THE RELATIONSHIP BETWEEN WORKING CAPITAL MANAGEMENT PRACTICES AND FINANCIAL PERFORMANCE OF AGRICULTURAL COMPANIES LISTED AT THE NAIROBI SECURITIES EXCHANGE

ANNE WAITHAKA

REG.NO: D61/62888/2010

A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION, UNIVERSTITY OF NAIROBI

OCTOBER 2012

DECLARATION

This Research Project is my original work and has not been submitted for examination in any other university.

Signature:…………………………….   Date:……………….

ANNE WAITHAKA

D61/62888/2010

This Research Project has been submitted for examination with my approval as a university supervisor.

Signature:…………………………….   Date:…………………

MR. MIRIE MWANGI

ACKNOWLEDGEMENT

I thank God for giving me the wisdom and courage and for guiding me throughout my life for without Him I would not have come this far. I also owe great thanks to the Department of Accounting and Finance for great atmosphere, competent personnel and interesting courses during my studies.

Special thanks goes to my supervisor Mr. Mirie Mwangi, for providing unlimited, invaluable and active guidance throughout the study which matter enabled me to successfully complete this research project.

I also thank my family for their valuable time and support during the period of this project. It is my hope that their sacrifice has finally paid off.

Finally, I owe my gratitude to a number of people who in one way or another contributed towards completion of this project especially my fellow colleagues at work and students.

DEDICATION

This work is dedicated to my family

ABSTRACT

Working capital is one of the vital decisions of financial management function. Profitability and working capital relationship is frequently emphasized for deciding on the level of investment in working capital. This study examined the relationship between working capital management and financial performance of agricultural entities in Kenya.

The study adopted a Correlational or Prospective Research Design which attempted to explore the relationship between working capital management and financial performance to make predictions with the use of two or more variables for each. The target population consisted of the 7 agricultural companies listed at the Nairobi Securities Exchange. The data was analyzed using both descriptive and inferential statistics. Consequently, the findings of the study were that, financial performance was positively related to efficiency of cash management (ECM), efficiency of receivables management (ERM) and efficiency of inventory management (EIM) at 0.01 significance level. The coefficient of determination (R^2) indicated that 59.7% of the variations in financial performance (FP) could be explained by changes in ECM, ERM and EIM.

Agricultural companies in Kenya wishing to revamp their companies and improve profitability should thus focus on the area of efficient working capital management. It is without a doubt that the efficiency in working capital management practices as measured by efficiency in cash management, efficiency in receivables management and efficiency in inventory management has an influence on the growth rate of businesses' sales, market share, profits and total assets and consequently plays a huge role in the financial performance of a company.

LIST OF TABLES

ABBREVIATIONS

AFC	Agricultural Finance Corporation
ACP	Average Collection Period
APP	Average Payment Period
CATA	Current Assets to Total Assets Ratio
CDA	Cotton Development Authority
CCC	Cash Conversion Cycle
CR	Credit Ratio
COMESA	Common Market for Eastern and Southern African States
CS	Natural Logarithm of Sales
DER	Debt Ratio
DI	Inventory Days
ECM	Efficiency of Cash Management
ERM	Efficiency of Receivables Management
EIM	Efficiency of Inventory Management
FFAR	Fixed Financial Assets Ratio
FEM	Fixed Effects Model
FP	Financial Performance
GDP	Gross Domestic Product
ICP	Inventory Collection Period
ICT	Information Communications Technology
KARI	Kenya Agricultural Research Institute
KPHIS	Kenya Plant Health Inspectorate Service
LEV	Leverage Ratio
MFIs	Micro Finance Institutions
NGOs	Non Governmental Organizations
NOP	Net Operating Profit
NSE	Nairobi Securities Exchange
OLS	Ordinary Least Squares Regression

OPM	Operating Profit Margin
PWC	PricewaterHouse Coopers
REM	Random Effect Model
ROTA	Return on Total Assets
ROE	Return on Equity
SSEs	Small Scale Enterprises
WC	Working Capital
WCM	Working Capital Management

TABLE OF CONTENTS

CHAPTER ONE

INTRODUCTION

1.1. Background to the Study

1.1.1 Working Capital Management

Working capital management is considered a very important element in analyzing an organizations' performance. According to Brigham & Houston (2007) Working capital (abbreviated WC) is a financial metric which represents operating liquidity available to a business, organization, or other entity, including governmental entity. Working capital management, a managerial accounting strategy focuses on maintaining efficient levels of components of working capital, current assets and current liabilities, in respect to each other. Efficient management of working capital ensures a company has sufficient cash flow to meet its short-term debt obligations and operating expenses. Implementing an effective working capital management system is an excellent way for agricultural companies to improve their earnings. While a company's prime objective is to maximize profitability and increase shareholders wealth, there is need to obtain a balance between liquidity and profitability in conducting the day to day operations to ensure its smooth running and meets its obligation of a company (Eljelly, 2004). Effective working capital management is vital in ensuring sustainable growth and development of the agricultural sector in Kenya which will in turn boost entity's profitability.

Working capital management is vital as it directly affects the liquidity, profitability and growth of a firm and is important to the financial health of firms as the amounts invested in working capital are often high in proportion to the total assets employed (Atrill, 2006). It involves the planning and controlling of current assets and liabilities in a manner that eliminates the risk of inability to meet short-term obligations and avoid

1

excessive investments in these assets (Lamberson, 1995). This management of short-term assets is as important as the management of long-term financial assets, since it directly contributes to the maximization of a business's profitability, liquidity and total performance. Consequently, businesses can minimize risk and improve the overall performance by understanding the role and drivers of working capital (Lamberson, 1995). It is important that a firm preserves its liquidity to enable it meet its short term obligations when due. Increasing profits at the cost of liquidity exposes a company to serious problems like insolvency and bankruptcy. Inadequate working capital leads the company to bankruptcy. On the other hand, too much working capital results in wasting cash and ultimately the decrease in profitability (Chakraborty, 2008). Liquidity is thus very important for a company too. A tradeoff between these two objectives of the firms should be obtained so as to ensure that one objective is not met at cost of the other for both have their importance. If a firm does not care about profit, it cannot survive for a longer period. On the other hand, if it does not care about liquidity, it faces the problem of insolvency or bankruptcy. For these reasons working capital management should be given proper consideration and this will ultimately affect the profitability of the firm.

Working Capital Management is a simple concept but yet difficult in implementation due to the complexities surrounding agricultural companies in Kenya. The global nature of major businesses today and the diversity of systems, processes, organizations and measures of performance have resulted in many companies holding excessive levels of working capital. Free-cash-flow is a key influencer of shareholder value, hence companies, particularly in the current difficult economic times, are targeting working capital in order to unlock cash invested in the business and invest in areas of higher value added returns (Chakraborty, 2008).

2

The need for working capital to run the day-to-day business activities cannot be overemphasized. There is no entity in Kenya that does not require working capital. However, entities differ in their requirements of working capital. In endeavoring to maximize shareholders wealth, entities need sufficient earnings from their operations. Earning a steady amount of profit requires successful sales activity. The entities have to invest enough of available funds in current assets for the success of the sales activity. Current assets are required because sales do not get converted into cash instantaneously as there is always a time lag involved in the conversion of sales into cash. Thus, there is always a time gap between the sale of goods and receipt of cash (Satyanarayana, 2011).

The significance of working capital is felt for this period in order to sustain the level of sales activity. The time lag varies with the nature of industry. From this therefore its evident that decisions on working capital affect both liquidity and profitability. Excess of investments in working capital may result in low profitability and lower investment may result in poor liquidity. As mentioned above, it's imperative that management finds a trade-off between liquidity and profitability to maximize shareholders wealth. To understand the impact of working capital on profitability, one needs to establish the relationship between the two (Satyanarayana, 2011).

1.1.2 Financial Performance

Financial Performance on the other hand is a measure of the results of a firm's policies and operations in monetary terms. These results are reflected in the firm's return on investment, return on assets, shareholder value, accounting profitability and its components etc. Financial Performance of an entity refers to the subjective measure of how well a firm can use assets from its primary mode of business and generate revenues.

This term is also used as a general measure of a firm's overall financial health over a given period of time, and can be used to compare similar firms across the same industry or to compare industries or sectors in aggregation. There are many different ways to measure financial performance, but all measures should be taken in aggregation. One way of managers controlling the financial affairs of an organization is the use of ratios. Ratios are simply relationships between two financial balances or financial calculations which establish our references so that we can understand how well an entity is performing financially. Ratios also extend the traditional way of measuring financial performance; i.e. by relying on financial statements (Saliha, 2011).

1.1.3 Relationship between Financial Performance and WCM Practices

Theoretically the level of investment in current assets has a bearing on the profitability of the firm. Excess of investment in working capital casts a negative impact on the profitability of a firm and positive impact on the liquidity. Studies on the association of level of investment in current assets and the profitability have always claimed inverse relationship in the research on the degree of association both at micro and macro levels. For most agricultural companies, the current assets i.e. inventory, cash, debtors account for over half of the total assets. Firms with too few current assets may incur shortages and difficulties in maintaining smooth operations (Horne and Wachowicz, 2000). Efficient working capital management involves planning and controlling current assets and current liabilities in a manner that eliminates the risk of inability to meet short term obligations due on one hand and avoiding excessive investment in these assets on the other hand (Eljelly, 2004). Agricultural firms need to understand the association between these two variables to arrive at optimal financial decisions. Though theories exist on the topic, empirical methods are inadequately focused in arriving at conclusions. Use of

statistical methods in understanding the relationship is systematic and scientific, which may provide better insight for decision making (Chakraborty, 2008).

Agriculture in developing countries, all over the world, is experiencing profound, fast-moving changes. In Kenya, an average of 60% of the population is dependent on agriculture. Globalization, although advancing more rapidly in some countries than in others, has hastened the transition from traditional, low-productivity agriculture toward a modern, high-productivity agricultural sector. The resulting processes of structural change entail profound consequences for employment, income generation, risk management, poverty alleviation, and the well-being of rural households in these countries PWC (2011). Given the continual process improvements required to meet global standards and market demand, many value chain actors are left in a "cash-crunch" during production or trade cycles; this is where appropriate financial service mechanisms are most helpful. Faced with this situation, many actors in a value chain resort to informal financial institutions (money lenders, feudal landlords) and trade brackets for financing.

1.1.4 Determinants of Financial Performance

With specific reference to business policy literature, there are two major streams of research on the determinants of firm performance. One is based primarily upon an economic tradition, emphasizing the Importance of external market factors in determining firm success. The other line of research builds on the behavioral and sociological paradigm and sees organizational factors and their fit with the environment as the major determinants of success. Within this school of thought, little direct attention

is given to the firm's competitive position. Similarly, economics traditionally has disregarded factors internal to the firm.

1.1.5 Agricultural Sector in Kenya

The agricultural sector in Kenya contributes about 30 per cent of the Gross Domestic Product (GDP) and accounts for 80 per cent of national employment, mainly in the rural areas. This sector is regulated by the Ministry of Agriculture with the help of other autonomous bodies in charge of different sub sectors of the industry. Examples of these bodies include: The Agricultural Finance Corporation(AFC), Kenya Agricultural Research Institute (KARI), Kenya Plant Health Inspectorate Service (KPHIS), Cotton Development Authority (CDA) e.t.c. Agriculture has, formed the backbone of Kenya's economy for many years. The sector contributes more than 60 per cent of the total export earnings and about 45 per cent of government revenue, while providing for most of the country's food requirements PWC (2011). The sector is estimated to have a further indirect contribution of nearly 27 per cent of GDP through linkages with manufacturing, distribution, and other service related sectors. Kenya's agricultural sector directly influences overall economic performance through its contribution to GDP. Periods of high economic growth rates have been synonymous with increased agricultural growth. One of the most dominant agricultural sectors in Kenya is the tea sector. The coffee sector is steadily picking up after a decline in recent years. The sugar industry has faced significant challenges and it is the government's intention to improve the sector. This industry is expected to show good growth over the next few years, should the government implement their stated policies.

Farming is the most important economic sector in Kenya, although less than 8 percent of the land is used for crop and feed production, and less than 20 percent is suitable for cultivation. Kenya is a leading producer of tea and coffee, as well as the third-leading exporter of fresh produce, such as cabbages, onions and mangoes. Small farms grow most of the corn and also produce potatoes, bananas, beans and peas PWC (2011). Currently, there are a number of agricultural companies in Kenya in different product lines. However, only seven of these companies are listed in the Nairobi Securities Exchange (NSE); the largest securities exchange in East Africa. The listed agricultural companies include: Eaagads Limited, Kapchorua Tea Company Limited, Kakuzi Limited, Limuru Tea Company Limited, Rea Vipingo Plantations Limited, Sasini Limited and Williamson Tea Kenya Limited. As noted above, Kenya's most vibrant industry is in tea which forms one of the country's greatest exports.

1.2. Statement of the Problem

The agricultural sector in Kenya is one of the key sectors that contributing to the country's economic growth. Very few studies have been done on the relationship between working capital management practices and financial performance in this sector. Nonetheless, its important to note that this is one of the leading sectors in the country bearing in mind that it contributes immensely in the country's exports. Previous studies have shown that decisions on working capital affect both liquidity and profitability. Excess of investments in working capital may result in low profitability and lower investment may result in poor liquidity. Gupta (1969) and Gupta Huefner (1972) examined the differences in financial ratio averages between industries.

Efficient management of working capital is vital for the success and survival of the agricultural sector which needs to be embraced to enhance performance and contribution to economic growth (Padachi 2006). Management of working capital which aims at maintaining an optimal balance between each of the working capital components, that is, cash, receivables, inventory and payables is a fundamental part of the overall corporate strategy to create value and is an important source of competitive advantage in businesses (Deloof, 2003). A number of studies on the relationship between working capital management and financial performance have been done in Kenya though very little research has been conducted on the agricultural sector in Kenya. For instance, Mathuva (2010) conducted a study on working capital management components on corporate profitability of Kenyan Listed Firms in the NSE. A similar study was conducted by Apuoyo (2010). Nyabwanga et al (2011) conducted a study on the effect of working capital management practices on financial performance of small scale enterprises in Kisii South District, Kenya. Kiilu (2010) conducted a study on working capital management practices among large construction firms in Kenya. Wainanina (2010) studied the relationship between profitability and working capital of small and medium enterprises in Kenya. More studies done in Kenya also include; Mathai (2010) who conducted a study on the relationship between working capital management and profitability of retail supermarkets in Kenya. Mutungi (2010) conducted a study on the relationship between working capital management policies and financial performance of oil marketing firms in Kenya. Given that no study has been done on the relationship between working capital management and firms' performance in the agricultural sector in Kenya, this study seeks to bridge the gap by undertaking a study on the same. The question that this study shall seek to answer is; Is there a relationship that exists between

8

working capital management practices employed by the firm and financial performance in the listed agricultural companies in Kenya?

A firm's objective is maximization of profits and shareholders wealth. This study shall therefore focus on the various working capital management practices and their impact on the financial perfomance of agricultural companies in Kenya. No studies have been done on this working capital management practices with specific references to agricultural companies in Kenya. The agricultural sector is Kenya's most notable contributor to exports, so studies on the impact of working capital management will be most beneficial and relevant to the market.

1.3. Objectives of the Study

To determine the relationship between working capital management practices and financial performance of agricultural companies listed at the Nairobi Securities Exchange.

1.4. Importance of the Study

Previously studies have been conducted on effective working capital management in firms but dismal research has been done on the relationship between working capital management and profitability with specific reference to agricultural companies in Kenya. In view of the fact that the agricultural sector is the greatest contributor towards the country's growth in GDP, the study shall be of great benefit to various stakeholders. i.e.

i. Management and Shareholders

The management and shareholders in the agricultural sector in Kenya shall obtain guidance on the optimal level of working capital that will in turn boost profitability.

ii. Government

The Government can use the findings of the study to understand the factors that impact on the financial performance of the various agricultural companies in Kenya. It will assist the Government in determining what mechanisms and regulatory measures should be put in place that will assist in growth of the sector. Findings from this study will sensitize the Government on the importance of understanding the right mix of working capital that in turn assist in boosting financial performance. Improved performance in the agricultural sector will sequentially lead to a growth in the country's GDP and consequently a growth in the economy.

iii. Potential Investors

The study findings will be of utmost importance to potential investors and most specifically to farmers who will be able to understand the agricultural sector, how to manage working capital and in turn increase shareholders wealth. The study will sensitize investors on the determinants of financial performance and how best maximization of shareholders wealth can be achieved.

iv. Community

Findings from this study will in the long run lead to increase in profitability and efficiency in the agricultural sector will lead to a creation of more jobs and which will consequently contribute to the increase and sustainance of high standards of living in Kenya.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

This chapter presents a review of literature on the relationship between working capital management and financial performance. The chapter focuses on studies undertaken by various scholars and theories that reflect the relationship between working capital management practices and financial performance. First a theoretical review on working capital and financial performance is presented followed by an empirical review of the two variables. Lastly, a summary chapter is presented where research gap is identified. According to Eisenhardt (1989) an essential feature of theory building is comparison of the emergent concepts, theory or hypothesis with the extent literature.

2.2. Theories of Working Capital Management

Financing of current assets from current liabilities particularly in the form of interest free credit from supplies is a less expensive source of financing than equity or long term debt capital. (Van Vorne 1995). The type of working capital policy operated will be dictated by such factors as the growth rate of the company, its size, nature of its industry and the risk altitude of the firm's management. Pandey & Parera (1997) provided empirical evidence of working capital management policies and practices of the private sector manufacturing companies in Sri Lanka.

Anand (2001) affirmed that an individual company's investment in working capital will be related to the type of industry it operates in and the essential working capital policy each individual company adopts. Working capital investment decisions concern how

much firms limited resources should be invested in working capital. Financing decisions relate to how investment in working capital should be financed. What may be considered an optimal level for one industry or line of business may be detrimental to the company either by being too high or too low because of different operating or business characteristics across industries.

2.2.1 Conservative Plan theory

This theory explains that the cost of financing working capital is equal to the cost of long term fund that is annual average loan multiplied by long term rate of interest. Fixed and part of current assets are financed by long term funds as permanent and long term sources are more expensive leading to lower risk return. (Horne and Wachowitz, 1998); Efficiency in working capital is vital especially for production of firms whose assets are current as it directly affects liquidity and profitability of any firm. This theory very much uses the 'play it safe' philosophy. It attempts to provide sufficient long term financing to cover all anticipated eventualities. The conservative theory implies relatively high investment in current assets in relation to sales, the current assets to sales ratio will be comparatively high and assets and turnover ratio will be low.

This approach does not use short term borrowing and may in the long run be more expensive as the available funds may turn out not to be fully utilized in certain periods but interest on those funds not needed still accrue and are paid. Raheman and Bluementhal (1994) firms are required to use accurate measures on working capital even though their profitability may be positive.

2.2.2 Hedging plan theory

This theory indicates that no long term funds are used to finance short term seasonal needs; that is current assets are equal to current liabilities. It is a moderate policy that matches assets and liabilities to maturities. Finnerty (1993); Jose et al., (1996) Current acid test and cash ratios are balance sheet measures that cannot provide detailed and accurate working capital and effectiveness.

Hedging theory is a risk as it almost full utilization of the firm's capacity to use short term funds and in emergency situations it may be difficult to satisfy short term needs. Firm uses long term sources to finance fixed assets and permanent current assets and short term funds to finance temporary current assets. Richards and Laughlin (1989), Gentry Et al. (1990), Schilling (1996) and Boer (1999) have insisted on using ongoing liquidity management. Ongoing liquidity management refers to the inflows and outflows of cash through the firm as the payment and collection takes place over time.

In hedging approach, a firm needing to have additional inventories for two months will seek short term funds two months to match the inventory purchase. Limited access to short term working capital sources which include bank financing and suppliers' financings provides a hindrance to the hedging approach. Ross et al., (2003) advises that most of the time it is reasonable to study the working capital management approach in relation to application of funds.

2.2.3 Aggressive theory

This theory is applied where the firm plans to take high risk and where short term funds are used to a very high degree to finance current and fixed assets. This approach is characterized by low interest rates. However, it's important to note that that the risk associated with short term debt is higher than long term debt. This applies mostly to companies/ firms operating in a stable economy and is quite certain about future cash flows. A company with an aggressive working capital policy offers short credit periods to customers, holds minimal inventory and has a small amount of cash in hand. This policy increases the risk of defaulting due to the fact that a company might face lack of resources to meet short term liabilities but also give a high return as its associated with high risk.

2.3. Financial Performance Theories

2.3.1 Dynamic theory of profit

This theory is defined as the difference between selling price and the cost resulting in the changes in demand and supply conditions. J.B Clarke originated this theory as profit is the surplus over cost. There are changes that cause profits to emerge which include increase in population, changes in task and preferences, multiplication of wants, capital formation and Technological advancement. This theory gives an artificial definition of profit and wage management, all dynamic changes lead to profit but only unpredictable changes give rise to the profits. This theory does not stress the element of risk involved in the business due to dynamic changes.

2.3.2 Uncertainty – bearing theory of profit

This is the theory of risk, uncertainty and profit. Knight defines pure profit as the difference between the returns actually realized by the entrepreneur and competitive rate of interesting high gilted securities. According to him, risks are insurable or uninsurable. However, uncertainty leads to a high reward of profits. This theory doesn't suit in a monopoly business phenomenon. The uncertainty element can't be quantified to profits.

2.3.3 Risk theory of profit

It has been noted that the riskier the industry the higher the profits rate. When an entrepreneur takes the risk of business, he is entitled to receive profits as his rewards as profit is commensurate with risk. There is however no functional relationship between risk and profit. Profit is not based on an entrepreneur's ability to undertake risk but rather on his capability of risk avoidance. This theory disregards many other factors attributed to profit and just concentrate on risks. From the previous studies it is evident that researchers used the accounting ratios as a proxy to check the relationship between WCM and profitability. Most frequently ROA, ROE, are the proxies used for profitability and CCC and CR are the variables used for WCM. The methodology adopted by the majority of researchers to examine the relationship is correlation analysis and multiple regression analysis. The results indicate that different contents of WCM show different relationship with profitability proxies and it is difficult to conclude the exact relationship of WCM with the profitability.

2.4. Working Capital Management Practices

Working capital management is defined as a measure of both a company's efficiency and its short-term financial health. Positive working capital reflects a company's ability to

pay off its short-term liabilities whereas negative working capital reflects a company's inability to meet its short term liabilities with its current assets i.e. cash, accounts receivable and inventory. Working capital is also known as "net working capital", or the "working capital ratio".

2.4.1 Cash Management Practices

There exists a significant relationship between CCC and profitability. Gill et al (2010). Cash management refers to optimizing the benefit and cost associated with holding cash. The objective of cash management is best achieved by speeding up the WC cycle, particularly the collection process and investing surplus cash in short term assets in most profitable avenues. Cash management is the process of planning and controlling cash flows into and out of the business, cash flows within the business, and cash balances held by a business at a point in time (Pandey, 2004). Efficient cash management involves the determination of the optimal cash to hold by considering the trade-off between the opportunity cost of holding too much cash and the trading cost of holding too little (Ross et al., 2008).

2.4.2 Receivables Management

Firms rather prefer to sell for cash than on credit, but competitive pressures force most firms to offer credit. Today the use of credit in the purchase of goods and services is so common that it is taken for granted. Selling goods or providing services on credit basis leads to accounts receivable. When consumers expect credit, business units in turn expect credit from their suppliers to match their investment in credit extended to consumers. The granting of credit from one business firm to another for purchase of goods and services is popularly known as trade credit. Management of Working Capital

though commercial banks provide a significant part of requirements for working capital, trade credit continues to be a major source of funds for firms and accounts receivable that result from granting trade credit are major investment for the firm.

2.4.3 Inventory Management

Three things will come to your mind when you think of an agricultural unit - machines, men and crops (stock). Men using machines and tools convert the materials into finished goods. The success of any business unit depends on the extent to which these are efficiently managed. Inventory is an asset to the organization like other components of current assets. Inventory constitutes a very significant part of working capital or current assets in an organization. It is essential to control inventories (physical/quantity control and value control) as these are significant elements in the costing process constituting sometimes more than 60% of the current assets. Inventory holding is desirable because it meets several objectives and needs but an excessive inventory is undesirable because it costs a lot to firms.

2.5. Empirical Studies

Nyabwanga et al (2011) focussed on the effect of working capital management on financial perfomance with specific reference to Small Scale Enterprises (SSE's) in Kisii South District Kenya. The study adopted a cross-sectional survey research design which allowed the collection of primary quantitative data through structured questionnaires. The target population was 159 managers of 101 trading and 58 manufacturing SSEs. Stratified random sampling technique was used to obtain a sample of 113 SSEs comprising 72 trading and 41 manufacturing enterprises. The data was analyzed using both descriptive and inferential statistics. Consequently, the findings of the study were that, working capital management practices were low amongst SSEs as majority had not

adopted formal working capital management routines and their financial performance was on a low average. The study also revealed that SSE financial performance was positively related to efficiency of cash management (ECM), efficiency of receivables management (ERM) and efficiency of inventory management (EIM) at 0.01 significance level. The coefficient of determination (R2) indicated that 63.4% of the variations in financial performance (FP) could be explained by changes in ECM, ERM and EIM. The study concluded that working capital management practices have influence on the financial performance of SSEs, hence there was need for SSE managers to embrace efficient working capital management practices as a strategy to improve their financial performance and survive in the uncertain business environment. The study corroborates other research findings that established a positive relationship between working capital management practices and financial performance.

Mutungi (2010) sought to find out the relationship between working capital management and financial performance of oil marketing firms in Kenya registered with the petroleum institute of East Africa within Nairobi and its environs. Her sample consisted of 59 registered oil marketers in Kenya. She noted that working capital management decisions have a huge effect on the company's risk, return and share price. The study concluded that for a company to operate efficiently, receivables and inventory must be tightly monitored and controlled. More fundamental is the effect of having an adequate level of working capital which is very important for the growth and sustainability of a company.

Wainaina (2010) sought to establish the relationship between profitability and working capital of small and medium enterprises in Kenya. The study focused on a sample of 40 companies whose sales turnover was in the range of 10Million and 500 Million. Her

study focused on companies in the ICT, General Trade and Construction industries sectors. The study revealed that there exists no relationship between cash conversion cycle and profitability for companies in the construction, ICT and transport sector. However, there was a positive relationship between profitability and cash conversion for industries in the General Trade and Agricultural Sectors. The study further revealed that there was a positive relationship between profitability and inventory days in all the sectors of the study. The study concluded that higher inventory is needed to meet higher demand and thus inventory should be maintained at reasonable levels.

Mathuva (2010) conducted a study on the influence of working capital management components on corporate profitability within the listed firms in Kenya. A sample of 30 firms listed on the Nairobi Securities Exchange (NSE) for the periods 1993 to 2008 was used. Both the pooled OLS and the fixed effects regression models were used to analyze the findings. The study revealed that there exists a highly significant negative relationship between the accounts collection period and profitability hereby reflecting that more profitable firms take the shortest time to collect cash from their customers. The study also revealed that there exists a highly significant positive relationship between the period taken for inventory to be converted into sales vis a vis profitability. This therefore meant that firms which maintain sufficiently high inventory levels, reduced costs of possible interruptions in the production process and loss of business due to scarcity of products. This reduces the firm supply costs and protects them against prices fluctuations. There also exists a highly significant positive relationship between the time it takes the firm to pay its creditors (average payment period) and profitability. This implies that the longer a firm takes to pay its creditors, the more profitable it is.

Apuoyo (2010) sought to establish the relationship between working capital management policies and profitability for companies quoted at the Nairobi Securities Exchange. The study focused on the five main investment segments at the NSE represented. A sample of nineteen listed companies was taken. Studies conducted revealed that the working capital needs of a company change over time as does its internal cash generation rate. He further observed that listed firms at the NSE should ensure a good synchronization of both assets and liabilities. The study illuminated that the financial and investment sector has been able to achieve more scores on the various components of working capital and also noted that a positive relationship existed between the various components and profitability.

Mutungi (2010) analyzed the relationship between working capital management and financial performance of oil marketing firms in Kenya. The study observed that oil companies in Kenya had huge investments in inventory and high level of borrowings and consequently, low net of investments in current assets. Findings indicated that working capital accounts for a large percentage of the net operating profit.

Maathai (2010) sought to establish the relationship between working capital management and profitability of retail supermarket chains in Kenya. Her study consisted of 6 retail supermarket chains in Kenya. The objective of the study was to determine whether there exists a relationship between WCM and profitability. The study showed that in the retail sector, WCM has a significant impact on profitability of firms and plays a big role in value creation for Share holders as longer cash conversion cycle and average collection period have a negative impact on net operating profitability of a firm. The CCC offers an easy and useful way to check the WCM efficiency of a company.

The study also revealed that there exists a positive non significant relationship between the financial debt ratio and profitability. Consequently, an increase in debt utilization, leads to a decrease in profitability. Thus, concluding that leverage negatively influences profitability.

Kiilu (2010) conducted a survey on the working capital management practices among large building construction firms in Kenya. The survey revealed that a majority of surveyed firms had a written statement of leading the amount of cash to hold. i.e. both petty cash and cash at bank. The companies that didn't have a written statement said that the cash requirement at a given time determined the amount of cash to hold. One of the main working capital management practices that was observed was the use of cash budgets.

Lazaridis & Tryfonidis (2006) conducted a study on the relationship between the cash conversion cycle and level of profitability of the 131 listed companies of the Athens stock exchange for four years from 2001 to 2004. The aim of the study was to determine statistically significant relation between CCC and profitability which is measured by gross operating profit. Accounts receivable turnover, accounts payable turnover and inventory management were the three components of CCC used in the study. The study revealed that firms who pursue increase in their accounts receivables to an optimal level increase their profitability resulting from increase sales and market share. Pearson correlation and regression results were used in analyzing of the findings which concluded that there exists a negative relationship between accounts receivable turnover, accounts payable turnover & inventory management and profitability which is in line with the study of Deloof (2003) which focused on sample of Belgian firms, emphasized that the way the working capital is managed has a significant impact on the profitability of firms and increase in profitability by

21

reducing number of day's accounts receivable and reducing inventories. A shorter Cash Conversion Cycle and net trade cycle is related to better performance of the firms. Furthermore, efficient working capital management is very important to create value for the shareholders.

Michalski (2007) in his study, observed that an increase in the level of accounts receivables in a firm increases both the net working capital and the costs of holding and managing accounts receivables and both lead to a decrease in the value of the firm. A study by Juan and Martinez (2002) emphasized that firms can create value by reducing their number of days of accounts receivable, thus confirmed the finding of Deloof (2003) who established that the length of receivables collection period has a negative effect on a firm's performance. A study by Sushma and Bhupesh (2007) also affirmed that, putting in place a sound credit policy ensures proper debt collection procedures and is pivotal in improving efficiency in receivables management hence the performance of firms.

Raheman & Nasr (2007) analyzed the effect of several variables on Net Operating Profitability which includes average collection period, average payment period, ITO in days, CCC, ITO in days and CR in Pakistan. Control variables including debt ratio, size of the firm and financial asset over total asset ratio were used and they applied Pearson Correlation and Regression for purposes of the data analysis. The sample of the study consisted of 94 Pakistani listed companies and the period of the study was 6 years from 1999-2004. The study concluded that managers can maximize shareholder value by efficiently managing components of CCC. The study showed that indeed there exists a strong negative relation between firm's profitability and measures of WCM.

Teruel & Solano (2007) it was concluded that there is a negative relationship between profitability of a firm and cash conversion cycle. Thus, it is possible to increase firm profitability through more efficient working capital management. To realize this, it is necessary that main elements of cash conversion cycle (short term trade liabilities, short term account receivables and inventories) should be managed in a way they maximize firm profitability. An efficient working capital management will increase free cash flows to the firm and growth opportunities and returns of stockholders.

Chatreji (2010) studied the impact of working capital management on profitability in companies listed in London stock exchange throughout the years 2006-2008. The researcher used the Pierson correlation coefficient to evaluate the impact of cash transformation cycle, the period of collection of receivables, inventory retention period, liability settlement period, the current to quick ratio, to net operational profit. Results indicated that a negative relationship exists between working capital management and profitability. This means that an increase in cash transformation cycle would result in a reduction in profitability. Moreover results have also stated that a negative relationship exists between liquidity and profitability as well.

Jose et al. (1996) sought to study the relationship between working capital management and profitability and found that a shorter cash conversion cycle led to better profitability. This finding has subsequently been tested several times by other researchers with different samples and mainly constant results. Relative profitability can be improved with aggressive working capital management. There have been a phenomenon observed in the business that most of the companies increase the margin for the profits and losses because this act shrinks the size of working capital relative to sales. But if the companies

23

want to increase or improve its liquidity, then it has to increase its working capital. In the response of this policy an organization has to lower down its sales and hence the profitability will be affected due to this action.

Shin and Soenen (1998) researched the relationship between working capital management and value creation for shareholders. They used the net trading cycle (inventory conversion period and receivable conversion period less payable conversion period) as a measure of working capital management. Based on the findings, they concluded that one possible way to create shareholder value is to reduce a firm's net trading cycle.

Eljelly (2004) empirically examined the relationship between profitability and liquidity, as measured by current ratio and cash gap (cash conversion cycle) on a sample of 929 joint stock companies in Saudi Arabia. Using correlation and regression analysis, Eljelly found significant negative relationship between the firm's profitability and its liquidity level, as measured by current ratio. This relationship is more pronounced for firms with high current ratios and long cash conversion cycles. At the industry level, however, he found that the cash conversion cycle or the cash gap is of more importance as a measure of liquidity than current ratio that affects profitability. The firm size variable was also found to have significant effect on profitability at the industry level.

Zariyawati, M.A, et al (2009) in their study carried out in Malaysia examined the relationship between working capital management and firm profitability of 1628 firms listed in Bursa Malaysia. Data for period of 1996 -2006 consisting of six different economic sectors were used. Ordinary least square (OLS) regression analysis method

was used. Results reveal that reducing cash conversion period resulted to increase in profitability. To create shareholders value, firm managers should be concerned with shortening cash conversion cycle until optimal level is achieved.

2.6. Conclusion

The literature on working capital management practices identifies efficiency of cash management, efficiency of receivables management and efficiency of inventory management as determinants of financial performance. Financial performance could therefore be improved if efficiency levels of cash, receivables and inventory management practices are increased. In summary, it is without a doubt that the efficiency in working capital management practices as measured by efficiency in cash management, efficiency in receivables management and efficiency in inventory management has an influence on the growth rate of businesses' sales, market share, profits and total assets and consequently plays a huge role in the financial performance of a company.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1. Introduction

This chapter describes the research methodology of the study. It describes the research design, sampling design, target population, data collection procedures, analysis management and the ethical considerations in the study.

3.2. Research Design

Research design refers to the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in the procedure. Kothari (2004) observed that research design is a blue print which facilitates the smooth sailing of the various research operations, thereby making research as efficient as possible hence yielding maximum information with minimal expenditure of effort, time and money. The study will use a correlation design. According to William (2011), a correlation design is used to examine a relationship between two or more concepts. Since this study seeks to assess the relationship between working capital management practices and financial performance on listed agricultural companies in Kenya, a correlation design shall be selected for the study.

3.3. Population

A population is a group of individual persons, objects or items from which samples are taken for measurements, it is the group the investigator wishes to make inferences from. Population of this study is comprised of listed agricultural companies in Kenya. The sample size shall consist of listed agricultural companies in the Nairobi Securities Exchange. According to the Nairobi Stock Exchange weekly report, there are a total of

seven agricultural companies listed on the Stock Exchange which for the purposes of this study shall form the target population.

3.4. Data Collection

For the purpose of this study, secondary data shall be the main source of data collection. Data on the profitability of the company as well as on the total number of current assets, debts, inventory levels, shall be sourced from the company's audited financial statements for the years 2007 to 2011.

3.5. Research Models

The study will use the following conceptual model:

ROA=f (ADP, ICP, APP, CCC, CS, LEV, FFAR)

The model is modified from Teruel and Solano (2007) study on the relationship between working capital management and profitability with specific reference to Spanish SME's to include more variables present in the agricultural sector in Kenya. The empirical model is thus:

$ROA_{it} = \beta_0 + \beta_1 (ACP_{it}) + \beta_2 (ICP_{it}) + \beta_3 (APP_{it}) + \beta_4 (CS_{it}) + \beta_5 (LEV_{it}) + \beta_6$ Controls + e... (1)

In this model, ROA shall be used as the measure of financial performance for the sample of companies which shall form the dependent variable. The other measures of working capital management shall form the independent variables for purposes of the study.

ROA Return on Assets for the listed Companies shall be extracted from the audited financial statements for the years 2007 to 2011 and shall be derived by dividing the net income by the total number of assets for each of the listed companies.

ACP   Average Collection Period. i.e. the total numbers of days accounts receivable are converted into cash. This is calculated by dividing account receivables by sales and multiplying the result by 360.

ICP   Inventory Collection Period i.e. The days of inventory shall be used as a proxy for the inventory policy and shall be calculated by dividing inventory by sales and multiplying the result by 360

APP   Average Payables Period i.e the time it takes to settle accounts payables in a given period.

CS   Natural Logarithm of the total turnover (Sales)

LEV   Debt Ratio which is one of the independent variables

$\beta 0$ Beta of the firm at time t; i=1,2…….7 firms

$\beta 1..\beta 6$ Coefficients of different independent variables for working capital management of firm i at time t

t   Time = 1,2…….., 5 Years

e   is an error term

FFAR   Fixed Financial Assets Ratio derived by Fixed Financial Assets / Total Assets

Control is a set of control variables that will include firm size measured as total assets per year for all the companies. The hypothesis is to be tested at 5% level of significance using F test.

3.6. Data Analysis

This study shall use descriptive statistics such as frequencies and percentage s with the application of statistical package for Social Sciences Version 17 softwares. It shall be analyzed to fit into the sections of cash management practises, inventory management practices, etc. According to Walliman (2011), a correlation design is used to examine a

relationship between two or more concepts. Since this study seeks to determine the relationship between working capital management and firms' performance, a correlation design shall be selected for the purpose of the study. A correlation analysis attempts to determine the degree and direction of relationship between two variables under study. In a bivariate distribution, if the variables have the cause and effect relationship, they have high degree of correlation between them. Regression analysis is used to understand which among the independent variables are related to the dependent variable, and to explore the forms of these relationships. Significance of beta values at 5% will be interpreted using the t-test of significance. In addittion, the model will be tested for significance using the F statistic. R^2 will be interpreted for the variance it explains in the model.

The analysis will be carried out using Statistical Package for Social Sciences (SPSSV20) as well as Eviews7. The results will be presented in tables.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1. Data Analysis and Findings

4.1.1 Introduction

This chapter presents data analysis, interpretation and discussion of the research findings. The findings are divided into two types: Descriptive results and those obtained from regression analysis. The statistical package for social sciences SPSS was used for both types of analysis. The findings were presented using tables. Data from this study was collected from the seven listed agricultural firms on the NSE for the period 2007 to 2011. The companies include: Kakuzi Limited, Rea Vipingo Limited, Eaagads Limited, Limuru Tea Company Limited, Williamson Tea Limited, Sasini Limited and Kapchorua Tea Company Limited. The reason as to why this market was chosen is primarily due to the availability and the reliability of financial statements in that they are subject to the mandatory audit by internationally recognized audit firms (the big four). Lazardias and Tryfonidis (2006) Firms listed on the Stock Exchange have an incentive to present profits if those exist so as to make their shares more attractive.

4.1.2 Explanatory Variables

The efficiency ratios namely accounts receivable, inventory and accounts payable have been computed using the formulas listed in **Appendix 1.** The study followed Deloof (2003) in computing the Net Operating Profit (NOP), Accounts Collection Period (ACP), Inventory Conversion Cycle (ICP), Average Payment Period (APP), and CS which is the natural logarithm for the total turnover sales. The Cash Conversion Cycle (CCC) has also been used as a comprehensive measure of working capital as it allows the time lag between the expenditure for the purchases of raw materials and the

collection of sales of finished goods. The longer the cycle, the higher the funds blocked in working capital. The return on assets is a better measure since it relates to profitability to the businesses asset base. The Leverage Ratio (Lev) and the Fixed Financial Assets Ratio (FFAR) is also used. Variability is obtained by computing the standard deviation of Return on Assets over the period 2007-2011.

4.1.3 Control Variables

In order to account for firms size and other variables that may influence profitability, a sales proxy for size (the natural logarithm of sales) and the gearing ratio (financial debt/ total assets) the gross working capital turnover ratio (Sales/Current Assets) and the ratio of current assets to total assets are included as control variables in the regressions. The regressions also include the ratio of current liabilities to the total assets to measure the degree of aggressive financing policy with a high ratio being relatively more aggressive.

4.2 Summary of Findings and Interpretations

4.2.1 Descriptive Analysis

Descriptive analysis presents the mean, standard deviation, maximum values and minimum values of the different variables in the study. Table 1 gives the descriptive statistics for the main variables used in this study. The descriptive analysis of all the variables in the study is sourced using SPSS software for the 7 listed agricultural companies in Kenya, 2007-2011. The cash conversion cycle used as a proxy to check the efficiency of working capital management is on average 63 days and standard deviation is 99 days. Firms receive payment after sales after an average of 70 days and a standard deviation of 32 days. Minimum time taken for a company to collect cash from receivables is 9 days while the maximum is 163 Days. It takes an average 114 days to

sell inventory with standard deviation of 92 days. Maximum time taken by a company is 601 days which is a very large time period to convert inventory into sales while the minimum is 8 days. Firms wait an average of 121 days to pay purchases with a standard deviation of 94 days.

Table 1: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
NOP	7	105	2550	38.2	57.6
ACP	7	9.00	163.00	70.3961	32.12382
APP	7	11.00	607.00	120.7532	94.19645
ICP	7	8.00	601.00	113.6234	92.12950
CCC	7	-206.00	689.00	62.9286	99.26811
CR	7	0.50	18.12	1.9310	1.84959
ROTA	7	3.6	23	5.6	12
LEV	7	3.12	4.50	0.127	0.166
FEAR	7	65.02	65.02	0.016	0.057
Variability	7	2.16	2.16	0.120	0.382

The major components of gross working capital include stocks, debtors, cash and bank balances. The composition of working capital depends on a multiple of factors such as operating level, level of operational efficiency, inventory policies, book debt policies, technology used and nature of the sector. It's worth noting that the degree of variation is expected to be low for firms within the sector. **Table 2** gives an analysis of each component of working capital where some interesting trends can be deduced.

A comparison of the inventory composition over the years shows some slight improvement in the companies listed in the sector. It's interesting to note the consistent improvement in trade debtors share of current assets in all the companies. Trade debtors represent more than 30% of total assets. Thus it can be deduced that the listed companies

32

have monitored the accounts receivable very well and this could be partly due to their need for generating funds from the operating activities instead of relying in outside funds / Borrowed funds.

The sector has great reliance in short term funds and this is even more in 2011 its financing 85% of its assets out of current liabilities and this over reliance may be a threat to the sectors survival. In times of liquidity, the sector experiences a shortage/ less liquid assets to meet the current obligations and if this becomes permanent it may affect supplies of materials and consequently production. The proportion of liquid assets to total assets is 70% indicating a low fixed asset base. This means that the sector can operate with a relatively low investment in fixed assets as compared to the other sectors like commercial or the industrial sector where the production tends to be heavily automated.

Table 2: Five Year Means and standard deviation

	2007	2008	2009	2010	2011
NOP	0.111	0.163	0.175	0.197	0.198
ACP	0.087	0.275	0.211	0.453	0.458
ICP	1.978	1.917	2.177	2.810	7.696
APP	0.205	0.273	0.292	0.329	0.306
CCC	0.111	0.163	0.175	0.197	0.198
CS	0.087	0.275	0.211	0.453	0.458
ROTA	0.087	0.275	0.211	0.453	0.458
LEV	0.087	0.275	0.211	0.453	0.458
FEAR	0.087	0.275	0.211	0.453	0.458

4.2.2 Quantitative Analysis

Pearsons and spearmans correlations are calculated for all the variables used in the study starting with Pearson correlation results.

Pearson's Correlation Coefficients Analysis

If efficient working capital improves the financial perfomance of firms, one should expect a positive relationship between the various components of working capital management and financial performance of the listed agricultural firms in Kenya. **Table 3** presents correlation co-efficients for the variables used to measure working capital management whereas financial performance is measured by return on total assets. The ROTA is significantly positively correlated with operating profits margins (OPM) and capital turnover ratio but negatively correlated with the measures of WCM except for the cash conversion cycle. The positive relationship for CCC is consistent with the view that resources are blocked at the different stage of the supply chain thus prolonging the operating cycle.

This might increase profits due to increased sales, especially where the costs of the tied up capital is lower than the benefits of holding more inventories and granting more credit to customers. The listed companies at the NSE may be able to obtain trade credit from suppliers and this is supported by the higher proportion of current liabilities to all the sectors except the agricultural sector. The main empirical analysis in this study is derived from appropriate multi variate models, estimating using Fixed Effects and Pooled OLS.

The analysis of the correlation results between the average collection period and ROTA shows a negative coefficient of -0.18, with a p-value of 0.820. It indicates that the result is significant at 5% level of significance and that if the average collection period increases it will have a negative impact on the financial perfomance.

Table 3: Pearson's Correlations Coefficients

		ROA	ACP	ICP	APP	CCC	CS	LEV	FEAR
ROA	Pearson	1	-0.09	0.095*	0.207**	-0.167**	0.294**	0.071**	0.186**
	Sig. (1-tailed)		.095	.245	.191	.060	.061	.062	.032
	N	7	7	7	7	7	7	7	7
ACP	Pearson	-0.154	1	0.148**	0.278**	0.343**	-0.272**	0.077	0.019
	Sig. (1-tailed)	.095		.001	.214	.361	.361	.361	.361
	N	7	7	7	7	7	7	7	7
ICP	Pearson	-0.120	0.086**	1	0.413**	0.633**	-0.049	0.002	-0.051
	Sig. (1-tailed)	.245	.001		.258	.062	.062	.062	.062
	N	7	7	7	7	7	7	7	7
APP	Pearson	0.194	0.228	0.382**	1	0.165*	0.003	0.053	0.017
	Sig. (1-tailed)	.191	.214	.258		.032	.032	.214	.258
	N	7	7	7	7	7	7	7	7
CCC	Pearson	0.135	0.312	0.589**	0.379***	1	-0.134**	-0.036	-0.101*
	Sig. (1-tailed)	.060	.361	.062	.032		.361	.062	.032
	N	7	7	7	7	7	7	7	7
CS	Pearson	0.135	0.312	0.589**	0.379***	-0.090*	1	0.330*	0.170**
	Sig. (1-tailed)	.060	.361	.062	.032	.032		.062	.032
	N	7	7	7	7	7	7		
LEV	Pearson	0.135	0.312	0.589**	0.379***	-0.071	0.193**	1	0.038
	Sig. (1-tailed)	.060	.361	.062	.032	.214	.258		.062
	N	7	7	7	7	7	7	7	7

**. Correlation is significant at the 0.01 level (1-tailed).
*. Correlation is significant at the 0.05 level (1-tailed).

The table above shows that the ROA is negatively related to ACP and CCC. The negative relation of ROA and ACP is consistent with the view that the less the time taken by customers to pay their bills, the more the cash is available to replenish the inventory hence leading to more sales which result to an increase in profitability. The table also shows that the ROA is positively related to ICP and APP. The negative

relationship between ROA and ICP can be explained by the fact that firms which maintain high inventory levels reduce the cost of possible interruptions in the production process. This helps in preventing loss of business due to the scarcity of products and reducing the cost of supplying the goods. In so doing, the agricultural firms are protected against price fluctuations (Blinder and Maccini, 1991). The positive relationship between ROA and APP can be explained by the fact that lagging payments to suppliers ensures that the firm has some cash to purchase more inventory for sale thus increasing its sales levels and boosting profits. The negative relationship between ROA and CCC is consistent with the view that the time lag between the expenditure for the purchases of raw materials and the collection of sales of finished goods can be too long and that decreasing this time lag increases profitability. (Deloof, 2003). The size of the firm is positively related to NOP. This means that larger firms report higher profits as compared to the smaller firms. This is attributable to larger firms' ability to exploit their economies of scale.

Although the Pearsons rank correlation analysis gives proof of an inverse relationship between WCM components and financial performance, these measures don't allow us to identify causes from consequences (Shin and Soenen, 1998). It is hard to say whether a shorter accounts collection period leads to a higher profitability or a higher profitability as a result of the short accounts receivable period. This therefore infers that care must be exercised, when interpreting the Pearson Correlation Coefficients because they do not provide a reliable indicator of association in a manner which controls for additional explanatory variables. Examining a simple bivariate correlation in a conventional matrix does not take account each variable's correlation with all other explanatory variables

(Padachi, 2006). The main analysis will be derived from appropriate multivariate models estimated using overall least squares regression models.

Regression Analysis

The researcher conducted a multiple linear regression analysis so as to investigate the impact of the components of working capital management on financial perfomance. The model used for the regression analysis is expressed in the general form as given in equation 1 below and the variable inventory days are placed in turn by the other explanatory variables, the Accounts Collection (APP) Days, the Accounts Payable (AP) Days and the Cash Conversion Cycle (CCC).

$ROA_{it} = \beta_0 + \beta_1 (ACP_{it}) + \beta_2 (APP_{it}) + \beta_3 (CCC_{it}) + \beta_4 (ICP_{it}) + \beta_5 (LEV_{it}) + \beta_6 (FFAR_{it}) + \beta_7 Controls + e$........(1)

$ROA_{it} = \beta_0 + \beta_1 (ADP_{it}) + \beta_2 (APP_{it}) + \beta_3 (CCC_{it}) + \beta_4 (ICP_{it}) + \beta_5 (LEV_{it}) + \beta_6 (FFAR_{it}) + \beta_7 Controls + e$........(2)

$ROA_{it} = \beta_0 + \beta_1 (ADP_{it}) + \beta_2 (APP_{it}) + \beta_3 (CCC_{it}) + \beta_4 (ICP_{it}) + \beta_5 (LEV_{it}) + \beta_6 (FFAR_{it}) + \beta_7 Controls + e$........ (3)

$ROA_{it} = \beta_0 + \beta_1 (ADP_{it}) + \beta_2 (APP_{it}) + \beta_3 (CCC_{it}) + \beta_4 (ICP_{it}) + \beta_5 (LEV_{it}) + \beta_6 (FFAR_{it}) + \beta_7 Controls + e$........(4)

Where, ROA denotes the Return on Assets, ACP is the average collection period, ICP is the inventory conversion period, APP is the average payment period, CS is the firm (firm size), LEV is the leverage ratio, FFAR is the fixed financial assets ratio. The subscripts i denotes firm cross section dimension ranging from 1 to 7 and t denotes years

(time series dimension) ranging from 1 to 5. Following Gracia – Teruel and Martinez Solano (2007) and Deloof (2003), the determinants of financial performance are estimated using the pooled OLS regression Models as presented in **Table 4** below.

Table 4: Regression Results

Relationship between WCM and FP (2007-2011) pooled OLS Models

Indep. variable	Dependent Variable = Return on Assets				
	Model 1	Model 2	Model 3	Model 4	Model 5
Intercept	0.108(0.500)	-0.283(0.039)**	-	-0.086(0.543)	-0.095(0.528)
ACP	-0.002(0.003)				-0.003(0.000)***
ICP		0.002(0.000)***			0.011(0.000)***
APP			0.002(0.0000)**		0.002(0.000)***
CCC				-0.001(0.803)*	
CS	0.033(0.004)***	0.050(0.000)***	0.044(0.0000)**	0.039(0.000)***	0.037(0.001)***
LEV	-0.255(0.031)**	0.207(0.071)*	-0.211(0.056)**	-0.2677(0.024)**	-0.160(0.144)**
FFAR	5.247(0.0000)**	5.620(0.00)****	5.656(0.0000)**	5.277(0.000)***	5.78(0.000)***
Adjusted R^2	53.00%	55.60%	56.80%	52.4%	59.70%
F value	22.08***	24.43***	25.52****	21.56**	26.64****
Firm Years	7	7	7	7	7

The P values are in the parentheses with *, ** and *** denoting significance at 10,5 and 1% levels respectively. The results are obtained using the pooled OLS estimation model. Source: 2007-2011 audited financials, author's computation.

Consistent with Garcia Teruel and Martinez Solano (2007), this methodology presents important benefits. These include the fact that panel data methodology assumes the individual, firms, states or countries are heterogeneous. Time series and cross section data studies not controlling for this heterogeneity run the risk of obtaining biased results. Furthermore, panel data give more information data, more variability, less collinearility among variables, more degrees of freedom and more efficiency.

Estimating models from panel data requires the researchers first to determine whether there is a correlation between the unobservable heterogeneity of each firm and the explanatory variables of the model. If there is a correlation (fixed effects), it would be possible to obtain the consistent estimation by means of the within – group estimator.

In the 1st regression model, the ACP has been regressed against the ROTA. In the second regression model, the ICP has been regressed against the NOP. The third regression model involves a regression of the APP against the ROTA. In the fourth regression model, the CCC is regressed against the ROTA. Finally, the three working capital measures (ACP, ICP, and APP) have been regressed together against the ROTA. The CCC was not included in the last regression model because its inclusion results to a high degree of multi-collinearity among the working capital management variables. The analysis on this study is thus based on Table 3 that report the pooled OLS regression results of the overall relationship existing between WCM and financial performance.

i. Relationship between Accounts Collection Period and FP

Consistent with Deloof (2003), Raheman and Nasr (2007), Shin and Soenen (1998) and Garcia Teruel and Martinez-Solano (2007), a negative relationship exists between the ACP and financial performance (p<0.01). This result suggests that firms can improve their profitability by reducing the number of days accounts receivable are outstanding. The result can also be interpreted as the less the time it takes for customers to pay their bills the more cash is available to replenish inventory hence the higher the sales realized leading to increase profitability of the firm. The negative co-efficient of the ACP suggests that an increase in the number of days of accounts receivable by 1 day is associated with a decline in financial perfomance. Consistent with Lazaridis and

39

Tryfonidis (2006), this finding implies that managers can improve profitability by reducing the credit period granted to their customers. This finding implies that a more restrictive credit policy giving customers less time to make their payments indeed improves perfomance. The coefficients of the other variables are significant. The model shows that the net operating profit increases with firm size (as measured by the natural logarithm of sales) and this is highly significant at 1% level. The ROTA decreases with an increase in leverage (P<0.05). Consistent with Deloof (2003), financial perfomance measured by ROTA increases with fixed financial assets (P<0.01).

ii. Relationship between Inventory Conversion Period and FP

In model 2, the coefficient on the inventory conversion period is positive and highly significant at 1%. This means that there exists a positive relationship between ICP and ROTA. This finding is consistent with studies carried out on conservative working capital policies. This means that maintaining high inventory levels reduces the cost of possible interruptions in the production process and the loss of business due to scarcity of products. Maintaining high levels of inventory also helps in reducing the cost of supplying the products and protects the firm against price fluctuations as a result of adverse macroeconomic factors as observed by Blinder and Maccini (1991). Most studies have not found the expected negative relationship between ICP and profitability to be significant (Lazaridis and Tryfonidis, 2006; Padachi 2006).

iii. Relationship between Average Payment Period (APP) and FP

In model 3, the coefficient on the average payment period is positive and highly significant at 1%. This suggests that an increase in the number of days accounts payable by 1 day is associated with an increase in financial perfomance. This positive

relationship can be explained in two ways; First, contrary to Deloof (2003) and Raheman and Nasr (2007), this finding holds that more profitable firms wait longer to pay their bills. This implies that they withhold their payment to suppliers so as to take advantage of the cash available for their working capital needs. Second, this result makes economic sense in that the longer a firm delays its payments to creditors, the higher the level of working capital it reserves and uses in order to increase profitability. This finding is in line with the working capital management rule that firms should strive to lag their payments to creditors as much as possible, taking care not to spoil their business relationships with them.

iv. Relationship between Cash Conversion Cycle (CCC) and FP

In model 4, there exists a negative relationship between the cash conversion cycle and profitability. This finding is important at the 10% level. This supports the notion that the cash conversion cycle is negatively related with financial perfomance and profitability of a firm. Shin and Soehen (1998) argued that the negative relation between profits and the cash conversion cycle could be explained by the market power or the market share, i.e a shorter CCC due to bargaining power by the suppliers and or the customers as well as higher profitability due to market dominance. The negative relationship between the firms CCC and financial perfomance can also be explained by the fact that minimizing the investment in current assets can help in boosting profits. This ensures that liquid cash is not maintained in the business for too long and that it is used to generate profits for the firm.

v. Relationship between measures of WCM and FP

Model 5, acts as a control model for the variables under study. The model was run so as to provide an indicator as to the most significant variables affecting the study. The model shows that the variables included are highly significant at 1% level with an exception of leverage (significant at 10%). In this model the ACP and leverage are negatively related with the firms' financial perfomance while all the other variables exhibit a positive relationship. The model's adjusted R^2 is 59.7% with an F-Value of 26.64 which is highly significant (P<0.01).

In this study, a relationship is sought between WCM and financial perfomance of agricultural companies listed at the NSE. While prior research documents that managers can create value for their shareholders by reducing the ACP and ICP to a reasonable minimum, (Deloof, 2003; Raheman and Nasr, 2007; Padachi, 2006; Garcia-Teruel and Martinez-Solano, 2007), this study holds that managers can actually create value for their shareholders by decreasing the ACP and increasing the ICP. This finding is consistent with prior research such as blinder and Maccini (1991). Contrary to findings by Deloof (2003), the negative relationship between accounts payable and financial perfomance is consistent with the view that more profitable firms wait longer to pay their bills since they have a greater bargaining power with their suppliers.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of the study in section 5.2, conclusion in 5.3, limitations of the study in 5.4, recommendations in 5.5, and suggestions for further research in 5.6. The different analyses have identified critical WCM policies and practices of the listed firms at the NSE and are expected to assist managers in identifying areas requiring improved financial performance of their operations.

5.2 Summary

This study intended to determine the relationship between working capital management and financial performance of listed agricultural firms quoted at the Nairobi Securities Exchange. In order to do this, the research was designed as a correlation study where relationships were tested. The population comprised of 7 listed agricultural companies in Kenya as at December 2011 and all of them formed the sample size. Secondary data from the financial statements of banks was used in conducting the study.

The study discovered that the management of agricultural companies in Kenya can create value for their shareholders by reducing the number of days of accounts receivables. The management can also create value for their shareholders by increasing their inventories to a reasonable level. Firms can also take long to pay their creditors in as much as they don't strain their relationships with their creditors. The study also found out that firms are capable of gaining sustainable competitive advantage by means of effective and efficient utilization of resources of the organization through a careful reduction of the cash conversion cycle. In so doing, the profitability of firms is expected

43

to increase. From the correlation analysis, it was noted that there exists a positive relationship between the elements of working capital and financial performance at 1% level of significance. Therefore, efficient management of working capital reduces the cost of possible interruptions in the production process and the loss of business due to scarcity of products. Most studies have not found the expected negative relationship between WCM and financial performance to be significant.

5.3 Conclusion

The study concludes that there exists a strong positive relationship between components of working capital and financial performance though the results were insignificant at 5% level. Agricultural companies in Kenya wishing to revamp their companies and improve financial perfomance should put more emphasis in the area of efficient working capital management. It is without a doubt that the efficiency in working capital management practices as measured by efficiency in cash management, efficiency in receivables management and efficiency in inventory management has an influence on the growth rate of businesses' sales, market share, profits and total assets and consequently plays a huge role in the financial performance of a company.

In so doing, the management of a firm can create value for their shareholders by reducing the number of accounts receivable. An improvement in the firms perfomance will contribute immensely to the increase in firms value and consequently shall be of great value to the shareholders. The management can also create value for their shareholders by increasing their inventories to a reasonable level. Firms could also take long to pay their creditors in as far as they do not strain the relationship with the creditors. This will have a positive effect in the growth of the level of financial

perfomance for the firm. The study concludes that there exists a strong positive relationship between components of working capital and financial performance though the results were insignificant at 5% level. Agricultural companies in Kenya wishing to revamp their companies and improve profitability, should focus on the area of efficient working capital management should be an area of emphasis. It is without a doubt that the efficiency in working capital management practices as measured by efficiency in cash management, efficiency in receivables management and efficiency in inventory management has an influence on the growth rate of businesses' sales, market share, profits and total assets and consequently plays a huge role in the financial performance of a company.

The study therefore recommends that agricultural companies ensure that stocks are sufficient to meet customer demands at all times while at the same time avoiding holding unnecessary surplus stocks that may increase holding costs. The agricultural companies should seek knowledge on the use of stock optimization techniques so as to be able to determine right quantities of stock to hold.

5.4 Limitations

The study focuses on agricultural companies listed in Kenya. The results are therefore applicable only to agricultural companies in Kenya and any attempt to generalize findings to other firms outside this scope should be approached with care. The analysis only covered agricultural firms listed in the NSE and this may limit the fair findings that could have been if the non quoted firms were included/covered. The sample size could also have affected the results and thus the findings should not be generalized with certainity. Last but not least, the time taken to carry out the study was in no means

sufficient for the amount of detail and analysis the study involved. With more time, detailed tests could be conducted to determine whether the same conclusion could be derived when more variables are in question. There are other factors that may affect financial perfomance; WCM should therefore not be applied in isolation. More studies with blends of other factors affecting financial perfomance together with WCM would be more objective and helpful to the management of agricultural companies in Kenya.

5.5 Recommendations

The study therefore recommends that agricultural companies ensure that stocks are sufficient to meet customer demands at all times while at the same time avoiding holding unnecessary surplus stocks that may increase holding costs. The agricultural companies should seek knowledge on the use of stock optimization techniques so as to be able to determine right quantities of stock to hold.

5.6 Suggestions for Further Research

This study can be replicated in the manufacturing industry to establish mechanisms in which working capital management can be optimized in a bid to increasing the company's financial performance. Further studies can also be carried out to establish other various ways in which working capital components can be managed and how that will impact in the overall goals of businesses in Kenya. Other studies that could be carried out in future include; the relationship of WCM and financial perfomance of both the listed and non listed agricultural companies in Kenya which would ensure a more conclusive and reasonable conclusion is derived.

REFERENCES

Agarwal, J. (1988). A goal programming model for working capital management,
Finance India, Vol. 2, Issue 2

Anand, S. et al. (2001). Review of Financial Studies. Oxford University Press, 21, 1907

Apuoyo, B. (2010). The relationship between working capital management policies and
Profitability for companies quoted at the NSE. *Unpublished MBA project*,
University of Nairobi

Atrill, P. (2006). *Financial management for decision makers (4th Ed).* Prentice Hall

Blinder, A. and Maccini L. (1991). The resurgence of inventory research: What have we
learned? *J.Econ, Survey,* 5:291-328

Boer, G. (1999). Managing the cash gap. J. Accountancy, 188: 27-32.

Brigham, F. and Houston J. (2007). Fundamentals of Financial Management. *Cengage
Learning, 11. 2007*

Chakraborty, I. and Sudeshna G. (2008). The relationship between Financial Development
and Economic Growth and the Asian Financial Crisis: *An FMOLS Analysis.* Int. J.
Eco. Res., 2011 2(3), 88-101

Corman, L. 1998. The 1998 working capital survey: *Cash masters*. CFO 14 (7):30-48

Cote, J. and Latham C. (1999). The Merchandising Ratio: *A Comprehensive Measure
of Working Capital Strategy,* Issues in Accounting Education; Vol. 14, Issue 2

Dash, M. and Ravipati R. (1999). *A Liquidity-Profitability Trade-Off Model for Working
Capital Management*

Deloof, M. (2003). Does Working Capital Management Affect Profitability of Belgian
Firms? *J. Bus. Financial Account. 30* (314): 573-587

Eljelly, A. (2004). Liquidity-Profitability trade off. *An empirical investigation in an emerging market.* Int. J. Commerce Manage. 14:48-61

Farragher, E. and Sahu A. (1999). Current capital investment practices. *Engineering Economist 44 (2): 137-150*

Filbeck, G., Krueger et.al. (2005). An Analysis of Working Capital Management Results across Industries. *Mid-American Journal of Business, Vol. 20, Issue 2*

Fink, R. (2001), The 2001 working capital survey: Forget the float*? CFO 17 (9):54-64*

Finnerty, J.E (1993). Planning Cash Flow. American Management Association, New York, ISBN: 081447652X, pp: 124.

Garcia-Teruel, P. and Martinez-Solano P. (2007), "Effects of working capital management on SME profitability*," International Journal of Managerial Finance, Vol.3, Issue 2*

Gentry, J. and Vaidyanathan R. (1990). A weighted cash conversion cycle. Finan. Manage., 19: 90-99.

Gilbert, E. and Reichert A. (1995). The *practice of financial management among large United States corporations.* Financial Practice and Education 5 (1): 16-23

Gupta M. (1969), "The Effects of Size, Growth and Industry on the Financial Structure of Manufacturing Companies", *Journal of Finance,* Vol. 24, No. 3

Gupta M. and Huefner R. (1972), "*A Cluster Analysis Study of Financial Ratios and Industry Characteristics",* Journal of Accounting Research, Vol. 10, No. 1

Horne, J. and Wachowitz J. (1998), Fundamentals of Financial Management. 10th Edn. Prentice-Hall International, Inc., New Jersey, ISBN: 0-13-8898820

Jose et al., (1996). Corporate returns and cash conversion cycles. J. Econ. Finance, 20: 33-46

Kenya National Bureau of Statistics (2011). "The Agricultural Sector in Kenya"

Kienschnick et al., (2006). Relationship between Efficiency of Working Capital Management and Return on Total Assets. *International Journal of Business and Management. Vol. 4, No. 10 (2009)*

Kiilu, M. (2010). A survey of the working capital management practices among Large Building Construction Firms in Kenya. *Unpublished MBA project*, University of Nairobi

Kotut, P. (2003). Working capital management practices by Kenyan firms: A case study of firms listed in the NSE. *Unpublished MBA project*. Egerton University

Kwame, K. (2007). Working capital management practices of small firms in the Ashanti region of Ghana. *Retrieved from http://www. ssrn.com*

Lazaridis, J. and Tryfonidis D. (2006). Relationship between working capital management and profitability of listed companies in the Athens stock exchange. J. Fin. Manage. Anal., 19:26-35

Lamberson, M. (1996). Financial analysis and working capital management techniques used by small manufacturers: Survey and Analysis. *Unpublished MBA project*, University of Central Arkansas

Lamberson, M. (1995). Changes in Working Capital of Small Firms in Relation to Changes in Economic Activity. *Mid-American Journal of Business*.vol. 10, no. 2

Mathai, A. (2010). The relationship between working capital management and profitability Retail supermarket chains in Kenya. *Unpublished MBA project*, University of Nairobi

Mathuva, D. (2010). The influence of working capital management components on corporate profitability: a survey on Kenyan listed firms. *Research Journal of Business Management*, 3: 1-11

Mehmet et al., (2011). Relationship between the Efficiency of Working Capital Management and Company Size. *Unpublished MBA project*. Akdeniz University Turkey

Mutungi, M. (2010). The relationship between working capital management and financial performance of Oil marketing firms in Kenya. *Unpublished MBA project*, University of Nairobi.

Padachi, K. (2006). Trends in Working Capital Management and its Effect on Firms Performance: An Analysis of Mauritian Small Manufacturing Firms". *Retrieved from http://www.emeraldinsight.com/ on January 2010*. Int. Rev. Bus. Res., 2(2): 45-58.

Pandey, I. (2004). *Financial Management 9th Edition*, Vikas Publishing House PVT Limited.

Pandey, M. and Parera K. (1997). Determinants of Effective Working Capital Management. A Discriminant Analysis Approach. *IIMA Working Paper No.1349.* Research and Publication Department Indian Institute of Management Ahmedabad India.

Peel, M. and Wilson N. (1996). "*Working Capital and Financial Management Practices in the Small Firm Sector''*, Retrieved from http://www.sagepublications.com on 5th February 2010. Int. Small. Bus. J., 14(2): 52-68

PWC (2011). *Agricultural Companies in Kenya,* Retrieved from http:// www.pwc.com/ke/en/Industries/agriculture.jhtml.

Rafuse, M.E. (1996), "*Working capital management: an urgent need to refocus*," Management Decision, Vol. 34, Issue 2.

Raheman, A. and Mohamed N. (2007). "*Working capital management and Profitability – Case of Pakistani firms*". International Review of Business Research Paper, Vol. 3, No1, pp.279-300.

Richards, V. and Laughlin E. (1980). A cash conversion cycle approach to liquidity analysis. Finance Manage., 9: 32-38

Ross et al., (2003). Fundamentals of Corporate Finance. 6th Edn. McGraw-Hill *Irwin Publications, New York,* ISBN: 0-07-246974-9, pp: 167.

Satyanarayana et al., (2011). Relationship between working capital and profitability - A Statistical Approach. *International Journal of Research in Finance & Marketing.* Vol. 1, Issue 7

Scarborough, N. and Zimmerer T. (2003). *Effective small business management*: An Entrepreneurial Approach 7th Edition, Prentice Hall International Inc. New Jersey

Shin, H. and Soenen, L. (1998). *Efficiency of working capital management and corporate Profitability.* Financial Practice and Education. 1998, vol. 8, no. 2

Schilling, G. (1996). Working capital's role in maintaining corporate liquidity. TMA J., 16: 4-7

Sushma, V. and Bhupesh S. (2007). *Effect of Working Capital Management Policies on Corporate Performance an Empirical Study*

Teruel, P. and Solano P. (2007). Effects of working capital management on SME profitability. *International Journal of Managerial Finance. 2007,* vol. 3, no. 2, p. 164-177

Thomas, J. (2008). *Basic data analysis IV: Regression diagnostics*. Accessed at http://spss. regressiondiagnostics.mht

Usman, A. et al (2006). *Efficiency Dynamics and Financial Reforms: Case Study of Pakistani Banks.* International Research Journal of Finance and Economics. vol. 3, ISSN 1450-2887 Issue 25

Van Horne, J. and Wachowicz J. (2004), *Fundamentals of Financial Management*, 12th Edition, Prentice Hall Publishers, New York.

Waweru, K. (2003). Determining cash balance management practices: A case study of SACCOs in Nakuru district. *Unpublished MBA project*. Egerton University.

Wainaina, C. (2010). The relationship between profitability and working capital of small and medium enterprises in Kenya. *Unpublished MBA project*. University of Nairobi.

APPENDICES

Appendix 1: List of Formulas

ACP	Average A/C Receivables / Net Credit Sales *365 Days
APP	Average A/C Payables/ Net Purchases * 365 Days
CCC	ACP+ICP - APP
CR	Current Assets/ Current Liabilities
CS	Natural Logarithm of Sales
DR	Total Debt/ Total Assets
ICP	Average Inventory / Cost of Goods Sold * 365 Days
LEV	(Short + Long Term Loans)/ Total Assets
ROTA	Net Income/ Average Total Assets

Appendix 2: Listed Agricultural Companies in Kenya

1. Eaagads Limited

2. Kapchorua Tea Company Limited

3. Kakuzi Limited

4. Limuru Tea Company Limited

5. Rea Vipingo Plantations Limited

6. Sasini Limited

7. Williamson Tea Kenya Limited

Appendix 3: Financial Reports for the Years 2007-2011

KAKUZI LIMITED	2007	2008	2009	2010	2011
	KShs. '000	KShs. '000	KShs. '000	KShs. '000	KShs. '000
EQUITY	CONSOLIDATED STATEMENT OF FINANCIAL POSITION				
Share Capital	98,000	98,000	98,000	98,000	98,000
Retained Earnings	921,913	1,369,690	1,584,272	1,848,179	2,325,157
Proposed Dividend	-	19,600	49,000	49,000	73,500
Attributable to Equity H.	**1,019,913**	**1,487,290**	**1,731,272**	**1,841,413**	**2,499,070**
Non Controlling Interest	-	80,343	157,022	216,361	257,695
Total Equity	**1,019,913**	**1,567,633**	**1,888,294**	**2,210,514**	**2,756,765**
Non-Current Liabilities					
Borrowings	220,000	109,000	-	-	-
Deferred Income Tax	375,876	572,208	521,802	473,420	652,631
Retirement Benefit	37,835	49,789	50,004	36,480	56,767
	633,711	**685,997**	**571,806**	**509,900**	**709,398**
	1,653,624	**2,253,630**	**2,460,100**	**2,392,504**	**3,466,163**
Non Current Assets					
Property Plant & Equip.	613,780	633,494	604,446	543,292	630,427
Biological Assets	1,243,901	1,564,662	1,623,069	1,374,669	1,977,448
Prepaid Operating Lease	8,135	8,126	8,117	4,424	8,099
Non Current Receivables	8,348	16,876	19,185	150,889	26,701
	1,874,164	**2,223,158**	**2,254,817**	**2,067,982**	**2,642,675**
Current Assets					
Inventories	97,783	116,578	148,091	48,979	179,830
Receivables & Prepayments	190,991	230,988	128,116	140,774	97,483
Current IT Recoverable	33,772	33,869	-	-	-
Cash and Cash Equiv.	25,974	57,926	342,231	85,464	897,332
	348,520	**439,361**	**618,438**	**275,217**	**1,174,645**
Current Liabilities					
Payables & Accrued Expense	233,076	172,765	340,438	199,628	283,252
Current IT Payable	-	30,636	65,402	39,901	52,804
Borrowings	341,027	198,032	-	-	-
Retirement Benefit Obligatio	4,957	7,456	7,315	3,719	15,101
	569,060	**408,899**	**413,155**	**243,528**	**351,157**
Net Current Assets	**(220,540)**	**30,472**	**205,283**	**31,969**	**823,488**
	1,653,624	**2,253,630**	**2,460,100**	**2,099,951**	**3,466,163**
	CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME				
Sales	1,512,118	1,613,216	2,008,157	2,113,774	2,376,862
Gains – Fair value of Assets	-	181,439	64,562	124,837	217,422
	-	1,794,655	2,072,719	2,238,611	2,594,284
Costs of Production	(938,031)	(1,121,010)	(1,195,941)	(1,284,419)	(1,426,866)
Gross Profit	**574,087**	**673,645**	**876,778**	**954,192**	**1,167,418**
Other Income	22,030	22,030	16,095	28,911	109,024
Distribution Costs	(270,408)	(270,408)	(337,596)	(443,270)	(432,540))
Profit on sale of shares in sub	-	-	17,002	-	-
Finance Income	-	-	6,084	14,515	47,668
Finance Cost	(51,999)	(51,999)	(19,473)	(414)	(-)
Profit before Income Tax	**273,710**	**390,189**	**558,890**	**553,934**	**920,093**
Income Tax Expense	(82,113)	(107,271)	(168,595)	(168,555)	(275,696)
Profit for the year	**191,597**	**292,298**	**390,295**	**385,379**	**644,397**

SASINI LIMITED	2007	2008	2009	2010	2011
	KShs. '000	KShs. '000	KShs. '000	KShs. '000	KShs. '000
	CONSOLIDATED STATEMENT OF FINANCIAL POSITION				
EQUITY					
Share Capital	228,055	228,055	228,055	228,055	228,055
Non Distributable Reserves	2,640,094	4,367,379	4,674,983	2,114,168	2,327,122
Minority Interest	86,483	121,871	131,523	-	-
Distributable Reserves	-	479,670	627,261	277,472	447,889
Total Equity	**2,954,632**	**4,717,305**	**5,661,822**	**2,619,695**	**3,003,066**
Non-Current Liabilities					
Deferred Tax	465,435	969,653	1,223,823	425,404	627,440
Bank Loan	7,784	4,550	1,315	-	56,837
Post Employment Benefits	137,214	143,575	163,912	18,510	17,500
Loan Notes	-	600,000	540,000	420,000	-
	610,433	**1,717,778**	**1,929,050**	**863,914**	**701,777**
Non Current Assets					
Property, Plant, Equipment	713,406	1,941,955	2,435,962	1,570,572	1,563,826
Other Intangible Assets	3,010	2,368	718	13,943	10,457
Biological Assets	2,522,939	3,838,529	4,416,277	1,430,134	1,824,234
Prepaid Leases on Leasehold	13,733	21,598	21,462	8,266	8,141
Capital work in Progress	-	14,013	78,573	-	-
Other Investments	27,016	6,045	4,429	172,697	172,697
	3,298,435	**5,824,508**	**6,957,221**	**3,195,612**	**3,579,355**
Current Assets					
Inventories	206,620	329,891	227,152	85,128	127,651
Trade and Other receivables	248,921	270,179	265,554	116,885	121,619
Amt. due from subsidiaries	1,615	1,615	1,695	40,592	7,801
Tax Recoverable	23,081	-	-	25,546	27,673
Cash and Cash Equivalents	46,732	370,113	548,646	369,284	224,765
	526,609	**971,798**	**1,043,047**	**639,053**	**511,243**
Total Assets	**3,825,044**	**6,796,306**	**8,000,268**	**3,834,665**	**4,090,598**
Current Liabilities					
Payables & Accrued Expense	198,770	329,627	284,453	176,294	164,650
Post Employment Benefits	9,830	13,824	10,795		
Amts due to subsidiary Co's	-	-	-	46,380	80,871
Tax Payable	-	10,415	46,955		
Borrowings	-	-	17,988	120,000	131,682
	259,979	**361,223**	**406,167**	**351,056**	**385,755**
Total Equity and Liabilities	**3,825,044**	**6,796,306**	**8,000,268**	**3,834,665**	**4,090,598**
	CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME				
Revenue	1,325,354	1,455,575	2,182,090	564,553	753,657
Costs of Sales	(1,123,796)	(1,049,322)	568,992	(312,240)	(465,922)
Changes in Fair Value	**(8,892)**	**1,302,454**	**-**	**409,150**	**391,620**
Other Income	66,381	25,886	28,497	99,486	85,588
Div Received Subsidiary Co.	-	-	-	230,000	272,500
Administration Expenses	(222,660)	(274,097)	(71,649)	(254,220)	(251,886)
Finance Income	-	-	-	8,846	2,574
Selling & Distribution Exp.	(11,584)	(10,782)	-	-	-
Finance Costs	(88,043)	(122,827)	-	(56,923)	(20,279)
Profit before Income Tax	**(63,240)**	**1,326,887**	**759,721**	**689,012**	**767,852**
Income Tax Expense	29,971	(381,202)	(226,690)	(137,629)	(208,722)
Profit for the year	**(33,571)**	**875,663**	**533,031**	**551,383**	**559,130**

REA VIPINGO LIMITED	2007	2008	2009	2010	2011
	KShs. '000	KShs. '000	KShs. '000	KShs. '000	KShs. '000
	CONSOLIDATED STATEMENT OF FINANCIAL POSITION				
EQUITY					
Share Capital	300,000	300,000	300,000	300,000	300,000
Share Premium	84,496	84,496	84,496	84,496	84,496
Translation Deficit	(99,997)	(54,149)	(90,814)	(114,520)	(53,955)
Retained Earnings	424,666	544,819	681,768	719,123	1,138,319
Total Equity	**709,165**	**875,166**	**975,450**	**989,099**	**1,468,860**
Non-Current Liabilities					
Borrowings	14,990	32,730	21,724	33,984	91,486
Deferred Tax Liabilities	91,139	107,370	126,780	141,030	210,661
Retirement Benefit	53,897	62,258	65,718	77,781	92,137
	160,026	**202,358**	**214,222**	**281,068**	**394,644**
Non Current Assets					
Property, Plant, Equipment	297,561	323,960	314,933	624,147	753,404
Biological Assets	293,527	327,736	401,382	417,449	603,608
Prepaid Operating Lease	102,057	139,707	139,382	9,458	4,674
Inv. in Unquoted Shares	-	15,251	15,251	15,251	9,151
Deferred Tax Assets	762	23,074	40,612	54,220	8,233
	693,907	**829,728**	**911,560**	**1,120,525**	**1,394,594**
Current Assets					
Inventories	249,437	350,001	280,448	322,998	531,612
Receivables & Prepayments	208,657	260,492	172,205	225,013	314,994
Tax Recoverable	7,320	4,492	18,803	22,380	14,839
Bank Balances and Cash	7,264	187,251	31,068	16,100	32,701
	472,678	**802,236**	**502,254**	**586,491**	**894,146**
Total Assets	**1,166,585**	**1,631,964**	**1,414,084**	**1,707,016**	**2,288,740**
Current Liabilities					
Payables & Accrued Expense	101,698	122,374	112,639	145,600	168,531
Current Income T. Liability	4,202	16,010	1,749	-	37,949
Borrowings	191,494	416,056	110,024	262,976	183,815
	297,394	**554,440**	**224,212**	**436,849**	**425,236**
Total Equity and Liabilities	**1,166,585**	**1,631,964**	**1,414,084**	**1,707,016**	**2,288,740**
	CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME				
Revenue	1,232,980	1,356,427	1,371,090	1,441,668	2,115,616
Operating Income	1,189,527	1,305,892	1,333,758	12,546	34,999
Costs of Sales	(653,470)	(733,987)	(694,575)	(898,327)	(1,048,785)
Gross Profit	**536,057**	**571,905**	**639,183**	**546,166**	**1,219,700**
Interest Income	-	18	1,470	589	33
Other Operating Income	4,843	7,908	10,315	12,546	34,999
Foreign Exch Gains/(Losses)	-	(4,492)	1,500	3,991	5,547
Distribution Costs	(55,130)	(60,295)	(62,214)	(71,536)	(80,833)
Administration Expenses	(285,191)	(330,680)	(352,647)	(402,372)	(472,160)
Other operating expenses	(3,466)	(3,186)	(6,291)	(3,842)	(3,651)
Fair Value Subsidiary	-	66,344	-	38,593	-
Finance Costs	(29,328)	(20,303)	(17,250)	(19,631)	(24,739)
Profit before Income Tax	167,785	**227,219**	**214,066**	103,910	678,846
Income Tax Expense	(52,483)	(59,066)	(65,117)	(36,555)	(211,650)
Profit for the year	**115,302**	**168,153**	**148,949**	**67,355**	**467,196**

WILLIAMSON TEA LTD	2007	2008	2009	2010	2011
	KShs. '000	KShs. '000	KShs. '000	KShs. '000	KShs. '000
CONSOLIDATED STATEMENT OF FINANCIAL POSITION					
EQUITY					
Share Capital	43,782	43,782	43,782	43,782	43,782
Revaluation Surplus	359,415	326,901	296,486	261,195	239,967
Revenue Reserve	2,172,179	2,074,174	2,210,712	3,055,275	3,853,341
Minority Interest	91,979	79,237	78,471	110,229	134,428
Total Equity	**2,667,355**	**2,524,094**	**2,629,451**	**3,470,481**	**4,271,228**
Non-Current Liabilities					
Deferred Tax	627,621	588,115	587,127	737,536	899,685
Service Gratuity	122,454	122,497	106,868	123,098	145,125
Borrowings	12,655	10,976	25,111	49,097	29,129
Finance Lease Obligations	-	58,613	82,503	-	-
	762,730	780,201	801,609	909,731	1,074,119
Non Current Assets					
Property, Plant, Equipment	960,450	998,978	1,004,372	950,501	923,547
Prepaid Operating Leases	77,298	77,214	77,130	77,046	76,962
Investment Properties	394,500	394,500	394,500	740,555	733,112
Inv. In associate Companies	300,630	265,277	292,486	77,046	849
Biological Assets	1,247,737	1,241,655	1,230,300	1,627,991	1,971,494
	2,980,715	2,977,624	3,006,123	3,399,199	3,705,964
Current Assets					
Inventories	215,479	121,251	270,808	444,794	318,958
Trade and Other receivables	301,821	344,240	498,190	997,081	830,866
Amt. due from subsidiaries	24,547	50,291	23,333	22,948	35,835
Tax Recoverable	8,702	19,174	7,212	2,678	481,200
Cash and Cash Equivalents	163,650	67,745	106,509	462,086	359,096
	602,701	602,701	915,052	1,929,587	2,031,964
	3,580,425	3,580,425	3,921,165	4,380,212	2,326,779
Current Liabilities					
Payables & Accrued Expense	269,583	216,082	374,763	216,082	269,583
Taxation Payable	23,120	-	4,656	-	23,120
Finance Lease	-	6,661	38,801	6,661	-
Borrowings	28,508	47,372	62,157	47,372	28,508
Unclaimed Dividends	3,553	4,914	4,712	4,914	3,553
	324,764	276,030	490,105	276,030	687,396
Total Equity and Liabilities	**3,580,425**	**3,580,325**	**3,921,165**	**4,380,212**	**2,326,779**
CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME					
Revenue	1,206,528	1,185,800	1,489,982	2,723,187	3,284,909
Fair value loss of tea	(42,071)	(-)	(17,291)	-	333,823
Costs of Sales	(932,757)	(1,074,800)	(277,145)	(737,115)	(932,757)
Changes in Fair Value	9,317	10,238	-	759,707	9,317
Other Income	179,049	127,822	35,674	2,284	-
Administration Expenses	(113,527)	(151,766)	(123,974)	-	-
Finance Costs	(6,980)	(32,197)	(72,879)	-	(30,828)
Distribution Costs	(82,208)	(102,926)	-	-	-
Profit/(Loss) before Tax	**214,067**	**(143,984)**	**145,341**	**1,223,281**	**1,293,690**
Income Tax Expense	(71,233)	46,467	(35,471)	(347,226)	(71,233)
Profit for the year	**142, 834**	**(97,517)**	**109,870**	**876,055**	**884,385**

EAAGADS LIMITED	2007	2008	2009	2010	2011
	KShs. '000	KShs. '000	KShs. '000	KShs. '000	KShs. '000
EQUITY	CONSOLIDATED STATEMENT OF FINANCIAL POSITION				
Share Capital	20,098	20,098	20,098	20,098	20,098
Revaluation Surplus	69,345	69,345	69,345	68,117	280,386
Retained Earnings	105,017	105,017	105,017	178,030	180,965
Total Equity	**194,460**	**194,460**	**194,460**	**266,245**	**481,449**
Non-Current Liabilities					
Deferred Income Tax	56,334	56,334	56,334	71,073	81,881
Retirement Benefit	3,016	3,016	3,016	3,000	5,496
	59,350	**59,350**	**59,350**	**74,073**	**87,377**
Non Current Assets					
Property Plant & Equip.	94,463	94,463	94,463	89,623	307,723
Other Long Term assets	123,494	123,494	123,494	178,496	180,646
	218,174	**218,174**	**218,174**	**268,119**	**488,369**
Current Assets					
Inventories	19,000	53,000	31,340	5,589	6,877
Receivables & Prepayments	10,177	10,177	10,177	5,279	6,566
Cash and Cash Equiv.	370	370	370	75,935	71,544
	41,887	**63,547**	**41,887**	**86,803**	**84,987**
Current Liabilities					
Accounts Payable	6,047	6,047	6,047	3,009	2,995
Accrued Expenses	-	-	204	11,595	1,535
	6,251	**6,251**	**6,251**	**14,604**	**4,530**
Net Current Assets	**35,636**	**57,296**	**35,636**	**72,199**	**80,457**
	260,061	**256,897**	**253,810**	**354,922**	**573,356**
	CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME				
Revenue – Coffee Sales	51,000	71,000	117,257	129,208	184,597
Gains – Fair value of Assets	3,000	26,000	47,359	47,359	54,785
Costs of Production	(47,000)	(41,000)	(94,909)	(55,908)	(123,236)
Gross Profit	**27,635**	**27,635**	**27,635**	**121,658**	**116,146**
Other Income	4,869	4,869	4,869	1,572	2,848
Administration Expenses	(9,800)	(14,000)	(15,597)	(6,490)	(17,528)
Foreign Exchange Gain/Loss)	17,002	17,002	17,002	-	14
Finance Cost	(77)	(77)	(77)	(9)	(-)
Profit/(Loss) before Tax	**16,830**	**42,000**	**16,830**	**69,705**	**101,480**
Income Tax Expense	(-)	(12,600)	(4,993)	(14,208)	(29,696)
Profit for the year	**(1,500)**	**29,000**	**11,837**	**55,497**	**71,784**

LIMURU TEA LIMITED	2007	2008	2009	2010	2011
	KShs. '000	KShs. '000	KShs. '000	KShs. '000	KShs. '000
EQUITY	CONSOLIDATED STATEMENT OF FINANCIAL POSITION				
Total Equity	**47,000**	**36,100**	**56,000**	**119,300**	**149,700**
Non-Current Liabilities					
Deferred Income Tax	1,100	1,100	1,600	13,500	20,200
Retirement Benefit	10,300	10,300	10,100	14,300	15,900
	11,400	**11,400**	**11,700**	**27,800**	**36,100**
Non Current Assets					
Property Plant & Equip.	9,500	9,500	9,500	9,500	9,500
Biological Assets	14,400	14,400	16,400	66,200	88,000
	57,800	**57,800**	**84,800**	**158,300**	**191,200**
Current Assets					
Receivables & Prepayments	33,800	33,800	56,100	83,000	90,400
Cash and Cash Equiv.	6,700	6,700	9,500	6,200	6,000
	40,500	**40,500**	**65,800**	**89,200**	**100,300**
Current Liabilities					
Payables	2,000	2,000	3,000	--	--
Accrued Expense	2,400	2,400	7,600	--	--
Income Taxes Payable	2,600	2,600	5,900	5,000	--
Other Current Liabilities	5,000	5,000	3,400	6,200	5,500
Pension	10,300	10,300	10,100	14,300	15,900
Deferred Tax Liability	1,100	1,100	1,600	13,500	20,200
	21,700	21,700	28,800	39,000	41,500
	57,800	**57,800**	**84,800**	**158,300**	**191,200**
	CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME				
Sales	58,000	69,500	91,100	123,900	102,500
Gains – Fair value of Assets	-	-	-	-	-
	58,000	69,500	91,100	123,900	102,500
Costs of Production	(45,000)	(52,500)	(53,300)	--	(42,700)
Gross Profit	**13,000**	**17,000**	**37,900**	**123,900**	**59,800**
Operating Expenses	4,800	4,800	3,800	19,500	--
Interest and Investment Inc.	1,300	1,300	1,800	--	--
Operating Expenses	1,900	1,900	1,000	--	0.0
Profit before Income Tax	**9,200**	**15,200**	**38,700**	**104,300**	**59,900**
Income Tax Expense	(3,800)	(6,800)	(11,800)	(29,500)	(19,400)
Profit for the year	**5,400**	**8,500**	**27,000**	**74,800**	**40,500**

KAPCHORUA LTD	2007	2008	2009	2010	2011
	KShs. '000	KShs. '000	KShs. '000	KShs. '000	KShs. '000
EQUITY	CONSOLIDATED STATEMENT OF FINANCIAL POSITION				
Share Capital	19,560	19,560	19,560	19,560	98,000
Capital Reserves	98,596	98,596	98,596	90,933	2,325,157
Revenue Reserves	571,104	571,104	571,104	708,239	73,500
Total Equity	**689,260**	**689,260**	**689,260**	**818,732**	**2,499,070**
Non-Current Liabilities					
Borrowings	8,648	8,648	8,648	4,054	-
Deferred Income Tax	197,737	197,737	197,737	201,773	652,631
Retirement Benefit	65,581	65,581	65,581	60,755	56,767
	271,966	**271,966**	**271,966**	**266,582**	709,398
	961,226	**961,226**	**961,226**	**1,085,314**	**3,466,163**
Non Current Assets					
Property Plant & Equip.	280,831	280,831	280,831	263,066	630,427
Biological Assets	515,489	515,489	515,489	533,957	1,977,448
Prepaid Operating Lease	21,789	21,789	21,789	21,765	8,099
Inv. in subsidiaries	717	717	717	717	-
Non Current Receivables	1,330	1,330	1,330	665	26,701
	820,156	**820,156**	**820,156**	**820,170**	**2,642,675**
Current Assets					
Inventories	117,774	117,774	117,774	192,842	179,830
Receivables & Prepayments	139,227	139,227	139,227	387,771	97,483
Due from related co's	5,016	5,016	5,016	3,592	
Cash and Cash Equiv.	85,624	85,624	85,624	94,556	897,332
	347,641	**347,641**	**347,641**	**678,761**	**1,174,645**
Current Liabilities					
Payables & Accrued Expense	168,092	168,092	168,092	343,360	283,252
Due to related companies	6,990	6,990	6,990	19,992	52,804
Borrowings & Finance Leases	31,578	31,578	31,578	5,329	
Taxation	211	211	211	44,936	15,101
	206,571	**206,571**	**206,571**	**413,617**	**351,157**
Net Current Assets	**961,226**	**961,226**	**961,226**	**1,085,314**	**823,488**
	CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME				
Sales	1,613,216	1,613,216	743,079	1,130,108	2,376,862
Gains – Fair value of Assets	181,439	181,439	44,127	190,064	217,422
Increase in Fair Value	1,794,655	1,794,655	60,489	17,420	2,594,284
Finance Cost	(51,999)	(51,999)	(5,241)	(7,946)	(-)
Profit before Income Tax	**390,189**	**390,189**	**69,908**	**139,252**	**920,093**
Income Tax Expense	(107,271)	(107,271)	(29,827)	(60,286)	((275,696)
Profit for the year	**292,298**	**292,298**	**69,908**	**139,252**	**644,397**