

**THE EFFECT OF WORKING CAPITAL MANAGEMENT ON THE FINANCIAL  
PERFORMANCE OF WATER SERVICE PROVIDERS IN KENYA**

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## **DECLARATION**

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

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

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## **DEDICATION**

I dedicate this research project to my lovely daughter Sharon and my parents for the support and encouragement during this time.

# TABLE OF CONTENTS

<b>DECLARATION.....</b>	<b>ii</b>
<b>ACKNOWLEDGEMENTS.....</b>	<b>iii</b>
<b>DEDICATION.....</b>	<b>vii</b>
<b>LIST OF ABBREVIATIONS.....</b>	<b>viii</b>
<b>ABSTRACT.....</b>	<b>ix</b>
<b>CHAPTER ONE: INTRODUCTION.....</b>	<b>1</b>
1.0 Introduction.....	1
1.1 Background to the Study.....	1
1.1.1 Working Capital Management.....	2
1.1.2 Financial Performance of Water Service Providers in Kenya.....	4
1.1.3 R/Ship between WCM and Performance of Water Service Providers in Kenya.....	4
1.1.4 Water Service Providers in Kenya.....	5
1.2 Research Problem.....	6
1.3 Research Objectives.....	8
1.4 Value of the Study.....	8
<b>CHAPTER TWO: LITERATURE REVIEW.....</b>	<b>10</b>
2.0 Literature Review.....	10
2.1 Introduction.....	10
2.2 Theoretical Review.....	10
2.2.1 Baumol Cash Management Model.....	10
2.2.2 Keynesian Theory of Money.....	11
2.2.3 The Cash Conversion Model.....	11

2.3 Determinants of Profitability.....	12
2.3.1 Size of the firm.....	12
2.3.2 Leverage.....	12
2.4 Empirical Review.....	12
2.5 Review of Local Research.....	15
2.5 Summary of Literature Review.....	16
<b>CHAPTER THREE: RESEARCH METHODOLOGY.....</b>	<b>17</b>
3.0 Research Methodology.....	17
3.1 Introduction .....	17
3.2 Research Design.....	17
3.3 Population and Sample.....	17
3.4 Data Collection.....	17
3.5 Data Analysis.....	17
3.5.1 Conceptual Model.....	17
3.5.2 Analytical Model.....	18
<b>CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION.....</b>	<b>19</b>
4.1 Introduction.....	19
4.2 Response Rate.....	19
4.3 Descriptive Analysis.....	19
4.3.1 Analysis by performance of ROA of Kenyan Urban WSPs.....	19
4.3.2 Analysis by performance of Current Ratio of Kenyan Urban WSPs.....	20
4.3.3 Analysis by performance of Payable Ratio of Kenyan Urban WSPs.....	21
4.3.4 Analysis by performance of Firm Size of Kenyan Urban WSPs.....	22

4.3.5 Status of Collection Efficiency of Kenyan Urban WSPs.....	23
4.4 Correlation Analysis.....	24
4.5 Regression Analysis.....	26
4.6 Discussion of the Findings.....	29
4.7 Summary.....	30
<b>CHAPTER FIVE: SUMMARY AND CONCLUSION.....</b>	<b>32</b>
5.1 Introduction.....	32
5.2 Summary of the Study.....	32
5.3 Conclusion.....	33
5.4 Limitation of the Study.....	33
5.5 Recommendation for Further Studies.....	33
<b>REFERENCES.....</b>	<b>34</b>
<b>APPENDICES.....</b>	<b>36</b>

## **LIST OF ABBREVIATIONS**

<b>CMA</b>	-	Capital Market Authority
<b>CCC</b>	-	Cash Conversion Cycle
<b>KENAO</b>	-	Kenya National Audit Office
<b>NSE</b>	-	Nairobi Securities Exchange
<b>OLS</b>	-	Ordinary Least Square
<b>ROA</b>	-	Return on Assets
<b>ROE</b>	-	Return on Equity
<b>SPSS</b>	-	Statistical Package for Social Sciences
<b>WASREB</b>	-	Water Services Regulatory Board
<b>WCM</b>	-	Working Capital Management
<b>WSBs</b>	-	Water Services Boards



## **ABSTRACT**

Working capital represents the amount of day-by-day operating liquidity available to a business. Working capital management entails managing short term assets and short term liabilities of the firm whereby working capital is equal to current assets minus current liabilities. There is need to properly manage working capital to ensure that there is optimal working capital in the firm all the time to enhance profitability since majority of businesses tend to fail due to improper management of firm's working capital.

Water sector is very important in the economy and the inclusion in the constitution of Kenya of the right to water and sanitation puts demand on water services providers in Kenya to deliver on their obligation yet very little research has been conducted for these water service providers hence leaving a gap that need to be bridged so as to provide recommendations to help boost performance of this sector. This study therefore sought to find out the effect of working capital management on the performance of water service providers in Kenya.

Many studies have been reviewed as well as the theories that shows the importance of the management of working capital in this study. The population of the study consisted of 65 urban water service providers in Kenya as at year 2015. Secondary data which was collected from audited financial statements by Kenya National Audit Office (KENAO) and Wasreb reports was used in this study. Data was analyzed using inferential statistics, that is, correlation and regression analysis.

The findings of this study showed that, ROA has a positive relationship with current ratio but negative relationship to payable ratio, firm size, and collection efficiency. This was an indication that both payable ratio, firm size, and collection efficiency were indirectly proportional to ROA, in which case an increase in any of; payable ratio, firm size, and/or collection efficiency, would cause a decrease ROA and vice versa.

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the Study

Working capital is the daily available operating liquidity to a business Luchinga (2014). Working capital management entails managing short term assets and liabilities of the firm whereby working capital is equal to current assets minus current liabilities. Improvement of the firm's working capital position is as a result of improvement in the operating divisions Michael and Eugene (2010). Therefore, finance manager should ensure proper control of the operations in the firm to make sure they are run efficiently. Performance of the firm is determined by measuring the profitability of the firm and the use of profitability ratios indicates management efficiency in utilizing the resources at their disposal. There is need to properly manage working capital to ensure that there is optimal working capital in the firm all the time to enhance profitability since majority of businesses tend to fail due to improper management of firm's working capital Rafuse (1996).

Various theories shows that a relationship exists between profitability and working capital and suggest optimal levels of holding these assets where the firm would least lose. William Baumol (1952) in his model for cash management provide an optimal level for holding cash where opportunity cost and fixed transaction costs will be at their minimal. Keynes (1936) in his theory of money gave three motives why firms hold money while the span between when the company makes payments and when it receives cash inflows referred to as cash conversion cycle model is made of three components which are receivables collection period, payables deferral period and inventory conversion period and the goal of the firm is to shorten the CCC ensuring that the operations of the firm are not hurt so as to improve its profits.

Water service providers seem not to be properly performing well in their mandate of provision of water in Kenya since we still have some people who are unable to access clean water and this might be due to the challenge they have in handling their working capital. These firms seem not to monitor how the working capital is managed and these might be the reason why they have not been able to perfectly play their role in the economy as expected Wasreb report (2015).

This study expected there to be a positive relationship between management of working capital and the financial performance of water service providers. If a firm is handling its assets poorly their financial performance is expected to go down. Nyotta (2014) researched on how working capital management and financial performance of automotive companies in Kenya relate and the study established that, efficient management of working capital results to increased profits in the automotive industry in Kenya and recommended firms to maintain a highest levels of working capital so as to remain competitive and profitable.

Water sector is very important in the economy and the inclusion in the constitution of Kenya water rights and sanitation puts demand on water service providers in Kenya to deliver on their obligation yet very little research has been conducted for these water service providers hence leaving a gap that need to be bridged so as to provide recommendations to help boost performance of this sector. This study therefore seeks to determine how working capital management affects the water service providers performance in Kenya.

### **1.1.1 Working Capital Management**

It refers to the management of current liabilities and assets to maximize results where current assets are those that will be spent or will be converted to cash in a span of a year and the obligations that will have to be paid within a year are the current liabilities Finkler (2010). Thus implying that, working capital are short term assets and obligations. Owino (2014) defines those assets that have to return into cash in due course of the business within a short time period under normal conditions normally a year, are referred to as the current assets.

Working capital poses two main questions that is, what is the right amount of working capital specific account and total? and ways to finance working capital Michael and Eugene (2010). There is no restriction on the level of investment on current liabilities and assets but according to Pandey (2010) it is conventional rule to maintain current assets level twice the current liabilities level. Current assets ought to be higher always than current liabilities so as provide a buffer to the maturing obligations of the firm in the operating cycle of the business to protect the interest of the company as well as short-term creditors.

Net working capital concept covers the judicious mix question of short and long term funds for current assets financing and affirms that, there exists minimum net working capital amount for each firm that is permanent and therefore permanent sources of funds such as equity share capital,

debentures, long-term debt, preference share capital or retained earnings should finance part of the working capital thus management need to decide on the extent which assets are used to finance long term sources of fund Pandey (2010).

Working capital management therefore entails the balancing act of the finance manager to ensure optimal investment of current assets and liabilities and deciding on the best sources of funds to finance the assets. Optimizing the management of cash and marketable securities requires expertise, therefore a firm should have a manager who should forecast cash inflows and outflows and develop the organization's cash budget so that he can determine whether additional funds need to be raised or if resources will be available that can be invested to earn a return to avoid idle assets since the firm would be missing potential earning on the idle asset.

The finance manager should also ensure that there is no shortage of the working capital in the firm to avoid becoming insolvent and making it hard for the firm to run its operations smoothly without any difficulties. Working capital tends to fluctuate from time to time depending on the level of operations of the business and hence unpredictable leading to either frequent shortages or excessive working capital in the firm. The finance manager therefore needs to know sources of working capital funds whenever there is a shortage of working capital the firm could borrow and also identify avenues of investing excessive working capital to avoid idle assets which earn nothing for the firm Finkler (2010).

Cash conversion cycle (CCC) is also very critical in working capital management and it is defined as the time between the firm's actual cash expenditures for paying productive resources (labour and material) and its cash receipts from product sales which is the period between paying for materials and labour and collection on receivables Michael and Eugene (2010). To ensure good performance it is recommended that the firm should reduce conversion of inventory period and average period of collection and increase period required to pay the creditors so as to keep CCC lowest possible. CCC is the summation of the inventory conversion period and average collection period minus payables deferral period Michael and Eugene (2010).

Therefore, the working capital management in this study was defined as the way in which current assets and current liabilities are balanced to ensure that there is no excess assets in the firm and the current liabilities do not exceed the current assets.

### **1.1.2 Financial Performance**

Performance of the firm is determined by measuring the firms' profitability. The use of profitability ratios indicates management efficiency in utilizing the resources at their disposal. Commonly used ratios to determine profitability of the firm includes; Gross profit margin, Return on Assets and Return on shareholder's equity. Owino (2014) used the same ratios in his study to determine the performance of manufacturing firms in Kenya.

Gross profit margin is derived by division of gross profit by sales and this measures the margin of profitability on sales in a given accounting year and if it is low, the company ought to boost its sales so as to improve its performance. Return- on- assets is the ratio of net profit before tax and interest and total assets employed and this ratio measures how efficiently assets in the firm are used to produce income for the company. The higher the ratio indicates that assets are being used efficiently. Companies that have invested heavily in assets will require a higher level of income compared to companies which have invested thinly in asset in order to generate healthy returns on assets Wang'ombe (2008).

Return on shareholder's equity is calculated by dividing net- profit after tax and preference dividend and shareholders equity and it is used to measure whether the firm activities are generating profit on the resources which the owners have invested in. The higher the ratio the better for the owners or ordinary shareholders of the firm. Most of the executive seem to put more weight on this ratio since it attract much attention from investors in the community.

### **1.1.3 Relationship between Working Capital Management and Financial Performance**

Working capital management is a vital component of financial performance since it directly influences profitability and liquidity of the company Awuor (2014). This implies that, management of working capital can highly affect the performance of any firm. Management should avoid excessive and inadequate investment in current assets. Excessive investment in current assets tends to impair profitability of the firm as idle investment would be earning nothing for the company. If there is surplus investment, it should be invested in short-term securities to earn some income for the company and improve its profitability.

Inadequate current assets should be avoided as it poses a threat to the solvency of the firm and may be unable to meet its short-term obligation and this might lead to the company experiencing

difficulties in borrowing fund, scare away potential investors as well as customers and creditors. Therefore, if a need for working capital arises as a result of increased business activities arrangements should be done immediately and ensure that the firm borrow from cheap sources of finance to reduce its liabilities as well as improving the profitability of a firm Pandey (2010).

The duration of time that cash held in accounts receivables and inventory Owino is the cash conversion circle (2014). Ensuring that CCC is at minimal level this would positively affect the performance of the firm. This can be contributed by improving efficiency in production process to take shortest time period and high inventory turnover whereby manufactured products are sold immediately. The firm should also ensure that debts from customers are collected within a very short time period and negotiating with creditor to extend their credit period so that they can give some more time before the firm can repay the debt. If this is successful, it would lead to very short CCC hence improving on the firm's profitability.

Working capital management is therefore very important for the success of any firm. Poor management of working capital leads to business failure as most of the operations that earn profit to any company originates from working capital which is always used on daily running of business Michael and Eugene (2010).

#### **1.1.4 Water Service Providers in Kenya**

Water is a very important substance therefore, it is necessary to ensure that water service providers are performing well to ensure a sustainable provision of quality water to its customers. Water service providers in Kenya enjoys a natural monopoly in provision of water services therefore, it is the role of the national government to ensure these utilities have good corporate governance, are accountable to their customers and the public at large and are commercially viable. The Water Act (2002) mandates water regulation services) to Water Services Regulatory Board (WASREB). WASREB being national regulator and has the obligation to oversee the policy implementation and strategies in relation to provision of water and sanitation services. Therefore, WASREB role is monitoring and regularly giving reports of the performance of utilities and Water Services Boards (WSBs).

The demand for water services is accelerating at a very high rate as a result of growing population and urbanization. The inclusion in the constitution of Kenya of the right to water and sanitation

puts demand on water services providers in Kenya to deliver on their obligation Wasreb report (2015).

Water and sanitation tend to be of great concern for all the nations worldwide. Water that is clean, available and also accessible is very essential all over the world since we have witnessed millions of people die from diseases which are associated with inadequacy of water supply and poor sanitation resulting from poor management of water services providers Wasreb report (2015).

Most of water providers have been experiencing numerous challenges such as political interference, corruption and bribery, lack of funds to finance their operations and poor management of the working capital among others as they strive to execute their roles. These challenges have contributed heavily towards poor financial performance of these firms and there is need to seek ways to curb all these problems so as to enable them deliver services effectively and also efficiently as they ensure progress towards fulfillment of the right to water as provided in the constitution to all people in the country.

Lack of accountability and rivalry in these firms is another major factor which has contributed to the inefficiencies in their operations leading to accelerating cost levels in their operations to an extent that they are unable to meet their short term obligations e.g. payment to the creditors due to poor management of the working capital. Therefore, there is a need to ensure adequate monitoring on how working capital of these firms is being managed so as to facilitate them to achieve their short- term obligations.

## **1.2 Research Problem**

William Baumol (1952) in his model for cash management made assumptions that the firm cash inflows and outflows are constant and steady but outflows exceeds inflows. This theory shows a tradeoff between opportunity cost of holding cash and fixed transaction cost in conversion of securities into cash and recommends the optimal level of holding cash. Keynes (1936) cited three motives why people or firms hold money which include transaction, precautionary and speculative motives. Cash conversion cycle is composed of three components, that is, receivables collection period, inventory conversion period and period of deferring payments and the goal of the firm is to shorten the CCC so as to improve its profits. Longer CCC would necessitate the firm to seek external finances which would be additional cost to the firm.

Water that is clean, available and also accessible is very important all over the world since we have witnessed millions of people die due to diseases attributed with inadequacy of water supply and poor sanitation resulting from poor management of water services providers. The demand for water services is accelerating at a very high rate due to urbanization and population growth. The inclusion in the constitution of Kenya sanitation and water rights puts demand on water services providers in Kenya to deliver on their obligation. Water service providers in Kenya enjoys a natural monopoly in provision of water services hence lack of accountability and competition in these firms which has contributed to the inefficiencies in their operations leading to accelerating cost levels in their operations to an extent that they are unable to meet their short term obligations e.g. payment to the creditors due to poor management of the working capital.

Studies have been conducted locally and abroad to determine how working capital components affects firms' profitability. Luchinga (2014) did a research on effects of working capital profitability management of agricultural firms listed in NSE and found out that, CCC and the net payment period shows a negative relationship with Return on Equities showing that firm's financial performance with increased short sizing of both of them and liquidity -current ratio has a positive association with Return on Equity (ROE).

Deloof (2003) studied 50 large firms in Belgian for the period 1992 to 1996 and his studies showed that, firms profitability can be improved by reducing the duration of outstanding accounts receivables and reduction of inventories. Therefore, reduction of the receivable collection period and inventory conversion period would reduce the CCC hence improving profitability of the firm.

Mulogoli (2015) researched on the effect of working capital policies on non-financial companies financial performance listed on the NSE and his findings shows that there were statistically significant positive relationships between management of working capital policies and financial performance of these companies and concluded that, working capital management policies positively influenced financial performance. He also found out that firm size had a statistically significant negative relationship with financial performance.

Water service providers seem not to be properly performing well in their mandate of provision of water in Kenya since we still have some people who are unable to access clean water and this might be due to the challenge they have in handling their working capital. These firms seem not to monitor how the working capital is managed and these might be the reason why they have not



been able to perfectly play their role in the economy as expected. From review of several studies which have been conducted it is clear that, very little research has been conducted on how performance of water service providers is affected by working capital.

Water sector is very important in the economy and the inclusion in the constitution of Kenya of the right to water and sanitation puts demand on water services providers in Kenya to deliver on their obligation yet very little research has been conducted for these water service providers hence leaving a gap that needed to be bridged so as to provide recommendations to help boost performance of this sector. This study therefore sought to answer the question on how working capital management affects the performance of water service providers in Kenya?

### **1.3 Research Objectives**

The study sought to establish how working capital management affects financial performance of water service providers in Kenya.

### **1.4 Value of the Study**

This study will be of great importance to different groups of people among them includes; management of the water service providers who will be able to know the optimal level of investment in working capital and ensure proper monitoring so as to boost the performance of these companies. Lenders also tend to insist on a certain investment levels in working capital before they can lend to any firm, this study will help them to gauge the capabilities of the borrowers to meet their short term obligations.

This study contribute to the body of knowledge on how working management of working capital can affect performances of water service providers and may motivate most students to do further studies on other factors that influence this sector in Kenya. The regulatory bodies for example Water Services Regulatory Board through this study they can change their way of monitoring and consider measuring performance on how working capital is managed. Customers can be able to assess the going concern of their water supplier and know in advance whether to rely on these companies or get alternative sources of water.

# **CHAPTER TWO**

## **LITERATURE REVIEW**

### **2.1 Introduction**

This chapter will review both empirical and theoretical studies in relation to the working capital management. Various studies have been carried out to show the effects that management of working capital has on performance of different types of organizations. Section 2.2 provides theoretical theories while section 2.3 discusses the determinants of the financial performance. Section 2.4 contains empirical review of various studies, section 2.5 reviews local research on this topic and section 2.6 gives literature review summary.

### **2.2 Theoretical Review**

There are several theories that explains the relationship between management of working capital and the financial performance of the firm and this study seek to review some of them as discussed below.

#### **2.2.1 Baumol Cash Management Model**

William Baumol (1952) in his model made assumptions that the firm cash inflows and outflows are constant and steady but outflows exceeds inflows. The firm therefore ought to replenish its cash periodically due to this constant drain from the firm Madura (1988).

This model considers a tradeoff which is made by the firm when it has to liquidate securities so as to raise cash. There is a fixed cost for transaction costs incurred when selling securities and also opportunity cost for holding cash which would be earning interest income for the company. In order for the company to reduce transaction cost the firm sells securities in large amounts but this would be increasing the opportunity cost for holding cash.

According to Baumol (1952), In order for a firm to arrive at an optimal level of cash  $C^*$  where both fixed transaction cost and opportunity cost will be minimized then the following input is recommended: the fixed cost of selling securities (F), rate of interest that could be earned on the securities (K) and the total expected net cash outflow during a given period of time (TCF)

The relationship is that;

$$C^* = 2F (TCF)/K$$

The limitation of this model is the assumption that the firm has a smooth cash inflows and outflows which is not realistic since they vary from time to time and they are unpredictable.

### **2.2.2 Keynesian Theory of Money**

Keynes (1936) cited three motives why people or firms hold money and these includes; transaction motive where firms need money to facilitate them to buy raw materials, pay their employees, purchasing of the assets among others.

The second reason why firms hold cash is for precautionary motive since firms are not certain about when payment should be made to their creditors and also the time they will receive cash from debtors therefore arises the need to maintain assets in terms of cash due to uncertainties and the higher the level of uncertainties the higher the level of precautionary balances.

Lastly, firms hold money for speculative motive whereby the firm holds cash waiting for a good deal or a favorable opportunity to arise and take advantage e.g. raw materials at low cost and equipment whose prices are favorable.

### **2.2.3 The Cash Conversion Model**

According to Brigham and Houston (2004) the span between company receipts of cash flows from date of payment payments is termed as the cash conversion cycle and is composed of three components that is, receivables collection period payables deferral period and inventory conversion period.

The goal of the firm is to shorten the CCC ensuring that the operations of the firm are not hurt so as to improve its profits. Longer CCC would necessitate the firm to seek external finances which would be additional cost to the firm.

Cash conversion period can be reduced by reduction of inventory conversion period which is achieved by ensuring goods are processed and sold quickly, receivables are collected within shortest period and lengthening the period for payment to creditors.

## **2.3 Determinants of Profitability**

### **2.3.1 Size of the firm**

The firm size highly determines the firms' profitability. The profitability emanates from the economies of scale due to production in large quantities. Production in large scale makes the firm to order raw materials in large quantities which attracts high discounts in prices as well as low cost of production. Big firms tend also to have no challenges in borrowing as they have enough assets to secure their loans hence it is easier for them to borrow funds compared to small firms.

Muturi and Omondi (2013) claim that large companies have competitive advantage over small ones as large ones have a many and diverse resources and stand in a better position due to the fact that they also enjoy economies of scale. Due to economies of scale, large companies have low cost of production compared to small companies hence they are able to offer their products at a relatively lower prices making them very competitive.

### **2.3.2 Leverage**

The level of leverage in the company explains how a firm is financed, that is, debt use in the capital structure of the firm and it highly determines the performance of the firm. Use of debt may increase the value of the firm due to tax relief on interest paid on the debt hence this would improve the profitability of the firm. Excessive use of debt might lead to a firm having financial distress which negatively impact on the performance of the firm. Therefore, there is a need to have an optimal debt-equity ratio since debt affects the performance of the firm. French and Fama (1992) mention that, there is a high risk as a high discount rates may be used for the contribution of firms with high leverage and recommended that low debt should be used in order to reduce the financial risk in the firm.

## **2.4 Empirical Review**

Julian (2014) did a research on how financial performance and working capital of manufacturing firms in Nairobi County relate and the target population of her study came from 149 manufacturing firms within Nairobi County and data covered a period of five years 2009-2013. Data used was gathered through the websites and supplemented by the annual reports of the firms. The study showed a strong significant relationship between the predictor's variable (cash conversion cycle,

interest coverage ratio, Debt Equity Ratio, Accounts Receivables, Accounts Payables and inventories) and response variable Return on Assets).The researcher also found out that, the relationship between return on assets and average payables period is positive and the relationship between Debt Equity ratio and assets return as positive too. This study concluded that, working capital management is a vital component of financial performance as it affects directly the profitability and liquidity of the company.

Owino (2014) studied on the effects of working capital management on the manufacturing companies profitability in Kenya and he used descriptive statistical approach to describe the effect of management of working capital. He used secondary data from financial reports for five years to observe the working capital components behavior of 12 companies. The collected data was analyzed using central tendency measures and was also subjected to computerized analysis using Microsoft excel spread-sheet and SPSS. This study found out that, no significant relationship existed between profitability and working capital components apart from the size of the firm. The study confirmed a significant positive effect of the size of the firm on profitability.

Luchinga (2014) researched on the effect of working capital management on the profitability of agricultural firms listed in NSE and he studied 7 agricultural firms which are listed in NSE. He used secondary data from audited financial statements from year 2009 to 2012 and it was analyzed using regression and correlation analysis. He used Return on Assets to measure the profitability of these firms. His findings on the study rejected the null hypothesis that there is no relationship between working capital management and firm's financial performance and accepted alternative hypothesis that there exists a relationship between working capital management and firm's financial performance of agricultural firms listed on NSE in Kenya.

Kamula (2011) did a research to investigate the relationship between management of working capital and profitability of cement companies in Kenya. He did a casual study using secondary data for 5 years (2006-2010) which incorporated all cement companies operating in Kenya as at 30<sup>th</sup> December 2010. Spearman's correlation was used to analyze the data and the study concluded that efficient working capital management increases profitability.

Waithaka (2012) studied the relationship between working capital management practices and financial performance of agricultural companies listed at the NSE using a correlation design to carry out her study. The target population was 7 agricultural companies listed in NSE and

secondary data from company's audited financial statements for the year 2007 to 2011 was used. The researcher conducted a multiple linear regression analysis so as to explore the impact of components working capital management. Further analysis was carried out using SPSS and results presented in tables. The study concluded that, there exists a strong positive relationship between components of working capital and financial performance and recommended that the companies wishing to boost their performance should put more emphasis in the area of efficient working capital.

Nyotta (2014) researched on the relationship between the working capital management and financial performance of automotive companies in Kenya using descriptive research design. The population of his study was 21 registered automotive companies in Kenya. The research study used secondary source of data collected from financial statements maintained at respective firms, the NSE and Capital Market Authority (CMA) for the period 2009 to 2013. Data was collected and later analyzed using multiple linear regression where ROA was used to measure the profitability of these companies. The study established that, efficient working capital management results to increased profitability in the automotive industry in Kenya and recommended firms to maintain an optimal level of working capital in so as to remain profitable and competitive.

Deloof (2003) studied 50 large firms in Belgian for the period 1992 to 1996 and his findings showed that, firms can improve their profitability by reducing the number of days accounts receivable are outstanding and reducing inventories. Therefore, reduction of the receivable collection period and inventory conversion period would reduce the CCC hence improving profitability of the firm.

Odero (2014) studied on the effect of working capital management on financial performance of five star hotels in Nairobi County and adopted a descriptive survey design. His study composed of 5 five star hotels licensed by the Hotels and Restaurant Authority Ministry of Commerce and Tourism between year 2009 and 2013. Secondary data collection technique was employed to collect data from audited financial statements and reports of targeted companies for study period 2009 to 2013 with the aid of self-administered letters. The data was analyzed using multiple regression analysis. This study established that, possessing a lower average collection period is experienced by five star hotels as optimal as it means that it takes a short period of time to convert receivables into cash. Therefore, short CCC improves profitability of the firms. He further

recommended that firms must create stronger linkages between stores, purchasing and marketing departments that enhances communications thereby providing each other with the relevant information that positively helps the firm in managing its inventory operations and minimizing costs.

Mulogoli (2015) researched on the effect of working capital policies on financial performance of non-financial companies listed on the NSE adopting a diagnostic research design. Sample of 30 non-financial companies listed on NSE was used and the researcher used secondary data collected from extractions from the published statements for the period 2010 to 2014. The study used both descriptive statistics, Pearson's correlation and log-log random effects regression model to analyze the results. The findings from this study established that, for this period there was a positive and statistically significant relationship between financial performance and working capital management policies. The researcher recommended the managers in these firms to keep working round the clock so as to optimize on working capital management strategies and policies.

Binti and Binti (2010) did a research on the effect of market valuation and profitability in Malaysia. This study involved 172 listed Malaysian firms and the data analyzed using Ordinary Least Square (OLS) regression analysis. They found out that, current ratio is negatively significant to financial performance and it showed the relevance of proper management of working capital since it affects firm's market value and profitability.

## **2.5 Review of Local Research**

Wanyoike (2015) conducted the same research on how service providers performance is affected by working capital for the period 2010-2014. He found that a negative and significant relationship existed between return on assets and accounts receivable. The relationship between payable ratio and ROA was positive while liquidity ratio and ROA were positively significantly related. The effect of size on ROA significant and positive.

## **2.6 Summary of Literature Review**

According to many studies that have been carried out we observe that, working capital management is a very critical component in the financial performance of the firms. There is a positive relationship between working capital management and performance of the firm therefore making it very important for every firm to closely monitor working capital components.

The cash conversion cycle have been emphasized in various studies as a very key factor in working capital management. The goal of the firm is to shorten the CCC ensuring that the operations of the firm are not hurt so as to improve its profits. Longer CCC would necessitate the firm to seek external finances which would be additional cost to the firm.

Review of various studies have shown that, very few research has been done on the effect of the working capital management on the performance of water service providers in Kenya yet it is a very critical sector which require more research to improve the lives of the Kenyan. Therefore, this study sought to bridge that gap and find out the importance of cash conversion cycle on the performance of these firms.



## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter entails discussion on how this study was carried out and the procedure that were followed. Section 3.2 discusses research design, section 3.3 presents the population and the sample of the study. Section 3.4 discusses how the data was collected while section 3.5 shows how the collected data was analyzed.

#### **3.2 Research Design**

This study employed explanatory research design to investigate the relationship between working capital management and financial performance of the firms. This research design was chosen for this study since it would help to answer the how questions and provide the explanations on how working capital management affect the financial performance of Kenyan water service providers

#### **3.3 Population and Sample**

The study population consisted of 65 urban water service providers in Kenya as at year 2015 (Wasreb report, 2015). The sample of the study was 65 urban water service providers since they are very few.

#### **3.4 Data Collection**

Secondary data which was collected from audited financial statements by Kenya National Audit Office (KENAO) and Wasreb reports was used in this study. The data collected was on Return on Assets, liquidity ratio, receivables ratio and payable ratio for the period 2011-2015.

#### **3.5 Data Analysis**

Data was analyzed using inferential statistics, that is, correlation and regression analysis. The multiple regression was used since the study had more than one independent variables.

##### **3.5.1 Conceptual Model**

$$Y = f(X_1, X_2, X_3, X_4)$$

Where Y – Return on Assets

X<sub>1</sub>-Current ratio

X<sub>2</sub>- Account Receivables ratio

X<sub>3</sub>-Payable ratio

X<sub>4</sub>-Firm size

Liquidity ratio was measured as the total revenue/total O&M expenditures. Account receivable ratio was measured as per given collection efficiency of the WSPs while payable ratio was measured as the total O&M expenditures connections to total revenue. The firm size was measured as the log of the total active connections in WSPs while performance of the water service providers was measured using Return on assets. Return on assets tend to be affected by how liquidity ratio, receivables ratio and payable ratio behave and this study expected a positive relationship between dependent and independent variables.

Waithaka (2012) studied management of working capital practices and financial performance of agricultural companies the study concluded that a strong positive relationship existed between components of working capital and financial performance and recommended that the companies wishing to boost their performance should put more emphasis in the area of efficient working capital.

### **3.5.2 Analytical Model**

The analytical model will be as follows;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$$

The strength of the relationship will be measured by conducting a correlation analysis and if the correlation is **+1**, then it would mean there is strong positive correlation and if it gives **-1** then there will be a strong negative correlation between dependent and independent variables and the decision will be reached at 5% confidence level.

## **CHAPTER FOUR**

### **DATA ANALYSIS, RESULTS AND DISCUSSION**

#### **4.1 Introduction**

This chapter entails the analysis of the findings from the research study and the discussion of the same. Section 4.2 gives the response rate while section 4.3 provides the descriptive analysis of the findings. Section 4.4 gives the correlation analysis while section 4.5 provide regression analysis and section 4.6 shows a discussion of the findings and finally section 4.7 gives a summary of the chapter.

#### **4.2 Response Rate**

The study collected data from 65 respondents (WSPs) and the data was checked for correctness. Data from 9 WSP was found to be either incomplete or invalid and was rejected for analysis. The response rate was therefore 56 respondents, which translates to 86.15%. According to Mugenda and Mugenda (2003), any response rate above 69% is high and would yield accurate results. Based on assertion on Mugenda and Mugenda (2003), then the response rate of 86.15% was very good and suitable for good results

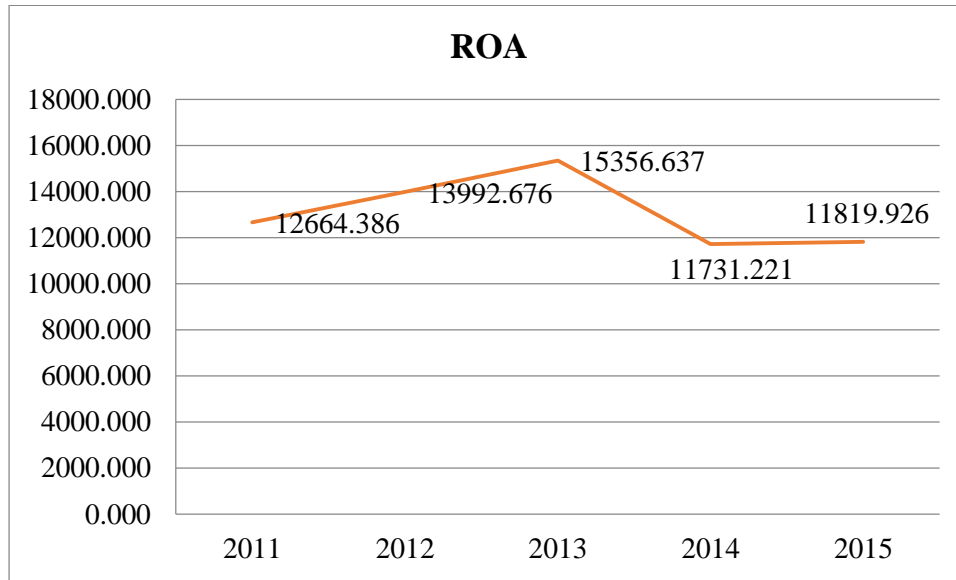
#### **4.3 Descriptive Analysis**

The study analyzed the Independent Variables (IVs) as well as the Dependent Variable (DV); Return on Assets (ROA). The IVs were; Current ratio, Payable ratio, firm size, and collection efficiency. The objective of the study was to assess the effect of working capital management on the financial performance of water service providers in Kenya using data collected from 54 urban Water Service Providers (WSPs) for the period 2011 to 2015. When analysing the descriptive, the average (mean) trends for each variable (both IVs and DV) in the said period is captured here under.

##### **4.3.1 Analysis by performance of Return on Assets of Kenyan Urban WSPs**

The study first assessed the trend in performance of ROA (DV) as captured in figure 1.

**Figure 1: Performance ROA in Urban Kenyan WSP**



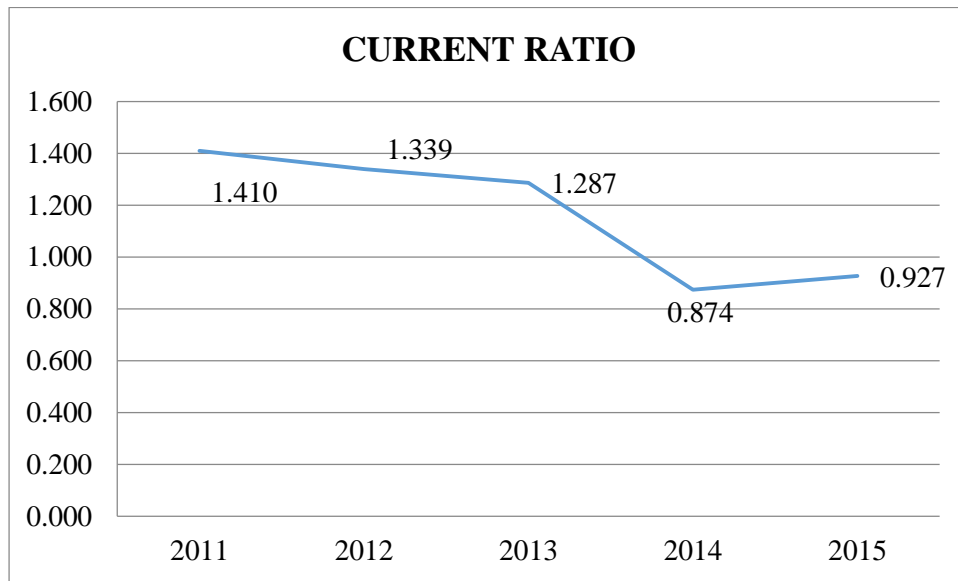
Source: Research Data from Urban WSPs of Kenya (2016)

The results captured in figure 1 show average ROA of the urban WSPs increased consistently from 2011 to 2013. In the year 2011, it was 12,664.386 and this increased to 13,992.676 in the year 2012 and then 15,356.637 in 2013. There was a drastic drop in the year 2014, which was from year 2013's 15,356.637 to 11,731.221. The ROA seemed to stabilise in the year 2015 but with a very insignificant increase at 11819.926.

#### **4.3.2 Analysis by performance of Current Ratio of Kenyan Urban WSPs**

The first IV, in the study, was Current Ratio, measured as total revenue/total O&M expenditures. The study assessed the trends in the performance of Current Ratio and results obtained recorded in figure 2.

**Figure 2: Performance Current Ratio of Urban Kenyan WSP**



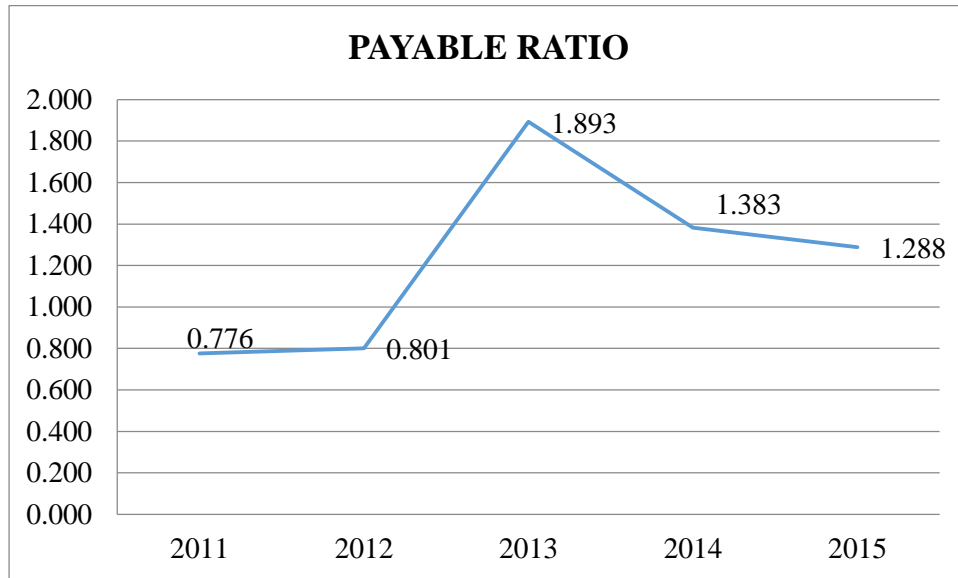
Source: Research Data from Urban WSPs of Kenya (2016)

The results in figure 2 show that the current ratio of the Kenya's urban WSPs was 1.410 in the year 2011, which dropped to 1.339 in the year 2012 and again to 1.287 in the year 2013. There was a tremendous drop in the year 2014 from 1.287 of 2013 to 0.874. However, there was slight increase in 2015 to 0.927. From these results it can be observed, most of the years, the WSPs were experiencing a decrease in value of their Current Ratio. In fact the direct drop was from 1.410 in 2011 to 0.927 of 2015, which was a very significant decrease.

#### **4.3.3 Analysis by performance of Payable Ratio of Kenyan Urban WSPs**

The study also analysed the changes of trends in the payable ratio, which was the second IV, and results were captured on figure 3. The payable ratio was calculated as ratio of total O&M expenditures to total revenue, simply the inverse of current ratio.

Figure 3: Performance of Payable Ratio for Urban Kenyan WSP



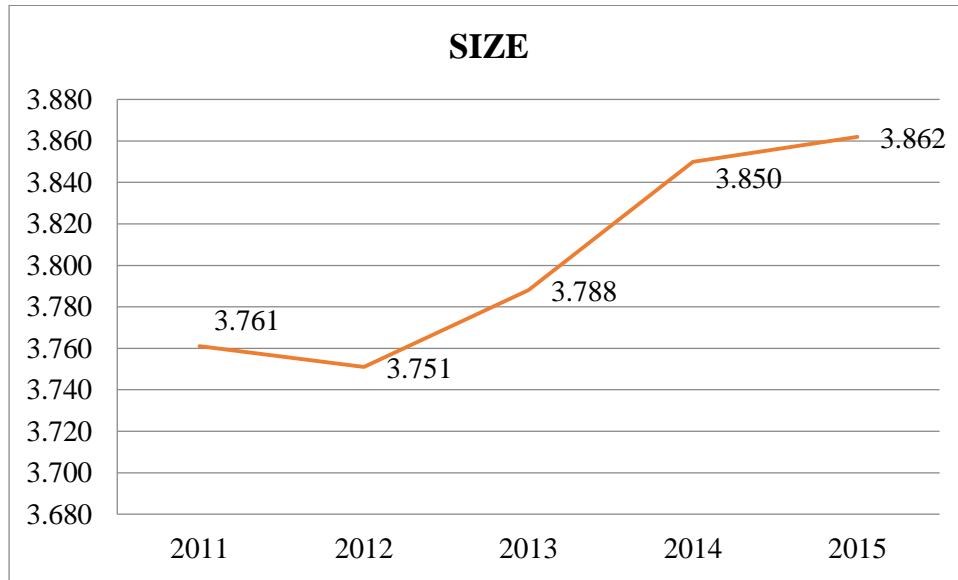
Source: Research Data from Urban WSPs of Kenya (2016)

The results in figure 3 show that the payable ratio slightly increased from 0.776 in 2011 to 0.801 in the year 2012. There was sharp increase from 0.801 in the year 2012 to 1.893 in 2013. However, the payable ratio started decreasing from the year 2013 up to the year 2015. The decrease from 2013 to 2014 was high, from 1.893 to 1.383. Then payable ratio slightly decreased from 1.383 to 1.288 in the year 2015

#### 4.3.4 Analysis by performance of firm size of Kenyan Urban WSPs

The third IV was firm size of Kenyan Urban WSPs and its trend was also assessed in the present study. The results on the trends in performance of firms compared to the size of Kenyan Urban WSPs were recorded in figure 4.

**Figure 4: Performance Firm Size of Urban Kenyan WSP**



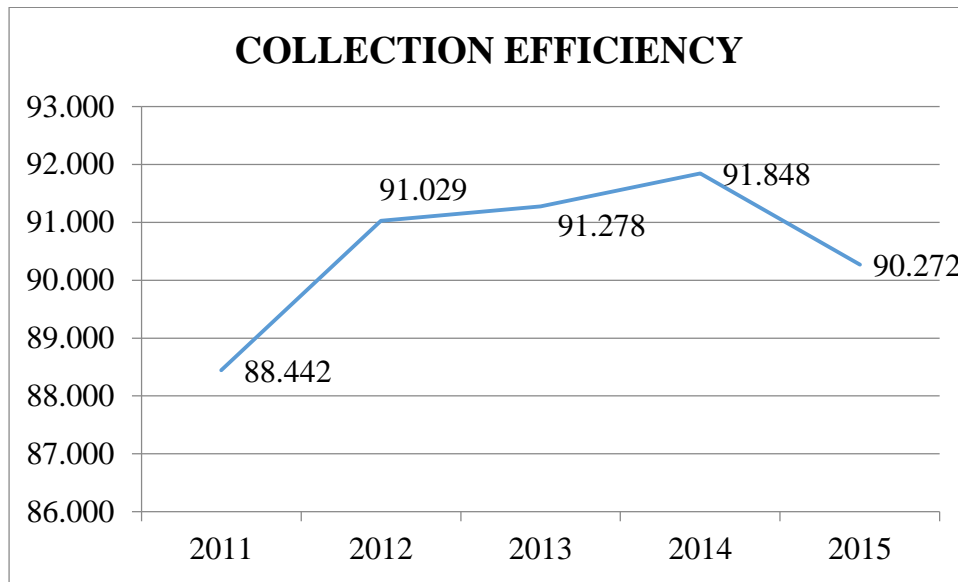
Source: Research Data from Urban WSPs of Kenya (2016)

Figure results show that the firm size, which was calculated as the log (no. of connections) increased from 3.761 in 2011 to 3.862 in 2015. From the year 2011 to 2012, the firm size slightly decreased from 3.761 to 3.751. Thereafter, the firm size started increasing from 2012 to 2013, it increased from 3.751 to 3.788 and then to 3.850 in 2014. The firm size slightly increased from 3.850 to 3.862 in 2015.

#### **4.3.5 Status of Collection Efficiency of Kenyan Urban WSPs**

Lastly, the study assessed the performance of Collection Efficiency of Kenyan Urban WSPs and the results captured in figure 5.

**Figure 5: Performance Collection Efficiency of Urban Kenyan WSP**



Source: Research Data from Urban WSPs of Kenya (2016)

The results in figure 5 showed that the collection efficiency performed variously, without any consistent trends, in the period 2011 to 2015. From 2011 to 2012 there was significant increase from 88.442 to 91.029. The increase from 2013 to 2014 appeared to take an exponential curve functions property, changing from 91.029 in 2012 to 91.278 in 2013 and then 91.848 in 2014. However, there was sharp decrease in 2015 to 90.272 from 91.848.

#### **4.4 Correlation Analysis**

The study analysed the data using correlation analysis to establish whether there existed any significant relationship between the DV Return on Assets (ROA) and the IVs; current ratio, payable ratio, firm size, and collection efficiency, at 0.05 level of significance test. This was based on the proposal that ROA is influenced by Current ratio, Payable ratio, firm size, and collection efficiency. The aim was to establish whether there was a statistically significant relationship between the IVs' and performance ROA. Pearson's Product method was used to correlate the Dependent Variable to the Independent variables and the result obtained captured in Table 1.



**Table 1: Correlations Statistics of Independent and Dependent Variables**

		ROA	CURRENT RATIO	PAYABLE RATIO	SIZE	COLLECTION EFFICIENCY
ROA	Pearson Correlation	1	.322**	-.149**	-0.099*	-.112*
	Sig. (1-tailed)		0.00	0.01	0.05	0.03
	N	270	270	270	270	270
CURRENT RATIO	Pearson Correlation	.322**	1	-.240**	.106*	-0.091
	Sig. (1-tailed)	0.00		0.00	0.04	0.07
	N	270	270	270	270	270
PAYABLE RATIO	Pearson Correlation	-.149**	-.240**	1	-0.09	-.101*
	Sig. (1-tailed)	0.01	0.00		0.07	0.05
	N	270	270	270	270	270
SIZE	Pearson Correlation	-0.099*	.106*	-0.09	1	.126*
	Sig. (1-tailed)	0.05	0.04	0.07		0.02
	N	270	270	270	270	270
COLLECTION EFFICIENCY	Pearson Correlation	-.112*	-0.091	-.101*	.126*	1
	Sig. (1-tailed)	0.03	0.07	0.05	0.02	
	N	270	270	270	270	270

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

\*. Correlation is significant at the 0.05 level (2-tailed).

Source: Research Data (2016)

The results of correlation analysis in table 1 show that under the Pearson correlation and at 0.05 level of significance; current ratio, payable ratio, firm size, and collection efficiency (the Independent Variables) were statically significant to ROA. From the results; current ratio ( $r = .322$ ,

p-value = .00), payable ratio (r = -.149, p =.04) firm size (r = -.099, p =.05) and collection efficiency (r = +.112, p =.03) had their p-values not greater than .05 for each. In fact, for each Independent Variable, the  $p \leq .05$ , which made the study conclude that there was a relationship very significant to DV (ROA). It was shown that current ratio (absolute r = .322) had the highest significance level, followed by payable ratio (absolute r = .149), collection efficiency (absolute r = .112) and then firm size (absolute r = 099). The study found that all the independent variables; current ratio, payable ratio, firm size, and collection efficiency can be used to explain ROA, which allowed for the IVs to be used for further analysis to establish the regression model to estimate the study model.

**4.5 Regression Analysis**

The study sought to establish the relationship between Return on Assets and performance of the IVs, at 0.5 level of significance using the model.

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \epsilon \dots\dots\dots (ii)$$

Where;

Y – Return on Assets

X<sub>1</sub> - Current ratio

X<sub>2</sub> - Collection Efficiency

X<sub>3</sub> - Payable ratio

X<sub>4</sub> - Firm size

The independent variables were tested to establish whether they were determinants of dependent variable using multiple regressions 95% confidence level. The study first tested for ANOVA to establish the fitness of fit of the study model and the results obtained were record in Table 3.

**Table 2: ANOVA for ROA in Terms of Dependent Variables**

ANOVA <sup>a</sup>					
	Sum of Squares	df	Mean Square	F	p-value
Regression	1627803250	4	406950812.5	9.956	.000 <sup>b</sup>
Residual	10831799154	265	40874713.79		
Total	12459602404	269			

a. Dependent Variable: ROA

b. Predictors: (Constant), COLLECTION EFFICIENCY, PAYABLE RATIO, SIZE, CURRENT RATIO

Source: Research Data (2016)

The study developed a hypothesis to test the model based on 0.05 level of significance. This was;

$H_0: \beta_1 = \beta_2 = \beta_3 = \beta_4 = 0$  (i.e. the coefficient of current ratio, payable ratio, firm size, and collection efficiency are all zero)

$H_a$ : At least one  $\beta_i \neq 0$

$H_0$  is accepted if p-value  $>.05$  (at 5% level of significance)

$H_0$  is rejected if p-value  $\leq .05$  (at 5% level of significance) and  $H_a$  is accepted

From Table 2, it can be observed that p-value = .000. Since p-value  $<.001 < .05$  ( $F=9.956$ , p-value=.000), then we reject the null hypothesis and accept the alternative hypothesis. So, at the 5% significance level (i.e.  $\alpha=0.05$ , level of significance), there is enough evidence to conclude that at least one of the predictors; current ratio, payable ratio, firm size, and collection efficiency, is useful in predicting the ROA. Therefore the model is useful

**Table 3: Coefficients for Study Model**

	Coefficients <sup>a</sup>				
	Unstandardized Coefficients		Standardized Coefficients	t	p-value.
	B	Std. Error	Beta		
(Constant)	17349.47	3958.309		4.383	0.000
CURRENT RATIO	4034.83	783.474	0.309	5.15	0.000
PAYABLE RATIO	-176.45	114.601	-0.092	-1.54	0.125
SIZE	-1646.73	716.994	-0.134	-2.297	0.022
COLLECTION EFFICIENCY	-27.25	32.856	-0.049	-0.83	0.408

a. Dependent Variable: ROA

Source: Research Data (2016)

From the results in Table 3, the p-value for current ratio is 0.00, payable ratio = 0.125, firm size = 0/022 and collection efficiency is .408. Since the p value for current ratio and firm size was each less than 0.05, there is an indication that there was a significant relationship between each of current ratio and firm size, and the dependent variable; ROA. This is to say that all the predictor variables are suitable in estimating the dependent variable, ROA. The coefficient for current ratio is 4034.83, payable ratio was -176.45, firm size was -1646.73 and collection efficiency is -27.25. The model, as shown in Table 3, was therefore fitted as

$$Y = 17349 + 4034.83X_1 - 27.25X_2 - 176.45X_3 - 1646.73X_4 \dots\dots\dots (iii).$$

It should also be noted that the predictor variable; current ratio has its  $\beta$ -value as positive, indicating that current ratio is directly proportional to ROA. So, an increase in current ratio causes an increase in ROA and vice versa. Further it is shown that the  $\beta$ -values for payable ratio, firm size, and collection efficiency were negative. This was an indication that both payable ratio, firm size, and collection efficiency were indirectly proportional to ROA, in which case an increase in any of; payable ratio, firm size, and/or collection efficiency, would cause a decrease ROA and vice versa.

**Table 4: Model Summary**

R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
				R Square Change	F Change	df1	df2	Sig. F Change
.361 <sup>a</sup>	0.131	0.118	6393.33	0.131	9.956	4	265	0.000

a. Predictors: (Constant), COLLECTION EFFICIENCY, PAYABLE RATIO, SIZE, CURRENT RATIO  
Source: Research Data (2016)

Further, the  $R^2$  was 0.131, meaning that 13.10% of variation in ROA is explained by the independent variables; current ratio, payable ratio, firm size, and collection efficiency as shown in Table 4, which indicates that the coefficient of determination was .131. This implies that a variation in current ratio, payable ratio, firm size, and collection efficiency are useful in explaining the ROA

#### 4.6 Discussion of the Findings

ROA of the urban WSPs increased consistently from 2011 to 2013. In the year 2011, it was 12,664.386 and this increased to 13,992.676 in the year 2012 and then 15,356.637 in 2013. There was a drastic drop in the year 2014, which was from year 2013's 15,356.637 to 11,731.221. The ROA seemed to stabilize in the year 2015 but with a very insignificant increase at 11819.926.

Current ratio of the Kenya's urban WSPs was 1.410 in the year 2011, which dropped to 1.339 in the year 2012 and again to 1.287 in the year 2013. There was a tremendous drop in the year 2014 from 1.287 of 2013 to 0.874. However, there was slight increase in 2015 to 0.927. From these results it can be observed, most of the years, the WSPs were experiencing a decrease in value of their Current Ratio. In fact the direct drop was from 1.410 in 2011 to 0.927 of 2015, which was a very significant decrease.

Payable ratio slightly increased from 0.776 in 2011 to 0.801 in the year 2012. There was sharp increase from 0.801 in the year 2012 to 1.893 in 2013. However, the payable ratio started decreasing from the year 2013 up to the year 2015. The decrease from 2013 to 2014 was high, from 1.893 to 1.383. Then payable ratio slightly decreased from 1.393 to 1.288 in the year 2015.

Firm size increased from 3.761 in 2011 to 3.862 in 2015 but from the year 2011 to 2012, the firm size slightly decreased from 3.761 to 3.751. Thereafter, the firm size started increasing from 2012 to 2013, it increased from 3.751 to 3.788 and then to 3.850 in 2014. The firm size slightly increased from 3.850 to 3.862 in 2015.

Collection efficiency performed variously, without any consistent trends, in the period 2011 to 2015. From 2011 to 2012 there was significant increase from 88.442 to 91.029. The increase from 2013 to 2014 appeared to take an exponential curve functions property, changing from 91.029 in 2012 to 91.278 in 2013 and then 91.848 in 2014. However, there was sharp decrease in 2015 to 90.272 from 91.848.

The coefficient for current ratio was 4034.83, payable ratio was -176.45, firm size was -1646.73 and collection efficiency was -27.25. Current ratio has its  $\beta$ -value as positive, indicating that current ratio is directly proportional to ROA. So, an increase in current ratio causes an increase in ROA and vice versa. Further it is shown that the  $\beta$ -values for payable ratio, firm size, and collection efficiency were negative. This was an indication that both payable ratio, firm size, and collection efficiency were indirectly proportional to ROA, in which case an increase in any of; payable ratio, firm size, and/or collection efficiency, would cause a decrease ROA and vice versa.

The research found out that a positive relationship exists between ROA and current ratio which is consistent with the finding by Wanyoike (2015). Odero (2014) found out in his research that, there is a negative relationship between ROA and accounts payable which is also consistent to the findings of this study. Owino (2014) in his study found out that, there is no significant relationship between the working capital components and profitability apart from the size of the firm. The study confirmed a significant positive effect of the size of the firm on profitability which differs from this study as the findings shows that ROA has a relationship with working capital components and there is a negative relationship between ROA and size of the firm.

#### **4.7 Summary**

The findings of this study showed that, ROA has a positive relationship with current ratio but negative relationship to payable ratio, firm size, and collection efficiency. This was an indication

that both payable ratio, firm size, and collection efficiency were indirectly proportional to ROA, in which case an increase in any of; payable ratio, firm size, and/or collection efficiency, would cause a decrease ROA and vice versa.

# **CHAPTER FIVE**

## **SUMMARY AND CONCLUSION**

### **5.1 Introduction**

This chapter will give a summary of the whole research project and the findings as well as the conclusion of the study. Section 5.2 gives a brief summary of the research study while section 5.3 entails a conclusion which was based on the findings of the research. Section 5.4 shows the limitation of the study while section 5.5 provides recommendations of further studies.

### **5.2 Summary of the Study**

This study sought to find out the effect of working capital management on the performance of water service providers in Kenya especially in urban areas. Chapter one began by definition of the variables in the study and contextual framework of the study. The research question and the research objectives were also discussed as well as the parties who are likely to benefit from this study.

Chapter two gave a theoretical framework as well as the empirical evidences which were discussed in details. Various theories were discussed in details which included cash management model by William Baumol (1952) that provided an optimal level for holding cash where opportunity cost and fixed transaction costs will be at their minimal. Keynes (1936) in his theory of money gave three motives why firms hold money while cash conversion cycle model which is the length of time between when the company makes payments and when it receives cash inflows is composed of three components that is, inventory conversion period, receivables collection period and payables deferral period and the goal of the firm is to shorten the CCC ensuring that the operations of the firm are not hurt so as to improve its profits.

Chapter three gave a clear description on how the research study was going to be conducted, how data would be collected and analyzed as well as the source of the data. Chapter four showed analysis and discussion of the findings from the study. The findings of the study showed that, ROA has a positive relationship with current ratio but negative relationship to payable ratio, firm size, and collection efficiency. This was an indication that both payable ratio, firm size, and collection



efficiency were indirectly proportional to ROA, in which case an increase in any of; payable ratio, firm size, and/or collection efficiency, would cause a decrease ROA and vice versa.

### **5.3 Conclusion**

The research showed that, the current ratio of the Kenya's urban WSPs was 1.410 in the year 2011, which dropped to 1.339 in the year 2012 and again to 1.287 in the year 2013. There was a tremendous drop in the year 2014 from 1.287 of 2013 to 0.874. However, there was slight increase in 2015 to 0.927. From these results it can be observed, most of the years, the WSPs were experiencing a decrease in value of their Current Ratio. In fact the direct drop was from 1.410 in 2011 to 0.927 of 2015, which was a very significant decrease. The study therefore concluded that, the declining of the current ratio year after year was as a result of poor management of working capital by water service providers. The study also concluded that working capital components have an impact on the ROA of any firm and therefore need to be closely monitored.

Working capital management is very critical in any firm and proper records ought to be kept to monitor their movement. The management should come up with strategies to ensure they reduce wastages as well as making sure there is optimal liquidity in the firm so as to facilitate smooth running of the daily operations of the firm.

### **5.4 Limitation of the Study**

The time frame of the study was 5years (2011-2015) which was too short to provide accurate and reliable results. The data was also derived from secondary data which was hard to ascertain its accuracy and reliability and also getting this data was quite hard due to protocols that was involved.

### **5.5 Recommendation for Further Studies**

The time frame of the study was 5years (2011-2015) which was too short hence there is a need to do the same study with a time frame of about 10 or more years. There is also a need to supplement secondary data with primary data to see if it would yield to the same results.

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## APPENDICES

<b>WSP</b>		<b>ROA</b>	<b>C.R</b>	<b>PAYABLE RATIO</b>	<b>SIZE</b>	<b>COL. EFFICIENCY</b>
AMATSI WATER SERVICES COMPANY	2011	14926.135	2.662	0.376	3.335	60.170
AMATSI WATER SERVICES COMPANY	2012	12280.256	1.695	0.590	3.454	59.246
AMATSI WATER SERVICES COMPANY	2013	49776.339	3.136	0.319	3.394	74.391
AMATSI WATER SERVICES COMPANY	2014	9450.294	0.906	1.104	3.402	71.115
AMATSI WATER SERVICES COMPANY	2015	7885.873	0.895	1.117	3.506	67.337
ELDAMA RAVINE WATER AND SANITATION CO.	2011	12803.306	0.938	1.066	3.672	81.047
ELDAMA RAVINE WATER AND SANITATION CO.	2012	7347.530	1.760	0.568	3.490	97.322
ELDAMA RAVINE WATER AND SANITATION CO.	2013	9646.022	0.948	1.055	3.219	104.884
ELDAMA RAVINE WATER AND SANITATION CO.	2014	8445.113	0.216	4.619	3.209	93.469
ELDAMA RAVINE WATER AND SANITATION CO.	2015	8417.130	0.135	7.404	3.235	100.786
ELDORET WATER & SEWERAGE CO.	2011	7062.409	1.338	0.935	4.67	90.513
ELDORET WATER & SEWERAGE CO.	2012	16499.374	3.417	0.293	4.71	101.705
ELDORET WATER & SEWERAGE CO.	2013	7380.383	1.022	0.978	4.75	96.776
ELDORET WATER & SEWERAGE CO.	2014	6313.329	1.07	0.935	4.86	99.727
ELDORET WATER & SEWERAGE CO.	2015	5963.707	1.055	0.948	4.89	108.459
EMBU WATER AND SANITATION COMPANY	2011	10523.227	1.383	0.723	4.058	98.167
EMBU WATER AND SANITATION COMPANY	2012	9859.641	1.604	0.623	4.179	80.353
EMBU WATER AND SANITATION COMPANY	2013	10009.700	1.553	0.644	4.198	86.066
EMBU WATER AND SANITATION COMPANY	2014	14170.209	1.667	0.600	4.297	80.981
EMBU WATER AND SANITATION COMPANY	2015	11052.640	1.259	0.795	4.349	89.287
GARISSA WATER AND SEWERAGE COMPANY	2011	11473.473	1.482	0.675	3.956	77.772
GARISSA WATER AND SEWERAGE COMPANY	2012	11989.051	1.308	0.764	3.995	80.124
GARISSA WATER AND SEWERAGE COMPANY	2013	16046.895	1.239	0.807	4.006	86.837
GARISSA WATER AND SEWERAGE COMPANY	2014	13590.756	0.927	1.078	4.031	94.510
GARISSA WATER AND SEWERAGE COMPANY	2015	16287.555	0.949	1.053	4.036	73.077
GUSII WATER AND SANITATION COMPANY	2011	14265.042	1.516	0.659	3.802	92.925

GUSII WATER AND SANITATION COMPANY	2012	12660.000	1.023	0.977	3.910	95.090
GUSII WATER AND SANITATION COMPANY	2013	18808.644	1.713	0.584	3.990	88.879
GUSII WATER AND SANITATION COMPANY	2014	5272.505	0.739	1.354	4.215	82.139
GUSII WATER AND SANITATION COMPANY	2015	4730.827	0.678	1.475	4.215	78.818
ISIOLO WATER AND SEWERAGE COMPANY	2011	8578.083	1.211	0.826	3.727	97.363
ISIOLO WATER AND SEWERAGE COMPANY	2012	9616.756	1.301	0.769	3.731	103.674
ISIOLO WATER AND SEWERAGE COMPANY	2013	7750.375	1.073	0.932	3.729	100.205
ISIOLO WATER AND SEWERAGE COMPANY	2014	8245.732	0.907	1.103	3.855	105.367
ISIOLO WATER AND SEWERAGE COMPANY	2015	9172.820	0.932	1.073	3.884	100.910
ITEN TAMBACH WATER PROJECT	2011	20483.851	1.559	0.641	3.245	110.615
ITEN TAMBACH WATER PROJECT	2012	15675.632	2.031	0.492	3.060	98.946
ITEN TAMBACH WATER PROJECT	2013	20275.027	2.378	0.421	3.111	123.503
ITEN TAMBACH WATER PROJECT	2014	9773.774	0.262	3.824	3.197	100.432
ITEN TAMBACH WATER PROJECT	2015	8074.725	0.843	1.186	3.252	99.965
KAKAMEGA BUSIA WATER SERVICES CO.	2011	9069.014	1.093	0.915	4.433	90.800
KAKAMEGA BUSIA WATER SERVICES CO.	2012	11428.312	1.340	0.746	4.231	87.336
KAKAMEGA BUSIA WATER SERVICES CO.	2013	8139.319	1.235	0.810	4.452	92.699
KAKAMEGA BUSIA WATER SERVICES CO.	2014	6707.947	1.039	0.963	3.916	99.287
KAKAMEGA BUSIA WATER SERVICES CO.	2015	5941.276	1.052	0.950	3.953	101.781
KAPENGURIA WATER AND SANITATION CO.	2011	14655.462	3.818	0.262	3.377	44.094
KAPENGURIA WATER AND SANITATION CO.	2012	16495.275	0.948	1.055	2.919	101.968
KAPENGURIA WATER AND SANITATION CO.	2013	12762.740	1.322	0.757	3.190	92.343
KAPENGURIA WATER AND SANITATION CO.	2014	6641.086	0.448	2.232	3.076	96.002
KAPENGURIA WATER AND SANITATION CO.	2015	7692.438	0.509	1.964	3.109	96.624
KAPSABET NANDI WATER AND SANITATION CO.	2013	83.563	0.017	1.171	3.333	68.000
KAPSABET NANDI WATER AND SANITATION CO.	2014	7437.890	0.936	1.069	3.385	90.306
KAPSABET NANDI WATER AND SANITATION CO.	2015	7037.436	0.774	1.292	3.428	92.899
KAPSABET NANDI WATER AND SANITATION CO.	2011	14901.241	1.576	0.634	3.143	100.802

KAPSABET NANDI WATER AND SANITATION CO.	2012	11012.237	1.263	0.792	2.840	67.881
KARURI WATER AND SANITATION COMPANY	2011	12591.972	1.021	0.979	3.327	77.439
KARURI WATER AND SANITATION COMPANY	2012	9241.128	1.076	0.929	3.463	92.150
KARURI WATER AND SANITATION COMPANY	2013	7356.647	0.983	1.017	3.520	91.141
KARURI WATER AND SANITATION COMPANY	2014	8716.486	0.926	1.080	3.648	92.465
KARURI WATER AND SANITATION COMPANY	2015	10249.104	0.990	1.011	3.387	113.596
KERICHO WATER AND SANITATION CO.	2011	10432.079	1.374	0.728	4.056	95.192
KERICHO WATER AND SANITATION CO.	2012	9296.262	1.321	0.757	4.114	96.137
KERICHO WATER AND SANITATION CO.	2013	8765.563	1.186	0.843	4.161	94.625
KERICHO WATER AND SANITATION CO.	2014	9786.054	1.003	0.997	4.214	93.346
KERICHO WATER AND SANITATION CO.	2015	8503.586	0.977	1.024	4.242	95.088
KIAMBU WATER AND SEWERAGE CO. LTD	2011	15612.743	0.975	1.025	3.643	85.187
KIAMBU WATER AND SEWERAGE CO. LTD	2012	10631.198	1.124	0.890	3.737	100.872
KIAMBU WATER AND SEWERAGE CO. LTD	2013	8964.344	0.989	1.012	3.853	104.929
KIAMBU WATER AND SEWERAGE CO. LTD	2014	14578.612	0.860	1.163	3.726	105.168
KIAMBU WATER AND SEWERAGE CO. LTD	2015	15410.629	0.944	1.059	3.767	84.367
KIBWEZI MTITO WATER AND SEWARAGE CO.	2011	18104.176	1.122	0.891	2.906	104.221
KIBWEZI MTITO WATER AND SEWARAGE CO.	2012	12155.026	0.998	1.002	3.186	105.269
KIBWEZI MTITO WATER AND SEWARAGE CO.	2013	13834.632	1.097	0.911	3.529	107.432
KIBWEZI MTITO WATER AND SEWARAGE CO.	2014	10094.426	0.753	1.328	3.642	94.897
KIBWEZI MTITO WATER AND SEWARAGE CO.	2015	13280.475	0.978	1.022	3.699	82.000
KIKUYU WATER COMPANY LTD	2011	11936.871	0.928	1.078	3.660	102.879
KIKUYU WATER COMPANY LTD	2012	11959.409	0.982	1.019	3.677	87.099
KIKUYU WATER COMPANY LTD	2013	9879.521	1.174	0.852	3.796	86.596
KIKUYU WATER COMPANY LTD	2014	11306.506	0.828	1.208	3.743	107.936
KIKUYU WATER COMPANY LTD	2015	10346.647	0.780	1.282	3.801	101.449
KILIFI MARIAKANI WATER AND SEWERAGE CO.	2011	20321.031	1.120	0.893	3.977	88.758
KILIFI MARIAKANI WATER AND SEWERAGE CO.	2012	27138.644	1.287	0.777	4.000	94.748
KILIFI MARIAKANI WATER AND SEWERAGE CO.	2013	31670.521	1.194	0.838	4.051	95.643
KILIFI MARIAKANI WATER AND SEWERAGE CO.	2014	25841.594	0.916	1.091	4.191	100.044

KILIFI MARIAKANI WATER AND SEWERAGE CO.	2015	28186.866	1.010	0.991	4.212	97.894
KIRINYAGA WATER AND SANITATION CO.	2011	8465.763	1.169	0.855	4.019	95.861
KIRINYAGA WATER AND SANITATION CO.	2012	6916.180	1.148	0.871	4.138	94.887
KIRINYAGA WATER AND SANITATION CO.	2013	6466.804	1.101	0.908	4.179	97.078
KIRINYAGA WATER AND SANITATION CO.	2014	7247.767	1.087	0.920	4.184	98.317
KIRINYAGA WATER AND SANITATION CO.	2015	7456.487	0.903	1.107	4.221	90.024
KISUMU WATER AND SEWERAGE COMPANY	2011	18707.715	1.349	0.742	4.190	94.270
KISUMU WATER AND SEWERAGE COMPANY	2012	18536.584	1.296	0.771	4.239	93.627
KISUMU WATER AND SEWERAGE COMPANY	2013	21240.987	1.171	0.854	4.270	95.890
KISUMU WATER AND SEWERAGE COMPANY	2014	10545.700	1.030	0.971	4.632	94.294
KISUMU WATER AND SEWERAGE COMPANY	2015	12340.865	1.042	0.960	4.624	94.306
KITUI WATER AND SANITATION COMPANY	2011	9677.719	1.505	0.664	3.655	85.432
KITUI WATER AND SANITATION COMPANY	2012	20276.247	0.968	1.033	3.634	94.926
KITUI WATER AND SANITATION COMPANY	2013	29459.600	1.236	0.809	3.715	95.659
KITUI WATER AND SANITATION COMPANY	2014	13822.281	0.655	1.526	3.879	104.636
KITUI WATER AND SANITATION COMPANY	2015	11896.411	0.613	1.631	3.898	108.430
KWALE WATER AND SEWERAGE COMPANY	2011	12148.549	1.087	0.920	3.773	58.925
KWALE WATER AND SEWERAGE COMPANY	2012	13437.902	1.083	0.924	3.773	70.124
KWALE WATER AND SEWERAGE COMPANY	2013	16047.913	1.012	0.988	3.780	94.360
KWALE WATER AND SEWERAGE COMPANY	2014	13793.395	0.798	1.253	3.856	85.931
KWALE WATER AND SEWERAGE COMPANY	2015	13046.568	0.826	1.211	3.936	75.765
LAMU WATER AND SEWERAGE COMPANY LTD	2011	12554.255	2.581	0.388	3.423	100.457
LAMU WATER AND SEWERAGE COMPANY LTD	2012	15930.414	2.239	0.447	3.307	84.396
LAMU WATER AND SEWERAGE COMPANY LTD	2013	10767.175	1.207	0.829	3.365	100.920
LAMU WATER AND SEWERAGE COMPANY LTD	2014	7651.886	0.850	1.176	3.414	86.072

LAMU WATER AND SEWERAGE COMPANY LTD	2015	8214.951	0.709	1.411	3.439	74.592
LIMURU WATER AND SEWERAGE CO. LTD	2011	6140.819	0.957	1.045	3.879	99.635
LIMURU WATER AND SEWERAGE CO. LTD	2012	10985.760	1.059	0.944	3.680	112.707
LIMURU WATER AND SEWERAGE CO. LTD	2013	16140.023	1.514	0.660	3.746	90.991
LIMURU WATER AND SEWERAGE CO. LTD	2014	11581.740	1.040	0.962	3.861	86.745
LIMURU WATER AND SEWERAGE CO. LTD	2015	12163.430	1.152	0.868	3.878	92.201
LODWAR WATER AND SANITATION COMPANY	2011	5408.447	0.909	1.100	3.416	100.475
LODWAR WATER AND SANITATION COMPANY	2012	16248.486	2.738	0.365	3.473	85.931
LODWAR WATER AND SANITATION COMPANY	2013	12478.957	1.304	0.767	3.636	73.517
LODWAR WATER AND SANITATION COMPANY	2014	6510.714	0.845	1.183	3.801	86.023
LODWAR WATER AND SANITATION COMPANY	2015	6185.184	1.082	0.924	3.822	87.069
MACHAKOS WATER AND SEWARAGE LTD	2011	10354.390	1.177	0.849	3.483	81.332
MACHAKOS WATER AND SEWARAGE LTD	2012	16096.358	1.344	0.744	3.611	100.000
MACHAKOS WATER AND SEWARAGE LTD	2013	19301.673	1.477	0.677	3.672	76.820
MACHAKOS WATER AND SEWARAGE LTD	2014	13967.455	0.912	1.096	3.774	86.587
MACHAKOS WATER AND SEWARAGE LTD	2015	15847.578	1.126	0.888	3.791	78.948
MALINDI WATER AND SEWERAGE COMPANY	2011	17302.814	1.183	0.845	4.15	94.214
MALINDI WATER AND SEWERAGE COMPANY	2012	23555.392	1.005	0.995	4.12	93.513
MALINDI WATER AND SEWERAGE COMPANY	2013	13937.776	1.099	0.91	4.37	96.981
MALINDI WATER AND SEWERAGE COMPANY	2014	20504.257	1.02	0.98	4.27	92.231
MALINDI WATER AND SEWERAGE COMPANY	2015	15963.716	0.819	1.221	4.32	96.39
MARALAL WATER AND SANITATION CO.	2011	13036.852	1.070	0.935	3.094	98.548
MARALAL WATER AND SANITATION CO.	2012	12712.674	1.059	0.944	3.087	99.437
MARALAL WATER AND SANITATION CO.	2013	5630.727	0.642	1.557	3.211	114.998
MARALAL WATER AND SANITATION CO.	2014	10036.711	0.309	3.235	3.124	86.518
MARALAL WATER AND SANITATION CO.	2015	6830.592	0.304	3.291	3.159	90.744
MATHIRA WATER AND SEWERAGE CO.	2011	6054.561	1.349	0.741	3.933	84.960
MATHIRA WATER AND SEWERAGE CO.	2012	8272.590	1.690	0.592	3.927	79.877
MATHIRA WATER AND SEWERAGE CO.	2013	7995.471	1.303	0.767	3.930	84.753
MATHIRA WATER AND SEWERAGE CO.	2014	9864.500	1.198	0.835	3.959	85.592
MATHIRA WATER AND SEWERAGE CO.	2015	8616.590	1.221	0.819	4.040	88.111
MERU WATER AND SEWERAGE SERVICES	2011	18083.965	2.020	0.495	3.837	83.273
MERU WATER AND SEWERAGE SERVICES	2012	15925.888	1.590	0.629	3.892	82.351



MERU WATER AND SEWERAGE SERVICES	2013	14203.319	1.381	0.724	3.944	88.392
MERU WATER AND SEWERAGE SERVICES	2014	6981.531	1.164	0.859	4.289	116.177
MERU WATER AND SEWERAGE SERVICES	2015	14547.684	1.095	0.913	4.026	107.245
MIKUTRA WATER AND SANITATION CO.	2011	37092.485	2.279	0.439	3.378	84.642
MIKUTRA WATER AND SANITATION CO.	2012	27217.078	1.029	0.971	3.458	89.157
MIKUTRA WATER AND SANITATION CO.	2013	8046.370	0.999	1.001	3.338	76.545
MIKUTRA WATER AND SANITATION CO.	2014	4041.089	0.553	1.810	3.228	88.891
MIKUTRA WATER AND SANITATION CO.	2015	2251.695	1.220	0.819	3.129	95.253
MOMBASA CITY WATER & SEWERAGE CO.	2011	17872.834	1.281	0.781	4.62	89.908
MOMBASA CITY WATER & SEWERAGE CO.	2012	20563.211	1.006	0.994	4.62	88.273
MOMBASA CITY WATER & SEWERAGE CO.	2013	20229.538	1.065	0.939	4.6	93.212
MOMBASA CITY WATER & SEWERAGE CO.	2014	20467.215	0.924	1.082	4.64	90.812
MOMBASA CITY WATER & SEWERAGE CO.	2015	19424.782	0.835	1.198	4.63	88.842
MOYALE WATER AND SEWERAGE CO. LTD	2011	17228.249	2.034	0.492	3.728	89.520
MOYALE WATER AND SEWERAGE CO. LTD	2012	17433.772	1.176	0.850	3.022	96.179
MOYALE WATER AND SEWERAGE CO. LTD	2013	29695.911	1.030	0.971	2.580	79.340
MOYALE WATER AND SEWERAGE CO. LTD	2014	11597.976	1.554	0.644	2.945	44.967
MOYALE WATER AND SEWERAGE CO. LTD	2015	6183.998	1.380	0.725	2.968	43.022
MURANG'A WATER AND SANITATION CO.	2011	9997.579	1.328	0.753	3.921	94.404
MURANG'A WATER AND SANITATION CO.	2012	8589.898	1.150	0.869	3.969	99.152
MURANG'A WATER AND SANITATION CO.	2013	8453.808	1.181	0.847	4.019	98.228
MURANG'A WATER AND SANITATION CO.	2014	8859.860	0.986	1.014	4.028	97.362
MURANG'A WATER AND SANITATION CO.	2015	9787.824	1.114	0.898	4.086	98.284
NAIROBI CITY WATER & SEWERAGE CO.	2011	12319.854	1.909	0.524	5.62	75.074
NAIROBI CITY WATER & SEWERAGE CO.	2012	14329.739	1.646	0.608	5.61	75.667
NAIROBI CITY WATER & SEWERAGE CO.	2013	13238.489	1.392	0.718	5.67	86.317
NAIROBI CITY WATER & SEWERAGE CO.	2014	13195.805	1.052	0.95	5.72	91.286
NAIROBI CITY WATER & SEWERAGE CO.	2015	13657.902	1.044	1.011	5.72	99.677
NAIVASHA WATER AND SANITATION CO.	2011	7072.132	1.269	0.788	3.447	70.308
NAIVASHA WATER AND SANITATION CO.	2012	9774.256	0.848	1.179	3.370	78.007
NAIVASHA WATER AND SANITATION CO.	2013	11946.996	1.026	0.974	3.369	96.963
NAIVASHA WATER AND SANITATION CO.	2014	30787.228	1.002	0.998	3.385	83.133
NAIVASHA WATER AND SANITATION CO.	2015	34163.155	0.987	1.013	3.388	85.063
NAKURU RURAL WATER AND SANITATION CO.	2011	11674.998	1.089	0.918	4.147	90.166
NAKURU RURAL WATER AND SANITATION CO.	2012	14493.899	1.458	0.686	4.096	93.562

NAKURU RURAL WATER AND SANITATION CO.	2013	19566.777	1.056	0.947	3.918	97.958
NAKURU RURAL WATER AND SANITATION CO.	2014	18278.454	0.811	1.233	3.928	95.163
NAKURU RURAL WATER AND SANITATION CO.	2015	17820.801	0.836	1.197	3.952	94.268
NAKURU WATER & SEWERAGE CO.	2011	14738.045	1.616	0.619	4.63	68.74
NAKURU WATER & SEWERAGE CO.	2012	16580.9	1.332	0.751	4.57	88.407
NAKURU WATER & SEWERAGE CO.	2013	14167.689	1.254	0.798	4.62	91.353
NAKURU WATER & SEWERAGE CO.	2014	13124.351	0.959	1.043	4.68	95.143
NAKURU WATER & SEWERAGE CO.	2015	16662.055	1.112	0.899	4.68	95.722
NANYUKI WATER AND SEWERAGE CO.	2011	12085.408	2.288	0.437	4.091	100.531
NANYUKI WATER AND SEWERAGE CO.	2012	20875.546	3.026	0.330	4.110	73.907
NANYUKI WATER AND SEWERAGE CO.	2013	18101.609	2.217	0.451	4.154	81.553
NANYUKI WATER AND SEWERAGE CO.	2014	12695.373	1.142	0.876	4.275	97.247
NANYUKI WATER AND SEWERAGE CO.	2015	12808.900	1.041	0.961	4.285	93.126
NAROK WATER AND SANITATION CO.	2011	36091.692	1.360	0.735	3.222	90.534
NAROK WATER AND SANITATION CO.	2012	22049.390	1.537	0.651	3.256	92.287
NAROK WATER AND SANITATION CO.	2013	31402.291	2.124	0.471	3.342	91.670
NAROK WATER AND SANITATION CO.	2014	21619.576	0.900	1.111	3.375	89.390
NAROK WATER AND SANITATION CO.	2015	21865.447	0.604	1.657	3.268	93.133
NOL TURESH BULK WATER COMPANY LTD	2011	8224.743	1.142	0.876	3.268	84.108
NOL TURESH BULK WATER COMPANY LTD	2012	27215.157	0.770	1.299	3.302	86.797
NOL TURESH BULK WATER COMPANY LTD	2013	28472.310	0.967	1.034	3.578	71.972
NOL TURESH BULK WATER COMPANY LTD	2014	11244.053	0.506	1.975	3.483	82.876
NOL TURESH BULK WATER COMPANY LTD	2015	26245.705	0.824	1.214	3.543	62.901
NYAHURURU WATER AND SANITATION CO.	2011	9792.876	1.209	0.827	3.978	96.562
NYAHURURU WATER AND SANITATION CO.	2012	10702.280	1.146	0.872	3.983	93.855
NYAHURURU WATER AND SANITATION CO.	2013	10416.366	1.143	0.875	4.002	94.164
NYAHURURU WATER AND SANITATION CO.	2014	14146.459	1.521	0.657	4.054	97.247
NYAHURURU WATER AND SANITATION CO.	2015	9536.049	1.101	0.908	4.154	94.845
NYERI WATER AND SEWERAGE COMPANY	2011	12397.538	1.386	0.722	4.28	119.823
NYERI WATER AND SEWERAGE COMPANY	2012	14992.088	1.746	0.573	4.32	99.979
NYERI WATER AND SEWERAGE COMPANY	2013	13523.63	1.891	0.529	4.38	94.433

NYERI WATER AND SEWERAGE COMPANY	2014	13262.749	1.405	0.711	4.47	100.239
NYERI WATER AND SEWERAGE COMPANY	2015	12261.927	1.38	0.725	4.5	79.573
NZOIA WATER AND SANITATION CO.	2011	8557.541	1.502	0.666	4.3	87.395
NZOIA WATER AND SANITATION CO.	2012	8278.023	1.104	0.906	4.33	100
NZOIA WATER AND SANITATION CO.	2013	9634.05	1.378	0.726	4.36	97.314
NZOIA WATER AND SANITATION CO.	2014	9042.7	0.919	1.089	4.48	92.619
NZOIA WATER AND SANITATION CO.	2015	9476.1	0.971	1.03	4.49	90.516
OLKALOU WATER AND SANITATION CO.	2011	10764.280	3.500	0.286	3.043	93.791
OLKALOU WATER AND SANITATION CO.	2012	0.000	0.000	0.000	3.030	110.537
OLKALOU WATER AND SANITATION CO.	2013	26703.376	2.079	0.481	2.892	92.492
OLKALOU WATER AND SANITATION CO.	2014	11751.427	0.857	1.167	3.091	93.541
OLKALOU WATER AND SANITATION CO.	2015	13857.851	1.327	0.754	3.152	93.698
OLKEJUADO WATER AND SEWARAGE CO.	2011	0.000	0.000	0.000	3.602	55.641
OLKEJUADO WATER AND SEWARAGE CO.	2012	10699.888	0.902	1.109	3.172	85.379
OLKEJUADO WATER AND SEWARAGE CO.	2013	25598.610	0.912	1.097	2.877	52.902
OLKEJUADO WATER AND SEWARAGE CO.	2014	11445.582	0.394	2.536	2.844	71.633
OLKEJUADO WATER AND SEWARAGE CO.	2015	17864.051	0.606	1.651	2.907	49.695
OLOOLAIER WATER AND SEWARAGE CO.	2012	16314.512	1.127	0.887	3.745	84.512
OLOOLAIER WATER AND SEWARAGE CO.	2013	15236.694	1.050	0.952	3.762	97.052
OLOOLAIER WATER AND SEWARAGE CO.	2014	17734.340	0.970	1.031	3.787	104.947
OLOOLAIER WATER AND SEWARAGE CO.	2015	19615.553	0.925	1.081	3.845	99.420
OLOOLAIER WATER AND SEWERAGE CO.	2011	14869.465	1.182	0.846	3.594	92.571
RUIRU JUJA WATER AND SEWERAGE CO. LTD	2011	10089.617	1.165	0.858	3.619	95.541
RUIRU JUJA WATER AND SEWERAGE CO. LTD	2012	12470.236	1.567	0.638	3.762	97.627
RUIRU JUJA WATER AND SEWERAGE CO. LTD	2013	12494.095	1.472	0.679	3.877	99.223
RUIRU JUJA WATER AND SEWERAGE CO. LTD	2014	10763.219	1.130	0.885	4.062	98.425
RUIRU JUJA WATER AND SEWERAGE CO. LTD	2015	11002.534	1.137	0.879	4.173	100.289
SIBO WATER AND SANITATION COMPANY	2011	8671.825	1.052	0.951	3.759	98.257
SIBO WATER AND SANITATION COMPANY	2012	12473.702	1.050	0.952	3.601	88.917
SIBO WATER AND SANITATION COMPANY	2013	9854.750	0.841	1.189	3.665	80.991
SIBO WATER AND SANITATION COMPANY	2014	9886.876	0.496	2.016	3.709	93.188
SIBO WATER AND SANITATION COMPANY	2015	9196.654	0.501	1.998	3.798	100.036
SOUTH NYANZA WATER AND SANITATION CO.	2011	5641.210	1.384	0.723	2.975	114.619
SOUTH NYANZA WATER AND SANITATION CO.	2012	5193.318	1.083	0.923	3.946	95.556
SOUTH NYANZA WATER AND SANITATION CO.	2013	7521.832	1.053	0.950	3.732	94.889

SOUTH NYANZA WATER AND SANITATION CO.	2014	3899.974	0.492	2.033	3.775	86.927
SOUTH NYANZA WATER AND SANITATION CO.	2015	3234.897	1.130	0.885	3.872	77.386
SOUTH NYANZA WATER AND SANITATION CO.	2011	3234.897	1.130	0.885	3.872	77.386
SOUTH NYANZA WATER AND SANITATION CO.	2012	5193.318	1.083	0.923	3.946	95.556
SOUTH NYANZA WATER AND SANITATION CO.	2013	7521.832	1.053	0.950	3.732	94.889
SOUTH NYANZA WATER AND SANITATION CO.	2014	3899.974	0.492	2.033	3.775	86.927
SOUTH NYANZA WATER AND SANITATION CO.	2015	2444.338	0.988	1.012	2.865	107.441
TAVEVO WATER AND SEWERAGE COMPANY	2011	15826.035	0.679	1.473	3.961	90.774
TAVEVO WATER AND SEWERAGE COMPANY	2012	17228.249	2.034	0.492	3.728	89.520
TAVEVO WATER AND SEWERAGE COMPANY	2013	25563.762	2.344	0.427	3.717	83.572
TAVEVO WATER AND SEWERAGE COMPANY	2014	16141.312	0.733	1.365	3.850	78.425
TAVEVO WATER AND SEWERAGE COMPANY	2015	4867.398	1.115	0.897	4.054	103.891
THIKA WATER & SEWERAGE CO.	2011	5731.078	1.008	0.992	4.49	87.595
THIKA WATER & SEWERAGE CO.	2012	7897.086	1.125	0.889	4.54	91.619
THIKA WATER & SEWERAGE CO.	2013	11763.259	1.254	0.798	4.53	88.161
THIKA WATER & SEWERAGE CO.	2014	12681.034	1.012	0.988	4.59	99.813
THIKA WATER & SEWERAGE CO.	2015	11975.429	0.98	1.021	4.6	95.062
WOTE WATER AND SEWARAGE CO LTD	2011	17214.270	0.621	1.610	2.891	84.787
WOTE WATER AND SEWARAGE CO LTD	2012	29526.086	1.023	0.978	2.444	94.623
WOTE WATER AND SEWARAGE CO LTD	2013	24651.788	0.958	1.044	2.571	95.563
WOTE WATER AND SEWARAGE CO LTD	2014	19609.099	0.806	1.241	2.854	92.415
WOTE WATER AND SEWARAGE CO LTD	2015	16954.987	0.930	1.075	3.042	85.806
YATTA WATER COMPANY LTD	2011	11012.237	1.263	0.792	2.840	67.881
YATTA WATER COMPANY LTD	2012	11332.653	0.616	1.622	3.069	84.787
YATTA WATER COMPANY LTD	2013	10631.930	1.043	0.959	3.179	92.944
YATTA WATER COMPANY LTD	2014	4429.938	0.291	3.440	3.213	90.858
YATTA WATER COMPANY LTD	2015	3772.186	0.320	3.128	3.330	79.582