

**COST OF EXTENSION SERVICES AND ITS EFFECT ON PROFITABILITY OF
SUGAR MILLERS: A CASE OF SOUTH NYANZA SUGAR COMPANY, KENYA.**

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DECLARATION

This research thesis is my original work and has not been presented to any other University or Institution of Higher Learning for Examination or award of any degree.

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DEDICATION

I dedicate this thesis report to my brother Duncan Siwo for his wise council and motivation to soldier on with my masters till the end, and to my son Dalton Otieno as an inspiration to achieve greater things as far as academia is concerned.

ABSTRACT

The performance of most companies in the sugar industry in Kenya over the years has been an issue of great concern to the management, stakeholders and the Government. The main objective of this case study was to examine the cost of extension services and its effect on profitability of Sonysugar Co. Ltd, and the Kenya sugar sub-sector as a whole. The specific objectives was to investigate how land preparation costs, seed cane supply costs, cane maintenance costs, cane harvesting and transport costs affects the profitability of Sonysugar Co. Ltd. These extension services include land preparation, seed cane supply, cane maintenance, cane harvesting and transport. The study was occasioned by the persistent decline in profitability of most millers and their constrained cash flows despite concerted efforts to reverse the situation. The study area for this research was Sonysugar Co. Ltd, the target population was 491 employees from Finance and Agriculture departments, the population was stratified according to the departments and a purposive sampling technique was used to pick the respondents from each strata, sample size of 150 employees was used for this study. The study used both primary and secondary data. The primary data was collected through structured questionnaires and interview schedules while secondary data was collected through document analysis. The collected data was analyzed using both descriptive and inferential statistics .The study findings revealed that land preparation costs, seed cane supply costs, harvesting and transport costs affects negatively the profitability of Sonysugar Co. Ltd, on the contrary the study also revealed that cane maintenance costs positively affects profitability of the company, the results of this research can be used to give more insights into the perceived cost implications on the profitability of millers. Emphasis should be made to review extension services so that while farmers continue to get the best out of these services, the company is also able to operate profitably. The study recommends that emphasis should be made to review land preparation activities, seed cane supply services, harvesting and transport activities as the study found that they indeed reduces profitability of Sonysugar Co. Ltd, this could possibly be achieved through outsourcing, focus of the company should not be much on extension services but rather on the company's core function of improving the milling capacity, the company's working capital should not be constrained by subsidiary activities such as extension services, besides, there is need for the company to identify new ways that can be used to claim money owed to it by cane farmers so as to eliminate the issue of bad debts. The financial performance of the millers is likely to improve and thus be more attractive to prospective investors if these recommendations are considered for implementation.

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LIST OF ABBREVIATIONS AND ACRONYMS

ACP	African, Caribbean and Pacific Countries
EAC	East African Community
EU	European Union
COMESA	Common Market for Eastern and Southern Africa
KSB	Kenya Sugar Board
SADC	South African Development Community
SDL	Sugar Development Levy
PTA	Preferential Trade Area
US	United States
LDC	Least Developed Countries
KSCCT	Kenya Society for Sugarcane Technologists
PC	Plant Crop
RI	First Ratoon
RII	Second Ratoon
KESMA	Kenya Sugar Manufacturers Association
Sonysugar Co. Ltd	South Nyanza Sugar Company Limited.
AFC	Agricultural Finance Corporation
ME	Mill Extraction
MSC	Mumias Sugar Company Limited
MUSCO	Muhoroni Sugar Company Limited (In Receivership)
NSB	Nyanza Sugar Belt
NSC	Nzoia Sugar Company Limited
OPS	Open Pan System
PI	Preparation Index
SNSB	South Nyanza Sugar Belt
SRA	Strategy for Revitalizing Agriculture
TC	Tonnes of Cane
TS	Tonnes of Sugar
TCD	Tonnes Cane per Day
WEKSCOL	West Kenya Sugar Company Limited
WSB	Western Sugar Belt
ANOVA	Analysis of Variance
KESREF	Kenya Sugar Research Foundation

DEFINATION OF TERMS

1. **Management cadre employees;** Sonysugar Co ltd broadly categorise its permanent employees into two levels, that is, management cadre staff and unionisable cadre staff.

Therefore management cadre employees are permanent members of staff of sonysugar Co ltd, who are in management level, they comprise the heads of department, divisional managers and supervisors.

2.Extension services costs; these are costs arising as a result of sugar millers involvement in agricultural activities with an objective to support farmers come up with better cane varieties and yields, they include land preparation, seed cane supply , cane maintenance, harvesting and transport.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The sugar supply chain has two distinct activities, the sugarcane production and the sugar milling sections. It is a symbiotic relationship since the miller cannot exist without supply of sugarcane, while the cane producer also needs the miller, around this symbiotic relationship a structure exist which supports research, extension services and sugar marketing, all anchored on profitability to the miller and benefit to the farmer. Improving farmers' productivity and agricultural workers livelihood is common to numerous types of agriculture or rural development programs, the approaches vary significantly by type of program, the most common intervention is extension services which include infrastructure development, market access, provision of fertilizer and other inputs (Pedro *et al* 2003). According to Wellington *et al* (2010), extension services include; Land Preparation, Seed cane supply, Cane Maintenance, Cane Harvesting and Transportation. This research adopted extension services as; land preparation, seed cane supply, cane maintenance, harvesting and transport.

Girei *et al* (2012) note that to assess the profitability or otherwise of any enterprise or a production process, the examination of expenditure (costs) and income (returns) is very necessary. Weston's Theory of Profits (1971) holds that profit is the excess of ex-post returns over the ex-ante returns. Kaplan & Norton (2001), notes that Profitability is the companies' ability to generate revenues in excess of the costs incurred in producing those revenues, this study adopts profitability as the difference in total revenue and total cost, a firm achieves a maximum by operating at the point where the difference between the two is at its greatest.

Boehlje (2013), notes that increased international competitiveness and lower commodity prices in recent decades have led to agricultural industries exploring value chain opportunities to increase profitability and sustainability, Sugar industries around the world are no exception. In addition, sugar production (per unit area), has remained constant or declined over the past three to five decades in many countries (Garside *et al* 2001). These pressures have led to an increased focus on supply chain solutions to increase profitability. Agriculture products whether in bulk or processed form, are common exports in developing countries, and many people depend on their production as their main economic activity (World Development Report 2008). Most millers, successful sugar production is all about return on investment. For this reason, cost reduction is a major consideration of sugarcane growers and millers in pursuit of efficiency and profitability.

Kenya Sugar Board (KSB) Strategic plan (2010-2014), indicates that Kenya remains high cost sugarcane and sugar producer compared to competitors, the average cost per ton to produce sugar in Kenya is higher than that of its Common Market for Eastern and Southern Africa (COMESA) competitors, in the years 2008 and 2009, the average industry sugar production cost per ton was USD 428 compared to an estimated cost of USD 263 for its competitors. According to Wellington *et al* the costs of sugar production are too high for Kenya to remain competitive, and to bring its costs in line with its competitors, the industry needs to reduce its costs by a factor of 39%. Kenya Sugar Research Foundation (KESREF) (2009), notes that most millers attribute these high production costs to the costs of extension services. Kariuki (2005) states that without major reforms in the industry, most millers will continue making losses and even ultimately collapse, they will also not be able to compete with low priced sugar from other countries.

1.2 Statement of the Problem

In Kenya, sugarcane is the second most significant industrial crop in terms of value of production. In 2010, sugarcane generated \$145 million; additionally the sector provides livelihoods to roughly 6 million Kenyans, with 250,000 smallholder farmers providing 92% of Kenya's sugarcane. Kenya is the largest producer of sugar in the EAC, producing 524,000 metric tons in 2010 compared to 313,000 & 289,000 in Uganda and Tanzania respectively. Despite Kenya's large production output compared to regional competitors within COMESA & EAC, Kenya is currently not cost-competitive; its ex-factory prices are about 50 per cent higher than import prices from the COMESA FTA exporters. Some sugar factories are in receivership while some are faced with imminent collapse due to huge debt burden and the inability to sustain their operations since they are not able to break-even. It is due to this high cost of producing sugar in Kenya resulting to minimal profits with most millers making losses that the study seeks to investigate whether a good proportion of these costs are attributed to the millers' involvement in provision of extension services

1.3 Main objective of the Study

Main objective of the study is to investigate the cost of extension services and its effect on profitability of South Nyanza Sugar Company Limited

1.4 Specific objectives of the Study

- i. Examine the effect of land preparation costs on the profitability of Sonysugar co. Ltd
- ii. Establish the effect of seed cane supply costs on the profitability of Sonysugar co. Ltd
- iii. Determine the effect of cane maintenance costs on the profitability of Sonysugar co. Ltd
- iv. Establish the effect of cane harvesting and transport costs on the profitability of Sonysugar co. Ltd

1.5 Research hypotheses

- i. H₀1: Land Preparation cost has no significant effect on profitability of Sonysugar Co. Ltd.
- ii. H₀2: Seed cane supply cost has no significant effect on profitability of Sonysugar Co. Ltd.
- iii. H₀3: Cane maintenance cost has no significant effect on profitability of Sonysugar Co. Ltd.
- iv. H₀4: Harvesting and transport cost has no significant effect on profitability of Sonysugar Co. Ltd.

1.6 Significance of the Study

The sugar millers in Kenya can benefit from improved profits arising out of a reduction in the cost of production, their cash flow can also improve due to a reduction in purchases of the various inputs that are provided to farmers, payments to harvesters and associated supervisory costs. The millers can also increase their sugar production at higher efficiency levels as resources may be availed to secure better equipment and utilise the capacity effectively. The continued existence and growth of the industry assures the government of the possibility of creating employment opportunities which is one of its major responsibilities. The government's interest is also amplified by the simple reason that the sugar sub-sector is a source of revenue generation through taxes. The farmers may also benefit as a result of availability of funds that may lead to prompt payment of their cane proceeds. It is hoped that the millers will operate more efficiently with the likelihood of lowering the price of the commodity for the benefit of the public. There may also be an added advantage of corporate social responsibility to the local communities surrounding the millers.

1.7 Scope of the Study

The study investigated extension services costs and its effect on the profitability of Sonysugar Co. Ltd. The study was confined to Sonysugar Co. ltd employees attached to Finance and Agriculture departments. Sonysugar Co. ltd is located in Migori County, A case study research design was used for this study, and the time scope was the year 2016.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter entails theoretical review, empirical review on land preparation costs, seed cane supply costs, cane maintenance costs, harvesting and transport costs and profitability, Critical review of major issue, Summary and gaps filled by the study, and the conceptual framework.

2.2 Theoretical Review

Hawley offered his "Risk Theory of Profit" in 1893. According to Hawley, risk in business arose from product obsolescence, a sudden fall in prices, superior substitutes, natural calamities or scarcity of certain crucial materials. Hawley stated that profit was composed of two parts: one part represents compensation for average loss incidental to the various causes of risk and the other part represents an inducement to suffer the consequences of being exposed to the risk. Hawley believed that profits arose from factor ownership as long as the ownership included risk. If the entrepreneur avoided risk by insuring against it, he ceased to be an entrepreneur and should not receive profits. According to Hawley profit arose out of uninsured risk. The uncertainty ends with sale of the entrepreneur's product. Hawley's theory is also known as the "residual theory of profit", however it ignores the cost element in profit calculation

According to the Dynamic Theory of Profit by Clark (1956), profit is a residue, the difference between the price of a commodity and its costs, due to the reductions in the cost affected by changes in the economy. This theory is also known as windfall theory of profits. This theory treats profits as a residue in price after deducting costs, hence it's a residual theory of profits. Monopoly Theory of Profit also treats the profits as residue caused by monopoly power or monopoly conditions of the market especially the barriers to entry. Innovations Theory of Profits, by Joseph

Schumpeter, also holds that profits are a residue and it is the cost of entrepreneurial ability used. According to this theory, innovations result in a reduction in the prices of the factors of production, thus the costs of production decreases resulting in an increase in the difference between the price and the costs of production, i.e. the residual profit

Karl Marx proposes a different school of thought through his Surplus Value Theory of Profit (1967) which holds that the surplus value is the difference between the price and the wages (or labour value). It holds that all productive value and therefore sales value in any good comes only from the amount labour used to produce it. It follows that only labour is the product and that the capital and entrepreneurship are not. This is also a residual theory of profit. However the scope is limited to the cost of labour and is not suitable for this study.

Agriculture extension services, theory and evidence; this theory was developed by Hanson and Just (2001), they stated that agriculture extension services has been justified in the literature on both equity and efficiency grounds. In the presence of market failures, for example externalities, limited access to credit or non-competitive market structures, producers will not face the correct incentives to produce certain varieties, use new production techniques or adopt new technologies, resulting in production levels that are not socially optimal. In addition, if less advantaged farmers are more exposed to these failures because of their limited resources (lack of market power in oligopsony, limited access to credit, low capacity to pay for extension services), the justification for solving these market failures through public intervention gains relevance under both equity and efficiency arguments.

Notwithstanding the theoretical considerations for public interventions through financing and or provision of extension services, the existing evidence of their effectiveness is scarce and

inconclusive, partly due to the few rigorous impact evaluations undertaken until now. In addition, these evaluations fail to address questions on the effectiveness of new modalities of extension programs around the world.

The research adopts the residual theories of profit with attention to Dynamic Theory of Profit, by Clark since it considers the cost element in calculating profits and also the dynamism in the macro-environment.

2.3 Empirical Review

2.3.1 Land Preparation costs and profitability of sugar millers

KASREF (2008) notes that the components of land development are; surveying, land leveling, ploughing, harrowing, furrowing, ripping, sub-soiling, drainage, tinning, hilling-up. Depending on the zone in question and the soil condition some of the operations enumerated above are emphasized or omitted.

According to Michael *et al* (2000) land preparation is one of the major costs of establishing a crop of sugarcane. Good crop establishment is essential for ensuring yield and ratoon length of the next crop cycle. Cane growers have begun to reduce the cost of production by adoption of green cane harvesting and trash blanketing and by not cultivating during the ratoon cycle. According to Mc Garry *et al* (2000) land preparation for planting of sugarcane is a major cost of production. However, it was hypothesized that the number of tillage passes could be reduced without compromising crop performance and would offer considerable savings in crop establishment cost. Economic benefits are to be gained by a reduction in the number of tillage operations for land preparation for planting of sugarcane. There is potential to reduce the cost of production and improve profitability in the year of planting if reduced tillage principles are followed.

Wellington *et al* (2010) indicates that the average cost of land preparation in the Sugar Industry is Ksh. 15,749/Ha, with the highest cost being in MUSCO in the NSB at Ksh. 25,575/Ha, while the lowest cost is observed in the light soils of the Sony sugar zone in the SNSB at Ksh. 9,958/Ha. The WSB is intermediate with an average cost of Kshs. 13,183/Ha. The major variance is occasioned by the difference in soil types, with the heavy clays in Nyando being more difficult to work and requiring heavier and higher operations compared to the lighter soils in the WSB

2.3.2 Seedcane supply costs and profitability of sugar millers

According to Kenya Sugar Board (2010), Farmers and millers need to make fair return on investment, studies have shown that the margins are small for plant crop, Subsequent ratoons, if well maintained, bring good profits to the farmer, currently, there are only two ratoons in the industry. Tanzania, whose production cost is the lowest in EAC region has 5-8 ratoons. Brazil which the least cost cane producer (USD 20/T) in the world has only 20% of the total area under cane on new plantings, the remaining 80% is under ratoon crops. Top sugar producing countries are known to produce over 10 ratoons while marginal producers hardly go beyond 2 ratoons hence sustaining losses due to high production costs.

KASREF (2008) notes that Seedcane supply is still a problem area due to inadequacy of material, both in terms of quality and quantity. Seedcane treatment has not been embraced by the sugar industry due to lack of policy on seedcane production. Under the Common Fund for Commodities (CFC) East African variety development programme, there is a component for establishment of seedcane treatment plants in all the factory zones. This is expected to give a major impetus to the supply of clean, vigorous seed to farmers. As recommended farmers are expected to plant seedcane from nursery B derived from the factory nucleus estates or other private seed developers. Seedcane

treatment is a vital element in the production costs reduction measures as it will mitigate disease and other pest control costs.

Wellington *et al* (2010) explains that the average cost of seed cane planting and development in the outgrower farms in the Kenya sugar industry is Ksh. 33,667/Ha for PC and Kshs. 2,446 for RC. The lowest cost was in the Nzoia zone at Ksh. 32,716/Ha, while the highest cost was registered in Mumias of the WSB at Ksh. 37,704/Ha, attributed to the high cost of seed cane. Other zones appear spend much less on gapping ranging from Kshs. 3,400 to 3,699/ha on gap filling.

2.3.3 Cane Maintenance costs and profitability of sugar millers

KASREF (2008),states that the elements of Cane maintenance are fertilizer and herbicide application, weeding (manual, mechanical and chemical), trash-lining, inter-row cultivation, gapping, smut rouging, erection of fire breaks, stubble shaving, chopping, supervision and pest control. With good husbandry practices, farmers can profitably increase the number of ratoon crops and save replanting costs, Kenya Sugar Board (2010). The average cost of cane maintenance is Ksh. 48,267/Ha for PC and Ksh. 26,911/Ha for ratoons resulting giving an average of Ksh. 37,589. The highest cost was observed in Chemelil zone at Ksh. 55,399/Ha for the PC, while the lowest cost was in West Kenya at Ksh. 40,484/Ha. The variance is explained by higher costs of security and fertilizer procurement as well as fertilizer application rates in the Chemelil zone. Fertilizer supply and distribution to the farmer is constrained by delayed procurement, inadequate transport, field storage and poor supervision of application. The effect of fertilizer application on yields is clearly sub-optimal. Most millers supply fertilizers to farmers on credit with varying interest rates across the entire industry and recover the cost from cane proceeds. For the respective zones, West Kenya (5%), Muhoroni (variable), Chemelil (19.5%), Sony (17%), Nzoia (12%) and Mumias (12%) as at December 2009 with the interest rate shown in parenthesis giving an average of 14.1%

for the industry. In the Western Sugar Belt fertilizer diversion is rampant being sold off for use by other farmers or enterprises, Wellington et al (2010).

2.3.4 Cane Harvesting and Transportation costs and profitability of sugar millers

According to KASREF (2008), Sugarcane harvesting is the largest consumer of manual labour in the entire production chain. Green harvesting consumes on average, 71 Mandays, compared to 58 Mondays per ha for harvesting of burnt cane. There is policy to harvest cane green as opposed to burnt but despite this NSB still harvests burnt cane. Harvesting costs range from Kshs 88 in at Chemelil to Kshs. 210 at Sonysugar zone per ton. In West Kenya where manual loading is undertaken, the rate of cane spillage was negligible compared to the Mumias zone where the grab loader is used. With manual loading, stacking is neatly done and the cane stalks lying parallel in the trailer are secured with a chain. On average for the industry, the cost of harvesting and loading a tonne of cane was Ksh. 135/-. (Wellington et al, 2010)

According to Wellington *et al* (2010), the efficiency of sugarcane transportation depends on the type of machinery used. The performance of the machinery depends on their condition, management, including mode of loading and the state of the roads. The predominant trailers used in the sugar industry, accounting for 95% of all trailers are the single and double basket trailers, either mechanically or manually loaded. In the Nyando and West Kenya sugar zones, the manually loaded single basket trailers also known as “opengle” are common. Sugarcane transportation accounts for about 35% to 40% of total sugarcane production costs. Apart from the modes of transport earlier mentioned, there are the high capacity and high speed (HCHS) trucks which have revolutionized the cane transportation business. Through pooling of cane at trans-loading stations, the trucks are able to maximize on carriage capacities with lower expenses on fuel and related expenses. The cane transportation system can be categorized as low, middle and high end transport

modes. On average for the industry, the cost of cane transportation for a 20Km Radius (Zone E) is Ksh. 755/tonne, projected to rise further with ever increasing fuel prices.

Girei *et al* (2013) notes that in Thailand, the cost of sugarcane transportation occupies 35% of total sugarcane production cost. Transportation is done by use of truck system, however, trucks tend to be overloaded to keep down the transportation costs and maintain the quality of fresh harvested sugarcane. Sugar cane is one of the bulkiest of crops. Modern harvesting methods require the transportation of large quantities of chopped cane to processing facilities within hours of harvesting. Efficient transportation of chopped cane is essential to avoid loss of sugar content after harvesting and to maintain a uniform flow of cane through the mills.

The loan would be recoverable from the farmers over a period of three crops namely PC, RI and RII in the proportion of 40%, 30% and 30% respectively.

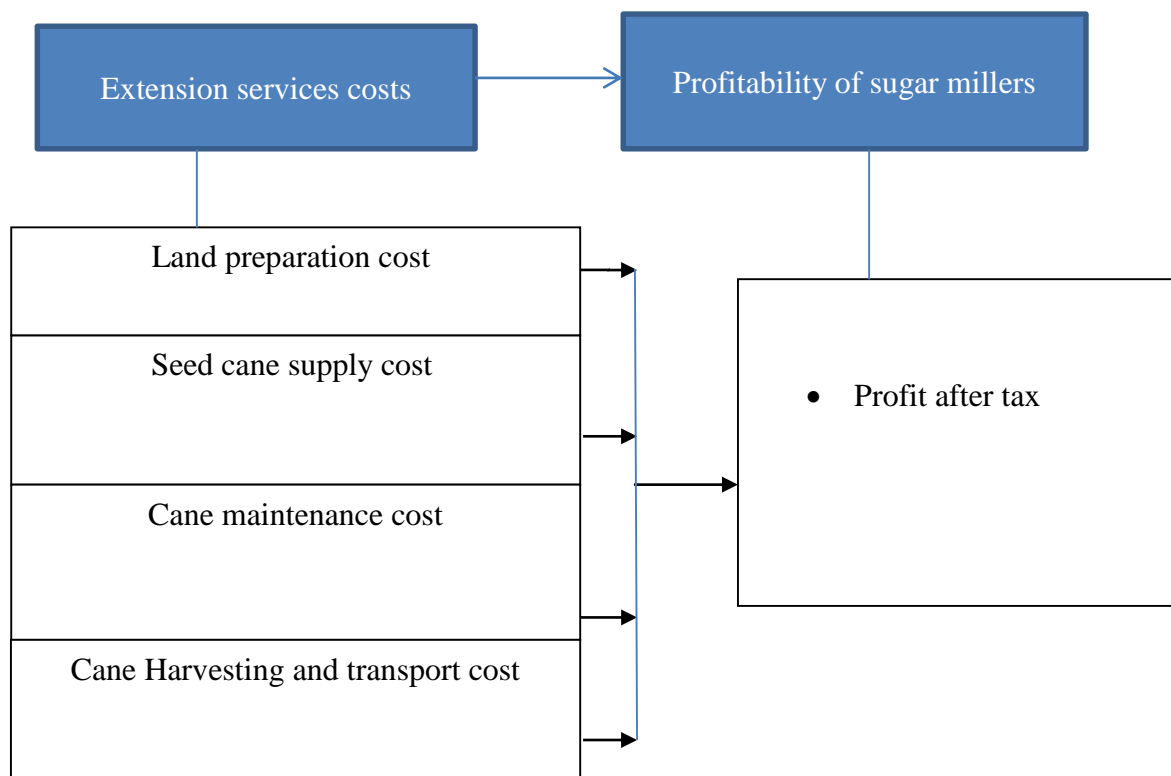
2.4 Summary and Gaps to be filled by the Study

The study gives a clear relationship between the costs of various extension services to farmers in Sonysugar Co. Ltd sugar belt and the profitability and cash flow of the company. Management has always held the view that the company could save so much of its resources and carry out its development agenda if the provision of these services was handled by the right institution and it was left to do what it knows best – milling cane and selling sugar. There is a perceived benefit that arises in delinking the company from getting involved in providing farmers with various inputs. It has been argued that this makes the farmers view the investments as the company's and see themselves just as land owners waiting to benefit from the company's goodwill gesture once the cane is harvested. However, these pronouncements have had no research backing to prove their validity. The study hopes to fill this gap.

2.5 Conceptual Framework

Independent variable

Dependent variable



Source: Researcher (2016)

Figure 1: Conceptual Framework

The component cost of extension services namely land preparation cost, seed cane supply cost, cane maintenance cost, cane harvesting and transport cost (independent variables) is a key driver in the cost of producing sugar and hence a major contributor to profitability (dependent variable) and cash flow position of sugar milling companies.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Research Design

A case study research design was adopted for this research. Case studies provide detailed information about the characteristics or attributes of interest through intensive and holistic descriptions and analyses of single entities or phenomena bounded by time and activity, based on information from a variety of data collection procedures, the case is a particular phenomenon or a bounded system, an instance of some concern or an intrinsically interesting scenario that leads to achieving full understanding of the phenomenon as much as possible, Oso (2013)

3.2 Study Area

The study area was Sonysugar Co. Ltd which is one of the sugar milling companies in Kenya, fully owned by the government of Kenya. The company is located in Migori County, Awendo Sub-county. Sonysugar Co Ltd has been singled out from the many millers in Kenya since it has well-structured extension services division with a large number of contracted cane farmers. (KESREF 2008).

3.3 Target Population

Target population is the collection of persons, items or regions in which the case study or investigation is based in specific period (Mugenda and Mugenda, 2003). The target population comprised 497 employees of Sonysugar Co. Ltd in Finance and Agriculture departments. The two departments are the only ones considered since the employees there have the relevant experience and would therefore be useful in provision of the necessary information regarding extension services and their subsequent cost implications on profitability. However, Sonysugar Co. Ltd has nine departments namely; Information Communication and technology, Finance, Marketing,

Agriculture, Manufacturing, Company Secretariat, Human Resources, Procurement and General Administration.

3.4 Sampling Technique

The research used stratified sampling and purposive sampling technique. Stratified sampling technique was used to categorize employees in a homogeneous manner according to their departments, and a purposive sampling was used to ensure that only management cadre employees are included in the sample. Management cadre employees were been singled out since they have more skills on the intricate issues of profitability, cost structure and how the two interrelate.

3.5 Sample Size

The sample size comprised 150 management cadre employees. The sample size of employees was determined by use of Kombo and Tromp (2006) recommendation that a sample size of 10% to 30% is representative enough for the study population. Therefore the sample size of employees was determined on the basis of 30% as recommended by Kombo and Tromp (2006).

Table 1: Population and Sample

DEPARTMENT	POPULATION	SAMPLE SIZE
FINANCE	90	27
AGRICULTURE	407	123
TOTALS	497	150

Source (Sonysugar 2016)

3.6 Data Collection Instruments

Questionnaires and interview schedules were used for this research. Questionnaire is a research tool that gathers data over a large sample with diverse background, the findings remain confidential, it saves time, and the questions are standardized to relay similar meaning to all respondents (Kombo *et al* 2006). Interview schedules also help to obtain more detailed information from the respondents.

3.7 Data Collection Procedures

The researcher got permission from the relevant authorities which includes, Rongo University College and Sonysugar Co. Ltd before starting the data collection process. The management of Sonysugar Co. Ltd was notified through a letter of the intention to conduct the research and the proposed dates, asking for permission and assistance. The questionnaires were issued to the respondents by use of research assistants while the researcher personally administered the interview schedules .

3.8 Validity of the Research Instruments

According to Oso (2013) validity is the ability of a tool to measure what it purports to measure. The researcher prepared questionnaires and presented them to the supervisors who gave their experts judgments by scrutinizing the questionnaires for comments on the relevance of the information and validity

3.9 Reliability of the Research

Oso (2013) states that a reliable study can be depended on, is consistent and predictable over time and use; and it produces more or less the same results after repeated measurements. To ensure

reliability of the research, a test-re-test analysis was done. The instruments were administered to a sample of 30 selected from Chemelil Sugar Co. Ltd. This was test administration. The instruments were collected and all responses coded 1. After 14 days, the same instruments were administered to the same sample (re-test). The instruments were collected and coded 1 for the same response to the same item as in the first test, and coded 2 for a different response from the first administration. The total score of each respondent on the same instruments on both administrations was obtained. This produced a total of 60 scores, 30 from each administration. The scores were then correlated using Pearson product moment correlation technique to determine the reliability of the instruments. The items were modified depending on the validity levels and the process repeated until reliability index of at least 70 was attained.

3.10 Data Analysis and Presentation

The process of data analysis deals with the organization, interpretation and presentation of collected data. Data analysis entails separation of data into constituent parts or elements, to distinguish its component parts separately and in relation to the whole (Oso and Onen, 2009). In quantitative data analysis, the data is first coded manually and then a multivariate analysis is done, these entails the use of multiple regression model and correlation analysis.

According to Kothari (2003), determinate coefficient is the rate of variability in the dependent variable, which could be described by regression. The difference of the determinant coefficient and the justified determinant coefficient could be in the volume of samples and the number of variables. If the sample is small, the justified coefficient is more appropriate for interpretations, but by growing of samples volume, the two coefficients get closer to each other. Hence the researcher used justified determinant coefficient. Then, the regression analysis significance was considered, and the certainty of the existence of the linear relations between the dependent and independent variables was analysed. Regression line indicates the changing rate of dependent

variable, expressed by independent variables. Correlation analysis was also used to determine the strength and direction of the relationship between dependent and independent variables.

3.11 Limitations of the study

The major limitation is that this research has only focused on Sonysugar co ltd, however, the findings is generalized to all sugar millers in Kenya, and this might lead to generalization bias. The other issues are to do with validity and reliability of the research instruments used and data capture to ensure 100% accuracy and sufficiency at all levels of data collection, it would also be beyond the researcher to fully eliminate problems of maturation (biological and psychological problems among subjects which influence research findings). The researcher dealt with this problems by honing the best skills in the development of data collection instruments, working closely with supervisors and consulting widely and making further research in areas that are not clear.

CHAPTER FOUR

DATA ANALYSIS, INTERPRETATION AND DISCUSSION

4.1 Introduction

The purpose of this study was to establish the effect of cost of extension services on profitability of sugar millers. This study was conducted in South Nyanza Sugar Company. Data for analysis was collected from management cadre employees drawn from the finance and agriculture departments. This was necessary since these were the key departments involved in extension and profitability computations.

4.2 Response Rate

The need to examine response rate was informed by the desire to confirm whether response was such that results drawn from the study were representative of the target population so that they could be used with confidence to inform decisions regarding extension services for cane farmers. All the 150 expected employees participated in the study yielding a 100% response rate which was ideal for external validity of the study.

4.3 Analysis of Background characteristics of Respondents

It was necessary to examine background characteristics of respondents with a view of controlling for their influences on the conceptualized relationships between independent and dependent variables.

Analysis of respondents background characteristics focused on five aspects namely; gender, age, level of education, work experience, and designation. It was conceptualized that these background characteristics were fundamental to interpretations bordering on cost of extension services and subsequent effects on Miller's profitability.

4.3.1 Gender of Respondents

The need to examine respondents' gender was based on constitutional requirements that postulate a representation of at least 30% of either gender. Besides it has previously been posited that female leaders tend to be better leaders in the field of financial and personnel management (Nsubuga, 2008). It was therefore necessary to examine gender distribution among respondents so as to eliminate their possible influences on profitability.

Results of the cross tabulation of gender by respondents designation presented in Table 4.1 revealed that on the overall, there were more males (79.3%) in the management team than females (20.7%). Out of this proportion, the only head of department was male; all the 30 managers were male; while 73.9% of the supervisors were male with only 26.1% female.

Table 4.1: Gender of Respondent Versus Designation Cross tabulation

		designation			
		Head of department	manager	supervisor	Total
gender of respondent	male	1	30	88	119
		100.0%	100.0%	73.9%	79.3%
	female	0	0	31	31
		.0%	.0%	26.1%	20.7%
Total		1	30	119	150
		100.0%	100.0%	100.0%	100.0%

Source: (Author 2016)

Considering that the proportion of females in the management cadre was rather small, it was therefore assumed that gender had no influence on the interrelationship between cost of extension services and profitability of millers.

4.3.2 Education level of Respondents

The need to consider education level as an important background characteristic in the present study was informed by findings attributed to Jeremy, Melinde and Cilliers (2012) who established that employees with higher levels of education participate more in decision making as opposed employees with lower levels of education. Respondents' level of education was examined across four levels namely: primary, secondary, college and university. Results presented in Table 4.2 which is the cross tabulation of education level against employee designation revealed the following: All the management cadre employees were either of college or university levels. Of the 30 managers, 60% had university level while 40% had college level of education. Majority of supervisors (55.5%) had a college level of education.

Table 4.2: Level of Education Versus Designation Cross tabulation

		designation			
		Head of department	manager	supervisor	Total
level of education	secondary	0	0	0	0
		.0%	.0%	.0%	.0%
	college	0	12	66	78
		.0%	40.0%	55.5%	52.0%
	university	1	18	53	72
		100.0%	60.0%	44.5%	48.0%
Total		1	30	119	150
		100.0%	100.0%	100.0%	100.0%

Source (Author 2016)

These results imply that management cadre employees have the relevant level of education that can enable participation in decision making. Considering that choice of extension services to offer to farmers requires decision making, level of education was therefore deemed to have extraneous influence on cost of extension services and subsequent profitability of milling companies and therefore its influence was controlled for.

4.3.3 Age of Respondent

Choice of age as a background characteristic was informed by conflicting findings surrounding age and decision making. Whereas several studies tend to show that age has no significant relationship with decision making (Jeremy, Melinde & Cilliers, 2011; Adham, 2014), Freeman

and Roger (2006) argue that age has a significant influence on participation in decision with those aged between 37 years to 48 years old being more interested in participation in decision making than younger or older employees. It was therefore necessary to explore the age categories of the sampled employees. From results displayed in Table 4.3, a large proportion (51.3%) of management cadre employees was found to be aged above 40 years of age. This was however, closely followed by management employees in the age interval 31 to 40 years (48.0%). On the basis of findings by Freeman and Roger (2006) it was therefore necessary to control for age of respondents in the current study.

Table 4.3: Age of Respondent Versus Designation Cross tabulation

		designation			Total
		Head of department	manager	supervisor	
age of respondent	0-20	0	0	0	0
		.0%	.0%	.0%	.0%
	21-30	0	1	0	1
		.0%	3.3%	.0%	.7%
	31-40	0	11	61	72
		.0%	36.7%	51.3%	48.0%
	above 40	1	18	58	77
		100.0%	60.0%	48.7%	51.3%
Total		1	30	119	150
		100.0%	100.0%	100.0%	100.0%

Source (Author 2016)

4.3.4 Respondents' Job Experience

Management employee experience was included as a background characteristic since it was deemed to have a bearing on participation in decision making particularly with regards to nature and type of extension services. Consequently, employee experience could have extraneous influences on the conceptualized relationships and hence the need to explore experience distribution among respondents. Results presented in Table 4.4.

Table 4.4: Work Experience Versus Designation Cross tabulation

		designation			Total
		Head of department	manager	supervisor	
work experience	0-5 years	1	9	0	10
		100.0%	30.0%	.0%	6.7%
	6-10	0	21	15	36
		.0%	70.0%	12.6%	24.0%
	11-15	0	0	44	44
		.0%	.0%	37.0%	29.3%
	above 15	0	0	60	60
		.0%	.0%	50.4%	40.0%
Total		1	30	119	150
		100.0%	100.0%	100.0%	100.0%

4.4 Cost of Extension Services and Profitability of Sonysugar Co. Ltd.

The main objective of the current study was to investigate the influence of cost of extension services on profitability of Sonysugar Co. Ltd. A variety of extension services were examined through questionnaire and interview Schedules issued to Sonysugar employees.

4.4.1 Land Preparation Costs and Profitability of Sonysugar Co. Ltd.

Objective one sought to examine the effect of land preparation costs on the profitability of Sonysugar Co. Ltd. In order to meet this objective both descriptive analysis of management employee responses and thematic analyses of selected managers' responses were conducted. Descriptive analysis was first used to establish perceptions of respondents towards land preparation costs and profitability of Sonysugar Co. Ltd. Next thematic analysis was used to analyze managers' interview responses. Responses were examined for prominent, recurrent themes on land preparation costs and profitability.

4.4.1.1 Descriptive Analysis of Respondents Responses on Land Preparation Costs and Firm Profitability

Respondents were asked to indicate their level of agreement / disagreement with four likert type items. Responses were captured using five response options namely: 1- strongly disagrees; 2- disagree; 3-neutral; 4-agree; 5-strongly agree. Results are shown in Table 4.5.

Table 4.5: Management Employees’ Perception of Land Preparation Costs and Firm Profitability

Effects of Land Preparation Costs	SD		D		N		A		SA	
	n	%	n	%	n	%	n	%	n	%
1. Land preparation cost results into high costs of cane	5	3.3	7	4.7	7	4.7	86	57.3	45	30.0
2. Land preparation cost results into high costs of labour	6	4.0	15	10.0	20	13.3	78	52.0	31	20.7
3. Land preparation cost is a major cost component of the production cost	2	1.3	8	5.3	18	12.0	77	51.3	45	30.0
4. Land preparation cost impacts on profitability	5	3.3	8	5.3	9	6.0	75	50.0	53	35.3

Source (Author 2016)

On the basis of these results, it appears that management employees were of the view that land preparation costs impacts significantly on profitability of Sugar millers in diverse ways. Respondents tended to agree (57.3%) and strongly agree (30%) that high costs of cane were a function of land preparation costs; 72.7% agreed that land preparation costs results into high cost of labour; respondents therefore essentially agreed (81.3%) that land preparation was a major component of production that tends to impact on profitability (88.3%).

4.4.1.2 Thematic Analysis of Management Employees’ Views on Land Preparation Costs and Profitability

Management employees’ views about land preparation costs and profitability of Sonysugar Company were examined using one item on the manager’s interview schedule. Respondents were asked to enumerate some effects attributed to land preparation extension services. Results show that they identified four key effects that results from land preparation extension services. These

were *high labour costs; machinery maintenance and depreciation costs; bad debts; and constraint in working capital* (see Table 4.6).

Under high labour costs, managers interviewed argued that land preparation extension services require that a high number of workers be contracted. In addition these workers do require an increase of field supervisors and extension officers. Besides, the company is required to meet expenses for operating tractors and other land preparation machinery. Another effect of land preparation that emerged was depreciation costs. Respondents observed that company tractors and other machinery were normally optimally utilized during land preparation and this leads to a high rate of depreciation which forms a significant part of the statement of comprehensive income. The third effect that emerged with respect to land preparation was bad debts. Respondents noted that some farmers defaulted on payment for extension support; in some cases the company was not able to recover these payments and had to write them off as bad debts. Constrained working capital also emerged as a negative impact of land preparation costs. It emerged that engagement in land preparation made focus to shift from the core business of improvement in milling capacity. Some respondents however noted that activities conducted under land preparation were essential for quality yield.

Table 4.6: Manager’s Perception of Effects of Land Preparation costs on Company Profitability

Question	Effect	Explanation
How do land preparation costs affect profitability of Sonysugar Co. Ltd?	High labour costs	<ul style="list-style-type: none"> • Many workers have to be contracted • Increase in field supervisors and frequency of supervision • More extension officers

-
- Meet tractor expenses and expenses for other farm implements

-
- | | |
|--------------------|---|
| Machinery | • Tractors and other implements are |
| Maintenance and | optimally used |
| Depreciation costs | • High maintenance and rate of depreciation forms a major part of statement of comprehensive income |

-
- | | |
|-----------|--|
| Bad debts | • Some farmers default on land preparation service payment |
| | • Non recovery of debts forcing company to write them off |

-
- | | |
|-----------------------------|---|
| Constrained working capital | • Attention is fully engaged on land preparation |
| | • Focus is on land preparation rather than improving milling capacity |

-
- | | |
|------------|--|
| Crop yield | • Land preparation activities are good for ensuring quality crop yield |
| | • Reduces next crop cycle |

Source (Author 2016)

4.4.2 Seed Cane Supply Costs and Profitability of Sonysugar Ltd.

The second objective of the present study sought to establish the effect of seed cane supply costs on profitability of Sonysugar Co. Ltd. It was therefore necessary first to examine management views regarding costs pertaining to supply of cane seed to farmers. Both descriptive and thematic analyses were used to examine the views of the management team.

4.4.2.1 Descriptive Analysis of Management Views Regarding Cane Seed Supply Costs

A total of four items were used to explore management views on cane seed supply costs. Respondents were asked to indicate their level of agreement or disagreement with the four items. Frequencies and percentages were computed and used to infer management views.

Results presented in Table 4.7 show agreements among the management employees regarding the influence of seed cane costs on overall profits of the company. Respondents tended to agree that seed cane supply costs result in high costs of cane (85.3%); that cost of seed cane supply results into high labour costs (68.0%); that seed cane supply cost is a major cost component of the production cost (86.7%); and that seed cane supply cost impacts on overall profitability (84%).

The implication of these results is that while the company endeavors to provide extension services in terms of cane seed supply, these services have a negative impact on overall profitability of the company. This fact appears to be known to the management employees who identify diverse aspects of operations that are affected by costs incurred in supplying cane seed.

Table 4.7: Management Employees' Views on Effects of Cost of Seed Cane Supply

Effects of seed cane supply	SD		D		N		A		SA	
	n	%	n	%	n	%	n	%	n	%
1. Seed cane supply cost results into high costs of cane	4	2.7	8	5.3	10	6.7	78	52.0	50	33.3
2. Cost of seed cane supply results into high labour costs	4	2.7	28	18.7	16	10.7	72	48.0	30	20.0
3. Seed cane supply cost is a major cost component of the production cost	8	5.3	15	10.0	7	4.7	68	45.3	52	34.7
4. Seed cane supply cost impact on profitability	8	5.3	5	3.3	11	7.3	75	50.0	51	34.0

Source (Author 2016)

4.4.2.2 Thematic Analysis of Managements views on costs of cane seed supply and profitability.

To further explore the effects of costs of cane seed on Sonysugar Company's profitability, one item on the manager's interview schedule was used. Respondents were asked to indicate how seed cane supply costs impact on profitability of Sonysugar Co. Ltd. Thematic analysis of responses given revealed results displayed in Table 4.8. Four activities were identified to be responsible for costs incurred by the company as a result of undertaking cane supply services. Respondents indicated that *cutting and loading* of cane attracted labour costs. It also emerged that *transportation of cane seed to collection centre's* may incur costs. Sometimes seed cane has to be collected from long distances requiring collection centre's to be created and this incurs costs in terms of leasing the centre, administration of the centre and transporting seed cane to

the centre. If on the contrary seed cane is transported directly to farms, costs are incurred due to depreciation of tractors, transport and weigh Bridger manpower.

Table 4.8: Manager’s Perception of Seed cane supply Costs and Company Profitability

Question	Activity	impacts
How does seed cane supply costs impact on the profitability of Sonysugar Co. Ltd?	Cutting and loading	<ul style="list-style-type: none"> • Labour costs for cane cutting • Labour costs for cane loading
	Transportation of seed cane to collection centre	<ul style="list-style-type: none"> • Hiring costs for collection centre • Collection center administrative costs • Costs of transportation
	Transportation from collection center to farms	<ul style="list-style-type: none"> • Loading labour costs • Transportation costs • Weighbridge manpower costs
	Transportation directly to farms	<ul style="list-style-type: none"> • Depreciation of tractors • Transport costs • Weighbridge manpower costs

Source (Author 2016)

The implication of these findings is that seed cane supply is an expensive affair whose costs eat on projected company profits. Competition for seed cane has led to collection of seed cane from longer distances occasioning large amounts of transportation costs. In some cases, collection points have been set and these require that land is leased and that manpower is available to run the points. The net result is that cane seed supply costs end up impacting negatively on profitability of the company.

4.4.3 Cane maintenance and profitability of Sonysugar Co. Ltd.

The third objective of the study focused on determining the effect of cane maintenance costs on profitability of Sonysugar Co. Ltd. Descriptive analysis was conducted to establish the views management employees hold regarding cane maintenance costs. Besides, thematic analysis was used to probe manager's views on impacts on company profitability that arise from cane maintenance.

4.4.3.1 Descriptive Analysis of Managements' Views on Cane Maintenance Costs.

A total of four items were used to explore respondents' views on cane maintenance costs in relation to company profitability. Respondents were asked to indicate their agreement or disagreement with the items chosen to reflect elements of cane maintenance. Responses were elicited on the 5-point likert scale used with other activities. Results in Table 4.9 show that the management employees were in agreement with all the items. More specifically, they agreed that cane maintenance cost results into high costs of cane (84%- cumulative); that cane maintenance costs result into high labour costs (77.3%- cumulative); that cane maintenance cost is a major cost component of production cost (86- cumulative); and that cane maintenance cost impacts on profitability (84.6%- cumulative).

Table 4.9: Management Employees’ Views on Cost of Cane Maintenance and Firm Profitability

Effects of cane maintenance costs	SD		D		N		A		SA	
	n	%	n	%	n	%	n	%	n	%
1. Cane maintenance cost results into high costs of cane	4	2.7	13	8.7	7	4.7	81	54.0	45	30.0
2. Cane maintenance cost results into high labour costs	6	4.0	13	8.7	15	10.0	83	55.3	33	22.0
3. Cane maintenance cost is a major cost component of the production cost	4	2.7	7	4.7	10	6.7	85	56.7	44	29.3
4. Cane maintenance cost impact on profitability	6	4.0	10	6.7	7	4.7	80	53.3	47	31.3

Source (Author 2016)

These results imply that according to the Sonysugar Company management employees, cane maintenance attracts high costs with regards to cost of cane labour and overall production which in essence impacts negatively on company profitability. The bottom line is that whereas the company endeavors to ensure that cane crop is maintained, it has to bear the high costs that eat into expected profits.

4.4.3.2 Thematic Analysis of Managements’ Views of Cane Maintenance Cost and Company Profitability.

Thematic analysis was used to examine recurrent themes among company managers with regards to perceived impacts of maintenance cost on company profitability. Respondents were asked to indicate how cane maintenance costs impact on the profitability of Sonysugar

Company. Results displayed in Table 4.10 reveal that dynamic macro-economic environment and increase in maintenance costs impact significantly on profitability of the company.

According to the interviewed managers, the dynamic macro-economic environment is ever changing and this causes an increase in cane maintenance needs. This comes with increased costs that eat up on the anticipated profits. Besides, they argued that the dynamism of the macro-economic environment has led to cut-throat competition as a result of importation of Sugar.

Increase in maintenance costs were further attributed to diverse activities that constitute proper maintenance of cane. Key among the activities responsible for high costs of cane maintenance were noted to include fertilizer and herbicide application, weeding, capping and Smut rouging, erection of fore breaks, stubble sharing and chopping, and supervision and pest control.

Table 4.10: Managers Perceived Effects of Cane Maintenance on Firm Profitability

Question	Impact	Explanation
How do cane maintenance costs impact on the economic profitability of Sony sugar Co. Ltd?	Dynamic macro-economic environment	<ul style="list-style-type: none"> • The ever changing environment leads to increase in cane maintenance needs • Cut-throat competition with imported sugar
	Increased maintenance costs	<ul style="list-style-type: none"> • Fertilizer and herbicide application • Weeding, trash-lining, inter-row cultivation • Capping, smut rouging

-
- Erection of fire breaks, stubble shaving, chopping
 - Supervision and pest control
-

Source (Author 2016)

Manager's interview responses were consistent with other management employees' descriptive analysis results in highlighting potential effects of cane maintenance costs on profitability of Sonysugar Company. This implies that indeed, maintenance cost is becoming a key nuisance in Sonysugar Company's efforts to remain profitable.

4.4.4 Cane Harvesting and Profitability of Sonysugar Co. Ltd.

The fourth objective of the current study sought to establish the effect of cane harvesting and transport costs on profitability of Sonysugar Co. Ltd. Both descriptive analysis of management employees and thematic analysis of selected managers' interview responses were conducted.

4.4.4.1 Descriptive, Analysis of Management Employees Views on Cane Harvesting and Company Profitability.

Cane harvesting impacts on profitability of Sonysugar Company were measured using four items on the management employee's questionnaire. Respondents were asked to indicate the extent to which they agreed or disagreed with the items. Responses were elicited on a five point scale ranging from 1-strongly disagree to 5-strongly agree. Results presented in Table 4.11 revealed that respondents tended to agree cumulatively with all items showing that they held the view that cane harvesting and its associated transportation has negative impacts on Sonysugar company profits. Cane harvesting tended to push cane costs high (82.6%); result into high labour costs (78.7%); form a major cost component of overall production cost (80%); and more importantly, they impact on profitability (80%).

Table 4.11: Management Employees Perceptions on Effects of Cane Harvesting and Transportation Costs

Cane harvesting effects	SD		D		N		A		SA	
	n	%	n	%	n	%	n	%	n	%
1. Harvesting and transport cost results into high costs of cane	8	5.3	11	7.3	7	4.7	83	55.3	41	27.3
2. Harvesting and transport cost results into high labour costs	8	5.3	15	10.0	9	6.0	81	54.0	37	24.7
3. Harvesting and transport cost is a major cost component of the production cost	7	4.7	5	3.3	7	4.7	83	55.3	48	32.0
4. Harvesting and transport cost impact on profitability	5	3.3	9	6.0	16	10.7	67	44.7	53	35.3

Source (Author 2016)

These results are consistent with the other results that portray the cost of extension services offered by Sonysugar Co. Ltd as having a negative impact on the company's profitability.

4.4.4.2 Thematic Analysis Managers Views on Cost of Harvesting and Transporting Cane and Company Profitability

Assessment of managers' views on the impact of cane harvesting and associated transport costs on company profitability was done via one item on the manager's interview schedule. Respondents were asked to enumerate how harvesting and transport cost impact on profitability of Sonysugar company. Results shown in Table 4.12 revealed four major impacts on Sonysugar Company's profitability accruing from harvesting and transportation costs.

Table 4.12: Manager’s Perceptions of Effects of Harvesting Costs on Firm Profitability

Question	Effect	Explanation
How do harvesting and subsequent transport costs affect profitability of Sonysugar Co. Ltd?	High labour costs	<ul style="list-style-type: none"> • Many workers have to be contracted • Meet machinery expenses
	Fleet Maintenance and Depreciation costs	<ul style="list-style-type: none"> • Tractors and other implements are optimally used • High maintenance costs and rate of depreciation forms a major part of statement of comprehensive income
	Bad debts	<ul style="list-style-type: none"> • Some farmers default on payment harvesting and transport services • Non recovery of debts forcing company to write them off
	Constrained working capital	<ul style="list-style-type: none"> • Attention is fully engaged on harvesting and transport • Focus is on harvesting and transport rather than improving milling capacity

Source (Author 2016)

First, it was revealed that harvesting and transport attracts high labour costs since a number of workforce are contracted for these activities which are highly manual. The second impact emerging is that of fleet maintenance and depreciation expenses. It was noted that maintenance

and depreciation of the large fleet of company machinery used for harvesting and transport form a significant proportion of the company's statement of comprehensive income. The third impact that emerged relates to bad debts. Just like in the case of land preparation, it was reported that due to low recovery rate, some of the costs for harvesting owed by farmers are often written off as bad debts. Finally, it emerged that harvesting significantly constrains the company's working capital. Focus is mainly on harvesting activities rather than on improvement of the nulling capacity.

4.5 Assessment of Sonysugar Company's Prevailing Levels of Profitability

Profitability of Sonysugar Co. Ltd was assessed through two perspectives. First, profitability was examined through non-financial indicators such as bonuses and dividends. Secondly, the company's audited accounts for the year 2014- 2015 were examined.

Four items were used to assess non-financial performance of the company. Respondents were asked to indicate their agreement to the four items. Responses were elicited on a 5-point likert scale (1-strongly disagree, 2-disagree, 3-neutral, 4-agree, and 5-strongly agree). Results presented in Table 4.13 suggest that the company does not seem to be in profits seeing that respondents disagreed with all items. Clearly, the company seems not to have been able to give bonuses to employees in the past financial year (93.3% strong disagreement to receiving bonuses). There were also strong disagreements that the company was able to give dividends to its ordinary shareholders (85.3%). It was also apparent that the company's financial incentives are affected by increasing cost of extension services, 70% of respondents strongly disagreed with the notion that the company's non-financial incentives remain unaffected by extension service costs.

Table 4.13: Management Employees’ Views on Sonysugar Company’s Non-Financial Performance

Non-financial performance indicators	SD		D		N	
	n	%	n	%	n	%
1. The company paid bonus to its employees in the last financial year from its profits.	140	93.3	3	2.0	7	4.7
2. The company paid dividends to its ordinary shareholders in the last financial year from its profits	128	85.3	20	13.3	2	1.3
3. The company’s development index significantly increased and majorly financed by retained earnings	97	64.7	36	24.0	17	11.3
4. The company’s non-financial incentives remain unaffected by increasing cost of extension services	105	70.0	36	24.0	9	6.0

Source (Author 2016)

Results emerging from the management employees who tended to show that the company was not operating profitably were supported by audited accounts for the year 2014–2015 presented in table 4.14. The accounts posted a loss of Kshs. 1,289, 175 in the year 2015.

4.6 Hypothesis Testing Results

Four hypotheses were formulated to test the effect of cost of extension services on profitability of sugar millers with Sonysugar Co. Ltd in mind. The multiple regressions model was used to test the hypotheses by assuming that regression coefficients attributed to the identified extension services were not zero and therefore a function of the form $Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon$ could be used to model the relationship between profitability and cost of extension services.

An examination of correlations revealed that there were significant correlations among the various extension services costs as well as between the extension services costs and profitability of the company (Table 4.16). This clearly paved way for use of regression to establish causation.

Table 4.16 Correlations Between Extension Services and Firm Profitability

	1	2	3	4	5
1.Land Preparation costs	1				
2.Cane supply costs	-.745**	1			
3.Cane maintenance costs	-.726**	.972**	1		
4.Harvesting costs	.708**	-.523**	-.548**	1	
5.Firm profitability	-.905**	.585**	.591**	-.736**	1

Source (Author 2016)

** . Correlation is significant at the 0.01 level (2-tailed).

The multiple regressions summary presented in Table 4.17 confirmed that costs of the four extension services accounted for 85.8% of the variance in firm profitability (R square = .858). This implies that while other factors could influence firm profitability in relation to cane farming, cost of extension services offered to farmers contributes immensely to eventual company profit levels.

Table 4.17: Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.926 ^a	.858	.854	.18276	2.188

Source (Author 2016)

a. Predictors: (Constant), Land Preparation cost, Harvesting cost, Cane maintenance cost, Cane supply cost

b. Dependent Variable: Firm profitability

H₀₁: Land Preparation cost has no significant effect on profitability of Sonysugar Co. Ltd.

Hypothesis 1 postulated a lack of significant effect of land preparation costs on profitability of the company. The regression coefficient attributed to land preparation costs (Table 4.18) revealed that these costs negatively and significantly affect profitability of the company

($\beta = -0.934$, $p < 0.05$). Indeed the t-value of -16.340 indicates that land preparation costs have the largest effect on profitability of the company when compared to the other extension services.

Besides, the beta value shows that in the event that the other extension services costs were to be held constant, a unit increase in standard deviation of land preparation costs would result in a 0.934 standard deviations decrease in firm profitability.

Table 4.18: Regression Coefficients^a

Model	Unstandardized		Standardized		Collinearity		
	Coefficients		Coefficients		Statistics		
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1 (Constant)	3.777	.179		21.119	.000		
Seed cane supply cost	-.224	.068	-.467	-3.278	.001	.048	2.680
Cane maintenance cost	.145	.073	.275	1.989	.049	.051	9.513
Harvesting cost	-.070	.019	-.167	-3.659	.000	.470	2.126
Land Preparation cost	-.491	.030	-.934	-16.340	.000	.300	3.338

a. Dependent Variable: Firm profitability

Source (Author 2016)

The hypothesis that land preparation costs have no significant effect on profitability of Sonysugar Company was therefore rejected. The implication then is that land preparation costs form a major portion of extension costs that eat into Sonysugar Company's profits.

These findings are consistent with descriptive and thematic findings that indicated that land preparation comes with increased labour, depreciation of machinery used, and increase in supervisors and extension officers. This often constrains working capital and brings down expected profits.

The findings in this study that land preparation costs negatively affect profitability are not surprising considering that various activities are undertaken during this exercise. According to KASREF (2009), land preparation entails surveying, leveling, ploughing, harrowing, furrowing among other activities. All these activities require intensive labour which translates into relatively high costs. The findings further support findings by Michael *et al* (2000) and McGarry *et al* (2000) that land preparation for planting of Sugar Cane is a major cost of production.

The bottom line is that despite the benefits land preparation extension services offer to cane farmers, it may not be a viable option for millers such as Sonysugar Co. Ltd who rely mainly on small scale farmers with small acreage. The preparation costs often exceed turnover leading to losses rather than profitability as expected.

H₀₂: Seed cane supply cost has no significant effect on profitability of Sonysugar Co. Ltd.

Hypothesis 2 posited that profitability of Sonysugar Co. Ltd was independent of seed cane supply costs. The regression coefficient for seed cane supply costs shown in Table 4.18 revealed that seed cane supply costs affect profitability in a negative and significant way ($\beta = -0.467$, $p < 0.05$). The implication is that the hypothesis that seed cane supply costs have no significant effect on profitability of Sonysugar Co. Ltd could not be sustained. This means that cane seed supply does stretch the company's finances leading to decline in profitability.

These results reflect results found from descriptive and thematic analyses showing that cane seed supply costs have a negative impact on overall profitability of the company by way of increased labour costs, creation of cane seed collection centers which attract leasing costs among others.

Besides, tractors and other machinery involved in transportation of cane seed depreciate and accrue depreciation costs.

Findings in the current study pertaining to seed cane supply costs and company profitability reflect findings existing in literature (KASREF, 2008, Kenya Sugar Board, 2010). These findings point to confusion surrounding seed cane supply due to lack of policy guidelines on seed cane production. In the event of lack of such guidelines, seed cane supply faces challenges in terms of inadequacy of materials, erection of seed cane treatment plants among others. Wellington et al clearly highlights seed cane planting and development in out grower farms. The documented costs of between Kshs. 33,667/Ha to Kshs. 37,704/Ha for PC are by no means cheap.

The finding that seed cane supply costs impact negatively on profitability of Sonysugar Co. Ltd could therefore be expected in a zone where a lot must be spent on ensuring quality and quantity are met through seed cane treatment to mitigate disease and control pests.

H₀₃: Cane maintenance cost has no significant effect on profitability of Sonysugar Co. Ltd.

Hypothesis 3 postulated a lack of significant effect of cane maintenance cost on profitability of Sonysugar Company. Results of the regression analysis reported in Table 4.18 show that cane maintenance cost was a positive and significant predictor of firm profitability ($\beta = 0.275$, $p < 0.05$). Consequently, an increase in cane maintenance cost is likely to lead to increase in profitability. The hypothesis that cane maintenance has no significant effect on profitability was therefore rejected.

These findings were indeed expected since cane maintenance ensures good crop that realizes high returns. These findings however contradict findings from descriptive and thematic analyses of

management employees' responses. According to these respondents, cane maintenance is a function of several activities that require high costs which tend to reduce profit. The contradiction could however be explained by the nature of the farm sizes owned by most farmers. Indeed, cane maintenance over large farm sizes end up translating into high turnover. However, most farmers in the zone being small scale may not experience the positive impacts of cane maintenance.

The regression findings showing a positive effect of cane maintenance costs on profitability are consistent with findings showing that through fertilizer and herbicide application, weeding, trash-lining, inter row cultivation among others which constitute cane maintenance, farmers are able to profitably increase the ration of crops and save replanting costs(KASREF, 2008). Wellington *et al* (2010) concurs with these views while noting that most millers supply fertilizers to farmers on credit with varying interest rates across the entire industry and recover the same from cane proceeds. The idea here is to support farmers to increase cane maintenance cost with a view to improving proceeds.

The descriptive and thematic analysis results showing a negative impact of cane maintenance cost on company profitability could therefore be explained by fertilizer diversion to other uses other than intended purpose. Besides, fertilizer application could also be poor. A key explanation could however be that some farmers may not get enough proceeds to offset the credited fertilizer leading to bad debts which then bring down profitability.

H₀₄: Cane harvesting cost has no significant effect on Profitability of Sonysugar Co. Ltd.

Hypothesis 4 posited that profitability of Sonysugar Co. Ltd is independent of cane harvesting cost. Results of regression analysis revealed that cane harvesting negatively and significantly affects firm profitability ($\beta = -0.167$, $p < 0.05$). Consequently, the postulation was rejected. The

implication then is that cane harvesting and transport as an extension service offered to farmers by Sonysugar Co. Ltd may be one of the factors affecting the company's profitability. The regression coefficient indicates that a unit standard deviation increase in harvesting costs brings down profitability by 0.167 standard deviations.

These results tally with descriptive and thematic results that indicated on negative effect of harvesting costs on firm profitability. It was actually felt that harvesting requires intensive labour in terms of manpower and machinery. This therefore leads to increased labour costs and machinery depreciation costs. Besides, focus on harvesting constrains the company's working capital and sways focus from the core business of milling.

These findings reflect the findings by KASREF (2008), which indicate that sugar cane harvesting remains the largest consumer of manual labour in the cane production chain. Furthermore, Wellington et al observes that cane harvesting costs are further increased due to loading and the type of machinery involved. Such machinery requires to be maintained in working condition and this accrues costs.

The findings also support findings by Girei *et al*, (2013) that harvested cane require transportation and thus occupies 35% of total sugar cane production cost. This then confirms that Sonysugar company's profits are greatly affected by harvesting since the company sometimes has to transport cane over a very big distance.

CHAPTER FIVE

SUMMARY OF THE FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of the findings, conclusions and recommendations of the study. The first section provides a summary of the study findings in line with the research objectives. The second section presents conclusions drawn from the findings and the final section provides recommendations both for practice and for future research.

5.2 Summary of Study Findings

This section provides a summary of the study findings in line with the objectives

5.2.1 The Effect of Land Preparation Costs on Profitability of Sonysugar Co. Ltd

Research objective one sought to examine the effect of land preparation costs on the profitability of Sonysugar co. Ltd. Using descriptive and thematic analyses to examine management employees' responses, the study established that land preparation comes with increased labour; depreciation of machinery used, and increases in supervisors and extension officers. This often constrains working capital and brings down expected profits. The regression analysis further revealed that land preparation costs negatively and significantly affect profitability of the company ($\beta = -0.934$, $p < 0.05$) (page 43; table 4.18). This shows that the high costs associated with land preparation could be contributing to the loss in profits of the company

5.2.2 The Effect of Seed Cane Supply Costs on Profitability of Sonysugar Co. Ltd.

The second objective of the current study focused on establishing the effect of seed cane supply costs on the profitability of Sonysugar co. Ltd. Using descriptive and thematic analyses, the study revealed that that cane seed supply costs have a negative impact on overall profitability of the company by way of increased labour costs, creation of cane seed collection centers which attract leasing costs among others. Besides, tractors and other machinery involved in transportation of cane seed depreciate and accrue depreciation costs.

Using multiple regressions to test the hypothesis that ‘Seed cane supply cost has no significant effect on profitability of Sonysugar Co. Ltd.’, the study revealed that seed cane supply costs affect profitability in a negative and significant way ($\beta = -0.467$, $p < 0.05$) (page 43; table 4.18). More importantly, the study revealed that an increase in 1 standard deviation in seed cane supply costs has potential to reduce the company’s profitability by 0.467 standard deviations.

5.2.3 The Effect of Cane Maintenance Costs on Profitability of Sonysugar Co. Ltd.

The third objective of the study focused on determining the effect of cane maintenance costs on profitability of Sonysugar Co. Ltd. Descriptive and thematic analyses revealed that cane maintenance is a function of several activities that require high costs which tend to reduce profit. The nature of the farm sizes owned by most farmers was small and could not enable cane farmers to experience the positive impacts of cane maintenance. Further, it was established that cane maintenance cost has a positive and significant effect on profitability of Sonysugar company ($\beta = 0.275$, $p < 0.05$) (page 43; table 4.18). Consequently, an increase in cane maintenance cost was likely to lead to increase in profitability.

5.2.4 The Effect of Cane Harvesting and Transportation on Profitability of Sonysugar Co. Ltd.

The fourth objective of the current study sought to establish the effect of cane harvesting and transport costs on profitability of Sonysugar Co. Ltd. The descriptive and thematic analyses revealed that there are four major impacts on Sonysugar Company's profitability accruing from harvesting and transportation costs. The study established that harvesting attracts high labour costs since a number of workforce have to be contracted for these activities which are manual. The study further established that depreciation and machinery maintenance costs of the large fleet of company machinery used for harvesting and transport forms a significant proportion of the company's statement of comprehensive income. Besides, the study found out that harvesting significantly constrains the company's working capital since focus is diverted to harvesting activities at the expense of improvement of the milling capacity.

The multiple regressions analysis indicated that that cane harvesting negatively and significantly affects firm profitability ($\beta = -0.167$, $p < 0.05$) (page 43; table 4.18). This implies that a change of 1 standard deviation in harvesting activities has the potential of reducing Sonysugar Company's profitability by 0.167 standard deviations.

5.3 Conclusions

In view of the findings summarized in the sections above, cost of extension services Sonysugar Company offers to cane farmers is having a negative effect on its profitability, this is arrived at as a result of the following conclusions based on the stated objectives.

First, the study concludes that land preparation services form a major portion of the extension services offered and stretches the company's expenditure which is directed towards meeting

labour, fleet maintenance and depreciation of farm machinery. Focus on land preparation constraints the company's working capital and jeopardizes the core business of milling. These costs are contributing to the apparent decline in profitability of the company.

Second, seed cane supply as an extension service negatively and significantly affects profitability of the company. This is despite the company's efforts to improve cane yield by providing extension services in terms of cane seed supply. Activities involved in supplying seed cane such as cutting, loading and transportation of cane seed incur expenses that cut down on the company's turn over and subsequent profits. Supply of seed cane therefore though appearing to be a good extension service in ensuring uniformity in cane variety may be however, resulting in company losses.

Third, cane maintenance as an extension service offered to cane farmers has a positive and significant effect on company profitability. This service however attracts high costs with regards to cost of cane, labour and overall production and this in essence leads to a reduction in company profitability. The dynamic macro-economic environment results in increase in cane maintenance needs, this comes with increased sugar production costs and cut throat competition with sugar importers and this leads to decline in profitability.

Fourth, provision of harvesting services, though necessary affects Company profitability negatively and significantly. Man power and machinery used in harvesting push labour and machinery depreciation and maintenance costs high and this lowers the company's expected turnover and projected profits. Occasionally cane farmers default on paying for services rendered making the company to write them off as bad debts. Focus on harvesting diverts attention from the core business of milling and constraints working capital.

5.4 Recommendations for Practice

On the basis of the conclusions made above, the following recommendations were made

- i. Emphasis should be made to review land preparation extension services so that while farmers continue to get the best out of land preparation, the company is also able to operate profitably. Focus should not be much on how to help farmers to prepare land but rather on the company's core function of improving milling capacity. The company's working capital should not be constrained by subsidiary activities such as land preparation activities. Besides, there is need for the company to identify new ways that can be used to claim money owed to it by cane farmers so as to eliminate the issue of bad debts.
- ii. Seed cane supply services though designed to get the best variety impacts negatively on profitability. Consequently, the company should rethink its strategies on seed cane supply. This could possibly be achieved through outsourcing services where the company delinks itself totally from seed cane supply to concentrate on milling.
- iii. There is need for the company to cut costs on cane maintenance. While appreciating that cane maintenance is central to high returns, there is no denying that costs of farm inputs are ever increasing and therefore continued maintenance of cane may not be viable. The company may for instance leave autonomy of cane maintenance to farmers and raise pricing per tonnage. This will enable the company to focus more on expanding milling capacity.
- iv. Harvesting and transport as an extension service should be left to farmers and this factored in pricing policies. In essence, this will check the rising labour costs and machinery maintenance and depreciation costs and therefore an eventual increase in profitability.

5.5 Recommendations for Further Research

1. In this study multiple regression analysis was performed. While multiple regression analysis examines the predictive nature of the Independent variables it does not explain the underlying factor structure of the constructs. The researcher therefore recommends that future related research use the SEM (structural equations model) approach. The advantage of SEM is that it considers both the measurement model as well as the structural model and is able to simultaneously examine indicators of the extension services used and also review interrelationships among them.
2. The researcher recognizes that the results may have been influenced by the researcher's attachment to the company thereby raising issues of external validity. The researcher therefore recommends that similar studies be replicated in other milling companies in other cane growing zones.
3. The researcher recommends that a similar study should be conducted in another sugar milling company in a different sugar belt to minimize generalization bias

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APPENDIX 1
QUESTIONNAIRE

This questionnaire is given to obtain information for my research project in partial fulfillment of Master degree in Business Management of Rongo University.

INSTRUCTIONS: Please provide the following information frankly and honestly. All information received will be treated confidentially and used for academic purposes only. (Please tick where appropriate)

SECTION A: Personal Details

1. Please indicate your gender?

(a) Male

(b) Female

2. Please indicate your department?

(a) Finance

(b) Agriculture

3. Please indicate your age?

(a) 0 – 20 years

(b) 21 – 30 years

(c) 31 – 40 years

(d) Above 40 years

4. Please indicate your highest level of education?

(a) Primary Level

- (b) Secondary Level
- (c) College Level
- (d) University Level
- (e) Any other, specify.....

5. For how long have you worked in this organization?

- (1) 0-5 Years
- (2) 6-10 years
- (3) 11-15 years
- (4) Above 15 years

6. What is your designation?

- (b) Head of Department
- (c) Manager
- (d) Supervisor

Section B: land preparation costs;

To what extent do you agree with the following statements?

Question Category	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
land preparation cost results into high costs of cane					
land preparation cost results into high costs of labour					
land preparation cost a major cost component of the production cost					
land preparation cost impact on profitability					

Section C: Seed cane supply costs;

To what extent do you agree with the following statements?

Question Category	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
seed cane supply cost results into high costs of cane					
cost of seed cane supply results into high labour costs					

seed cane supply cost a major cost component of the production cost					
seed cane supply cost impact on profitability					

Section C: Cane maintenance costs

To what extent do you agree with the following statements:-

Question Category	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
cane maintenance cost results into high costs of cane					
cane maintenance cost results into high labour costs					
cane maintenance cost a major cost component of the production cost					
cane maintenance cost impact on profitability					

Section C; Harvesting and transport costs

To what extent do you agree with the following statements:-

Question Category	Strongly disagree	Disagre	Neutral	Agree	Strongly agree
harvesting and transport cost results into high costs of cane					
harvesting and transport cost results into high labour costs					
harvesting and transport cost a major cost component of the production cost					
harvesting and transport cost impact on profitability					

THANK YOU FOR YOUR COOPERATION

APPENDIX 2

INTERVIEW SCHEDULE

This questionnaire is given to obtain information for my research project in partial fulfillment of Master degree in Business Management of Rongo University.

INSTRUCTIONS: Please provide the following information frankly and honestly. All information received will be treated confidentially and used for academic purposes only. (Please tick where appropriate)

SECTION A: Personal Details

3. Please indicate your gender?

(a) Male

(b) Female

4. Please indicate your department?

(a) Finance

(b) Agriculture

5. For how long have you worked in this organization?

(1) 0-5 Years

(2) 6-10 years

(3) 11-15 years

(4) Above 15 years

6. What is your designation?

(b) Head of Department

(c) Manager

(d) Supervisor

Section B: land preparation costs;

How does land preparation costs impact on the profitability of Sonysugar Co. Ltd?

Section C: Seed cane supply costs;

How does seed cane supply costs impact on the profitability of Sonysugar Co. Ltd?

Section D: Cane maintenance costs

How does cane maintenance costs impact on the profitability of Sonysugar Co. Ltd?

Section E; Harvesting and transport costs

How does harvesting and transport costs impact on the profitability of Sonysugar Co. Ltd?

Section F; PROFITABILITY

What is the profitability trend of Sonysugar and those of other government owned millers in recent years?

THANK YOU FOR YOUR COOPERATION

APPENDIX 3
SOUTH NYANZA SUGAR COMPANY LIMITED
Statement of comprehensive income
Year ended 30 June

	Notes	2015	2014
		Shs'000	Shs'000
Gross sales		4,460,513	5,343,801
Indirect taxes:			
- Value Added Tax (VAT)		(615,243)	(737,076)
- Sugar Development Levy (SDL)		(147,895)	(177,182)
		<hr/>	<hr/>
Revenue	5	3,697,374	4,429,543
Gains arising from changes in fair value less costs to			
sell of biological assets	13	(3,474)	65,715
		<hr/>	<hr/>
		3,693,900	4,495,258
Cost of sales	6	(3,562,697)	(3,744,803)
		<hr/>	<hr/>
Gross profit		131,204	750,455
Other income	7	42,883	45,651
Distribution costs		(48,964)	(31,214)
Administrative expenses		(1,296,915)	(1,208,360)
		<hr/>	<hr/>

Operating loss		(1,171,791)	(443,468)
Finance income		-	-
Finance cost	8	(117,384)	(85,549)
Loss before income tax		(1,289,175)	(529,017)
Income tax credit	11		119,600
Loss for the year		(1,289,175)	(409,417)
Other comprehensive income, net of tax:		2,735	(27,902)
Total comprehensive loss for the year		(1,286,440)	(437,319)

Source: Sonysugar (2016)

Appendix 4 Research Permits

**THIS IS TO CERTIFY THAT:
MR. ELLY OMONDI ODHIAMBO
of RONGO UNIVERSITY, 107-40405 SARE
AWENDO, has been permitted to conduct
research in Migori County**

**Permit No : NACOSTI/P/17/80838/15443
Date Of Issue : 14th February, 2017
Fee Received :Ksh 1000**

**on the topic: COST OF EXTENSION
SERVICES AND ITS EFFECT ON
PROFITABILITY OF SUGAR MILLERS, A
CASE STUDY OF SOUTH NYANZA SUGAR
COMPANY, KENYA.**

**for the period ending:
10th February, 2018**



[Handwritten Signature]

**Applicant's
Signature**

[Handwritten Signature]

**Director General
National Commission for Science,
Technology & Innovation**

CONDITIONS

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



REPUBLIC OF KENYA



**National Commission for Science,
Technology and Innovation**

**RESEACH CLEARANCE
PERMIT**

Serial No.A 17813

CONDITIONS; see back page



(A Constituent College of Moi University)

**OFFICE OF THE HEAD,
DEPARTMENT OF BUSINESS STUDIES**

Tel: 0770308260
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Web: www.ruc.ac.ke
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P. O.Box 103
RONGO - 40404
KENYA

Ref: RUC/SBHR/DBS/REC/016/001

Date: 5th August, 2016

TO WHOM IT MAY CONCERN

This is to inform you that **ELLY ODHIAMBO REG. NO. MBM/6016/13** is a bonafide student of Rongo University College, pursuing Masters in Business Management. Currently, he is conducting research on '**Cost of Extension Services and its Effects on Profitability of Sugar Millers. A Case Study of South Nyanza Sugar Company, Kenya**'.

His proposal was approved and he is required to proceed to the field for data collection. Any assistance accorded to him will be highly appreciated.

For more information kindly contact the undersigned.

Thank you.

Prof. Richard Nyangosi, PhD, MAAIR (USA)
HOD, Business Studies



SONYSUGAR
Simply the Sweetest

South Nyanza Sugar Company Limited

Head Office:

Kisii-Migori Highway, Sare-Awendo
P.O. Box 107-40405 Sare-Awendo, Migori County
Tel: +254 (020) 802 9201/2/3,
+254 722 205 345/6/7,
Cell: +254 733 333 148/9/0
Email: administration@sonysugar.co.ke
Website: www.sonysugar.co.ke

SNSC/GAD/MD/725/16

8th August 2016

Elly O. Odhiambo
South Nyanza Sugar Company Limited
P.O Box 107-40405
Sare-Awendo

Dear *Elly,*

PERMISSION TO COLLECT DATA IN THE COMPANY FOR ACADEMICS

Reference is made to your letter dated 8th August 2016 on the above subject.

I highly appreciate your decision to progress with your studies which we believe will enhance your performance and consequently add great value to the Company.

I am pleased to inform you that I have honored your request to collect data in the Company for the academic purposes.

Wishing you success in your studies.

Yours *Sincerely,*
For: South Nyanza Sugar Company Limited

Jane P. Odhiambo
Managing Director