.9%)

resort to bodaboda(motorcycle) riding, 61(16.7%) get married, 68(18.6%) become drug addicts, 27(7.4%) become thieves while 12(3.3%) resort to work as maids. These findings reveal that most of the drop outs get frustrated in life and engage in certain lifestyle as a last resort.

4.4.6 Determinants of enrolment in Schools

In order to further establish the effect of Muhoroni Sugar Company on education of children, the study sought to establish the determinants of low and high rate of enrolment in schools. Hence, a question was posed on determinants of low and high enrolment in schools. Findings were as presented in Table 4.12

Table 4.12: Determinants of enrolment in Schools

Determinants of rate of enrolment in schools	Frequency	Percent%
Accessibility to school	18	4.9
Education awareness	5	1.4
Financial stability	318	87.1
Performance	24	6.6
Total	**365**	**100.0**

Out of 365 respondents who participated in the study, majority of the respondents 318 (87.1%) felt that the main determinant of school enrolment is financial stability, 18 (4.9%) said accesssibility 24(6.6%) felt it was performance while a minority 5(1.4%) echoed that it was lack of awareness on educational matters. These results reveal that

majority of out-growers wanted their children to enrol in school but they are not able either because what the company offers is low or because it is not paid promtly.

For this reason, for the out-growers children to get the nessessary education, the company needs to review what they offer to the out-growers and also to pay it promtly to enable the out-growers to pay fees of their children in time.

4.5 Effect of Muhoroni Sugar Company Practices on Food Security of Sugarcane Out-Growers.

The researcher sought to obtain general sugarcane out-growers views on effect of Muhoroni sugar company practices on their food security since this could provide a basis for important research conclusions and recommendations. The research findings were presented and discussed under the following sub themes: Availability of family meals; Source of family meals and availability of food storage system.

4.5.1 Availability of Family Meals

The study sought to establish the number of meals a family can afford in a day to provide basis of analysis on the effect of Muhoroni sugar company practices on livelihood of sugarcane out-growers. To realize this, the respondents were asked to state the number of meals they can afford in a day. The results obtained were as presented in Table 4.13.

Table 4.13: Number of meals that a family can comfortably afford in a day

Meals	Frequency	Percent%
1	6	1.6
2	221	60.5
3	130	35.6
5	8	2.2
Total	**365**	**100.0**

Out of 365 respondents who took part in the study, majority of the respondents 221(60.5%) could afford two meals in a day, 130 (35.6%) were in a position to take three meals per day, 8(2.2%) could afford five meals in a day while a minority of the respondents 6(1.6%) could only afford one meal in a day. These findings imply that majority of sugarcane out –growers 221 (60.5%) cannot afford the minimum number of three meals per day.

In order to further appreciate the effect of Muhoroni Sugar Company practices on food security of sugar cane out-growers, the researcher cross tabulated the number of meals that a family can comfortably afford in a day and rating of the level of satisfaction on what is being offered by the sugar company. The results were as presented in Table 4.14

Table 4.14: Cross tabulation on number of meals that a family can comfortably afford in a day and rating of the level of satisfaction on what is being offered by the sugar company.

	Number of meals in a day		Level of satisfaction on what is being offered by the sugar company			
			VERY SATISFIED	SATISFIED	LESS SATISFIED	Total
	1	Count	0	0	6	6
		%	.0%	.0%	2.0%	2%
	2	Count	13	36	172	221
		%	3.6%	9.9%	47.1%	60.6%
	3	Count	0	15	115	130
		%.	.0%	4.1%	31.5%	35.6%
	5	Count	0	0	8	8
		%	.0%	.0%	2.2%	2.20%
Total		Count	13	51	301	365

Out of 365 respondents who participated in the study, most of the respondents 172 (47.1%) who took two meals in a day were less satisfied with what the company offers, few of the respondents 36(9.9%) who took two meals in a day were satisfied while a handful number of respondents 13(3.6%) who took two meals in a day were very much satisfied with what the company offers. This results indicate that Muhoroni sugar cane company does not offer good renumeration to the sugar cane out-growers, a factor that explains why most sugar cane out- growers cannot comfortably provide the mandatory three meals per day to their families.

A survey done by Rose Donald (1999) which reviewed recent researches on economic determinants and consequences of food in insecurity show that food insecurity

and hunger rates decline sharply by high income. This study concures with this because majority of farmers who are less satisfied with what the company offers could only afford two meals per day implying that they are food insecure.

4.5.1.1 Number of times that a family can averagely go without a meal in a period of one week

The researcher also probed further to determine the number of times the families had ever gone without meals within one week. Through this the researcher could establish the effect of Muhoroni Sugar Company on food security of out- growers. In order to capture this important information, respondents were asked to state their frequency of missing meals within a span of one week. The results are as shown in Table 4.15

Table 4.15: Number of times that a family can averagely go without a meal in a period of one week

Number	Frequency	Percent%
0	81	22.2
1	106	29.0
2	94	25.8
3	65	17.8
4	19	5.2
Total	**365**	**100.0**

Out of 365 respondents who took part in the study, majority of the respondents 106 (29.0%) had at least missed a meal once, 94 (25.8%) had missed twice, 19 (5.2%) had missed 4 times, 65 (17.8%) had missed 3 times while 81 (0.0%) had not missed a meal at

all. The highest frequency of the number of respondents going without a meal can be attributed to the fact that the company does not offer good remunerations to the sugar cane out-growers.

4.5.1.2 Factors attributed to family going without meals

The researcher sought to establish factors that could be attributed to failure of family going without meals. This was necessary in order to justify why a good number of families were going without meals. Hence, respondents were asked to identify factors responsible for failure of families going without meals. Findings were as presented in Table 4.16.

Table 4.16: Factors attributed to family going without meals

Factors attributed to Families going without meals	Frequency	Percent%
In availability of food	78	21.4
Lack of money	283	77.5
Parental Irresponsibility	4	1.1
Total	**365**	**100.0**

Out of 365 respondents who participated in the study, a whooping majority of the respondents 283 (77.5%) felt that they went without meals due to lack of money, 78(21.4%) quoted in-availability of food as the main reason for going without meals, only 4(1.1%) of the respondents felt they missed meals as a result of parental irresponsibility. This implies that if the farmers were able to get adequate income from the canes delivered to the company then their families would not go without meals.

4.5.2 Source of Family Meals

In order to further establish the effect of Muhoroni Sugar Company practices on food security of sugar cane out growers, the researcher sought to find out the source of meals of most sugarcane out- growers. For this reason, respondents were asked to indicate their sources of meals. The results were as illustrated in Table 4.17.

Table 4.17: Source of Family Meals

Source of family meals	Frequency	Percent%
Own farm	114	31.2
Buy from the market	251	68.8
Total	**365**	**100.0**

Out of 365 respondents who participated in the study, majority of respondents 251(68.8%) indicated that they bought their meals from the market whereas a smaller portion of the respondents 114 (31.2) alluded to the fact that their main source of family meals was own farming. Based on the findings of the study, majority of the sugar cane out-growers mainly obtained their meals from the market by purchasing the meals at market rates. This can only be possible if the cane farmers are well remunerated by the company.

4.5.3 Availability of Food Storage System

In order to ascertain the effect of Muhoroni Sugar Company practices on food security of out-growers, the researcher inquired from the respondents the availability of food storage system.

Respondents responded as depicted in Table 4.18.

Table 4.18: Availability of Food Storage System

Availability of food storage	Frequency	Percent%
Yes	203	55.6
No	162	44.4
Total	**365**	**100.0**

Out of 365 respondents who participated in the study, majority of respondents 203(55.60%) acknowledged the availability of food storage system while a minority of the respondents 162(44.4%) did not acknowledge the presence of food storage system. The bigger number of respondents who acknowledged the presence of food storage system was a positive signal that sugar cane out- growers appreciate the importance of having food reserves since food is a basic necessity that human beings need for survival.

4. 5.3.1: Duration that food in store sustains the family

In order to further appreciate the effect of food stored on the cane farmers, it was prudent for the researcher to ascertain the duration the food stored sustains the family. To succeed in this noble course, the researcher inquired from the respondents the duration the food stored took before exhaustion. Respondents made various sentiments as depicted in Table 4.19

Table 4.19: Duration that food in store sustains the family

	Duration	Frequency	Percent%
	Less than 1 month	18	4.9
	1 Month	54	14.8
	2-3 Months	90	24.7
	4-6 Months	24	6.6
	6-12 Months	18	4.9
	More than 1 Year	4	1.1
	Total	208	57.0
	System	157	43.0
Total		**365**	**100.0**

The findings of the study revealed that minority of the sugarcane out growers at 4 (1.9%) could manage to use the food in the store for a period of more than one year, 24 (11.5%) could survive on the food in the store for 4-6months , 18 (8.7%) could go for 6 to 12 months while majority at 90(43%) could only be sustained for a period of 2-3 months. This is because most of the sugarcane farmers devote large parcels of their land to sugarcane farming and use the resources from the canes delivered in the factory to buy food.

4.6 Influence of Muhoroni Sugar Company Practices on the Health of Sugarcane Out-Growers

The third objective of the study looked at the influence of Muhoroni Sugar Company on the health of out-growers. This was necessary in order to appreciate the role of the company in facilitating the health of out-growers. This theme has been discussed under various sub-themes including; main source of medication, Sources of affordable

transport to the Health Center/ Dispensary, affordability of all the drugs prescribed at the health Center/ Dispensary and finally, average expenditure on medication per year.

4.6.1 Main Source of Medication

In order to examine the effect of Muhoroni Sugar Company on cane farmers' health, it was prudent for the researcher to identify the main sources of medication. In lieu of this, respondents were asked to identify their main sources of medication. This is shown in table 4.20 below.

Table 4.20 Main Source of Medication

Source	Frequency	Percent%
Health facility	217	59.5
Herbal drugs	136	37.3
Others	12	3.3
Total	**365**	**100.0**

Out of 365 respondents who took part in the study, majority of the respondents 217 (59.5%) indicated that they used health facility, 136 (37.3%) of the respondents used herbal drugs while minority of respondents 12 (3.3%) used other sources of medication. The fact that majority of the cane farmers 217 (59.5%) preferred health facility as their source of medication is a clear indication that most of the out-growers appreciate modern health facilities as their sources of medication as opposed to the traditional herbs as well as other sources.

4.6.2 Sources of affordable transport to the Health Center/ Dispensary

The researcher felt it necessary to find out from respondents the source of affordable transport they use to access the nearest health facilities since majority of them had acknowledged

health facilities as their main source of medication. In order to capture this important information, respondents were asked to identify their source of affordable transport the nearest health facility. The results were as tabulated in Table 4.21.

Table 4.21: Affordable Means of transport to the Health Center/ Dispensary

	Means	**Frequency**	**Percent%**
	Bicycle	64	17.5
	Motor Bike	171	46.8
	PSV	74	20.3
	Trekking	56	15.3
	Total	**365**	**100.0**

Out of 365 respondents who participated in the study, 64 (17.5%) used bicycles as their source of affordable transport to the nearest health facility, majority of the respondents 171 (46.8%) used motor bikes as their affordable means of transport to the nearest health facility, 74 (20.4%) used PSV as their affordable means of transport while 56 (15.3%) used registered none as their affordable means of transport. Findings of the study indicate that majority of the respondents used motor bikes as their affordable means of transport to the nearest health facility. This finding indicates a positive gesture in the use of modern transport among the cane farmers which are faster and efficient. This explains why

motor bike and PSV were ranked first and second as means of affordable transport to the nearest health facilities among the cane farmers.

In for the researcher to establish the link between the out-growers' affordable means of transport to the nearest health facility and the level of satisfaction on what the Company offered, the researcher cross tabulated sources of affordable transport to the health center/ dispensary against the rating of the level of satisfaction on what is being offered by the sugar company. Findings were as illustrated in Table 4.22.

Table 4.22: Cross tabulation on affordable Means of transport to the Health Center/ Dispensary and rating of the level of satisfaction on what is being offered by the sugar company

	Source of affordable transport		Level of satisfaction on what is being offered by the sugar company.			
			VERY SATISFIED	SATISFIED	LESS SATISFIED	Total
	Bicycle	Count	0	9	55	64
		%	0%	2.5%	15.1%	17.6%
	Motor Bike	Count	6	27	138	171
		%	1.6%	7.4%	37.8%	46.8%
	PSV	Count	7	12	55	74
		%	1.9%	3.28%	15.1%	20.28%
	Trekking	Count	0	3	53	56
		%	0%	0.8%	14.5%	15.3%
Total		Count	13	51	301	365
		%	3.6%	14.0%	82.5%	100.0%

Out of 365 respondents who took part in the study, only 6 (1.6%) of respondents who used motor bike as affordable means of transport to the nearest health facility were very much satisfied with the income the Company offered, 27(7.4%) of respondents who used motor bike as affordable means of transport to the nearest health facility were satisfied

with what the company offered whereas the majority of the respondents 138 (37.8%) who used motor bike as affordable means of transport were less satisfied with what the company offered as their remuneration. The fact that majority of the out-growers who frequently used motor bikes to access medication from the nearest health facilities were less satisfied with the income the company offered justified the fact that the Muhoroni Sugar Company practices were not pro-active on the health of the out-growers.

4.6.3 Affordability of all the drugs prescribed at the Health Center/ Dispensary

The researcher was interested in establishing whether respondents were capable of purchasing all the drugs prescribed to them at the health centre/dispensary. This was done in a bid to examine their financial viability in affording medication services from the health facilities. For this reason, respondents were asked to indicate whether they were in a position of affording all the prescribed drugs from the health facilities. Results obtained were as shown in Table 4.23

Table 4.23: Affordability of all the drugs prescribed at the Health Center/ Dispensary

	Frequency	Percent%
Yes	106	29.0
No	259	71.0
Total	**365**	**100.0**

Out of 365 respondents who participated in the study, 106 (29.0%) accepted that they were in a position of affording all drugs prescribed to them from the health facilities. Majority of the respondents 259 (71.0%) said that they were not in a position of affording

all the drugs prescribed to them from the health facilities. The fact that majority of respondents 259 (71.0%) echoed their voices that they were not in a position of affording all the drugs prescribed to them from the health facilities is a clear indication that the company does not provide enough income to its sugar cane farmers. This negatively affects them because they manage to afford only a portion of drugs prescribed to them irrespective of the crucial roles of the remaining drugs to their health.

To further establish the linkage between the affordability of the prescribed drugs to the level of satisfaction of the amount of money paid to the out-growers by the company, the researcher cross tabulated affordability of drugs by the cane farmers against their level of satisfaction on what the company offers and tabulated the results as reflected in Table 4.24.

Table4.24: Affordability of all the drugs prescribed at the Health Center/ Dispensary and level of satisfaction on what is being offered by the sugar company

Ability to afford all drugs			**Level of satisfaction on what is being offered by the sugar company.**			
			VERY SATISFIED	**SATISFIED**	**LESS SATISFIED**	**Total**
	Yes	Count	8	14	84	106
		%?	2.2%	3.8%	23%	29.0%
	No	Count	5	37	217	259
		%	1.4%	10.1%	60%	71.5%
Total		Count	13	51	301	365
		%	3.6%	14.0%	82.5%	100.0%

Out of 365 respondents who participated in the study only 5 (1.4%) of the respondents who confessed that they cannot afford all the drugs prescribed to them in the health facilities were very much satisfied with what the company offered as remuneration,

37 (10.1%) of the respondents who said that they cannot afford to purchase all the drugs prescribed from the health facilities were satisfied with what the company offered. Majority of respondents 217 (60%) of the respondents who asserted that they cannot afford all the drugs prescribed to them from the health facilities. This highest number of cane farmers who confessed that they cannot afford all the drugs prescribed to them from the health facilities validates the fact that the out-growers are not well remunerated to the extent that they cannot afford proper medication which make them less satisfied by the company.

All empirical studies on income levels over time find a significant correlation with the health outcome (Mullis, 1992) as cited in(Benzeual *et a*l., 2000). This study confirms this as the study revealed that those who were less satisfied with what the company offered were not able to afford drugs prescribed by the doctors.

4.6.4 Average expenditure on medication per year

The researcher asked respondents the average amount of money they spend on medication per year in order to establish the effect of the company on health of the out-growers. Results were as reflected in Table 4.25.

Table 4.25 : Average expenditure on medication per year

Expenditure	Frequency	Percent%
Kshs 1000-15000	219	60.0
Kshs 16000-30000	73	20.0
Kshs 31000-45000	24	6.6
Kshs 46000-60000	33	9.0
Above Kshs 60000	16	4.4
Total	**365**	**100.0**

Out of 365 respondents who participated in the study, 219 (60.0%) of the respondents spend an average of shs.1000-15000 per year on medication, 73 (20.0%) of the respondents spend an average of shs.1600-30000 per year on medication, 24 (6.6%) of the respondents spend an average of shs.31000-45000 per year on medication, 33 (9.0%) of the respondents spend an average of shs.46 000-60000 per year on medication and finally, 16 (4.4%) of the respondents spend an average of above shs. 60000 per year on medication. Based on findings of the study, majority of the respondents averagely spend shs.1000-15000 which falls within the lowest category, an indication that most of the out-growers do not have sound financial viability to sustain their expenditure on medication.

4.7 Effect of Muhoroni Sugar Company Practices on Housing of Sugarcane out Growers

The last objective of the study was to examine the effect of Muhoroni Sugar Company on housing of sugarcane out-growers. Since housing is one of the basic necessities, the researcher felt that it was prudent to ascertain whether the company influences the housing

conditions of out-growers. In order to achieve this, the researcher looked at different aspects of housing.

These include; Roofing of the house, Walling of the house, Floor of the house, Sanitation of the house and Lighting conditions of the house.

4.7.1 Observation of Roofing

In order to fully appreciate the conditions of houses occupied by sugarcane out-growers, the researcher examined the condition of roofs. In lieu of this, respondents were asked to rank the condition of roofs. Findings were as illustrated in Table 4.26.

Table 4.26: Observation of Roofing

Condition	Frequency	Percent%
Very Good	50	13.7
Good	50	13.7
Average	70	19.2
Poor	186	51.0
Very Poor	9	2.5
Total	**365**	**100.0**

Out of 365 respondents who participated in the study, 50 (13.7%) of the respondents ranked the condition of roofs as very good, 50 (13.7%) of the respondents ranked the condition of roofs as good, 70 (19.2%) of the respondents ranked the condition of the roofs as average, majority of the respondents 186 (51.0%) of the respondents ranked the condition of the roofs as poor and finally, minority of the respondents 9 (2.5%) ranked the condition of the roofs as very poor. Results from the study shows that most of the respondents 195 (53.5%) indicated that their roofs were in poor condition, an indication

that they lacked repair and renovation. This could be attributed to inadequate financial allocation from the company to improve the roofing conditions out-growers houses.

4.7.2 Observation on Walling

The researcher asked respondents to rank the condition of the walls in a bid to ascertain the condition of the walls of the houses occupied by the sugarcane out-growers. Responses of respondents were as shown in Table 4.27

Table 4.27 : Observation on Walling

Condition	Frequency	Percent%
Very Good	27	7.4
Good	38	10.4
Average	87	23.8
Poor	204	55.9
Very Poor	9	2.5
Total	**365**	**100.0**

Out of 365 respondents who participated in the study, 27 (7.4%) of the respondents ranked the condition of walls as very good, 38 (10.4%) of the respondents ranked the condition of walls as good, 87 (23.8%) of the respondents ranked the condition of the walls as average, a whooping majority of the respondents 204 (55.9%) of the respondents ranked the condition of the walls as poor and finally, minority of the respondents 9 (2.5%) ranked the condition of the walls as very poor. Based on findings of the study, majority of the respondents interviewed 213(58.4%) asserted that their walls were in poor condition. This shows that the company either delay with payments or provide low remuneration to farmers to enable them repair their houses.

4.7.3 Observation of the Floor

The researcher was interested in establishing the condition of the floors of cane farmers' houses. To achieve this, the researcher requested respondents to rank the conditions of the floors of their houses. Results of the study were as shown in Table 4.28

Table 4.28 :. Observation of the Floor

Condition	Frequency	Percent%
Very Good	24	6.6
Good	25	6.8
Average	77	21.1
Poor	233	63.8
Very Poor	6	1.6
Total	**365**	**100.0**

Out of 365 respondents who participated in the study, 24 (6.6%) of the respondents ranked the condition of their floors as very good, 25 (6.8%) of the respondents ranked the condition of their floors as good, 77 (21.1%) of the respondents ranked the condition of their floors as average, majority of the respondents 233 (63.8%) of the respondents ranked the condition of their floors as poor and finally, minority of the respondents 6 (1.6%) ranked the condition of their floors as very poor. Findings of the study reveal that majority of the respondents 239 (65.4%) who participated in the study rated the condition of their floors as poor. This gesture is a clear indication that little is being done by the company to pay farmers in time to enable them improve the condition of their houses.

4.7.4 Observation on Sanitation

In order for the researcher to establish the influence of Muhoroni Sugar Company on housing conditions, the researcher felt the need of examining sanitation. Sanitation includes; toiletry facilities, waste disposal mechanism, water etc. For this reason, respondents were asked to rank the sanitation of the houses their houses. Their sentiments were as shown in Table 4.29.

Table 4.29: Observation on Sanitation

Condition	Frequency	Percent%
Very Good	11	3.0
Good	24	6.6
Average	84	23.0
Poor	246	67.4
Total	**365**	**100.0**

Out of 365 respondents who participated in the study, 11 (3.0%) of the respondents ranked the sanitation of their houses as very good, 24 (6.6%) of the respondents ranked the sanitation of their houses as good, 84 (23.0%) of the respondents ranked the sanitation of their houses as average, a whooping majority of the respondents 246 (67.4%) of the respondents ranked the sanitation of their houses as poor. Findings of the study reveal that the sanitation of majority of the houses occupied by out-growers were in poor condition, an indication that the company had channeled little financial resources to improve the sanitation which they should do as a corporate social responsibility or provide financial facilities such as loans to enable farmers upgrade their houses.

4.7.5 Observation on Lighting

The researcher went further to ascertain the lighting system of the out-growers houses as way of examining the housing conditions. In lieu of this, respondents were requested to rank the lighting system of their houses. Their responses were as depicted in Table 4.30

Table 4.30: Observation on Lighting

Condition	Frequency	Percent%
Very Good	12	3.3
Good	51	14.0
Average	46	12.6
Poor	238	65.2
Very Poor	18	4.9
Total	**365**	**100.0**

Out of 365 respondents who participated in the study,12 (3.3%) of the respondents ranked the lighting system of their houses as very good, 51 (14.0%) of the respondents ranked the lighting system of their houses as good, 46 (12.6%) of the respondents ranked the lighting system of their houses as average, majority of the respondents 238 (65.2%) of the respondents ranked the lighting system of their houses as poor and finally, minority of the respondents 18 (4.9%) ranked the lighting system of their houses as very poor. Findings of this study reveal that most of the houses occupied by the out-growers had poor lighting system 256 (70.1%), an indication that majority of farmers are not in a position to install electricity in their houses.

4.7.5 General condition of the houses and the level of satisfaction with what the company offers

In order to validate the effect of Muhoroni sugar company practices on housing condition of sugarcane out – growers, the researcher cross tabulated the ranking of the general condition of the house and the level of satisfaction with what is being offered in the sugar company and the results are presented in Table 4.31.

Table 4.31:Cross tabulation on ranking of general conditions of the houses and rating of the level of satisfaction on what is being offered by the sugar company

	Rank the general condition of the house		**Level of satisfaction on what is being offered by the sugar company**			
			VERY SATISFIED	**SATISFIED**	LESS SATISFIED	**Total**
	Very Good	Count	3	5	37	45
		%.	0.8%	1.5%	10.1%	12.4%
	Good	Count	0	8	68	76
		%.	.0%	3%	18.6%	21.6%
	Average	Count	5	20	96	121
		%	1.4%	5.5%	26.3%	33.2%
	Poor	Count	5	16	98	119
		%.	1.4%	4.4%	27%	32.6%
	Very Poor	Count	0	2	2	4
			0%	0.5%	0.5%	1%
Total		Count	13	51	301	365
		%	3.6%	14.0%	82.5%	100.0%

Out of 365 respondents who participated in the study, 5 (1.5%) of the respondents who ranked the general housing conditions as poor were satisfied with the remuneration the company, 16 (4.4%) of the respondents who ranked the general housing conditions as

poor were satisfied with what the company offered as remuneration while the majority of the out-growers 98 (27%) of the respondents who ranked the general housing conditions as poor were less satisfied with the remuneration the company offered. The highest number of out-growers who were dissatisfied with the remuneration the company offered justified the poor general conditions of the houses, an indication that company practices significantly affect the general condition of housing for sugarcane out –growers.

Many empirical studies addressing causes and solutions to poverty have come up to the conclusion that housing for the poor is of critical importance When discussing the family problems the most common factor they bring out as an indicator of poverty is housing.(Jathi, 2011). This study shows that farmers would be able to improve the condition of their housing when the company offers better remuneration. Poverty alleviation has to focus an asset formulation and not only on the income generation in order to be successful (UN HABITAT 2010).

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter contains summary of findings, conclusion, recommendations, contributions to the body of knowledge and suggestions for further research.

5.2 Summary of Findings

The study sought to find out the effect of Muhoroni Sugar Company practices on the livelihood of sugarcane out-growers. The study revealed that Koru zone was comparatively densely populated with sugarcane farmers than other regions within the sub county. Majority of sugarcane out-growers were aged between 41-50 years. The study established that sugarcane farmers were male dominated with 265 (72.6%) of the farmers being males. Majority of those who carry out cane farming are the married 291 (79.7%) as compared to the singles who maybe having limited resources. Majority of the cane farmers had attained the secondary school level of education 172 (47.1%). This level of education supported them on utilization of modern technology while carrying out sugarcane farming.

The first objective of the study was to establish the effect of Muhoroni sugar company practices on education of sugarcane out-growers. Findings of the study reveal that most sugarcane out growers 216(59%) were not satisfied with remuneration offered by the company in terms of delay in remitting the cash and reluctance in reviewing the remuneration to be in tendon with the present economic reality. As a result, majority of the sugarcane out-growers were unable to sustain their children in school due to lack of school

fees. Findings of the study indicate that, majority of sugarcane out- growers 198 (54%) find the cost of affordability of education as very high. This results shows that most of the sugar cane out-growers cannot freely send their children to school.

The second objective of the study was to examine the effect of Muhoroni sugar company practices on food security of sugarcane out- growers. Findings of the study reveal that majority of sugarcane out–growers 221 (60.5%) cannot afford the minimum number of three meals per day. This results indicate that Muhoroni sugar cane company does not offer good renumeration to the sugar cane out-growers, a factor that explains why most sugar cane out- growers cannot comfortably provide the mandatory three meals per day to their families. The study further established that, almost all the 365 (100.0%) had at least missed a meal once. On further probing, most of the cane farmers interviewed indicated that their families went without meals as a result of inadequate income they received from the company. These are indicators that the company does not offer good remunerations to the sugar cane out-growers to enable them comfortably afford basic necessities such as food to their families.

The third objective of the study looked at the influence of Muhoroni Sugar Company practices on the health of out-growers. This was necessary in order to appreciate the role of the company in facilitating the health of out-growers. Findings of the study established that majority of the cane farmers 217 (59.5%) preferred health facility as their source of medication. This result was a clear indication that most of the out-growers appreciate modern health facilities as their sources of medication as opposed to the traditional herbs or other sources. The study further revealed that majority of respondents 259 (71.0%) echoed

their voices that they were not in a position of affording all the drugs prescribed to them from the health facilities. In-depth inquiries from respondents reveal that the company does not provide enough income to them. This explains why majority of them could not afford to purchase all the drugs prescribed to them from the health facilities.

The last objective of the study was to examine the effect of Muhoroni Sugar Company on housing of sugarcane out-growers. Since housing is one of the basic necessities, the researcher felt that it was prudent to ascertain whether the company influences the housing conditions of out-growers. Findings of the study reveal that majority of the respondents 195 (53.5%) indicated that their roofs were in poor condition, an indication that they lacked repair and renovation. Majority of the respondents interviewed 213 (58.4%) asserted that their walls were in poor condition. Further findings of the study revealed that majority of the respondents 239 (65.4%) who participated in the study rated the condition of their floors as poor. Further inquiry from respondents established that the poor general conditions of their houses were as a result of inadequate financial allocation from the company to improve the conditions of the houses.

5.3 Conclusion

The main purpose of the study was to establish the effect of Muhoroni sugar company practices on livelihood of sugarcane out-growers in Muhoroni District. In terms of the stated research objectives, the following findings emerged from the study:

The study established that most sugarcane out grower were not satisfied with remuneration offered by the company in terms of delay in remitting the cash and reluctance

in reviewing the remuneration to be in tendon with the present economic reality. As a result, majority of the sugarcane out-growers were unable to sustain their children in school due to lack of school fees. Majority of sugarcane out-growers find the cost of affordability of education as very high. This shows that most of the sugar cane out-growers cannot freely send their children to school.

The study established that majority of sugarcane out–growers cannot afford the minimum number of three meals per day. This means that Muhoroni sugar cane company does not offer good renumeration to the sugar cane out-growers, a factor that explains why most sugar cane out-growers cannot comfortably provide the mandatory three meals per day to their families. Most of the cane farmers indicated that their families went without meals as a result of in adequate income they received from the company. These indicators signal that the company does not offer good remunerations to the sugar cane out-growers to enable them comfortably afford basic necessities such as food to their families.

The study revealed that majority of the cane farmers preferred health facility as their source of medication. This meant that most of the out-growers appreciate modern health facilities as their sources of medication as opposed to the traditional herbs or other sources. Majority of respondents echoed their voices that they were not in a position of affording all the drugs prescribed to them from the health facilities. In-depth inquiries from respondents revealed that the company does not provide enough income to them. This explains why majority of them could not afford to purchase all the drugs prescribed to them from the health facilities.

Finally, the study revealed that majority of the respondents indicated that their roofs were in poor condition. Most of the respondents asserted that their walls were in poor condition. Majority of the respondents who participated in the study rated the condition of their floors as poor. Further inquiry from respondents established that the poor general conditions of their houses were as a result of inadequate financial allocation from the company to improve the conditions of the houses.

5.4 Recommendations

Based on the study findings, the following recommendations were made:

1. Muhoroni Sugarcane Company should improve the remuneration offered to the sugarcane out-growers and make an effort of releasing the cash in time to enable the cane farmers to send and sustain their children in school by paying school fees in time.
2. Muhoroni Sugarcane Company should offer good remuneration to the cane farmers to enable majority of the cane farmers afford the mandatory three meals per day to their families.
3. The study revealed that majority of the cane farmers preferred health facility as their source of medication. In order to sustain this positive gesture, Muhoroni Sugarcane Company should provide enough facilities in the health centers and give medical subsidies to farmers to enable the afford drugs.
4. Muhoroni Sugarcane Company should be able to formulate policies that would enable farmers to build decent houses.

Table 5.1: Contribution of the Study to the Body of Knowledge

Objectives	Contribution to the body of knowledge
To establish the effect of Muhoroni sugar company practices on education of sugarcane out growers.	The study established that Muhoroni Sugar Company should improve the remuneration offered to the sugarcane out-growers and make an effort of releasing the cash in time to enable the cane farmers to send and sustain their children in school by paying school fees in time.
To examine the effect of Muhoroni sugar company practices on food security of sugarcane out growers.	Muhoroni Sugarcane Company should offer good remuneration to the cane farmers to enable majority of the cane farmers afford the mandatory three meals per day to their families.
To assess the role of Muhoroni sugar company practices on health of sugarcane out growers.	The study revealed that majority of the cane farmers preferred health facility as their source of medication. In order to sustain this positive gesture, Muhoroni Sugarcane Company should provide medical subsidies to farmers to enable them afford drugs
To determine the effect of Muhoroni sugar company practices on housing of sugarcane out growers.	Muhoroni Sugarcane Company should strive to improve on the living conditions of the out-growers by developing policies and providing facilities that will make it possible for sugarcane out growers to live in decent houses.

5.6 Suggestions for Further Research

This study did not explore certain areas that were equally important. Such areas were left out because the scope of this study warranted. In view of this, the study suggests the following areas for further research:

a) Impact of utilization of modern farming practices by sugarcane out-growers in Muhoroni Sugar Company, Muhoroni District.
b) Effects of employees training on Company productivity. A case of Muhoroni Sugar Company, Muhoroni District.
c) Benefits of employees' involvement on prudent management of resources. A case of Muhoroni Sugar Company.

REFERENCES

Amin, M. (2005); *Social Science research: conception, methodology and analysis.*

Ashley C., & Hussein K. (2000); *Developing Methodologies For Livelihood Impact Assessment.*

London U.K

ASA (2011); *The Economic importance of Sugar Industry to the US*

Economy: New York. USA

APHRC.(2002);*Health and Livelihood Needs of Residents of Informal Settlements*.

APHRC, Nairobi, Kenya.

Baer W. (2008).*Brazilian Economy, Growth and Development (6th Edition).United States:*Lynnnerienner Publishers.

Benzeual B,; Judge K., &Taylor J (2008); *Evidence on the Relationship between low income and poor Health.*

Working paper vol 21

Bolo &Nkorote (2012); *Bottleneck in the Execution of Kenyan Vision 2030.*

Blaikie P., Cannon T., Davis I., Wisner B.(2004); *At Risk: Natural Hazards, People's*

Vulnerability, and Disasters. New York, NY: Routledge,

Chambers and Conway(1992); *Sustainable Rural Livelihood: Practical concept for 21St Century*

University of Sussex, Brighton

Chavalier,A.;Harnion, C,; O' Sulvann,V& Walker, I.(2005) *Impact of Parental Income on Education and Schooling of their Children;* Institute for Fiscal Studies.

Working Paper Vol 05/05

Carney D(1998); *What we contribute we can make.* London U.K

Central Bureau of Statistics and Ministry of Planning Statistics(2004);
Economic Survey Report .Nairobi

EPZ (2005); *Kenya Sugar Industry.* Nairobi, Kenya

Erguden S. (2001);*Low Cost housing: Policies and constraints in Developing countries*. International conference on Spatial Development for sustainable development, Nairobi

Glenn, D.I. (1992), *Determining Sample Size*, IFAS, Florida USA.

Glennersten R, Michael K, Isaac I. and Kudzai T., (2011); *Access to quality in Kenyan Education system*

Nairobi, Kenya .

HilderbrandClive(2002); *Independent Assessment of Sugar Industry.*

Institute of Economic Affairs (2005); *Sugar Industry in Kenya.* Nairobi, Kenya

Kimera R.H and Sserukuma R.S(2005)*; Impact of EU sugar trade on developing countries*.Germany:Published by Germanwatchpulishers

Kegode, P. (2005); *Economic Governance in Sugar Sector* .Kenya

Kenyan Vision 2030 (2007); *Globally Competitive Prosperous Kenya.*

Kothari, C.R(1985).*Research Methodology:Methods and Techniques.NewDelhi:*WillyEastern Limited

Kothari C.R. (2007). *Research Methodology.Methods and Techniques.* New Age International (P) Limited, India

Khoghali H, Jackie F, Rebecca B., & Susan J. (2001) ;*Food Security Assessment in Emergencies*

London, U.K

KIHBS (2003**)**; *Kenya Integrated Household Budget survey.*Nairobi Kenya.

Mugenda, O.M. &Mugenda A.G., (1999). *Research Methods. Quantitative and Qualitative*

Approaches. Acts Press, Nairobi

Mugenda, O.M. &Mugenda, A. G. (2003), *Research Methods: Quantitative & Qualitative Approaches,* Acts Press, Nairobi Kenya.

Orodho, A.J. (2003*). Essential of Education and Social Sciences Research Method.*

Nairobi; Masola Publishers.

Oso, Y.W&Onen, D. (2009) *A General Guide to Writing a Research Proposal and Report*, Jomo Kenyatta Foundation, Nairobi, Kenya

Ontomwa F. and Okoth J.(2013).*Cane farming presents bitter tests for Kakamega Governor*.

The Standard News Paper page 9 Business Column.

United Nations (2011) *Resilient Livelihood-Disaster Risk Reduction For Food Nutrition and Security framework Programme*. Rome, Italy

United Nations(2000) *Policies For Small-Scale Sugarcane Growing in Swaziland*

UNESCO, (2005).*Give everyone a chance to learn, Education for all*. Nairobi

Pamela A. &Davis(2005) The influence of parent education and income on child's achievement.

Richard A. &Easterlin, (2000); *the Worldwide Standard of Living since 1800.Journal of Economic Perspective Vol 14.*USA: Published by American Economic Association

Romano D., Erdgin Marco D., and Luca A.(2010); *Livelihood strategies and household resilience to food insecurity* .European Report on Development. Nairobi ,Kenya.

Tacoli C. Nazneen K. and Gregor M(2012). '*Understanding Market based Livelihoods in Globalizing World'* Available at www.iied.org/sarl/research/project/t3/proj01.html

Tromp L.A.D. and Kombo K.D. (2006). *Proposal and thesis writing*. An Introduction, Nairobi, Kenya:

Paulines publications Africa.

APPENDICES

APPENDIX I: LETTER OF TRANSMITTAL

OSIEKO DANIEL ODHIAMBO

TEL: +254 726377410

Dear Respondent,

RE: REQUEST FOR QUESTIONNAIRE ADMINISTRATION

The above refers. I am a final year Master of Arts student in Project Planning and Management of the University of Nairobi. As part of the requirements for the course, I am undertaking a study on: ***"Effect of Company Practices on Livelihood of sugarcane Out-out growers. A Case of Muhoroni Sugar Company".***

You have been nominated to participate in this study and your participation is purely voluntary. If you choose to participate, please provide accurate and honest answers as much as possible. As a measure of confidentiality, your name will not be required.

Thanks in advance for your support.

Yours faithfully,

Osieko Daniel

Student – UON.
L50/69459/2011

APPENDIX II: QUESTIONNAIRE FOR OUT GROWERS

	EFFECT OF MUHORONI SUGAR COMPANY ON THE LIVELIHOOD OF SUGARCANE OUTGROWERSIN MUHORONI DISTRCT,KENYA **T101: RESEARCH QUESTIONNAIRE**		
	QUESTIONS	***RESPONSES***	***INSTRUCTIONS***
1.0	**INTRODUCTION**		
1.1	Date of Fillling the questionnaire	_____ /_____/ 2011	*DD/MM/YY*
1.2	Respodent ID	_____	*INDICATE A-TWO-DIGIT CODE*
1.3	To what extent do you depend on the company for your income.	Wholly……1 Partially…….2 Not at all……..3	*CIRCLE THE MOST APPROPRIATE ANSWER*
1.3	Administrative division	KORU WARD.....1 MUHORONI WARD .....2 CHEMELIL WARD…… 3 FORT TENAN WARD……..4	*CIRCLE THE MOST APPROPRIATE*
2.0	**SECTION A: SOCIO- DEMOGRAPHIC PROFILE**		
2.1	How old are you?	_____ YEARS	*IN COMPLETE YEARS*
2.2	GENDER	MALE.....1 FEMALE 2	*CIRCLE THE MOST APPROPRIATE ANSWER*
2.3	What is your marital status?	SINGLE.....1 MARRIED .....2 SEPARATED.....3 DIVORCED .....4 WIDOWED.....5	

		COHABITING.....6	
2.5	What is your highest level of education?	NONE.....1 PRIMARY.....2 SECONDARY .....3 COLLEGE.....4 UNIVERSITY.....5	*CIRCLE THE <u>MOST</u> APPROPRIATE ANSWER*
3.0	**SECTION B: EDUCATION**		
3.1	How many of your children attend school?	_____	*INDICATE*
3.2	How many of your children don't attend school?	_____	*INDICATE*
3.3	Do you have any child/ Children at risk of dropping school?	YES.....1 NO.....2	*CIRCLE THE <u>MOST</u> APPROPRIATE ANSWER*
3.4	How many children that you live with have dropped out of school?	_____	*INDICATE*
3.5	How would you rate the cost of affordability to school based on your average income?	VERY HIGH.....1 HIGH .....2 AVERAGE.....3 LOW .....4 VERY LOW.....5	*CIRCLE THE <u>MOST</u> APPROPRIATE ANSWER*

3.6	What are the barriers that hinder your children to school enrollment?	_____ _____ _____	
3.7	What age are your children or children within the community likely to drop out of school?	3-6 Years ..... 1 7-9 years ..... 2 10-13 years ..... 3 14-18 years ..... 4 19-22 years 5	*CIRCLE THE <u>MOST</u> APPROPRIATE ANSWER*
3.8	What happens to children who drop out of school?	_____ _____ _____	
3.9	Where do they go to?	_____ _____ _____	*CIRCLE THE <u>MOST</u> APPROPRIATE ANSWER* *EXPLANATIONS*
3.10	What portion of children who drop out of school re-enter back to school?	5% ..... 1 10% ..... 2 20% ..... 3 30% ..... 4 40% ..... 5 Above 50% 6	
3.11	What challenges face drop out who re-enroll back to school?	_____ _____ _____	
3.12	What conditions hinder drop outs from re-enrolling	_____ _____ _____ _____ _____	

3.13	What are the determinants of low and high rate of enrollment in schools?	_____ _____ _____	
4.0	**SECTION C: FOOD SECURITY**		
4.1	How many meals can your family afford in a day?	_____Meals	*INDICATE*
4.2	Have you ever gone without a meal in your house?	YES.....1 NO.....2	*CIRCLE THE MOST APPROPRIATE ANSWER*
4.3	How many times can you averagely go without a meal in a period of one week?	_____Times	*INDICATE*
4.4	What factors can you attribute to failure of your family to go without meals?	_____ _____ _____	
4.5	Can your family afford to eat a balanced diet meal in a span of one week?	YES.....1 NO.....2	*CIRCLE THE MOST APPROPRIATE ANSWER*
4.6	Can you afford to change meals as you desire and within your convenience?	YES.....1 NO.....2	*CIRCLE THE MOST APPROPRIATE ANSWER*

4.7	Where do you mostly get your meals?	Own farm.....1 Buy from the market.....2 Donations .....3 Assisted by neighbours 4	*CIRCLE THE MOST APPROPRIATE ANSWER*
4.8	Does your family get satisfied with any single meal on the table?	YES.....1 NO.....2	*CIRCLE THE MOST APPROPRIATE ANSWER*
4.9	Do you have any food storage system?	YES.....1 NO.....2	
4.10	How long does the food in store sustain the family?	Less than 1 month .....1 1 month .....2 2-3 months.....3 4-6 months.....4 6-12 months.....5 More than 1 year 6	*CIRCLE THE MOST APPROPRIATE ANSWER*
5.0	**SECTION D: HEALTH**		
5.1	What is your main source of medication?	Health facility.....1 Herbal drugs .....2 others.....3	*CIRCLE THE MOST APPROPRIATE ANSWER*

<table>
<tr><td>5.2</td><td>How far is the health centre? Dispensary from your house?</td><td>_____Kms</td><td rowspan="3">CIRCLE THE <u>MOST</u> APPROPRIATE ANSWER</td></tr>
<tr><td>5.3</td><td>What source of transport can you afford to the health centre/ dispensary?</td><td>Bicycle 1
Motor bike 2
Psv.....3</td></tr>
<tr><td>5.4</td><td>Can you always afford all the drugs prescribed at the health centre/ dispensary?</td><td>YES.....1
NO.....2</td></tr>
<tr><td>5.5</td><td>How much do you averagely spend on medication per year?</td><td>Kshs _____</td><td>INDICATE</td></tr>
<tr><td>GR</td><td colspan="2">HOUSING</td><td></td></tr>
<tr><td>6.1</td><td>Observe and rate</td><td><table>
<tr><td></td><td>Very good</td><td>good</td><td>Average</td><td>poor</td><td>Very poor</td></tr>
<tr><td>Roofing</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Walling</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Floor</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Sanitation</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>External environment</td><td></td><td></td><td></td><td></td><td></td></tr>
</table></td><td>TICK THE <u>MOST</u> APPROPRIATE ANSWER</td></tr>
</table>

		Furniture						
		Clothing						
		Lighting						
		Internal environment tidiness						
		Individual/ personal tidiness						
		Cooking method						
GR	**RATING ON THE LEVEL OF SATISFACTION WITH THE MUHORONI SUGAR COMPANY**							
7.1	How often do you take your cane to the sugar company?	Very Frequently .....1 Frequently .....2 Less frequently.....3						*CIRCLE THE <u>MOST</u> APPROPRIATE ANSWER*
7.2	Are the terms of transaction offered by the sugar company favorable?	Yes .....1 No 2						

APPENDIX III: TABLE OF SAMPLE SIZE SELECTION

Size of population	Sample size (n)	Precision (e) of:		
	± 3%	± 5%	± 7%	± 10%
500	A	222	145	83
600	A	240	152	86
700	A	255	158	88
800	A	267	163	89
900	A	277	166	90
1000	A	286	169	91
2000	714	333	185	95
3000	811	353	191	97
4000	870	364	194	98
5000	**909**	**370**	**196**	**98**
6000	938	375	197	98
7000	959	378	198	99
8000	976	381	199	99
9000	989	383	200	99
10000	1000	385	200	99
15000	1034	390	201	99
20000	1053	392	204	100
25000	1064	394	204	100
50000	1087	397	204	100
100000	1099	398	204	100
>100000	1111	400	204	100

a = assumption of normal population is poor (Yamane, 1967). The entire population should be sampled

Source: Glenn, D. Israel (1992).

APPENDIX IV : COMPANY'S LETTER OF APPROVAL

MUHORONI, KENYA.

Date 6th May 2013

MUHORONI SUGAR COMPANY LTD P.O. BOX 2, MUHORONI (IN RECEIVERSHIP)

Approved BM 6/5/2013

The General Manager,

Muhoroni Sugar Company Limited,

P.O Box 2, Muhoroni-Kenya.

Dear Sir,

RE: REQUEST TO UNDERTAKE A RESEARCH STUDY IN MUHORONI SUGAR COMPANY LIMITED

The above refers. I am a final year Master of Arts student in Project Planning and Management of the University of Nairobi. As part of the requirements for the course, I am undertaking a study on "Effect of Company Practices on Livelihood of Sugarcane Out-growers. A case of Muhoroni Sugar Company. "

I therefore request for your permission to undertake of this research study in your organization taking into account the ethical and institutional considerations required of a study of this nature. Please note that the information sought for is purely for academic purposes and will not be used for any other purposes.

Enclosed herein, Please find a copy of the questionnaire which shall be administered to the respondents for purposes of this study.

Yours Sincerely,

OSIEKO DANIEL ODHIAMBO

Student Researcher,

University of Nairobi

APPENDIX V: DISTRICT COMMISSIONER FIELD ENTRY PERMIT

OFFICE OF THE PRESIDENT

Telegrams : .....
Telephone : .....
Fax : 020-2393643
When replying please quote
Ref: MHN/ED/17/14/VOL I/37

DISTRICT COMMISSIONER
MUHORONI DISTRICT
P.O. BOX 17-40107
CHEMELIL.

20th May, 2013.

Daniel Odhiambo Osieko
University of Nairobi
P.O BOX 825-40100
KISUMU

RE: RESEARCHAUTHORIZATION

Following your clearance by the National Council for Science and Technology vide its letter NCST/RCD/10/013/22 of 7th May 2013, you are authorized to conduct Reseach within Muhoroni Sub county. The research will be on "Effect of Muhoroni Sugar Company practices on livelihood of Sugarcane out growers in Muhoroni Sub county, Kenya".

This authority is granted for the period ending 30th August 2013.

Ensure you go through normal protocols while accessing offices and allied areas for the respective companies and homes.

A.K.ABWAKU
DEPUTY COUNTY COMMISSIONER
MUHORONI DISTRICT.

C.C
ACC
MUHORONI WARD

APPENDIX VI: RESEARCH AUTHORIZATION LETTER

REPUBLIC OF KENYA

NATIONAL COUNCIL FOR SCIENCE AND TECHNOLOGY

Telephone: 254-020-2213471, 2241349, 254-020-2673550
Mobile: 0713 788 787 , 0735 404 245
Fax: 254-020-2213215
When replying please quote
secretary@ncst.go.ke

P.O. Box 30623-00100
NAIROBI-KENYA
Website: www.ncst.go.ke

Our Ref: **NCST/RCD/10/013/22**

Date: **7th May, 2013**

Daniel Odhiambo Osieko
University of Nairobi
P.O BOX 825-40100
Kisumu

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on **"Effect of Muhoroni sugar company practices on livelihood of sugarcane out-growers in Muhoroni District, Kenya."** I am pleased to inform you that you have been authorized to undertake research **in Nyanza Province for** a period ending ***30th August, 2013.***

You are advised to report to **the District Commissioner and the District Education Officer, Muhoroni District before** embarking on the research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy in pdf** of the research report/thesis to our office.

DR.M.K.RUGUTT, PhD, HSC
DEPUTY COUNCIL SECRETARY

Copy to:

The District Commissioner
The District Education Officer
Muhoroni District

APPENDIX VII: RESEARCH PERMIT

CONDITIONS

1. You must report to the District Commissioner and the District Education Officer of the area before embarking on your research. Failure to do that may lead to the cancellation of your permit
2. Government Officers will not be interviewed with-out prior appointment.
3. No questionnaire will be used unless it has been approved.
4. Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.
5. You are required to submit at least two(2)/four(4) bound copies of your final report for Kenyans and non-Kenyans respectively.
6. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice

GPK6055t3mt10/2011

REPUBLIC OF KENYA

RESEARCH CLEARANCE PERMIT

(CONDITIONS—see back page)

PAGE 2

THIS IS TO CERTIFY THAT:
Prof./Dr./Mr./Mrs./Miss/Institution
Daniel Odhiambo Osieko
Of (Address) University of Nairobi
P.O BOX 825-40100
KISUMU
Has been permitted to conduct research in

Muhoroni	Location
Nyanza	District
	Province

On the topic: Effect of Muhoroni sugar company practices on livelihood of sugarcane out-growers in Muhoroni District, Kenya.

For a period ending: 30th August *2013*

PAGE 3

Research Permit No. *NCST/RCD/10/013/22*
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Applicant's Signature

Secretary National Council for Science and Technology