

**THE IMPACT OF SUGAR INDUSTRY ON SOCIO-ECONOMIC
DEVELOPMENT IN KENYA: THE CASE OF MUHORONI SUGAR
COMPANY (1992-2017)**

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DECLARATION

This is to declare that this research project is my original work and has not been submitted to any other university for any academic award.

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DEDICATION

I dedicate this work to my wife and children who showered me with love and endured long periods of time without my physical presence during the course of the study.

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I thank the Almighty God for the gift of life and good health to pursue my studies to this level.

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GOD BLESS YOU ALL!

LIST OF ABBREVIATIONS

COMESA	: Common Market for Eastern and Southern Africa
EAC	: East Africa Community
EPZ	: Export Processing Zone
FAO	: Food and Agriculture Organization
FTA	: Free Trade Area
GDP	: Gross Domestic Product
KESREF	: Kenya Sugar Research Foundation
KSB	: Kenya Sugar Board
KSI	: Kenya Sugar Industry
NGOs	: Non-Governmental Organizations
SPSS	: Statistical Package Social Sciences
SUCAM	: Sugar Campaign for Change
MUSCO	: Muhoroni Sugar Company
CSR	: Corporate Social Responsibility
OGI	: Outgrowers Institutions
MUSOCO	: Muhoroni Sugarcane Out growers Co Ltd
VAT	: Value Added Tax
SDL	: Sugar Development Levy
SDF	: Sugar Development Fund
BOD	: Biochemical Oxygen Demand

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ABSTRACT

The study intended to examine the impact of the sugar industry on socio-economic development in Kenya, with the general research question being to what extent does sugar industry impact socio-economic development in Kenya. The study used Muhoroni Sugar Company (MUSCO) as a case study. It sought to answer the following question: To what extent does sugar industry impact on the socio-economic development of Kenya? The specific questions were; what contribution has MUSCO made towards the socio-economic development of Muhoroni Sub County? What challenges does Muhoroni Sugar Company experience which inhibits its capacity to effectively impact on Socio-economic Development of Muhoroni Sub County? To answer these questions, the following specific objectives were set; To assess the socio-economic impact of Muhoroni Sugar industry in Muhoroni Sub County in Kisumu County and To establish factors that hinder Muhoroni Sugar company capacity to promote socio economic development in Muhoroni sub county with a view of offering proposed solutions. This study also set out to test the following research hypotheses: That sugar industry significantly impacts Kenya's socio-economic development; sugar industry has potential of creating job opportunities and good policies can improve performance of the sugar companies in Kenya by boosting their capacity to enhance socio-political development in Kenya. The study found out that sugar industry as a sub sector of agriculture is expected to compete with others such as tea, coffee and floriculture in contributing to Kenya's national wealth. The study further established that sugar sub sector is a sleeping giant, which operates below capacity as a result of myriad challenges that have never been addressed for close to five decades due to neglect, lack of clear policies and political goodwill from the government of the day to enhance socio-political development of communities in sugar belt areas. Muhoroni Township becomes a ghost town whenever the factory is closed down for routine maintenance, but bursts into a beehive of at the end of three-month period during which the business community realizes improved business due to enhanced disposable income. The study concludes by giving proposals for interventions, which the national government, Kisumu County Government and other stakeholders need to undertake into order to enhance social-economic development in Muhoroni Sub County and also ensure the sugar sub-sector competes with other sub sectors in agriculture in contributing to economic growth of the country.

CHAPTER ONE: THE INTRODUCTION

1.1 Background of the Study

According to a World Bank report (2012), agriculture is at the centre of the global economy with 1.3 billion out of 7.1 billion people in the world directly or indirectly involved in farming. The World Bank notes that most middle-income economies rely on agriculture as the main driver of economic development with countries such as India, China and Brazil investing more in the sector to create wealth. In India, for instance, agriculture accounts for 54 per cent of employment in the country and contributes almost 18 per cent of its national income. In sub-Saharan Africa, agriculture has been the main economic activity among rural communities which practice subsistence farming targeted to survival of families with little or no surplus trade.

However, in the agrarian revolution, commercial farming has taken root in the continent's leading economies. However, the continent is still importing agricultural products to the tune of \$35 billion per year. These are mainly food products, which exposes contradiction in agriculture as a main economic activity on the continent.

Agriculture has been cited as one of the key drivers of Kenya's transition to a middle-income country, since it forms the backbone of the country's economy besides employing a sizeable number of Kenyans both directly and indirectly. The Kenya National Bureau of Statistics' *Economic Survey (2017)* shows that agriculture directly contributed 25 per cent of the country's Gross Domestic Product in 2016. According to the report, the contribution consisted of food crops and cash crops that are consumed locally and those exported respectively. The cash crops include horticultural products, coffee, tea, wheat, pyrethrum, flowers, maize, tobacco and sugar. Of the cash crops, tea led the pack in performance with its production increasing by 37 per cent in 2016 compared to 2015 while 'sugarcane production only grew by 0.6 per cent from 6,360 tons to 6,400 tones'. These cash crops are mostly grown on a large-scale basis and are the key sources of foreign exchange earnings for Kenya. It is, therefore, upon this background that Kenya developed an agricultural policy, which has been anchored in the Kenya Vision 2030 economic blue print.

However, the agricultural sector, according to a number of scholars such as Kegode (2005), Ochollah (2005) and Altair (2010) is still unable to realize its full potential. This is because of, among others, a poor land tenure system, bad policies on management of farm inputs such as fertilizer, poor storage facilities for perishable cash crops, underfunding as well as corruption.

In Kenya, though production of other cash crops such as coffee has been growing, increasing the income of farmers and revenue to the government through taxes and foreign exchange reserves, sugarcane production has been registering negative growth. In 2016, for instance, The economic survey report released by the Kenya National Bureau of statistics(2017) noted that coffee production increased by six per cent in 2015 while sugar production decreased by nine per cent despite the size of land under sugarcane plantation going up as compared to that of coffee plantations.

Sugarcane growing is a major source of income for over 150,000 shareholders (Kenya National Bureau of Statistics, 2014). Sugarcane is grown on fairly flat regions in the Western and Coast regions of Kenya. About 85 per cent of the total cane supply is from small-scale growers whose livelihoods depend on it while the remaining is from the nucleus estates owned by sugar factories (Kenya National Bureau of Statistics, 2014).

The process of producing sugar is a multi-billion business that every country engages in due to its benefits not only to the farmer but also to the government as a bigger source of revenue. The benefits continue to be felt by communities especially those that live in sub-counties where sugar factories are located. These communities benefit from improved infrastructure, provision of electricity, good roads, water supply and social amenities such as schools and hospitals. All these benefits are as a result of the presence of a sugar factory in that particular locality. Therefore, the benefits of sugarcane production are immense (Altair 2010).

According to the Kenya National Bureau of Statistics Report (2014), sugarcane farming is mostly practiced in the western parts of Kenya. The sector employs over five million people, which is estimated to be about 15 per cent of the Kenyan population. The report further notes that sugarcane factories in Kenya, through the

nucleus estates, produce only 15 per cent of the sugarcane supplied to the factories. The remaining 85 per cent comes from small scale farmers.

Kegode (2005) notes that Miwani Sugar Company was the first sugar factory to be established in Kenya in 1922, followed by Ramisi Sugar Company in 1927. Muhoroni Sugar Company was the third to be established in 1966 followed by Chemelil Sugar Company (1968), Mumias Sugar Company (1973), Nzioa Sugar Company (1978) and lastly, Sony Sugar Company in 1979.

According to the Institute of Economic Affairs (2015), the sugar industry ensures food security and improves the livelihoods of Kenyans living in the rural areas. It also provides sustainable development that benefits all Kenyans. However, the sugar industry is facing a number of challenges that threaten its existence. The industry has a number of stakeholders namely; the farmer, government, sugar factories, outgrowers' associations, importers and financial institutions as well as the consumer lobby groups. Unfortunately, all these groups are not working hand in hand; mostly they work at cross purposes. Most of them want to have the monopoly of managing the industry without external interference, which causes resistance from other actors (Ocholla 2005).

According to an EAC report of 2005, the sugar sector in Kenya suffered a major crisis between 1998 and 2001 leading to the enactment of the Sugar Act in 2001, which created the Kenya Sugar Board to act as a regulator. During this period, Muhoroni Sugar Company was placed under receivership after it accumulated huge debts that it was unable to pay. The challenges were occasioned by four major issues namely; cane poaching, corruption, cheap imports and use of obsolete technology. Despite these challenges, Muhoroni Sugar Company participated in a number of corporate social responsibilities such as provision of healthcare services as well as supply of clean and adequate piped drinking water to all households within its locality. In the education sector, a number of schools such as Muhoroni primary school were established and up to date, the school ranks as one of the best performing schools in Kisumu County. In sports, the company is the sole sponsor of Muhoroni Sugar Football Club which has participated in the Kenyan Premier League for many years. It is, therefore, clear that when a sugar factory collapses or is put under receivership such as in the case of

Muhoroni, these projects are subjected to an existential threat. This slows down socio-political development in Kenya.

1.2 Statement of the research problem

Many countries all over the world are engaged in sugar production, and from the various reports released by the UNDP, it has been established that states in south America such as Brazil, Mexico and Argentina have heavily invested in the sugarcane sector, however the extent to which the production of sugar in those countries resulting to socio-economic development, there is very little to show. (UNDP report 2017). This report has further been enhanced by the writings of Fisher (2009) who argued that despite the fact that Brazil and Mexico were some of the greatest sugar producing states in the world, they still remained third world states because there was little impact that sugar production was making in their economy.

In the African Continent, Verneulin (2011) noted that despite countries such as Nigeria, South Africa and Namibia heavily investing in the sugarcane sector, there have been numerous reports showing that there is a decline of the benefit that sugarcane farmers gain when they engage in the sugarcane production hence socio economic under development in these countries. For instance one of the reasons that led to the escalation of the acts of xenophobia in South Africa was a result of poor performance of the agricultural sector of which sugarcane production was a key sub sector.

Agriculture has been the backbone of Kenya's economy since independence. According to a report issued by the State Department of Planning in Kenya (2015), agriculture contributes over 35 per cent of Kenya's GDP and constitutes over 40 per cent of the Kenya's total exports. The report further observes that the agricultural sector forms the background of industrialization in Kenya because it supplies raw materials for industries such as sugarcane to sugar factories. The sugar production sector and the practice of cane plantation have played a key role in the agricultural, industrial and economic sectors in Kenya. This is because not only does it employ millions of Kenyans directly, it also supports many families who engage in sugarcane farming.

The industry according to the Economic Survey report (2017) of the Kenya National Bureau of Statistics provides a huge tax base for both the national government and the 47 county governments. The report observed that the sugar sector contributed 11 per cent of Kenya's total GDP in 2015. Besides these, sugar factories support a number of activities within the local communities such as sporting activities, provision of health facilities, provision of clean water, provision of schools and other educational facilities, sponsorship of needy students and sponsorship of cultural events as part of corporate social responsibility programs.

It is thus clear that Muhoroni Sugar Company has a great potential for the socio-political development in Muhoroni Sub County. It is for this reason that the study sought to examine the impact of sugar industry on the socio-political development of communities living in Muhoroni Sub County to fill an existing knowledge gap. The study concentrated on the period between 1966-2017 because this was the period in which the company has been in existence. Also the study aimed at making comparisons of the company's performance over the years in as far as socio-political development of Muhoroni sub county is concerned.

1.3 Research Questions

This study was guided by the following research questions:

1.3.1 General Question

1. To what extent has the sugar industry contributed to Kenya's socio-economic development?

1.3.2 Specific Questions

1. What contribution has Muhoroni Sugar Company made in the socio-economic development of Muhoroni Sub County?

2. What are the contribution of Muhoroni Sugar Company to socio-economic development of Muhoroni town?

1.4 Objectives of the Study

This study was guided by the following objectives:

1.4.1 Main Objectives

1. To examine the contribution of the sugar industry to Kenya's socio-economic development.

1.4.2 Specific Objectives

1. To assess the socio-economic impact of Muhoroni Sugar industry in Muhoroni Sub County in Kisumu County.
1. 2. To examine contribution of Muhoroni Sugar Company to the socio-economic development of Muhoroni town

1.5 Justification of the Study

This study was justified at two levels, namely; the academic level and the policy level.

1.5.1 Academic Justification

Many studies, for instance by Mbai and Wanyande (2001), have delved into challenges which the sugar industry is facing in Kenya with a view to explaining its status. However, there is a need for continued generation of more knowledge and information that can be used by scholars in future. This study, therefore, seeks to augment existing knowledge as far as sugar production in Kenya is concerned and the socio-economic impact Muhoroni Sugar Company has on communities living in the Sub County. The knowledge generated here can be used by researchers in future to guide their studies. Therefore, not only was the study able to fill in the knowledge gap that existed by adding new insights to the existing data, but its findings and recommendations made are going to be useful to students of economics, trade and commerce, politics and sociology in their academic work. To researchers, the findings and recommendations are going to be relevant in forming a platform for academic debates and offer a basis for further research.

1.5.2 Policy Justification

At the policy level, the study is useful to policy makers especially at this time when government has put in motion the process of privatizing sugar companies. The knowledge generated, therefore, will be useful to the government in understanding the potential of the company in improving the social-political welfare of the local communities in Kisumu County when it operates normally. This is because the

findings of the study will act as an eye opener to the government officials in the departments of trade, industrialization and national treasury as it will inform their art of policy making. The information generated also will help potential investors to get firsthand information that could help in their running of the company. Further, the findings of the study pointed out the gaps that existed in the current policies governing the sugar sub-sector and the agricultural sector as a whole. The study also offered policy alternatives that relevant state departments need to look at as they review the existing policies.

Lastly, the findings and recommendations made by the study are going to be useful to the management of Muhoroni Sugar Company and all the sugar companies in Kenya and beyond. This is because the new insights will give them an idea or two on how best to manage their respective sugar companies so that they can adequately enhance their socio-economic impact on Kenya's development.

1.6 Scope and Limitation of the Study

The study focused on socio-political impact of Muhoroni Sugar Company on the Sub County. The study focused on the periods between 1992 and 2017 because this was the period when Kenya adopted the structural adjustment programs which allowed the liberalization of the markets and allowed free import and export of goods and services. It is also between these periods that the sugar sector in Kenya has undergone a lot of changes and dynamic situations. The study particularly focused on the benefits that Muhoroni Sugar Company provides not only to the government through revenues, but to the society as a whole. They include creation of employment opportunities, provision of social amenities, infrastructure, education and sporting activities as well as improvement of health services just to mention but a few.

The study was limited by the management of the Muhoroni Sugar Company which was hesitant in releasing classified information to the researcher. Therefore, this led to information gaps when analyzing the data. However, the study was able to use information and data that have been provided by existing studies in this particular subject matter. For instance, Kenya National Bureau of Statistics reports provided necessary data on contribution of the sugar sub sector to the growth of the economy vis-à-vis other sub sectors like coffee and tea. In addition to these, the researcher also

tried to access critical information by a few informers who were privy to the goings on in Muhoroni Sugar Company, this assisted the researcher in the mitigation do the limitations of the study.

The researcher also run into bureaucratic challenges in accessing the interviewees, but was able to use friends and a colleague at Nation Media Group who introduced him to authorities and other potential interviewees who contributed to success of the study. This is because the researcher was required to report to the local administration before embarking on the data collection process. The researcher further explained everything about the study to the respondents to seek their consent before interviewing them. For those respondents who wished not to be quoted anywhere, their wishes were respected.

1.7 Definition of Key Concepts

Development: According to Todaro (1981) refers to that style of reorganizing the whole economic system with a view of causing an economic expansion and growth. This expansion and growth must be accompanied by the qualitative improvement of the standards of living of the people as well as the socio political progress of the society in which the people live in. For the purposes of this study, the term development will be used to mean the improvement of citizens' welfare. Such improvements may take social, political and economic dimensions. Social development would mean an attempt to widen access to basic life needs such as education, healthcare, security, food and any other necessity that promotes development and dignified livelihood.

Socio-Political Development: A World Bank report (2000) refers to the quantitative and qualitative progress in terms of economic and social factors within a geographical unit such as a sovereign state. For the purposes of this study, it refers to the improvements of those social factors such as education, sports and healthcare for the good of the local community.

Economic development: The World Bank report (2000) refers to the extent to which there is economic growth as well as the improvements of the quality of life of the citizens. For the purposes of this study, it refers to the improvements of the economic

well-being of the people.

Social development: The World Bank report (2000). Refers to how the structures of society are related and how they improve the quality and the harmonious existence of the people. It also refers to the extent to which the views of the people are factored in matters development. For the purposes of this study, social development refers to those practices that foster inclusiveness, social justice and the common good in the society.

Indicators of social development: Todaro (1981) refers to those yardsticks which compare the data between different societies on particular issues of interest such as the unemployment levels, poverty index, literacy levels, the extent of public participation, democratic standards as well as security situation, in a number of cases, environmental issues have also been factored in. For the purposes of this study, socio-economic development would be used to refer to both the quantitative increase of people's incomes and economic lifestyles as well as the qualitative increase of people's social life.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

This chapter delves into critical examination of relevant literature on the subject matter and points out gaps that the study fills.

2.1 Growth of Sugar Industry in Brazil

The sugar industry has been growing at an average rate of 35 per cent with land under sugarcane plantation growing at an average rate of 45 per cent. According to Patrick H. Chatenay (2013), farmers in Brazil, the world's largest sugar producer, are supported by heavy government subsidies to boost production as well as creation of market for the produced commodity. The subsidies come in the form of affordable credit lines for farmers, which they use to finance highly mechanised agriculture to minimize labour costs and losses. With the credit line, farmers are also able to access farm inputs like fertilizers for their production. For instance, in 2012, \$800,000 was borrowed by farmers at affordable interest rates to develop 400,000 hectares of land. A year later, a \$2.2 billion credit facility was availed to farmers to help them increase sugarcane farming. In addition, the sugar industry in Brazil benefits from \$2.5 billion that the government injects into the industry directly.

In conclusion, subsidies and other direct support from the government are critical in boosting production in any sector of the economy. In this regard, the sugar sector in Brazil is able to compete with other countries to become the number one exporter.

2.2 Contribution of Agriculture to Kenya's Socio-Economic Development

According to Nyangito and Okello (1998), the agricultural sector in Kenya employs over 75 per cent of the labour force and feeds the nation. It also earns Kenya about 60 per cent of the foreign exchange. They note that despite the importance of the agricultural sector in Kenya, its performance has been very poor since 1970.

This, according to them, is because of bad policies by the government such as controls on agricultural production and marketing. The authors observe that for many years, Sessional Paper No. 10 of 1965 guided Kenya's agricultural sector. It provided for state control of the economy. For instance, once the government wanted to promote a certain commodity, it created incentive structures such as pricing and marketing

policies that favoured the commodity like tea and coffee as export crops and sugar, maize and milk as food crops.

The government controlled the production and marketing of the essential commodities through state institutions which were granted a monopoly status. Each commodity which was seen as essential for the country had a board or an authority responsible for its production and marketing. For instance, milk was managed by the Kenya Dairy Board, tea by the Kenya Tea Development Authority and the Kenya Tea Board, Coffee by the Coffee Board of Kenya and the Kenya Planters' Union, sugar by the Kenya Sugar Board and the Kenya Sugar Authority and maize and other cereals by the National Cereals and Produce Board. These institutions were used by the government to exercise outright production and marketing control over other agricultural sub sectors (Nyangito and Okello 1998).

However, from 1980, policy shifted towards a liberal state. It emphasised on the reduction of state intervention in the economy and free market operations. This policy shifts caused differences in the performance of the various commodities. Besides this, there was massive embezzlement of funds and appointment of unqualified people leading to mismanagement and eventual collapse of the boards and authorities. These events caused massive decline of the tea, coffee, sugar and other critical sub sectors of agriculture (Nyangito and Okello 1998).

The sugar industry in Kenya greatly contributes to social and economic development of the country in addition to enhancing the growth of GDP. There are more than 250,000 small scale sugar cane farmers in Kenya who depend on the industry. The Kenya Sugar Board estimates that approximately six million Kenyans rely directly or indirectly on the industry as their main source of livelihood (KSB, 2011).

According to the Economic Survey (2017), the five public factories - Miwani, Muhoroni, Sony, Chemelil and Nzioa - serve approximately 300,000 farmers who are owed \$890 million in accrued debts. The farmers, the survey says, are considering venturing into other economic activities to put food on the table and meet other financial obligations.

The industry generates revenue to the government through taxes. The industry has also contributed immensely to infrastructure development through road construction and maintenance of bridges as well as provision of social amenities such as education, health, sports and recreation facilities. The by-products of sugar manufacturing are a source of raw materials for other industries. They include biogas used for power co-generation and molasses, which is used for industrial production of ethanol. Sugar is an important food item and also a critical raw material in the food, beverage and pharmaceutical industries. The industry has immensely contributed to the development of urbanization through emergence of towns near sugar factories.

2.3 Impact of Cash Crops on Socio-Economic Development

According to the report released by Kenya's ministry of Agriculture in 2016, it was noted that with the introduction of different cash crops in western parts of Kenya such as tea, sugarcane, coffee as well as rice, there would be a sudden economic boom in these areas as farmers will be greatly motivated to expand on their large scale plantations. This was believed to be the main response to the increasing levels of poverty in these areas. This measure worked out very well at the very beginning however due to long term mismanagement and embezzlement of funds, most of these sectors collapsed. The operating companies were forced to operate on the basis of minimization of costs and maximization of profits. For example, in Kisii region, the introduction of tea, coffee and other cash crops was intended to enhance the levels of food security, the ministry of Agriculture's report of 2016 observed that the introduction of coffee as a cash crop contributed immensely to the growth and of the Kenyan economy through foreign exchange earnings. The survey goes further to state that coffee plantations increased in acreage as well as income to the farmers due to increased production.

Otieno (2003) argued that despite the fact that the major aim of introducing the sugar sector in western Kenya was to reduce on the poverty levels in these areas. This is because it was believed that young people will access jobs, the company will be paying farmers on time, however the author argues that despite the introduction of the sugar sector in the region and creation of many sugar industries in the larger western Kenya, the levels of poverty is still high in these areas. His views sharply differ with the 2008 Kenya sugar board report which argued that the sugar sector benefits upto

15per cent of the Kenyan population. Waswa (2012) On the other hand carried out a study on the impact of sugarcane to farmers in western Kenya; he established that most farms relied greatly on the proceeds of sugarcane to pay school fees for their children, purchase of new family property such as knew parcels of land, building of proper homes among others. These whole activities had a sum total of improving the socio-economic welfare of these farmers.

Wanyama, Onyango and Mcharo (2012) noted that as soon as most farmers are paid, they start settling several debts which they had accrued for a very long period of time. Most if this period is within the 24 months which they were waiting for the companies to fast track on their payments. This therefore means that the propensity of these farmers to invest, and expand economically is greatly limited by this situation. This explains why there is an increase in poverty levels, food insecurity as well rising cases of child malnutrition. The authors continued to explain that for instance in Chemelil villages and those of Koyonzo in western Kenya, farmers remain with between 31-34per cent of their sugar cane earnings after paying off the many debts they had incurred while waiting for their payments. The author concluded by suggesting that the scheme whereby the sugar company retains 60 per cent of the famer's earnings will be good in ensuring the sustainability and maximization of benefits from farmer's earnings.

However, they caution that this can only succeed when there is adequate participation from all the stakeholders and enough consultation from the relevant state organizations. The authors further argue that this will shield the farmers from being exploited by the company so that benefits of the sugarcane farming are shared between the farmers and the company. The study however does not specify an alternative source of income that farmers have resorted to due to disappointments from sugar cane farming.

2.4 Management of Sugar Companies

According to Wanyande (2011), leading economies fully such as the United States, Germany and the United Kingdom subsidize their sugarcane farming to ensure production costs are lowered in order to make the product competitive in the market. Therefore, because of lack of subsidization, sugar produced in Kenya is unable to

compete with imported sugar due lower prices of imported sugar, which in most cases is imported by cartels in the market. To ensure fair competition, the author notes that the US government came up with a “Zero for Zero Strategy” to ensure that subsidies are given to sugarcane farmers in a bid to have a free market economy and force other countries to follow suit.

“Zero for Zero Strategy” refers to the practice of subsidizing farm inputs to all farmers and reducing the amount of taxation that they incur. The world’s leading sugar producers distort the international market with highly subsidized sugar, making it difficult for other countries to compete. Brazil, for instance, spends at least \$2.5 billion annually to subsidize sugar production while other world sugar producers, among the developed countries, cannot cope with the high cost of production. This makes it difficult for sugar produced in third world countries to compete with Brazilian sugar. Whereas the author is raising a valid issue on the subsidization of sugar farmers, his ideas are best applicable to developed countries which have sufficient capacities to do so. He ignores the economic state of affairs in third world countries which rely on foreign aid in order to finance their domestic budgets.

Riley (2014), argues that state interference has been identified as a major factor behind the uncompetitiveness of American sugar leading to its high price. In 2014, US sugar producers urged the government to review import quotas for sugar, fearing that cheap sugar from Mexico was going to drive them out of business. This was in addition to Jones-Castigan Act of 1934 that imposed protective and subsidy measures on sugar industry. Brazil, on the other hand, according to Chatenay (2013), is supported by heavy government subsidies to boost production as well as creation of market for the produced commodity.

The subsidies come in the form of affordable credit lines for farmers, which are used to finance highly mechanized agriculture to minimize labor costs and losses. With the credit line, farmers are also able to access farm inputs like fertilizers for their production. For instance, in 2012, \$800,000 was borrowed by farmers at 8.75 per cent to develop 400,000 hectares of land. A year later, a \$2.2 million credit facility was availed to farmers to help them increase sugarcane farming. In addition, the sugar industry in Brazil benefits from \$2.5 billion that the government injects into the

industry directly.

This study, to a greater extent identifies with the two author's arguments in that the subsidies and other direct support from the government is critical in boosting production in any sector of the economy. Brazilian sugar which according to Taylor (2007) dominates the global market by 25 per cent is as a result of subsidies which lowers the cost of production. This cushions farmers against losses and enables sugar companies to make a constant huge profit that enables them to participate in the socio-economic development of their respective states (Tyler 2007).

A report by the East African Community (2015) state that sugar production in East Africa is a sensitive political issue because of large numbers of small-holder farmers. The report further states that the sugar sector in the economic bloc receives support from the governments aimed at ensuring their continued existence. These support programmes come in the form of research services, farm input subsidies, mainly fertilizers, and provision of transport infrastructure. Kegode (2005) argued that while subsidies are a major boost to production, they make factories complacent leading to under performance. He argues that any form of subsidies should be made to increase production and create a fair environment for industries to thrive but not as a protectionist measure since Kenya is operating under the Common Market for Eastern and Southern Africa (COMESA) trading regime and has signed the EAC Common Market Protocol.

According to the annual report released by the Kenya Sugar Board (2011), the sugar industry in Kenya greatly contributes to the social and economic development of the country, in addition to enhancing the growth of GDP. There are more than 250, 000 small scale sugar cane farmers in Kenya who depend on the industry. The Kenya Sugar Board estimates that approximately six million Kenyans rely directly or indirectly on the industry as their main source of livelihood.

The industry generates revenue to the government through taxes. The industry has also contributed immensely in infrastructure development through road construction and maintenance of bridges as well as provision of social amenities such as education, health, sports and recreation facilities. The by-products of sugar manufacturing are a

source of raw materials for other industries. They include biogas used for power co-generation and molasses, which is used for industrial production of ethanol. Sugar is an important food item and also a critical raw material in food, beverage and pharmaceutical industries. The industry has immensely contributed to the development of urbanization through emergence of towns near sugar factories.

Sugar companies come with a wide range of benefits to the surrounding communities - both commercial and non-commercial. Corporate Social Responsibilities (CSR) makes the company to look into the social wellbeing of the community. This may come in form of environmental protection and provision of healthcare, water and education. According to Section 135 of Indian Companies Act 2013, companies are required to develop social corporate responsibilities to stipulate activities they will undertake outside their business framework to promote development of rural communities.

Bannari Annam Sugars Limited, one of the largest sugar factories in India, for instance, states in its corporate social responsibility policy that it is committed to “eradicating hunger, poverty and malnutrition, promoting preventive health care and sanitation and making available safe drinking water; promote education, including special education and employment enhancing vocation skills especially among children, women and elderly.” The company also commits to participating in activities that will protect the environment (Bannari Annam Sugars Limited, year??).

The Corporate Social Responsibility programme for European Union Sugar and Ethanol Industry Code of Conduct, state that sugar factories are expected to commit to sustainable development and respect for fundamental rights. In this regard, the Code of Conduct that was signed in 2013 compels sugar factories in the European Union to respect human rights, support employee training, observe health and safety and enhance relationship with social partners such as trade unions.

The Kenyan sugar factories are high cost producers of sugar, a scenario that has reduced the competitiveness of the industry (KSB, 2007). The cost of sugar production in Kenya is currently estimated at USD 870 per MT, which is twice the cost of production in other COMESA competing countries - Zimbabwe (USD 300),

Malawi (USD 350), Swaziland (USD340), Sudan (USD 340), and Zambia (USD 400) (Kenya National Assembly, 2015).

The sugar industry is constrained by low production capacities, lack of clear harvesting schedules, huge debts, managerial inefficiencies, cane poaching, unreliable and fluctuating weather conditions and outdated technology, equipment and machinery.

The factories continue to operate at low capacities due to low levels of technical and managerial efficiencies (KSI, 2009 and KSB, 2010). The main determinant of the productivity of a sugar factory is the ratio of total sugar cane crushed to total sugar made (TC/TS ratio). A comparison of TC/TS ratios between private and government-owned factories reveals a significant difference. In 2012, the conversion rate for Butali Sugar Company was 9.74 while Chemelil's was 18.41 (KSB report, 2013). This means Chemelil Sugar Company had to crush an extra 9MT of cane to produce one MT of sugar at a similar level as Butalii Sugar Company.

Being a member of COMESA Free Trade Area (FTA), Kenya is bound by the provisions of the free trade protocol that allows sugar imports from COMESA FTA countries to gain access to the Kenyan market without any quota or duty restrictions. This has resulted in the influx of sugar imports whose prices are much lower in comparison to sugar produced in the country. This renders locally produced sugar non-competitive. Most of Kenya's exports end up in the COMESA region from which Kenya earns a lot of benefits through foreign exchange. It is, therefore, difficult for Kenya to restrict imports from COMESA countries because it is bound by the COMESA FTA protocol (KSB, 2006).

In Kenya, sugar is not exempted from tax like other food items. This according to Ocholla (2005) is because it generates a lot of revenue to the government and the government of Kenya is not willing to let go the revenues generates from this sector. Therefore, it attracts a VAT of 16 per cent. Sugar Development Levy is also charged on the sugar millers at a rate of four per cent. Most of the farm inputs are imported and tax is levied on them as well.

Kenyan sugar cane farmers do not receive subsidies from the government as is the practice in countries such as Brazil, the world leading sugar producer. This leads to high cost of production which results in high prices of domestically produced sugar. There have been claims of double taxation whereby tax is levied on inputs used in sugar production while excise duty is levied on locally produced sugar before it is allowed into the market. The double taxation has been identified as the cause of high prices of local sugar. Suggestions have been made to classify sugar as a food item like maize and other food crops for it to be zero rated (Monroy *et al*, 2013).

Corruption remains a major challenge in the management of sugar firms. According to Ethics and Anti-Corruption Commission (2010), there are many incidents of corruption in the sector. There have also been high cases of nepotism and favouritism in the appointment of top managers, biased recruitment and hiring of workers, high levels of sugar theft and lack of transparency in the approval and disbursement of loans by the Kenya Sugar Directorate. There are allegations that approval and licensing of new sugar factories are done without following the laid down rules and regulations as set in the Sugar Act (2001).

2.5 Receiver Management

Nwabueze and Onwe (1994), point out that a company may be placed under a receiver manager to enable it meet its debts obligations. The two scholars noted that the priorities and interests of the receiver manager are usually dictated by the need to recover debts and not the future of the company. In this respect, the receiver manager does not act in the interest of the community or the public, who are usually not aware of contractual agreements. The study, however, does not indicate the success of receiver management.

2.6 Privatization Policy in Kenya

White and Bhatia (1998) argue that in order for any privatization exercise to succeed, there has to be total commitment from the highest level of political leadership and a well thought out structured process for executing and coordinating the privatization exercise. This explains why Kenya established the Privatization Authority through the Privatization Act No 2 of 2005.

Vickers and Yarrow (1988) listed a number of advantages that a country enjoys after privatizing its state corporations. The benefits include but are not limited to reduction of state involvement in economic matters, reduction of borrowing levels in the public sector, improvement of efficiency, widening of share ownership and encouragement of inventions and innovation. This view is strengthened by those of White and Bhatia (1998) who argued that socio-economic development is likely to be faster and rapid if the government privatizes its state corporations. This is because privatization causes a reduction of fiscal burden, development of the private sector, broadening of the capital markets, easy access of markets, capital and technology and raising of revenues for the Treasury.

Vickers and Yarrow (1988) observes that privatization methods differ from one sector of economy to another. They list sale of shares which could be partial or majority privatization, sale of assets through partial divesture or full divesture, management or employee payouts, equity dilution, joint venture, restitution, liquidation, leasing, concessioning and management contracting. This study will, therefore, utilize the above knowledge in order to prescribe the best method of privatization that Muhoroni Sugar Company should adopt in order to spur socio-economic development in Muhoroni Sub County.

2.7 Agriculture as a Tool for Socio-Economic Development

Agriculture is a key sector for socio-economic development of any nation especially those in the third world. Once there is an increased production level over time, success in the agricultural sector has huge ripple effects in the improved well-being of farmers as it raises their standards of living (Mcrael 1990). The author continues to note that the agricultural sector is an important player in poverty reduction as it goes beyond its direct impact on the farmers' income. It ensures the country's food security, provides employment opportunities for millions of young people and generates revenue for the exchequer.

According to the Ministry of Agriculture report (2014), agriculture is the backbone of Kenya's economy, since it's the lifeline of 80 per cent of the Kenya's rural poor. They include farmers, workers and the unemployed. By the mere fact that Agriculture has employed many Kenyans, it has played a key role in poverty reduction. This is

because growth and development of agriculture has a potential of catalysing growth in other sectors of the economy.

Nyoro (2014), therefore, observes that in order for agriculture to enhance socio-economic development in Kenya, key factors must be put in place. They include effective and efficient participatory extension officers and new technology, establishment of an effective and rural finance and credit supply system, a good transport system, establishment of storage facilities for perishable crops and strengthening of farmers' co-operative societies. This view is captured in the Kenya Vision 2030 policy document. However, the challenge lies in the implementation of these salient ideas.

Other challenges facing the agricultural sector, according to Nyoro (2014), include poor land tenure system in Kenya, lack of sufficient industries to make value addition of the farms produce, unreliable weather patterns as well as official corruption. As argued by Wanyande and Mbai (2001), the government introduced sugarcane growing as a way of fulfilling political promises that were made during the struggle for independence. In this regard, the government was interested in introducing cash crop growing in the Kenya after independence because it was regarded as a preserve of the colonialists. The main aim of this was to provide economic activity that would provide livelihoods to population living in sugarcane growing arrears. Mbai further confirms that sugarcane was of a political crop that was used to rally support during an election period. During campaigns for political seats, especially the fight for Muhoroni Parliamentary seat, the plight of sugarcane farmers takes center stage as politicians canvass for votes.

2.8 Global Trends in Sugarcane Farming

The idea of sugar production is known globally in that almost every country relies on sugarcane farming to meet its sugar demands; therefore, sugar is produced through large scale plantations of sugarcane as well as small scale plantations. However, it's the sugar factories around the world that are responsible for turning the raw material into finished goods. According to Fisher (2009), Brazil is the biggest producer of sugar across the world due to its large scale sugar cane plantations and the existing favorable Agricultural policies. This therefore means that the biggest exporter

of sugar cane is Brazil.

South Africa, on the other hand, is the biggest producer of sugar since it exports its sugar to most of the sub-Saharan states, in fact South Africa accounts for over 35 per cent of the total amount of sugar which is produced and consumed globally. Verneulean (2011) observed that 28 states across the world are known for sugarcane production, the author further argues that 11 of these countries produces more than 200,000 tons of sugarcane annually. This therefore means that of all the states found in the Sub Saharan Region, the capacities of their sugar factories differs from one country to another, this is because the growth of sugar cane in these countries is done on both the large scale basis and on the small scale basis. Some farmers in these countries produce sugarcane merely for the subsistence needs.

These countries, according to the author include, Peru, Senegal, Mozambique, Tanzania, Zambia, Cameroon, Egypt, Swaziland, Ethiopia, Malawi and Sudan, just to mention but a few. Vermeulin (2011) further notes that these sugarcane factories in all these countries are the biggest large scale producers of sugarcane through the Nucleus (large farms), these nucleus is aimed at shielding the factories from circumstances when there is no production or sugarcane from private farmers is not ready for the harvesting. For instance, in Mauritius, over 26,000 farmers contribute sugarcane amounting to 30 per cent of sugarcane which is sold to South African factories for milling.

For the Kenyan case, over 250,000 farmers who plant sugarcane on a small scale basis make over 92 per cent of the sugarcane supplies to the sugar factories across the country. The remaining eight per cent of sugarcane supplies is done by the sugarcane companies themselves through their nucleus plants. (KSI report 2009). The Kenya Sugar board report of 2012 noted that this sector contributes over Ksh 12 billion to the national exchequer as revenues. The same sector has created over 500,000 jobs across the country; these jobs are both directly or indirectly. And more than 6 million individuals depend on sugar cane farming for their survival. This means that over 15 per cent of the of Kenya's GDP is met by the sugar sector. Majority of the Kenyan citizens who do this type of farming are mostly residents of western parts of Kenya.

2.9 Plantation Sugarcane Farming and Environmental Quality

According to the KESREF report of (2012),the sugarcane farmer in western Kenya are very sad people, this because for a very long period of time, the sugarcane farming has never compensated them adequately for the efforts which they put in. for instance the report argues that it takes between 18-24 months for the sugarcane to be able to grow maturely.in this whole period, the farmer has nothing to survive on as the situation dictates that he must plant other crops to meet his needs in the intervening period, again the same report went on to observe that the cost of producing sugarcane in one acre is very high as compared to the output that one care givers.

Besides these, most farmers rely on only sugarcane farming for survival. The reason for this kind of land mono culture is explained by the destruction of the vegetation and good farmers to grow crops. The major cause for this problem is the issue of high nutrients in the various kind s of fertilizes and other ingredients which are used to plant sugarcane, it lowers the productivity of soil to grow other crops, again with the continuation of harvesting of sugarcane from one season to the other, the land becomes less productive as time goes by. The report therefore suggested that there was need to carry out research on what needs to be done in order to raise or retain the level of land productivity even as sugarcane plantation is done over time and a proper reconciliation between the land use and the ad competing interests of the land users, this means that all human activities must be balance between environmental protection and meeting of the present human needs (KESREF report 2012).

The views of this report is further strengthened by those of Nhantumbo and Salomao (2010) who observed that the amount of sugarcane production differs according to the amount of rainfall that that particular season received. Therefore, Muhoroni Sub County which receives rain fall seasonally has got a very unpredictable nature of the amount of sugarcane production that is produced by an acre of farms.

Schneider (2010) argued that in the North Eastern parts of Brazil is located the Zona da Maltamalso widely known as the forest area. This is the area that has been known for the plantation of sugarcane since the 16th century. However, the author is quick to not that as a result of sugarcane plantations, the number of forests has greatly

diminished in these areas. The situation is similar in Pernambuco areas where the original forests that extended from to 80km between the north and south of Brazil has been greatly reduced, the author narrates the background to the disappearance of these forests lies with the Portuguese. The moment they discovered that sugarcane plantations has got a very high profits as compared to the plantations of other farms, they quickly started to clear the nearby forests and bushes in order to pave way for the sugarcane plantations, it was therefore a very big disservice to the native forests which contained the heritage of the Brazilians (Schneider 2010).

When it comes to Muhoroni sub county, historically it has been known as hot spot for ethnic clashes which have been reoccurring after every electioneering period (Kipsisei 2011). Therefore, any attempts to increase the amount of land that is put under sugarcane plantations in this area may play a huge role in fuelling the inter-ethnic clashes. These area according to the official government record does not have any gazette natural resources therefore it paves way for harmful activities such as pollution, elimination of forests, bushes, shrubs as well as indigenous trees. This therefore means that since the levels of sugarcane plantation in Muhoroni Sub County has been increasing year in and year out, it's evident that this has partly contributed to elimination of forests and destruction of the environment.

2.10 Plantation Sugarcane Farming and Community Livelihoods

According to Omosa (1998), in areas where cash crops are grown, there is always a resounding boom in terms of input and the output as most farmers are usually encouraged by this boom at the very beginning. The author views this scenario as one of the best intended strategies of eliminating poverty in the country side. However, when new interest sets in and interferers with these plantation sector, the boom quickly disappears and challenges invades the sector and in the long terms, these sectors that were once extremely profitable, starts experiencing serious losses and melt downs.

Among the reasons that explains this scenario are weaker institutions, poor governance structures. The author gives an example of Kericho County whereby there was a paradigm shift from the production of food crops into the production of cash crops such as Tea and Coffee. The idea was to enhance the levels of food security in

the area, this view originally belonged to the colonial government and it was inherited by the successive governments. The idea was that coffee and tea farmers should be introduced to the import and export trade so that they can enjoy the benefit that comes along with the principle of comparative advantage. However, these ideas did not materialize since the prices of tea and coffee were determined at the international level and this kept on fluctuating to the disadvantage of the farmer.

However, the KSI report of 2009 notes that, although the initial idea of transforming agriculture into cash crop is in order to empower the community through wealth creation was negatively affected, sugarcane plantations initially tried to rededicate poverty in the country side, and according to the ministry of education statistics, sugar companies constructed quite a number of schools and financed quite a number of educational activities, the same contribution has been acknowledged in the health sector and the water sectors as well as the sports sector. This view is however dispelled by that of Otieno et al (2003), who argue that poverty has drastically increased in the sugarcane plantation areas, partly because the sugar factories have literally collapsed.

Despite all these arguments, the KSI report of 2009 confirmed that as a result of sugarcane farming. At least 15 per cent of the Kenyan citizens rely on the sugarcane plantation for their daily survival. The report continued to note that the sector contributes 15per cent of the country's overall GDP.. these findings are further reinforced by those of Waswa et all 2012) who said that many farmers in Kisumu, Homa Bay, Migori, Kakamega, Bungoma and Busia are faithful sugarcane farmers because it is out of the produce that they are able to educate their children, meeting their health needs, acting as stepping stones to acquire more assets such as land, houses and building of decent homes. However the author was quick to caution that it's not always the case that famers have benefited, for instance he cites a case where by in the two years when the farmers will be waiting for the crops to mature, this farmer will be acquiring different types of small loans here and there to meet his daily survival needs.so that when they are finally paid by the sugar factory, they end up offsetting the loans which they took from different sources which has got a high interest rates.

Schneider (2010), notes that most sugarcane companies in developed countries have put in place different mechanisms that can sustain the company in case the production of sugarcane goes down, he gives an example of companies setting up ethanol plants, water purification plants, generation of electricity, setting up of private schools and private hospitals that offers quality services to the general public among others. The benefits of this according to the author is to ensure that farmers are paid on time, government revenues are also paid on time, the companies overheads are sorted out on time without any delays and the visibility of the company is kept high all the time. Besides these, the author continues to argue that the saving culture is in the minds of these farmers and the retention of the payments they get from the companies is usually above 50 per cent.

In Chemelil and Muhoroni and Miwani areas, for example, most farmers retained between 30-34 per cent of the monies they received from the factory as payment for the sugarcane they supplied. The companies remained with 60 per cent of the farmers payments; the idea was to promote savings culture. However, the issue of sustaining this trend has been contested by most farmers. This therefore is a clear testament that there was no public participation when the formulators of these policies were adopting them. Therefore, a more serious public participations and public sensitization of this noble activity should be done to all the relevant stakeholders in order to avoid all manner of doubts. However, Schneider (2010) warns that when sugar companies diversify, it may end up focusing on other activities and forget their primary role. This may cause heavy job losses, in other instances, the company may find itself using the little land it has to construct workers' quarters instead of doing farming. This view is also shared by Waswa (2009) who said that once the company removes its eyes from its parent function, it may make the farmers to lose up to 70 per cent of their intended profits. He continues to explain that for the case of the Kenyan sugar factories, some of these companies like Mumias Sugar tried to diversify into water production, production of electricity and this ended up putting these companies in serious debts and that made the company to use farmers money to meet their overhead costs. However according to the SUCAM report of (2002), the only way out for the sugar factories to expand and sustain themselves is through empowerment of their farmers and protecting their zones.

2.11 Summary of Research gap

According to the Economic Survey 2019, sugar industry contributed Ksh 487.9 billion to the economy in 2018. This means that this is an industry that is well established and a lot of caution should be applied when dealing with it because any slight tampering with this sector may have as very serious socio-economic impact in society. Therefore, the SUCAM report of 2002 suggested that if this sector could be managed properly, it can be a very viable sector with a promising future. Number of studies which have been previously done concentrates so much on the negative effects of the sugarcane farming and the challenges of the sugarcane sector. However, this study is quick to appreciate the fact that sugarcane farmers attached to each sugar factory country wide have got their own unique challenges and each case must be treated and looked at independently. Therefore, if at all a specific community or sugar factory is experiencing problems, the solutions to these problems must be made in a specific way that responds to the unique characteristics of the local community and the sugar factory in question. This therefore means that the strategies that may suit Pernambuco in Brazil may not necessarily the same strategies which may work for the development of Muhoroni sugar factory.

According to (KSB, 2012), Kenya aims at increasing sugarcane production to curb the shortage of about 200,000 tonnes. However, by expansion of existing farms and clearing virgin lands consisting of forests, herbs and shrubs, the effects on the environment are not outlined. There are no guidelines put in place to counter the resultant stress that this will have on natural resources, which will ultimately lead to environmental degradation. The agronomy department at KESREF also reckons that the sugarcane yields are low and continue declining. However, KESREF is responsible for research steered at increased production of better quality sugarcane and in this case, it does not specify why millers continue to process low quality while they are at a position to produce improved varieties with new technologies in the market. Intensifying sugarcane monoculture only serves to spin the cycle as in due time, the yields will have declined again due to maximum utilization of natural resources, namely soil nutrients. As a result, combating this situation by increasing the fusion of fertilizer leads to further environmental degradation which simply exacerbates the situation in the long run. Ultimately, the farmers bear the brunt of increased production costs that considerably reduce the net profits accrued.

According to Schneider (2010), constant clearing of the Atlantic Forest in Pernambuco, Brazil, to meet Europe's demand for sugar ultimately led to poor and unbalanced nutrition, mismanagement of natural resources and poor human and social development. In Muhoroni sub-county, this myriad of adverse effects is inevitable due to the lack of prior capacity building that brews the perfect recipe for ultimate disaster. The fact that there are no gazetted lands in the sugarcane growing zone that is Muhoroni sub-county makes it hard to intervene in matters regarding the land use system in the area. In Schneider, (2011), the Protocol program facilitated outmigration of laborers from the rural areas to the cities. In Muhoroni Sub County, a similar trend is emerging, with the growth of towns from sugarcane income. This has led to rapid urbanization as well as steady in migration especially in towns close to the factory such as Kipkelion, Awasi, Fort Tenan as well as Koru.

Failure to plan account for growth spurts resultant from the boom from sugarcane proceed will simply intensify these economic, social and political imbalances (Fischer et al., 2008). Stakeholders of sugarcane farming would do well to borrow lessons learnt from other high value crops that have failed to bring the desired economic prosperity to their communities. Moreover, farmers in the study area have been earning well from maize and other indigenous crops. It is therefore perplexing why they would want to shift to small scale sugarcane farming while there is no significant difference, with the pay taking as long as two years to materialize. Only the farm owners who quit leasing their land to actually farm their own cane have been known to reap a sizeable profit from sugarcane farming.

This study established that on an average basis, this type of farming generates an average income of 37,554 shillings per every tonne of sugarcane harvested after every six months. This is far much a better compared to leasing of land at between 2,000 - 5,000 shillings per acre of land within a similar period of time. It also explains why many farmers in Kericho County abandoned growing food crops in favor of cash crops such as tea and coffee. Due to the fluctuation of global coffee and tea prices, these farmers are going back to planting of food crops. The same challenges have been witnessed in the sugarcane sector where by since the liberalization of the market began in the mid-1990s; it became very difficult for the Kenyan sugar to compete in the regional markets because in Kenya there is a high productive cost of sugarcane as

opposed to other countries. Therefore there is heavy flooding of sugar from outside Kenya in the Kenyan markets which has managed it difficult for the Kenyan sugar companies to survive.

However, with proper management of the Kenyan sugar companies, this problem can be sorted out and Kenyan sugar factories such as Muhoroni Sugar Company can thrive once again. The other issues that needs to be sorted out is the idea of having so many external players who gave a significant influence in the sugar sector, for instance the ministry of Agriculture must be stopped from having too much interference in the sugar sector in Muhononi sub county. Finally, the sugar cane companies such as Muhoroni sugar company must start investing in research so that it ensures that good varieties of sugarcane are planted by farmers which takes a shorter period of time and are less costly to reduce on the cost of production, besides these, the government through the ministry of Agriculture should consider imposing a subsidy on farm inputs and the costs of fertilizer so that farmers can incur less costs when producing the sugarcane in their farms. Therefore this study argues that since such strategies have worked in other countries, there is no harm if they can also be transferred and implemented in Kenya.

From the above literature review, the study has identified the following gaps. First, the study has established that a lot of academic literature that exists on the process of sugar production has mostly focused on the performance of sugar companies in terms of their output and the role that sugar companies play in enhancing economic growth, but there is no single study which has been done to establish the role that sugar production plays in enhancing socio-political development in Kenya, and more so in Muhoroni Sub County. The major difference between this study and all the other studies which have been done is that this study will focus on the actual improvements that the society has benefited from the existence of Muhoroni Sugar Company in the area, while the other studies focused on the general performance of the company in terms of its production output.

Secondly, given the numerous government reports and academic works that the study has cited, most of the government's policies focused on the performance sugar companies and ignored the impact of that performance on the welfare of the farmers.

In addition, the literature review has also noted that the conceptualization of socio-political development has not been adequately captured by the policy makers.

2.12 Theoretical Framework

The study was anchored on the mercantilism theory or the economic nationalism theory. This theory was advanced by proponents such as Machiavelli, Alexander Hamilton, and Friedrich List (Fallows 1994). While most countries are shifting to liberalization, they caution that some sectors of the economy play a critical role that cannot be left in the hands of profit-driven private sector.

Brazil for instance that has success stories in sugar industry, the government supports the sector by provision of credit facilities to enable farmers access necessary funds needed for cane production. This helps farmers to acquire farm inputs and affordable prices. This theory begins by observing that economic activities should play a subordinate role to that of building the state. In other words, the theory views economic activities as a tool of politics or a basis for the acquisition of political power.

Mercantilists see the international economy as an arena of conflict between opposing national interests rather than an area of cooperation or mutual gain. In brief, economic competition between states is a zero sum game where one state gains while the other states lose (Spero 1985). Therefore, the theory suggests that states in the third world have to be worried about other states concerning their relative economic gains that results from market liberalization. This is because the material wealth accumulated by one state through regional trade or international trade can serve as a basis for military political power, which can be used by the benefiting state against the weaker states, hence violating economic rights of the people in the third world states (Spero 1985).

Economic rivalry between states, according to Gilpin (1987), can be explained in two forms. The first form is called defensive or benign mercantilism where states look after their national economic interests because that is an important ingredient of ensuring their national security including protection of economic rights of their citizens and those of other states. Such policies need not have overly negative effects on other states.

The other form is aggressive or malevolent mercantilism, which has been alleged to be promoted by the regional economic blocs and the world trade organisations. Here, states attempt to exploit their international economy through expansionary policies, for example, the imperialism of the European colonial powers in Asia and Africa. Mercantilists thus see economic strength and military political power as complementary and not competing goals. In a positive feedback loop, the pursuit of economic strength supports the development of the states military and political power and military political power enhances and strengthens the state's economic power (Gilpin 1987).

Ever since Britain obtained a leading role in world politics through industrialization, mercantilists have underlined the need for countries to industrialize as the best way to obtain national power, which is a key ingredient in protecting its citizens from economic rights violations through liberalized trade. The theory, therefore, concludes by advising states such as Kenya to focus on enhancing their productive power in order to safeguard their citizens from human rights violations. This is because the sugar production sector is the bedrock of at least 14 counties in Kenya.

Wanyande (2018) noted that there is a need for government to have direct intervention in sugar industries as a way of protecting livelihoods of rural population that relies on sugarcane farming. They can do this through subsidization of farm inputs and sending of agricultural extension officers to guide the sugar plantation farmers on how best to improve on their crops. Finally, the theory advises that the government should actively participate in the economic affairs of Kenya with a view of ensuring that the socio-political development takes root in Kenya as fast as possible.

This theory is quite relevant to this study because of the following reasons; first and foremost, the importation of cheap sugar is what has made Muhoroni Sugar Company not to perform well. Secondly, it's only the government which has got the right capacity to prevent dumping of cheap sugar from other countries. This will give an opportunity to Muhoroni sugar company to maximize on its sales and experience large economies of scale.

The theory is relevant to this study in that it elaborates the circumstances under which sugar companies can be able to survive and meaningfully contribute in the socio-political development of Kenya. This circumstance according to the theory is when the government of Kenya will adopt protectionist measures in order to shield these companies from the inflow of cheap sugar from other countries.

2.13 Research Hypotheses

This study sought to subject the following hypotheses to testing:

- i. Muhoroni Sugar industry has positively contributed to the socio-economic development of Muhoroni Sub County in Kisumu County.
- ii. Muhoroni Sugar Company contributes to the growth of business enterprises in Muhoroni town

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Methods of Data Collection

This study was longitudinal in nature, which means studying variables for a long period of time. The study adopted two sources of data collection; primary sources and secondary sources. Primary sources included the use of a questionnaire and the interviews from the respondents while secondary sources relied on books, academic journals, articles, publications, speeches as well as documentaries.

3.2 Research Design

The study used the descriptive survey design, in accordance with Kerlinger's views (1973). This type of design was useful in this study because it enabled the researcher to acquire accurate information for a large number of people using a small sample, explore the relationship between the variables and paint a picture of what he observed through interviews, which he described since it allowed generalization across the population. Secondly, the descriptive design described the present status of a phenomenon, determined the nature of the prevailing conditions, practices, attitudes and seeks adequate descriptions.

3.3 Target Population

TARGET GROUP	TOTAL POPULATION
1.Management	24
2.Sugarcane Farmers	850
3. Local Administration	15
4. Religious Leaders	66
5. Political Leadership	6
6. Women Groups	14
7. Youth Groups	12
8. Trade Unions	8
TOTAL	995 PEOPLE

The target population for this study was drawn from the management of Muhoroni Sugar Company, the sugarcane farmers who supply their cash crop to Muhoroni Sugar Company, the trade unions that deal with local issues in Muhoroni area, the local administration in Muhoroni area, religious leaders from various faiths in Muhoroni area, the local political leadership in all the four wards in Muhoroni area and lastly, the women groups and the youth groups in that particular locality. The justification for picking on this target population is because each group possesses critical information about Muhoroni Sugar Company and, particularly, information on the role that the company plays in the socio-economic development of the country.

3.4 Sample Size

The research had a sample size of 103 respondents of the target population. This figure represents 10 per cent of each target group in the target population, the justification of this figure is drawn from Mugenda & Mugenda's ideas (1999) on a descriptive survey design whereby a large population can be studied using a small sample that will cut across all the four selected wards in Muhoroni sub-county.

There was at least a representative of each category from each of the selected four wards in Muhoroni constituency. The sample was grouped into clusters and was distributed as follows: Three respondents from the management of Muhoroni Sugar Company; 85 sugarcane farmers from each of the four wards in Muhoroni sub county; one respondent from the farmers; two respondents from trade unions; four religious leaders from different denominations; one elected political leader from the sub-county; two youth representatives and two women representatives respectively. This distribution totals up to 103 respondents.

TARGET GROUP	TOTAL POPULATION	SAMPLE SIZE (10%)
Management of MUSCO	24	3
Sugarcane Farmers	850	85
Local Administration	15	2
Religious Leaders	66	7
Elected political leaders	6	1
Women Groups	14	2
Youth Groups	12	2
Trade Union Groups	8	2
TOTAL	995 PEOPLE	103 RESPONDENTS

3.5 Sampling Design

For convenience and economy, stratified sampling was used for the purposes of obtaining primary data. The stratified sampling technique identifies sub-groups within a population and their proportions. In each sub group, a sample was picked which represents the typical characteristics of the population.

The purpose of employing this technique was to group a population into homogeneous subsets that share similar characteristics. It also ensures that there is equitable representation of the population in the sample. The respondents in this study will include all the officers from the relevant administrative offices that are tasked with the duties of policy making, implementation and execution; religious leaders; young people; business people and opinion leaders. The researcher distributed the questionnaire and the guiding questions to all the respondents prior to the interviews.

3.6 Data Analysis

3.6.1 Validity

In order to boost the validity of the research instruments, the researcher adopted the split-half method as prescribed by Coolican and handed over the research instruments to different experts such as the supervisor and course colleagues in research to ascertain their content and construct validity. Their suggestions were included in the research instruments so as to improve on them.

3.6.2 Methods of Data Analysis

Since this study was both qualitative and quantitative in nature, content analysis was used to analyse qualitative data. In content analysis, sources of data were books, journals, public records and statistics, historical documents, magazines and newspapers. Analysis of existing statistics is the use of official or quasi-official statistics as a supplementary source of data. Data from analysis of existing statistics was analysed and together with the interview responses, they were used to draw conclusions on the subject matter.

Quantitative data, on the other hand, was analysed using descriptive statistics. Descriptive statistics refers to the use of measures of central tendencies such as the mean, median and the mode. On the other hand, it also refers to the use of measures of dispersion such as the range, quartile deviation; standard deviation and the variance to describe a group of subjects. Measures of central tendencies generally describe how close a measure or a variable is to the central measure or variable. Measures of dispersion, on the other hand, describe how far a measure is from the central measure or variable. Descriptive analysis was used to enable the researcher to avoid generalizations in his findings beyond the sample.

3.6.3 Ethical Considerations

The major ethical problems in this study were confidentiality and seeking the consent of the respondents before interviewing them. In an ideal set up, the study should have been able to freely engage with all the officers in relevant structures of Muhoroni Sugar Company that are tasked with specifically dealing with management and policy making of the company because this study is aimed at improving the performance of the Muhoroni Sugar Company for the good of all Kenyans. However, this was impossible because most of the respondents seemed uncomfortable discussing the company's affairs in public for fear of being victimized.

This study also went to an extent of accessing specific information from farmers and administration officials regarding socio-economic matters. This means an infringement on people's privacy and breach of confidentiality of respondents. However, this was the only surest way of constructing a sampling frame as well as generating a representative sample. However, the respondents were at liberty to ignore

items in the questionnaire and the guiding questions, which they were not comfortable in responding to. The respondents who wished to remain anonymous they had their wish respected.

Another ethical consideration the researcher adhered to was the issue of getting consent from the respondents before interviewing them by discussing everything about the study.

CHAPTER FOUR: DATA ANALYSIS AND PRESENTATION OF THE STUDY FINDINGS

4.0 Introduction

This chapter deals with the issue of data presentation, data analysis and the presentation of the study findings. Since the study employed both quantitative as well as qualitative methods of data collection, it will heavily rely on tables, pie charts, bar graphs as well as the use of descriptive statistics such as percentages, mean and frequencies. In the case of the qualitative data, it will be analysed with content analysis. These two sets of data will be merged, compared, and presented in a script narration.

4.1 The Demographic Presentation

This section presents the age distribution of the respondents, the response rate, and the gender type of the respondents and the professional qualifications of the respondents.

4.1.1 The Response Rate

This study intended to contact 103 respondents. This constituted 10per cent of the target population which was 995 respondents. The 103 respondents whom the study contacted were drawn from all the four wards of Muhoroni sub-county. The researcher distributed 83 questionnaires to 83 respondents and 20 interview guides to 20 respondents prior to the interview. Out of the 83 questionnaires, only 56 were returned, while out of the 20 respondents whom the researcher sought to interview, only 12 turned up for the interviews. Therefore, the total number of the respondents whom the study managed to contact was 68 respondents. This represented the response rate of 66per cent. This level of response rate can be regarded as fair since it falls between 60-70per cent of the sample size.

Table 4.1 Response Rate

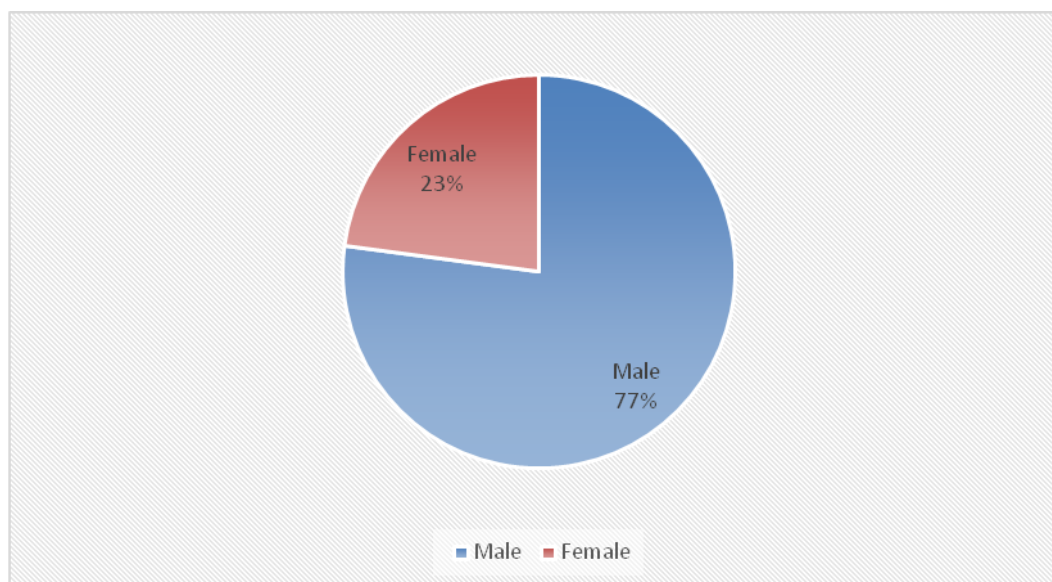
Response	Questionnaire		Interview guide	
Frequency	56	27	12	6
Percentage	67.5	32.5	60	40

4.2 The gender Distribution of the Respondents

Table 4.2: The Gender Distribution of the Respondents

Gender	Frequency	Percentage
Male	52	77per cent
Female	16	23per cent
Total	68	100

Figure 4.1: The Gender Distribution of the Respondents



Source: Field research 2019

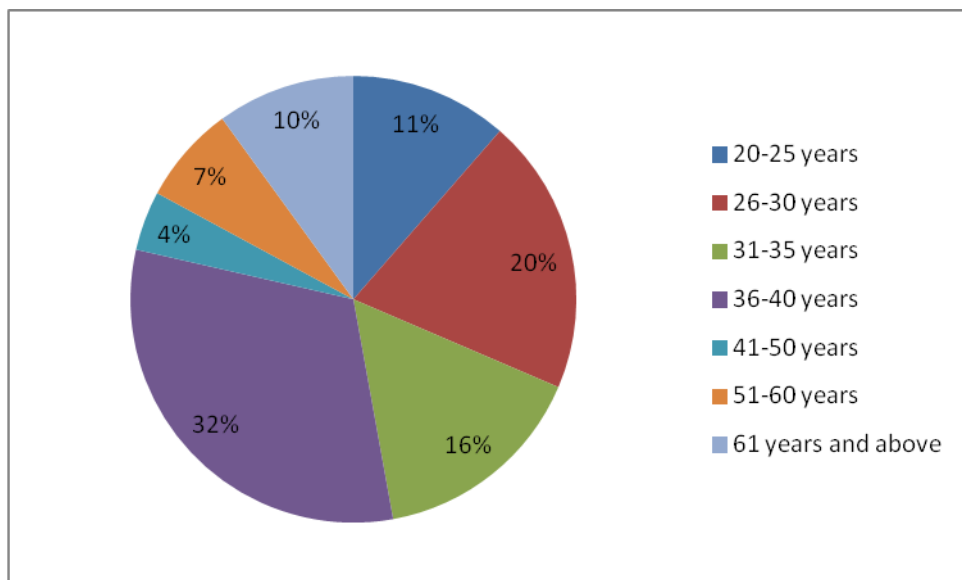
From the table and figures, it can be seen that there were more male respondents than female respondents. This is because male respondents were 52 while female respondents were 16. This translated to 77 for males and 23per cent for females.

Therefore, the one third gender rule was not met by this study. This disparity can be explained through ratios reasons. Muhoroni sub County is known to be a patrilineal society and when it comes to socio-political issues, it is the nature of men to take a central role as opposed to women who prefer to attend to domestic matters in their families.

4.3 Age of the Respondents

Table 4.3: Age of the Respondents

Age of the respondents	Frequency	Percentage
20-25 years	8	11.4
26-30 years	14	20
31-35 years	11	15.7
36-40 years	22	31.4
41-50 years	3	4.3
51-60 years	5	7.1
61 years and above	7	10
Total	70	100



Source: Field research 2019

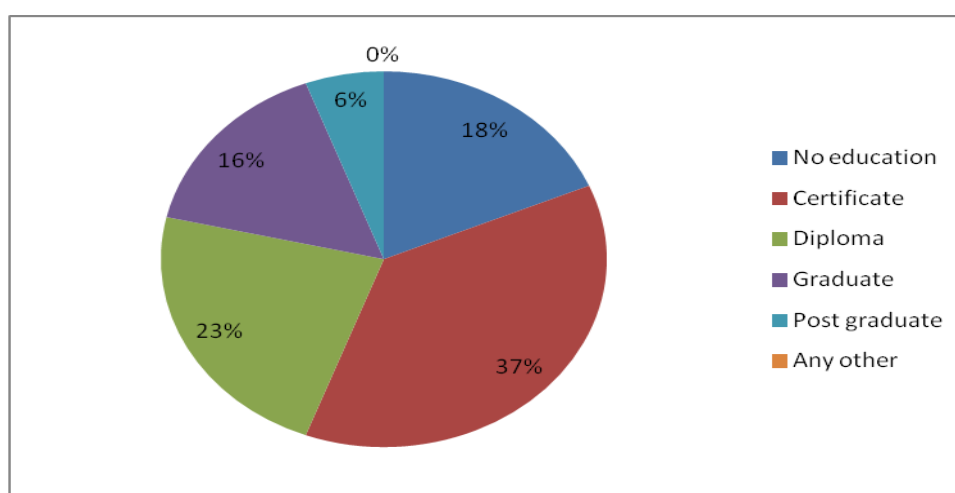
From Table 4.3, it can be seen that majority of the residents of Muhoroni Sub County are young people. For instance, those aged below 40 years were over 77per cent of the total number of respondents while those aged above 41 years were 23per cent. This is, therefore, an indicator that the young people under the age of 40 years majorly dominate Muhoroni Sub County and this should serve as a guiding principle to the policy implementers at both the National Government and County Government not to ignore the youth in their process of policy making.

4.4 Professional Qualifications of the Respondents

Table 4.4: Professional Qualifications of the Respondent

Educational level	Frequency	Percentage
No education	13	18.6
Certificate	26	37.1
Diploma	16	22.9
Graduate	11	15.7
Post graduate	4	5.7
Any other	0	0
Total	70	100

Figure 4.4: Professional Qualifications of the Respondent



Source: Field research 2019

Figure 4.4: Professional Qualifications of the Respondent

From Table 4.4, it is noted that majority of the respondents' professional qualifications was diploma level and below. This is because 18.6per cent of the respondents had no education at all while 37.1per cent had primary, secondary or a

tertiary institutions certificate. 22.9per cent of the respondents were diploma holders. However, there were very few respondents whose educational qualification was a degree and above. Only15.7per cent of the respondents were graduates with 5.7per cent of the respondents having a post-graduate degree. This is also an indicator that very few residents of Muhoroni Sub-County are properly educated. This means that the level of illiteracy is very high. Perhaps, these high levels of illiteracy could be a contributing factor to the persistent under-performance of the miller and to a larger extent socio-political underdevelopment of the area.

4.5 The Contributions of Muhoroni Sugar Company to Socio-Economic Development of the Local Area

4.5.1 Employment and income generation

Agriculture is the main source of employment of the majority of the farmers in Muhoroni area. In total, the share of sugar cane farming in total employment in the area of study constitutes 68per cent and 22per cent by other crops such as maize and sorghum and cattle farming and 10per cent business. Therefore, a bigger population is active in the cane farming followed by business and other farming practices in the region as shown in figure 5.1.

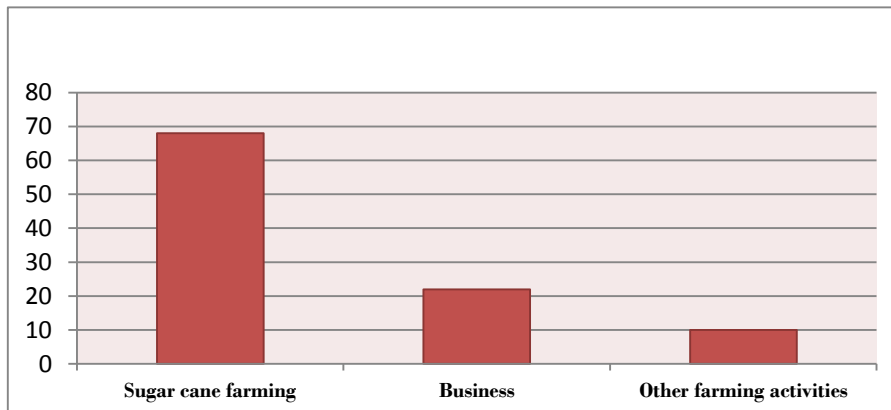
MUSCO being an agro-industry plays a fundamental role in employment creation and income generation. Approximately 4,000 farmers derive their livelihood directly from Muhoroni sugar industry. Both small-scale and large-scale farmers deliver their sugar cane to the Muhoroni Sugar Factory. Small-scale farmers supply up to 80per cent of sugarcane processed at the factory.

The study also established that the factory has employed directly over 600 staff while more than 3,000 work as cane cutters and loaders. Other people have also been employed as workers and labours in the sugar cane farms. These people earn their livelihood from these farming activities and, therefore, with the multiplier effect, there will be a general improvement in the socio-political economy of Muhoroni Sub-County.

In addition to the direct employment, this vibrant agro-industry is found to generate employment in downstream and upstream sectors such as agriculture, commerce and

services. As possibilities for income generation are restricted in rural areas, rural non-farm earnings from trading, agro-processing, manufacturing, commercial, and service activities constitute a significant part of household income. This is mainly boosted as the incomes from direct employment cause a multiplier effect.

Figure 4.5: The main socio-economic activities in the area.



Source: Field research 2019

4.5.2 Growth of Muhoroni town

The study established that employees and the business community, who target these workers have contributed to the socio-political development of Muhoroni town. As the company expands, more job opportunities have been created hence attracting more people. This has also attracted other related businesses and service industries such as banks, Sacoos and other micro-finance institutions.

This, therefore, has attracted more people for employment opportunities as a result of this socio-economic development in the area. Provision of jobs acts as a natural way of stabilizing the area politically. MUSCO maintains most of the feeder roads to the sugar cane farms. This has also contributed to the development of the town as many people who reside outside the town can easily access it.

The development of Muhoroni town, which is attributed to MUSCO, in such a rural set up promotes a more balanced, decentralised growth within the country by generating productive employment alternatives. It thus not only reduces migration, especially of young unskilled labour into crowded cities and other urban areas, but it has even reversed the migration trends by offering new employment opportunities

thereby alleviating social pressures and demands on public services within the major towns and cities. This is one of the political developments in Muhoroni Sub County.

4.5.3 Development of other industries

The study established that availability of by-products, mainly molasses has led to development of other industries. For instance, Agro Chemical and Food Company was established to benefit from readily available raw materials from MUSCO. In addition, molasses is sold to dairy farmers who use it to feed their animals. This product is believed to be nutritious and hence improves milk production. During sugar cane harvesting, the green leaves are cut and given to the animals as feeds. This, therefore, helps dairy farmers get animal feeds easily and, at the same time, the cane farmers earn income. Not only does this improve the social-economic welfare of the residents of Muhoroni Sub County but it has got a direct impact on the level of political development of Muhoroni area and the entire sugar belt. This is because a community that is doing well socially and economically is most likely to be able to do well politically. The study, however, established that by-products are not fully utilised as they can be used to generate electricity and other value addition products like it happens in other countries if technology is embraced.

The developments are an indicator that Muhoroni Sugar Company can also have an important impact on the local agricultural sector as well as the livelihoods of small holder farmers since farmers can access loans which they can use to produce on a stable basis, supplying regular quantity and quality.

4.5.4 Corporate Social Responsibility (CSR)

This study established from the respondents that MUSCO undertakes CSR in the area through the provision of several dispensaries and Muhoroni Success Primary School, which serves a sizeable number of the residents. This is seen as a great boost to the health and education sector in the area respectively. The school and the dispensaries are fully managed by the factory, including the remuneration of the staff members. The company provides clean water to residents of Muhoroni Sub County and also sponsors, Muhoroni Youth, which a year ago participated in the Kenya Premier League. The club has, however, disappeared from the national radar due to financial constraints.

4.5.4.1 Infrastructural Development

The company repairs and maintains rural roads leading to the sugar cane plantation. Therefore, through the constant road maintenance, residents enjoy the use of better roads.

4.5.4.2 Out-growers Institutions

Most sugar cane farmers belong to membership based organisations commonly known as out-growers institutions (OGIs). There are two categories of OGIs, one based on service provision to members such as Muhoroni Sugarcane Out-growers Co Ltd (MUSOCO), which performs the role of lobby and advocacy, and Muhoroni Multipurpose, which is a cooperative union. These institutions negotiate on behalf of the farmers and provide financial assistance like loans. These two institutions greatly signify the level of political development in the area since the rights of both the farmers and the employees are guaranteed and respected by all.

4.6 Challenges of Musco that Slow Down its Socio-Economic Progress

Profitability of sugarcane growing in the area has been compromised by a number of challenges, which slow down socio-political development. One of the depressing scenarios is the sight of neglected and poorly managed sugarcane farms, which are seen as the main source of livelihoods within the Muhoroni Sugar belt area. From the responses that the study obtained from contacted respondents, 86per cent felt that loans given by MUSCO are too expensive especially since farm- returns are unpredictable. This slows down the level of social development since farmers are not able to expand their farms and meet their daily needs such as providing food for their families and educating their children just to mention but a few.

4.6.1 High Costs of Sugar Production

Muhoroni Sugar Company sugar and out-grower farms have experienced a number of problems related to the high cost of production. At both levels, policy implications are the biggest issue in streamlining the prevailing high cost of production. Basically, tax regimes, factor inputs and machinery are prime escalators of the production cost.

Acquisition cost of farm machinery is very high. Even though not much tax is charged on them, levy on their spares is reportedly too high for industry users. This is evident in increased maintenance costs of tractor tyres and other related spares. Similarly, expensive fuel prices are a burden to contracted transporters because there are no alternatives.

High cost of production is also facilitated by high taxation regimes; high cost of capital (in terms of collateral or interest on loans) and costly factor inputs such as fertilizer, machinery, poor cane variety, poor land preparation and unfavourable crop management practices. Mismanagement in some sugar mills also lead to high costs of production. For instance, MUSCO needs 8½ tonnes of sugarcane to produce one tonne of sugar. Mismanaged firms require more than this tonnage to produce the same amount of sugar.

Field operations are very expensive. It is estimated that 60per cent of the total cost of production comes from the field in terms of all the activities involved in sugarcane production. Again, neither the company nor the farmers have control over these costs. Plate 5.2 shows an instance of neglected sugarcane farms owing to high field operations.

Photo 4.6.1 A section of Abandoned Sugarcane Plantation in Koru scheme



Field Research, 2019

4.6.2 Farm-Level Cost Analysis

It is estimated that under favorable circumstances, one hectare of land produces approximately 75 tones' of sugarcane in the out grower scheme of Muhoroni Sugar Company. Unfortunately, the average land holding per farmer in the area is 0.8 hectares. In order for a farmer to produce sugarcane in Muhoroni area, the following field costs must be incurred according to one of the farmer's union official. Sugarcane requirements per hectare included; In the First Application (Planting): Five bags of 50 kgs of DAP @ Kshs1500 ,Two bags of 50 kgs of Urea @ Kshs 1700 In the second application, Three bags of 50 kgs of DAP @ Kshs 1500, One bag of 50 kgs of Urea @ Kshs 1700 In the third application Activities, it included; Ploughing one hectare @ Kshs 4,247 Harrowing" @Kshs 3,000 Furrowing" @ Kshs 1,600 Surveying" @ Kshs 278 Seed cane" @ Kshs 20,252.40 Planting labor" @ Kshs 2,500 ,Weed control" @ Kshs 2,500 (Six times before sugarcane maturity), Fertilizer application @Kshs 100 per bag .In the fourth application, After Maturity: it included, Harvesting one tonne = Kshs 195 (A hectare varies in tonnage). Transporting one tonne = Kshs 521

Normally, only farmers who qualify for loans from MUSCO are able to undertake the above activities. The loan is payable at a flat rate of 16 per cent per annum. For a farmer who totally depends on this system, it is clear that after all these charges, the farmer gets very minimal returns hence making him unable to meet his or her basic needs hence undermining the social development of the area.

This state of affairs coupled with the late maturity period of sugarcane varieties grown in the area (18-24 months), plus a further delayed period of payment and accruing interest on loans, sugar farming, therefore, becomes less lucrative.

The amount received is very little but since there is no any other cash crops with ready market like sugarcane in the area, the farmers have continued to grow sugarcane despite the low returns. This has made the people of Muhoroni area to experience a lot of political tensions since the local politicians have continued to incite them to demand for their rights.

The field survey also indicated that farms are ploughed shallowly resulting in bad rooting of sugarcane. Some of the farmers interviewed during the focus group

discussion raised this issue. Evidently, the socio-economic structure of the Muhoroni sugar belt is in a poor state and some farmers have completely shifted their focus to other income generating activities such as retail business alongside subsistence farming for a renewed source of livelihood.

4.6.3 Taxation Impedes Cost Cutting Drive in the Sugar Sector

Taxation is a very outstanding issue negatively affects the competitiveness of the Muhoroni Sugar Company and the other local sugar companies. Faced with the liberalized market, MUSCO have executed massive cost-cutting programmes to address factory-based inefficiencies but nothing has been done on the taxation front which substantially account for the high cost of locally produced sugar.

Taxation at the factory level takes different forms. First, there is preliminary taxation charged on imports at the farm level. Acquisition of sugarcane is said to be the single biggest contributor to the high cost of producing sugar. It is estimated that nearly 60per cent of the unit cost of producing sugar arises from farm level costs. Of that 60per cent, transport accounts for the highest proportion of producing and delivering sugarcane. Harvesting also takes another sizeable proportion.

The company through the sugar cane sector is charged a fuel levy - a roads maintenance tax that takes a considerable share of the production cost. For the sugar millers, they have to spend huge sums of money on the maintenance of local road networks to facilitate easy transportation of cane from the remote farms to the factory. For instance, MUSCO spends over Kshs100 million annually on the maintenance of the 4,800 kilometre-long weather road network and bridges within its sugar zone. This is despite the fact that transporters have paid fuel levy and the local authorities have charged farmers cess (another roads maintenance levy). It would be desirable if the government shared out the roads maintenance levies with the sugar companies since this would enable them to transfer the road fixing costs to efficiency gains in producing sugar.

The Sugar Development Levy (SDL) imposes tax on finished products at the rate of 7per cent. In addition, there is VAT on sugar at the rate of 16per cent. This yields 23per cent taxation of finished sugar. Besides the double taxation, it is evident that SDL is an unfair tax since it only applies to the sugar industry. The fact is that there is no SDL equivalent for other agriculture sub-sectors such as coffee, tea or dairy farming. The irony is that sugar firms spend huge fractions of their earnings on such activities as infrastructure maintenance and cane development that should gain from SDL financing.

4.6.4 Burning of Sugarcane

Fire is one of the greatest menaces in sugarcane farming. In the recent past, fire is recorded to have destroyed over 3,700 hectares of the crop in the Muhoroni sugar belt. This resulted in a loss estimated to be about Kshs 150 million. This includes 2,000 hectares that got burnt between 2004 and 2005, plus another 1,500 hectares destroyed in 2006 during prolonged drought. Unfortunately, this trend is still going on. Burning of under-age crop has led to distorted harvesting programmes thereby impeding MUSCO's overall agricultural plans.

4.6.5 Low Yield Sugarcane Varieties

Bad seed cane variety is one of the most discouraging factors among the farmers. From the field survey, over 57 per cent of the farmers are unimpressed with the variety of cane they are growing as it is low yielding. Only 30 per cent of the farmers consider the yield favourable while the remaining 13 per cent are indifferent on their cane yield as confirmed in figure 5.1. Averagely, farmers expect 8 tonnes per stack but some varieties yield as low as three tonnes per stack. This is very discouraging especially after over two years of waiting.

The collective view of over 84per cent of the farmers interviewed was that cane variety grown in the country has a long maturity period ranging between 18 to 24 months. Besides this, harvesting also delays cane crushing for additional months. In fact, one advantage that Sudan's sugar has over Kenya is that the cane varieties grown there mature within 14 months. Only 8per cent of the farmers conceded that the maturity period is considerably shorter period than it used to be in the past. An equal percentage was indifferent saying maturity depends on the season's weather

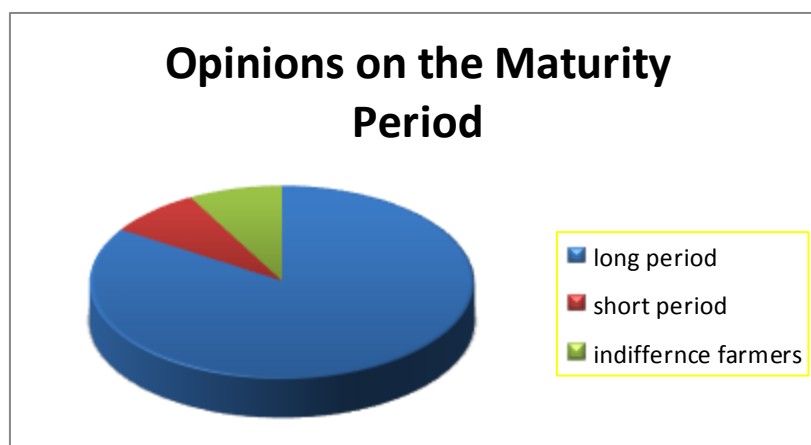
conditions and the species of sugarcane planted.

Photo 4.6:6 A farmer going round the sugar cane plantation at Homa lime Co. Ltd



Field Research, 2019

Figure 4.6.7 Farmer Opinions on the Maturity Period of Sugarcane Grown



Source: Source: field research (2019)

Figure 4.6.7 Farmer Opinions on the Maturity Period of Sugarcane Grown

Notably, a good cane variety is that with a longer ratoon standing because it is from the subsequent harvests that the farmer benefits. First, harvest only pays off the preliminary expenses the farmer incurred from the plant crop. The ratoon involves least farm management costs hence profitable. Therefore, fast maturing and high yielding varieties should be introduced so that farmers do not get discouraged and impoverished as it is today.

Low sucrose content is another debilitating factor in the industry. Some cane varieties used by MUSCO has 13 percent sucrose content. The highest known variety with low fiber content normally has 18 percent of sucrose. On the other hand, susceptibility to adversities of the cane grown in the area is also dependent on the variety. Some are vulnerable to smut, stunted growth and, therefore, very low yielding. An example is 'Palu' as the variety is commonly referred in the local language while 'Nigeria' is considered a better variety.

4.6.6 Illegal Millers

Sugar companies incur massive losses to illegal millers. It is reported that MUSCO loses cane worth Kshs 109 billion annually to Juggleries. It is further emphasized that about 1,100 tones' of the crop going to juggleries is equivalent to 130 tonnes of sugar lost per day thus impacting negatively on both farmers' earnings and the company's production level. This trend continues despite denying the government revenue. It has also made impossible for the miller to plough back profits into business. Since these illegal millers are reaping where they have not sown, the government machinery should crack down on them with much urgency because things are already worse.

4.6.7 Harvesting Problems

Despite delayed harvesting, when it is done, it is sometimes haphazard such that cane is cut far above the ground (high cutting). This is a loss to the farmer. This is partially attributed to the strenuous tasks that cane cutters are exposed to. Since their supervisors are given a bonus for additional cane harvested on the farm, they mount pressure on the cutters who in turn revenge by slashing sizeable stands of cane and bury the same under trash only to be discovered by the farmer during trash lining.

On the same note, cane cutters lack protective garments despite the risks they are exposed to. They include overalls, boots and gloves. Since these harvesters come from humble backgrounds, buying such protective for themselves is not a priority. The aftermath, therefore, is more observance to their safety but with minimal consideration of the farmer's gains.

Photo 4.6.10 Cane harvesting



Field Research, 2019

Contractors should, therefore, provide protective garments (even if it is at a minimal shared cost) to the cane cutters. Alternatively, strict supervision can be incorporated during cane cutting and contractors whose workers defy good harvesting should be suspended. When cane is harvested using the cane harvesting tractors (plate 5.3), the cost of harvest even increases.

4.6.8 Transportation Problems

This is another major avenue of cane losses. While on transit, most canes drop off because some trucks are filled beyond capacity. The situation is exacerbated by long distances and poor roads from some farms to the factory. The 'nakedness' (openness) of the trucks and bad state of the weather roads makes more cane to slip off. Cane spillage is an obvious manifestation in sugar belt since the roads are littered by it (Photo 4.6.11).

Photo 4.6.11 Circumstances Leading to Sugarcane Losses by roadside pulling and drop offs



Cane transportation to the factory

Field Research, 2019

Regular looting of canes from moving trucks also causes more losses. Worst cases are experienced at night in some areas where the jaggery owners are alleged to ambush slow moving trucks in order to loot cane. The Kenya sugar report of 2015 admitted that the loss of sugarcane along the way amounted to 15per cent of the loaded on the trucks. This means that for every 7 trucks which are loaded with sugar cane, one truck which is fully loaded with sugarcane is lost.

Some trucks accidentally overturn with the sugarcane on transit while others get stuck in insecure places owing to bad roads, tyre bursts or other mechanical problems. This state of affairs also becomes a 'reap' for jaggery owners who steal the spilled cane. All these mishaps reduce farm tonnage hence a loss to the farmer. To help mitigate cane drop offs, basket-type trucks should replace the open ones. Specially sealed trucks would be preferable because sealing the existing ones would be a costly exercise and will also add more weight to the already heavy trucks.

4.6.9 Shrinking Land Parcels

In as much as MUSCO is growing through machinery upgrading and capacity expansion programs to maximize the economies of scale, the same growth does not

correspond to the sugarcane farms in the area. This is because expanding families in the area have led to further land subdivisions to the present average land holding of 0.8 hectares per farmer. Other cane growing countries like Sudan have an average sugarcane plot size of 5 hectares in order to maximize sugar production.

Given that in the recent past the company introduced the use of diffuser to increase cane processing, attention must be paid to sustainability of the miller. The factory capacity was increased to 1800 TCD in 1978. Further expansion was undertaken in 1989/90 to the current capacity of 2,200 TCD.

As a response to shrinking land parcels under sugarcane in the area the following must be prioritized: New fast maturing cane varieties must expeditiously be introduced. Additionally, the new varieties should take a smaller spacing than the current 1.2 square meters. This would boost productivity through increased crop population on a small piece of land, reduce farm-level losses and consequently increase grower's earnings; MUSCO should endeavor to acquire its own large-tracts of land under sugarcane (nuclear) so that even if farmers reduce their land parcels further, sugar production would still be sustainable.

4.6.10 The Management of the Company

There are many players who are involved in the management of the company and have overlapping roles. The uncoordinated and irrational roles played by some of the institutions cause bottlenecks in the management of the company. Political interference in the operations of milling firms has led to lack of professionalism. Some of these stakeholders like the millers and out-grower institutions have been able to support the farmers as primary producers through supplies of seed cane fertilizers, harvesting and transportation of cane. This is because most of the cane comes from the out-grower farmers. Unfortunately, the farmers have not been adequately supported because it is costly to produce.

4.6.11 Indebtedness of the Millers

This is one of the obstacles in Muhoroni Sugar Company. Most of the debts owed by millers are either to farmers for cane deliveries, SDF dues and commercial bank loans. Most sugar firms except MUSCO are technically insolvent with debts

overriding the value of their total assets.

4.6.12 Obsolete Technology

Sugarcane is a bulk crop that ought to be cultivated under large tracts of land in order to make good harvests. The said plantations therefore require mechanized farming. Farm-level technology is lacking in the country in general probably because of the costs associated with it. At the factory level, modernization of the firm is an undisputed blueprint for efficiency and capacity expansion. This aspect is lacking in Muhoroni Sugar Company.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of the Findings

From the data collected from the field, this study would wish to make the following summaries drawn from the study findings:

First, the study has established that agro-based industries like MUSCO have a great potential for rural development. This is because not only do they enjoy a perfect location where there are enough raw materials, but they have readily available supplies of cane and labour force. However, this potential has not been exploited to the maximum and, therefore, some benefits have not been fully harnessed because of inefficiencies of the company. Late payment or no payment at all to farmers who supply their cane to the company has demoralised many, who have opted to other income-generating activities.

Second, the study established that MUSCO has played a central role in the development of the area. This is because the company and sugar cane farming are the main employers of the local people. At the same time, they complement other agriculture sub-sectors like cattle farming by providing easy access to the sugar cane by-products such as the molasses for feeding cattle and non-agriculture sectors like the business sector. The company through its social corporate responsibility policy has supported education and healthcare projects. In addition, Muhoroni supplies local residents with clean drinking water. These contributions have greatly improved social welfare of locals.

Third, the study established that MUSCO played a key role in the development of Muhoroni town and its environs, this is not only by providing source of income to the residents' livelihoods, but it has also attracted so many investors to come and invest in Muhoroni town. For instance, quite a number of the banking institutions have registered their presence in Muhoroni town; there is the on-going construction of modern housing units by a number of real estate developers. Besides these, the people of Muhoroni town have been enabled by MUSCO to access the most essential basic services from the government and the private sector, these have improved the living standards of the people in the area.

Fourth, a number of Corporate Social Responsibility projects that MUSCO has undertaken for the benefit of area residents have helped to open up Muhoroni Sub County and transformed it from a rural area into an urban set up. For instance, the construction, repair and maintenance of roads in Muhoroni area has facilitated the movement of goods and services.

It has also ensured that agricultural activities that are practised in Muhoroni area are mechanised in order to yield maximum production. Besides these, as a result of the existence of MUSCO, there has also been a strong emergence of two strong lobbies namely; Muhoroni Sugarcane Out Growers Co-Ltd and the Muhoroni Multipurpose. The lobbies fight for the rights of the farmers. They have acted collective voices to fight for the rights of their members.

Fifth, socio-economic welfare of farmers and the need to safeguard interests of Muhoroni take centre stage during elections campaigns mainly for the seats of Member of Parliament and Member of County Assemblies. According respondents, every campaign period voters are wood by promises of privatisation of Muhoroni Sugar Company, a promise that has never been achieved. For this reason, residents believe the government has a major role in rescuing the company to save jobs and farmers, who are owned arrears as a result of non-payment of cane delivered.

Sixth, the study has also established that MUSCO experiences quite a number of challenges that make it unable to contribute to the socio-political development of Muhoroni Sub County.

However, the study established that despite all these contributions, the company experiences some challenges that need to addressed to boost Muhoroni Sugar Company's capacity to have greater socio-economic impact in the area.

First, high cost of sugar production has been caused by the heavy tax regimes imposed on the sugarcane farmers and sugar factories by both the national government and the county government, which include VAT and Sugar Development Levy. These taxes have seen prices of raw materials and equipment skyrocket thus ending up piling pressure on the company's balance sheet. This makes it difficult for the company to make profits since it is forced to incur a lot of costs in the production process.

On the other hand, farmers are forced to bear all losses that arise from late harvesting, spillage of cane while being transported to the factory and high interest on bank loans. Second, there is the problem of burning of sugar cane either by the farmers themselves as a show of protest but also by the arsonists seeking to sabotage the company. This makes it difficult for the company to produce more sugar so that it maximises on its revenues. As a result of burned sugar, both the farmer and the company lose hence stagnating the growth of the two stakeholders.

Third, illegal millers to harvest sugarcane and take it elsewhere. This denies MUSCO its sources of raw materials hence slowing down on its development agenda.

Fourth, there is challenge of poor sugarcane varieties. This is as result of farmers purchasing sub-standard farming inputs such as the seedlings and fertilizer. This makes the quality of the sugarcane produced to be very low.

Fifth, transportation problems are another challenge that slows down the capabilities of Muhoroni Sugar Company in enhancing the socio-political development of Muhoroni Sub County. The amount of sugarcane that is harvested in the farm is not the same in terms of weight when it reaches the factory. A huge amount of sugarcane is lost along the way as a result of theft, accidents, the tractor operators offloading some of the sugarcane to illegal millers, etc. The other challenge related to this is this issue of harvesting problems where there is a significant amount of favouritism in harvesting of sugarcane. Some farmers' sugarcane is harvested immediately they mature while others are left to stay on the farm for several months. Phrases such as helicopter harvesting and zoning harvesting are some of the terms derived from the farmers which mean selective harvesting of the product from a section of the farmers while ignoring the rest.

Sixth, the shrinking land parcels that farmers have or use in planting their sugarcane reduces the profits that the farmers make and the amount of sugarcane that the factory gets from farmers. Seventhly, poor management styles experienced in the company perpetuate corruption, bad governance, nepotism as well as embezzlement of funds.

Lastly, indebtedness of MUSCO to its farmers, obsolete production technology, lack of capacity to manage solid wastes and disposal, sludge treatment and its disposal,

waste water treatment and air pollution all combined play a great role in slowing down the activities of MUSCO hence making it to underperform.

5.2 Conclusion

The study would wish to draw the following conclusions from its study findings:

First and foremost, MUSCO forms the backbone of Muhoroni Sub County. This is because not only does it form the biggest source of employment in the area, it is also the main income generating activity to most of the residents of Muhoroni area. This can be supported by the fact that it employs more than 600 staff members and more than 3,000 cane cutters and loaders. It has also contracted more than 4,000 sugarcane farmers in Muhoroni area. This therefore means that the Company means a lot to the residents of Muhoroni Sub County. Although the study has revealed that the company has made quite a number of contributions to the society which is highly visible, the study is also quick to conclude that some of the contribution that the company has made towards the socio economic development of the area is largely invisible since it cannot be quantified or seen. Instead, it's only the residence of Muhoroni Sub County who have felt the impact. Therefore, the contribution of the company is both tangible and intangible.

Second, MUSCO has contributed greatly to the rise and prosperity of Muhoroni town. This is because as a result of its existence in the town, it has attracted both local and foreign investors. For instance, a number of banking and non-banking financial institutions, real estate companies, bus transport companies and supermarkets have registered their presence in the area. Therefore, in terms of the socio-political development in the area, MUSCO has done a lot for instance, as a result of the expanded infrastructure within Muhoroni township, the level of money circulation in Muhoroni town has gone high, as a result of construction of many cheap and affordable houses, it has enabled the area residents to leave a comfortable life, as a result of the emergence of the banking and the non-banking financial institutions, the resources and wealth of Muhoroni people is in safer hands. These therefore mean that economically, the company has empowered Muhoroni people in that it's no easy for them to be hoodwinked politically. This means that when it comes to the practice of making political decisions, the chances of influencing the people of Muhoroni politically are very slim.

Third, the study concludes that as a result of the existence of MUSCO in the area, there has been a significant improvement of the agricultural sector. This because apart from the production of sugar, by products such as molasses sold to dairy farmers, helping the farmers to access credit facilities, transforming agriculture from subsistence form to a more mechanized form as well as providing of farm inputs to the farmers is also a positive contribution by the company. This has made it possible for the people of Muhoroni County to improve on their dairy sector. This is because they are able to provide their cattle with good molasses which is mixed with other pastures to improve on the quantity of milk which is being produced. Molasses has also been used in the industrial production whereby it's used as a raw material to produce spirits, malt as well as animal medicines. All this makes Muhoroni county to be a source of industrial raw materials as well as a market for the products produced by Muhoroni Sugar Company. This has made Muhoroni Sub county to be a very busy town and with a beehive of activities hence improvement of the socio-political development of the area.

Fourth, MUSCO has also done a number of activities to boost the socio-political development of the area. For instance, through the various corporate social responsibility activities in the area such as provision of healthcare facilities, construction of schools, provision of adequate and affordable clean water, sponsorship of Muhoroni Youth football club, repair of roads and construction of new roads as well as support for the two giant lobbies which fight for the rights of the farmers has greatly improved the social-economic welfare of both the employees of MUSCO and the farmers. For instance, as a result of the existence of Muhoroni football club which has played in the premier league for many years, the young people of Muhoroni sub-county have found a conducive environment to nurture their talents, football fields have been constructed, as well as the team has attracted various premier league matches to be played in the area. This has further improved on the security of the area since the youths have been engaged through exploiting their talents. As a result of the construction of the numerous schools and health centres by the company, it has become easier for the people of Muhoroni sub-county to secure a better education and health care for themselves and their children. This has made the quality of life that the area residents live to be improved which is a true testament that the socio-political situation of the people has greatly been enhanced.

5.3 Recommendations

The study has noted that the Muhoroni Sugar Company has great potential to improve the local economy of not only the residents of Muhoroni Sub County, but the economy of Kenya as a whole. In order for all the stakeholders to successfully tap into this potential, a number of measures need to be undertaken. They are explained below:

5.3.1 Short-term recommendations

The government, which is the leading shareholders should provide more resources to improve efficiency of the company to serve farmers and protect jobs in the company.

The levels of efficiency should be addressed in the following three ways;

- Marketing the company's products to compete against imported sugar that have flooded the local market.
- The performance in the fields should be assessed in terms of the tonnes of cane that has been produced per hectare in comparison with the contents of the sucrose that has been produced for each tonne. An improvement in these areas is highly encouraged.
- The performance of the factory should be assessed in terms of the capacity of the company to mill, the amount of time it mills per session, the rate of recovery by the factory and the amount of sugar that each tonne produces. An improvement in all these areas is highly encouraged.
- There should be efforts made towards improving both the technical as well as the managerial performance, this can be done through increased marketing and publicity of the company's products.

Measures to address environmental degradation like pollution by solid materials, waste water being released without proper treatment into the environment as well as overutilization of environmental and other resources like energy and electricity will end up raising the cost of production and hence need to be addressed by MUSCO as well other sugar cane factories and other agro-based industries. This will ensure that goods and services are produced sustainably.

5.3.2 Long-term Recommendations

Diversify the company's product base by engaging in cogeneration ventures. Some by-products like the bagasse and molasses are indispensable raw materials in other profitable processes. The millers must reduce their over dependence of sugar as their prime source of their revenue. Sugar sales should constitute 60 percent of the revenue with cogeneration accounting for the other 40 percent. This revenue structure would be suitable for millers because it is bound to cushion them against turbulence in the global market.

Research on better sugarcane varieties that are fast maturing and high yielding should be undertaken. The varieties should have long ratoon standing in order to profit the farmer more. Farmer training on proper farm management should be intensified alongside reinforced extension services from the structural authorities. These endeavours would no doubt enhance sugar cane production and earnings to the already discouraged farmers.

The government needs to overhaul the company machinery to attract potential investors to boost the capacity of Muhoroni Sugar Company. The wider public and direct stake is essential in industrial success at this time when the global sugar market is competitive.

Finally, there is need to streamline policies, legal and regulatory framework. This should include adopting a special upfront taxation system to curtail dumping of cheap sugar necessitated by clandestine dealings by unscrupulous traders in the domestic market. Bearing in mind that the biggest challenge the sugar sub sector is experiencing is the issue of high levels of taxation that comes in different forms. Something needs to be done in order to address this challenge of high taxation and low financial support for the sugar sector. This could be done through:

- Reducing quota for imported sugar to allow domination of locally produced sugar in the market
- Exempting locally produced sugar from the Value Added Tax
- Streamline the purchasing as well as procurement of machines, fertilizer and spare parts.
- Introduction of tax rebates on Fuel
- Subsidization of fertilizers which are imported or distributed
- Subcontracting the Kenya Farmers Association (KFA) channels in delivering farm inputs to the farmers who are based at the grassroots.

5.3.3 Areas for further studies

As Muhoroni Sugar Company grows and the sugar cane farm sizes reduce due to expanding and increasing population as well as the completion from other land use activities, what would be the best way for the rural and industrial sustainability? The feasibility of sugar cane growing under irrigation in Kenya for early maturity as it is practised in other parts of the world.

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APPENDICES

Appendix 1: Questionnaire for the sugar cane farmers, leaders and local community

This questionnaire has been designed by the researcher for the purposes of collecting information on the topic: **The impact of sugar production on socio-economic development: the case of Muhoroni Sugar Company**. You are requested with all humility to fill in the questionnaire where appropriate in order to assist the researcher to obtain the relevant information in his bid to fulfill the requirements for the award of **Master of Arts degree in Political science of the University of Nairobi**. The information given in this questionnaire by you will be confidential and it will **ONLY** be used for academic purposes and not for any other purpose. **DO NOT** write your name or contact details anywhere in this questionnaire.

PART A: Personal details

[Please tick (✓) where appropriate]

1. Gender

- i. Male ()
- ii. Female ()

2. Age

- i. 18 – 20 ()
- ii. 20 – 30 ()
- iii. 30 – 40 ()
- iv. 40 – 50 ()
- v. 50 – 60 ()
- vi. 60 – 70 ()

3. Education level

- i. Primary ()
- ii. Secondary ()
- iii. College ()
- iv. University ()

v. Post graduate ()

4. Marital status

- i Single ()
- ii. Married ()
- iii Separated ()
- iv Divorced ()
- v Widowed ()

SECTION B: THE CONTRIBUTION OF MUHORONI SUGAR COMPANY TO SOCIO-ECONOMIC DEVELOPMENT

1. In your View, what can you say about the following contribution of Muhoroni Sugar Company with regards to the Social Economic- Development of the area?

A, Employment and income

generation.....
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B, Growth and development of Muhoroni Town

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C,I improved Agricultural sector in the area

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D, Provision of Community Social Responsibility in The Area

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E, Infrastructural Development in the area

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F, Development of Out growers

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G, Environmental Conservation

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H, Diversification through Agro-Forestry

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SECTION C: CHALLENGES THAT MUHORONI SUGAR COMPANY EXPERIMNCES THAT SLOWS DOWN ITS CONTRIBUTION TO SOCIO-ECONIMIC DEVELOPMENT

What comments can you make with regards to the following challenges of in response to the experiences of Muhoroni Sugar Company?

A, High costs of sugar production

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B, High levels of taxation by the national Government and the county Government

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C, Burning of sugarcane by Farmers

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D, Poor Varieties of Sugarcane

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E, Illegal Millers

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F, Harvesting problems

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G, Transportation Problems

H, Shrinking Land Parcels

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I, Poor Management of the Company

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High levels of Indebtedness to the Millers

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K, Obsolete Technology

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THANK YOU FOR YOUR PARTICIPATION!!!!

APPENDIX 2: THE INTERVIEW GUIDE FOR OTHER TARGET GROUPS

The researcher has designed these Interview Questions for the purposes of collecting information on the topic: **“The impact of sugar production on socio-economic development: the case of Muhoroni Sugar Company.”**

You are requested with all humility to respond to the following questions where appropriate in order to assist the researcher to obtain the relevant information in his bid to fulfill the requirements for the award of Master of Arts degree in Political Science of the University of Nairobi. The information given in this questionnaire by you will be confidential and it will ONLY be used for academic purposes and not for any other purpose. DO NOT write your name or contact details anywhere in this Interview Guide.

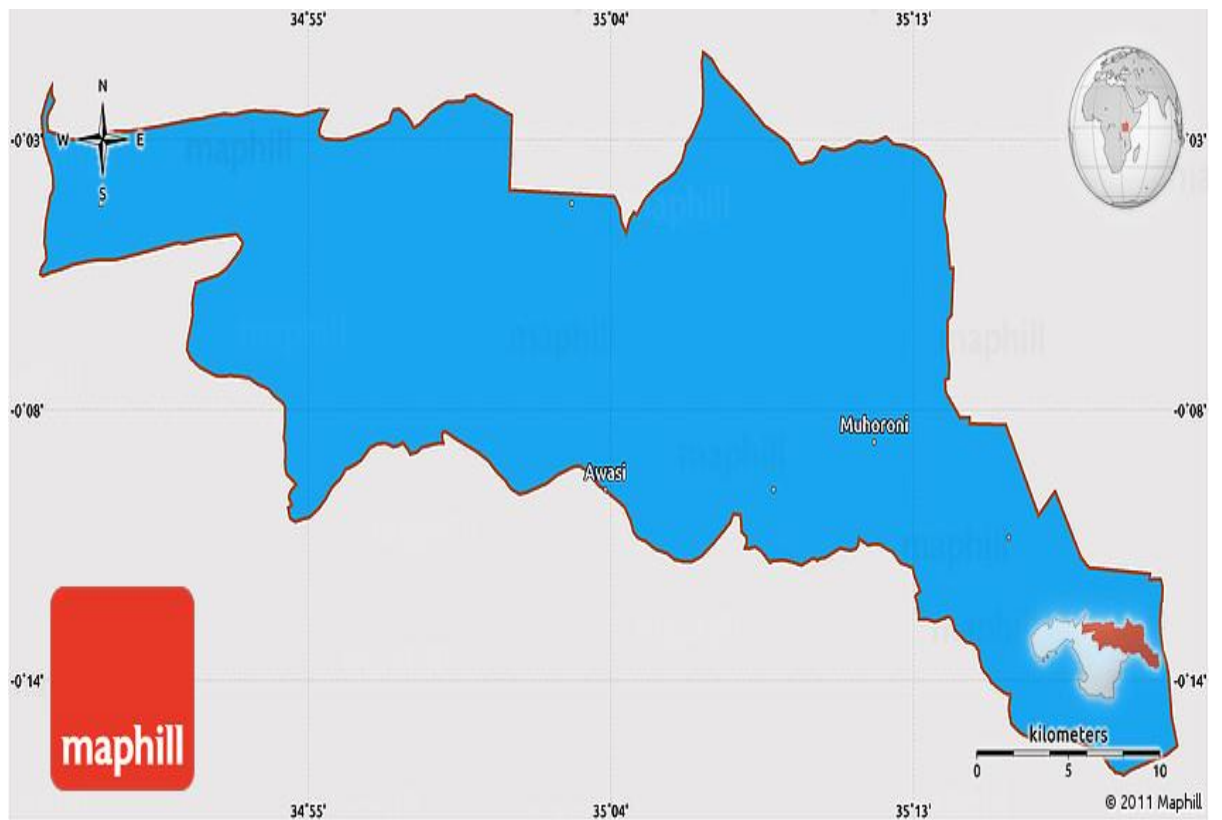
1. How has Muhoroni Sugar Company contributed to socio-economic development in Muhoroni sub-county?
2. How much do you spend annually on Corporate Social Responsibility and in particular, towards provision of the following?
 - i. Water
 - ii. Roads
 - iii. Education
 - iv. Healthcare
 - v. Sports
 - vi. Others
3. Does the company engage local communities in above activities?
4. What is the response from the community?
5. Mention any challenges that Muhoroni Sugar Company is experiencing in the process of sugar production and promotion of socio-economic development in Muhoroni sub-county.
6. Mention any kind of support that the government of Kenya has offered to help Muhoroni Sugar Company to prosper that you are aware.

In addition:

- (a) Has the above support been efficient in your opinion?
 - (b) In your view, what needs to be done by the stakeholders so that Muhoroni Sugar Company is empowered in order to enhance its capability of positively impacting on socio-economic development?
7. What is the sugarcane pricing formulae that Muhoroni Sugar Company uses and what is the justification for the use of that pricing formulae? Do you think that pricing formulae is fair? If not, what is the best pricing formula?
 8. What are the biggest threats that Muhoroni Sugar Company faces at the moment?
 9. In your view what needs to be done in order to mitigate the above threats?
 10. What's your view on the existing Government policy on agriculture with regards to Sugar production?
 11. What's your view on what needs to be done in order to lower the cost of sugar production in Kenya?
 12. Is there any additional information you may wish to share on how Kenya can transform its sugar companies in order to enhance on their capacities in promoting socio-economic development?
 13. At what point does sugar become a political issue?
 14. How often the plight of farmers emerges during political campaigns?
 15. What contributions do politicians make towards growth of sugar cane growing in this area that you are aware of?
 16. Please indicate any interventions the government has made towards supporting sugarcane growing in this area.

THANK YOU FOR YOUR TIME AND PARTICIPATION

APPENDIX 3: MAP OF MUHORONI SUB COUNTY



APPENDIX 4: INTRODUCTORY LETTER FROM THE UNIVERSITY

APPENDIX 5 RESEARCH PERMIT

APPENDIX 6: INTRODUCTORY LETTER FROM NACOSTI