AN EVALUATION OF WATER SERVICE STRATEGIES ON PROVISION OF QUALITY WATER SERVICE DELIVERY IN KIKUYU SUB COUNTY: A CASE STUDY OF KIKUYU WATER COMPANY, KENYA

BY

JAMES MBUGUA

THIS DISSERTATION IS SUBMITTED TO THE DEPARTMENT OF DEVELOPMENT STUDIES IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF A MASTERS DEGREE IN DEVELOPMENT STUDIES (ORGANIZATION DEVELOPMENT OPTION) FROM ST. PAULS UNIVERSITY, LIMURU

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This Dissertation is Submitted to the Department of Development Studies in Partial Fulfilment of the Requirement for the Award of a Masters Degree in Development Studies (Organization Development Option) From St. Pauls University

Supervisor: Dr. Paul O. Gesimba

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DECLARATION

This dissertation is a product of my own work and is not the result of anything done in collaboration. It has not been previously presented to any other institution. I agree that this dissertation may be available for reference and photocopying, at the discretion of the University.

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ABSTRACT

This research focused on an evaluation of water service charter strategies on quality water delivery in Kikuyu sub County which was necessitated by complaints of water scarcity in some areas under the jurisdiction of Kikuyu Water Company Ltd. The purpose of the study was to determine the effectiveness of the strategies put in place in relation to provision of quality water services in Kikuyu Sub County. The target population was the 1,845 residents who have active water connections in their premises. The study had three objectives focusing on the impact of staff empowerment, effective communication, and water meter management on quality water service delivery. The theory of quality service delivery by Parasuraman and other authors was the main reference point in this study.

A descriptive research design and stratified random sampling technique were used to select the appropriate sample of 187 respondents. Data was collected using structured and semi-structured questionnaires and analyzed thematically. A pilot test was first carried out in Limuru town, an area served by Limuru Water & Sewerage Company Ltd. The research findings provided an overview of the successes and challenges in the provision of quality of water services in Kikuyu sub County.

The study recommends carrying out a customer satisfaction survey every year or even twice a year in order to ensure that the customer's concerns are addressed within a given time frame. In addition, monitoring the quality of water supply, frequent patrolling along the pipelines, and keeping the customers posted on water related issues are recommended. Other recommendations include constant review of the Strategic Plan, continuous staff training, monitoring and evaluation of the achievements against the set standards.

The beneficiaries of the research will be the residents who will enjoy the benefits of enhanced quality water service provision in the event that the recommendations are adopted and implemented. The recommendation thereof may help the management in other Water Service Providers and the national government in formulating policies that would turn around the precarious position the water sector currently finds itself in. Other stake holders in the water sector like Water Users Associations (WRUAs) will also benefit.

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DEDICATION

To Kikuyu Water Company, the County Government of Kiambu and to my beloved nation of Kenya at large; in the quest to provide clean, sufficient and affordable water to all households.

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My sincere appreciation goes to the Almighty God for the sufficient grace and guidance He has given me which has enabled me to accomplish this task. I also cannot forget my supervisor Dr. Paul Gesimba for his valuable guidance, clarity and no - nonsense approach without which I would not have met the deadline. I also acknowledge my wife Patricia Wangari and my children Elizabeth Wanjiru, Esther Wambui and Brian Mbugua who have been very accommodative and understanding when I was working for long hours and sometimes arriving home late as I juggled between official duties, class work, assignments and research.

My sincere and heartfelt gratitude goes to the library staff who have supported and advised me towards the completion of this project. Lastly I acknowledge Mr. Levis Mwaura my colleague in the office who was very supportive all through. May the good Lord shower all of you with everlasting love and blessings.

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LIST OF ABBREVIATIONS AND ACRONYMS

C G K	County Government of Kiambu
CSC	Customer Service Charter
KFS	Kenya Forest Service
KIWACO	Kikuyu Water Company Ltd.
MDS	Millennium Development Goals
NACOSTI	National Commission For Science, Technology and Innovation
NWP	National Water Policy
RRI	Rapid Results Initiative
TI	Transparency International
SERVQUAL	Quality Service
UNDP	United Nations Development Programme
WAB	Water Appeal Board
WARMA	Water Resource Management Authority
WASREB	Water Services Regulatory Board
WHO	World Health Organization
WRUA	Water Users Associations
WSBs	Water Service Boards
WSPs	Water Services Providers

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DEFINATION OF TERMS

Quality service

Is an assessment of how well a delivered service conforms to the client's expectations

Charter

A charter is a written constitution or description of an organization's functions.

Strategies

Are plans or methods chosen to bring about a desired future, such as achievement of solution to a given problem

Service Charter

Is a document that clearly shows the process of ensuring satisfaction with a product or service. Service takes place while performing a transaction for the customer, such as making a sale or returning an item. Customer service can take the form of an in-person interaction, a phone call, self-service systems, or service by other means.

Organizational Culture

The values and behaviour that contribute to the unique social and psychological environment of an organization.

Water service delivery

This refers to abstracting water from a source which may be a river, a borehole or any surface water, treating it to the recommended standards by the world Health Organization then conveying it to customers. This also includes sewerage service provision.

Water Act 2002

This is an act of Parliament which changes the management and regulation of water services.

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The Water Services Regulatory Board (WASREB)

Was a body that was mandated to set standards and regulate the sub-sector in terms of issuing licences to Water Service Boards and issuing tariffs.

The Water Appeal Board (WAB)

WAB is a body mandated to adjudicate on disputes that would arise during the implementation of the water sector reforms.

Water Service Boards (WSBs).

These are bodies given the responsible of management of efficient and economical provision of water and sewerage services through appointment of Water Service Providers.

Water Services Providers (WSPs)

Are companies that are appointed to act as agents of the Water Services Boards (WSBs) and were given licences for the actual provision of water and sewerage services. Kikuyu Water Company is one of them.

CHAPTER ONE: INTRODUCTION

1.0 Introduction

This chapter presents the reader with an overview of the entire thesis. It covers the background of the study, problem statement, purpose of the study, research questions, scope of the study and justification of the same.

1.1 Background of the Study

Water scarcity already affects the whole world. Almost one-fifth of the world's population, estimated at 2 billion people live in areas of physical scarcity, and about five hundred million people are approaching this situation (UNDP Human Development Report, 2006). In addition, another 1.6 billion people or almost one quarter of the world's population, face economic water shortage. The affected countries lack the necessary infrastructure to exploit the resource from rivers and aquifers. Water scarcity is among the main problems to be faced by many societies and the World in the 21st century (UNDP Human Development Report, 2006). Water use has been growing steadily directly proportional to growth in population. In this regard, an increasing number of regions are chronically short of water due to natural and a human-made phenomenon (Calas & Martinon, 2010).

There is enough fresh water on the planet for seven billion people but it is distributed unevenly and too much of it is wasted, polluted and unsustainably managed. Different countries have different ways of managing the resource. Kenya is guided by the Water Act 2002 which is currently under review courtesy of the new constitution. Lack of proper management of water among other resources can lead to poverty. Poverty can also be the result of political instability, ethnic conflicts, climate change and other man-made causes. But one of the greatest causes of poverty in Africa is also the most overlooked; lack of access to clean domestic water (Mogaka, Gichere & Davis, 2005).

Water sustains humans' health, food production, and economic development among others. In this respect, sustainable development takes centre stage. However, only three percent of the available water in the world is fresh. Fresh water that is available comes from rain or from rivers, lakes, springs, and some groundwater reserves, such as aquifers (Mogaka et al., 2005). Today's wells can access underground water; therefore freshwater

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supplies can be depleted on a massive scale as its exploitation intensifies. Most aquifers are recharged by the annual water cycle, but water trapped in ancient underground formations cannot be renewed appropriately due to limited accessibility from surface run - off. "Water-scarce" countries like Kenya have less than 1,000 cubic meters of renewable fresh water per person per year (Koppen, Giordano & Butterworth, 2007).

The Government of Kenya enacted Water Act 2002, which envisioned water sector reforms through change in management of water supply in the Country. The Act formed several water bodies which regulate the sector such as Water Appeals Board, Water Services Regulatory Board with the responsibility of regulating the water sector and issuing tariffs. Other bodies put in place include: Water service Boards, Water Resource Management Authority, Water Service Providers, Water Users Association and the National Water Pipeline Corporation. Though all water service providers have put in place water service provision strategies, there are still a lot of complaints from residents regarding water supply in Kenya including Kiambu County.

Reports from the County Government of Kiambu indicate that most WSPs, Kikuyu Water Company included, operate boreholes with low yields and an infrastructure that outlived its design period a long time ago. Additional reports from the same source indicate that all the WSPs only supply water to less than half of the area allocated to them through Service Provision Agreements signed with their Principal Athi Water Services Board. These agreements were signed in accordance with Water Act 2002. Consequently, this research carried out an evaluation of water service charter strategies on water service delivery in Kikuyu Sub County.

Management of resources in Kenya could account for some of the reasons of water crisis in the country. Effective service delivery is about striking the right balance between the needs of people, tasks and goals of the service providers in a given situation. It is envisioned that, this would result in improved service delivery as the strategies put in place start bearing fruit. Most governments in the world have embarked on transformation of their structures of governance, so as to improve efficiency and effectiveness in service delivery to their citizens.

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Kenya's blue print in accordance with Vision 2030 is to make Kenya an industrialized country. In this regard, government institutions are embarking on achieving results in terms of delivering good services to citizens by taking maximum advantage of new technology and creating open accountability in public service.

Rapid Results Initiative (RRI) is an innovative, results - focused tool adopted by the government of Kenya to enhance efficiency and effectiveness in the public service delivery. Implementation of the RRI was meant to help achieve certain performance targets, change of business strategies and attitude towards results, team work, implementation of plans and strategies. RRI would help in the achievement of Millennium Development Goals and National goals for vision 2030. In addition, RRI was meant to lead in performance improvement in service delivery, skills enhancement, confidence building and ability to achieve results and enhance creativity.

Chapter Six of the Kenya Constitution articulates this concept quite well. It defines state officers as servants for the people, not rulers. In the Constitution of Kenya, conflict of interest by state officers is outlawed. State officers who abuse their offices shall be permanently disqualified from ever occupying public offices again, over and above other punishments. In addition, it states, public officers shall not receive gifts whose value is more than twenty thousand Kenya shillings. This is meant to stifle corruption. In addition, penalties are stipulated against violators of the principle of leadership and integrity. However, the stated may not necessarily rhyme with the actual position on the ground.

In addition, chapter four of the Constitution of Kenya gives the citizens right to water and sanitation services pursuant to the Water Act 2002 which formed several water bodies that regulate the sector as stated earlier. These bodies have been given various functions to complement each other; but in some cases some roles are unfortunately duplicated. Most of these bodies charge a fee for their services and this cost is passed on to the consumers making water unaffordable to some of them especially where water production is dependent on electricity. This Act is currently under review.

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Background of Kikuyu Water Company

Kikuyu Water Company (KIWACO) is a corporate entity that was established on 10th March 2006 under companies Act CAP 486 of the laws of Kenya. It started operations by September 2006. KIWACO is wholly owned by the County Government of Kiambu. The company carries out its functions as a Water Service Provider under a Service Provision Agreement signed with the Athi Water Services Board in accordance with Water Act 2002. KIWACO is therefore mandated to provide water services efficiently and economically within Kikuyu town and its environs covering an area of 52 square kilometers in accordance with the aforementioned service provision agreement. The population envisioned to be served by KIWACO is estimated at 30,000 people. However, it is only serving a third of that area, but ultimately provisions have been put in place to serve the entire area according to company's Strategic Plan.

In accordance with water service strategies, a customer service charter has been formulated by Kikuyu Water Company for guiding the relationship between the company and their customers. In the customer service charter, the strategies put in place include staff empowerment strategy, communication strategy and a meter management strategy. The key performance indicators include the impact of the relationship between members of staff and customers. In addition the envisioned impact from the communication and metering strategies would was examined. In this regard, the mode of communication and the envisioned effectiveness was examined. The parameters in this category included continuous updates on water issues and customer feedback. The issue of meter servicing and replacement of meters when faulty was also examined. In this category, disconnections and reconnections were included.

It is important to note that the Kenyan Government through the aforementioned reforms introduced a legal and institutional framework in the sub-sector of water and sanitation service provision. Among the key principles of the reform was a focus on poverty eradication and the human right to water and sanitation through change management. The legal framework established new and more professionally working sector institutions and developed national pro-poor sector policies and strategies. The objective was to highlight key provisions in the Water Act 2002, the National Water Services Strategy (2007-2015), the

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National Water Resources Management Strategy (2007-2009) and the Pro-Poor Implementation Plan for Water Supply and Sanitation (PPIP - WSS) 2007.

Kenya National Bureau of Statistics (KNBS Kenya)

According to Kenya National Bureau of Statistics (KNBS Kenya) Demographic and Health Survey 2008-2009, a survey of the source of domestic water for most Kenyans showed that: three out of five households in Kenya (63 percent) get their domestic water from improved sources. However, disparities exist by residence, with a higher proportion of urban households (91 percent) having an improved source of drinking water compared with rural households (54 percent). Among the improved sources, piped water into premises accounts for the highest proportion (15 percent) of households, but mainly in urban areas (33 percent), while the most common improved category for rural households is a protected dug well (12 percent).

More than one-third of Kenyan households get water for domestic consumption from a non-improved source, mainly surface water from nearby lakes, streams and rivers (24 percent of households). Although only 6 percent of urban households use non-improved sources for domestic water, the proportion is far higher for rural households (46 percent) (UN WATER, 2012). Kenya has throughout history, been blessed with adequate water resources from rivers where water has always been regarded as a free resource. The country has an abundance of rivers both perennial (mostly found in the Central, Western and Coastal areas of the country) and seasonal mainly found in semi-arid and arid areas and ground water.

In addition, ground water resources exist in deep aquifers of up to 300 meters and more. Though Kenya has a vast array of water resources, it suffers from an acute shortage of potable water. This is due to high population growth and depleted resources such as forest and rivers. This has in turn made the country struggle to provide adequate water for its citizens. Consequently, Kenya has been classified as a water scarce country though this has not always been the case. For the last 30 years and over, Kenya's water per capita has decreased from a comfortable 1,853 cubic meters in 1969 to 704 cubic meters in 2000 and to around 647 cubic meters in 2007. Meanwhile, Uganda and Tanzania have respective annual per capita renewable fresh water supplies of 2,940.

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The Kenya water policy

The National Water Policy of 2012 (NWP 2012) was developed in line with the vision and mission of the ministry of Water and Irrigation. In essence, the policy is built on the achievements of the water sector reform that commenced with the enactment of Water Act 2002. This Act borrowed heavily from the National Water Policy of 1999. However, with the enactment of the Constitution of Kenya 2010 and the Vision 2030 coming in place, there is need for the National Water Policy to be reviewed to conform to the two documents.

The Kenya Water Policy is cognizant of the critical role of water in terms of development. Therefore, it aims at moving the sector to the next level of development in order to contribute to the national goals as envisioned in the Water Sector Strategic Plan (WSSP) 2009 – 2014.
The country has only five water towers which are faced with severe degradation due to human activities. The five are Mount Kenya, the Aberdare Range, the Mau Forest Complex, Mount Elgon and the Cherangani Hills. They are the main water catchments for nearly all the main Kenyan rivers. Deforestation of these water towers deprives the economy of 6 billion shillings annually and threatens more than 70% of the country's water supply and 50% of its electricity UNEP (2012).

Without their protection and conservation as envisioned in Vision 2030, the ecosystem services and water security in the country would worsen leaving a negative effect on the economic development of Kenya and the living conditions of its population. In this regard, the Government of Kenya has committed to ensuring the realization of the constitutional requirement of the right to water. The Government is aware that, this is a new path that is uncharted and is likely to encounter a myriad of challenges. Nevertheless, it is determined to meet its obligations.

This policy also takes into account obligations of the government in regard to regional and international arrangements related to water resources management and environment, such as trans-boundary protocols, arrangements, and treaties; and the Nile Basin Commission Framework. It is therefore, the responsibility of the Ministry of Water and Irrigation in collaboration with its stakeholders, development partners and local communities to put in

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place the requisite policies for quality water management. In addition, ensure that the objectives and the guiding principles and subsequent specific strategies are fully implemented, monitored and evaluated for optimal impact.

Devolution in Kenya

Opportunities and Challenges for the Water Sector

As a result of the 2010 Constitution of Kenya, devolution has wide-ranging implications for the water sector. Consequently, provision of water and sanitation services has been placed under the 47 newly established Counties (Water & Sanitation Programme, 2013). In this regard, effective implementation of the new devolved framework now requires the water sector players in liaison with the County Governments, to focus on the emerging opportunities and to address a number of challenges thereof. It has since emerged that politics could be influencing the enactment of the envisioned Water Act 2014 due to the many players who are yet to agree on the proposed legislation. Indeed, devolution of water services requires greater clarity and certainty on key issues especially if the gains witnessed by the Water Sector reforms are to be safe guarded.

> "The new government of Kenya elected in March 2013 committed itself to the rapid transfer of devolved functions to the counties. This position, marked by an allocation of funding to counties, signaled a hastened pace of devolution compared to the earlier envisaged phased transfer of functions over a three-year period which was contingent on whether counties were deemed to have the necessary capacity to take charge of the function. Counties now need to make sure their budgets provide adequate financing for the recurrent and development costs of water service provision; in particular to personnel and operations and maintenance costs. While phased transfer of functions may remain necessary, it will have to be based on agreement with counties about gradually developing new arrangements, rather than in a single leap. Reaching and acting upon such an agreement will require a clear understanding of the respective roles of the national and county governments, and systematic attention to key aspects of the devolution framework and the process for implementing it".
>
> (Water & Sanitation Programme, 2013).

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Under the existing legislation, devolution of water services is likely to proceed for some time in the current scenario. However, there is need to aligning legislation with the new Constitution for purposes of continuity and responsiveness to the needs of the people. For instance the terms "national public works", "county public works" and "public investment" are not clearly defined as they apply to water services in Schedule 4 of the Constitution. However, the Schedule defines as appropriate the respective duties and responsibilities of national and county governments for investing in and managing these services. These issues should come out clearly in the proposed Water Act 2016.

Some counties have already expressed their desire to charge for the export of water from their counties to other counties. Murang'a County is under the impression it can make a lot of money from the water that is delivered to Nairobi from their County. This false perception should be addressed and corrected as it contradicts the letter and intent of the Constitution and existing laws. Besides, it is very clear all water bodies belong to the National Government. In addition, the future of water services boards needs to be defined due to the role that they have been playing from the year 2003.

The government has indicated support for a merger of Water Services Boards (WSBs) into a single national body for economies of scale. There is also a plan to merge the Water Service Providers. However, this has not yet been formalized and consensus about the issue is yet to be realized in the sector. There is an opposing view that the functions of WSBs should be devolved to counties. There is need to carry out a cost benefit analysis on these options before picking on the most suitable. In addition, it is necessary to develop a clearer sense of the criteria, processes for decision-making and the full implications of all options.

1.2 Problem Statement

The Water Act (2002) created several bodies including Water Services Regulatory Board (WASREB) which was given the responsibility of regulating the water sector and issuing tariffs. Consequently, Kikuyu Water Company (KIWACO) was formed and given the mandate of providing quality water services in Kikuyu sub County. In this regard, KIWACO came up with strategies for effective and efficient water service provision in Kikuyu sub

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County in accordance with the Service Provision Agreement (SPAs) signed with their principal Athi Water Services Board (AWSB). These strategies are defined in the Customer Service Charter formulated under the guidance of Athi Water Services Board (AWSB).

However, despite the strategies being in place, the customer satisfaction index depicts operations of the company negatively due to a myriad of complaints from residents regarding the water supply in accordance with filed reports by the company in the daily Occurrence Book (OB). The same is reported by WASREB in the latest "Impact" issue No. 8/2015 which is a Performance Review of Kenya's Water Services 2013 – 2015. This report mirrors a summary of the complaints raised by the consumers which include, lack of consistency in water service provision, unjustified disconnections, faulty meters, low pressures and turbid water during the rainy season, lack of proper communication. In addition, there are allegations that some members of staff are not giving direction to consumers when confronted with some issues without consulting their superiors. Further, the on – going construction of the Southern by – pass has led to prolonged dry taps in several zones cutting across Kikuyu town.

In the mission statement, Kikuyu Water Company seeks to consistently provide excellent water services in its area of jurisdiction to the absolute satisfaction of their esteemed customers all year round. The company also envisions being the leading Company in the provision of quality, reliable and affordable water services in the Sub County and beyond. This is coupled with core values which emphasizes that customers are the reason for the Company's existence. Professionalism and integrity are embedded in the core values with the aim of observing the highest standards of professionalism and good governance in all their operations.

This study therefore seeks to provide solutions to the challenges that are encountered by Kikuyu Water Company in its attempt to provide quality water services to residents of Kikuyu Sub County.

1.3 Purpose of the Study

The purpose of the study was to carry out an evaluation of water service charter strategies on quality water service delivery in Kikuyu Sub County. The key performance indicators

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included staff empowerment where the impact of the relationship between members of staff and customers was examined. In addition the envisioned impact from the communication and metering strategies were examined. In this regard, the mode of communication and the envisioned effectiveness was analyzed critically. This included the channels of communication. The performance indicators in this category included updates and customer feedback. The issue of meter servicing and replacement of meters when faulty was also examined. In this category, the impact of disconnections and reconnections were examined.

1.4 Overall objective

To carry out an evaluation of the level of achievement of water service charter strategies on quality water service delivery in Kikuyu Sub County.

1.4.1 Specific Research Objectives

I. To establish the effect of staff empowerment and quality water service delivery in Kikuyu Sub County.
II. To evaluate the role of communication strategies on quality water service delivery in Kikuyu Sub County.
III. To determine the effect of water meter management and quality water service delivery in Kikuyu Sub County.

1.6 Scope of the Study

The study covered the area served by Kikuyu Water Company in Kikuyu Sub County for a period of three months from November 2015 to January 2016. It involved carrying out an evaluation of water service charter strategies on quality water service delivery. The study focused on what was envisioned by the water sector reforms against the reality in the sub county.

1.7 Justification of the Study

The ultimate purpose of the study is to come up with possible solutions to the water related problems that are currently being experienced by the residents of Kikuyu sub County. It will establish the relationship between water service charter strategies that have been put in place and quality water service delivery. It is envisioned by the constitution of Kenya that, with

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provision of adequate clean domestic water services, water born diseases will be eradicated and income generating activities like washing of vehicles will increase rapidly. Within Kikuyu sub County, residents living within the periphery keep large livestock through zero grazing. They also rear a lot of chicken. Green houses are also common and flower farms are also evident within the environs of Kikuyu town.

The economic activities enable the residents of Kikuyu to supply large quantities of milk, chicken and other farm produce to the residents of Kikuyu town and Nairobi thus earning a decent living. These activities will be enhanced by improvement with water service provision. The study examined the service provision theories that have been adopted by Kikuyu Water Company and the resultant successes and challenges. The results of the study will be disseminated through open discussions with the management of KIWACO. The report will also be shared by the County Government of Kiambu for possible inclusion in the Integrated Development Plan for the County.

The ultimate beneficiaries of the research will be the residents who will enjoy the benefits of enhanced water service provision in the event that the recommendations in this study are adopted and implemented. Members of the County Assembly may also benefit by being re - elected for presiding over the enhancement of quality water service provision in the Sub – County. The Government of Kenya will also benefit through increased taxes since more income will translate into to increased taxes.

The recommendation thereof may help the management in other Water Service Providers and the national government in formulating policies that would turn around the precarious position the water sector currently finds itself in accordance with the filed reports in the OB. In addition, funding that will be provided by the government will be used in a more transparent manner. Other stake holders in the water sector like Water Resource Users Associations (WRUAs) will also benefit. Willing donors may also find the research helpful as a guide to ensure that their funds deliver the requisite services.

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CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This section provided a review of the literature related to the problem under investigation. The review greatly expanded upon the introduction and background information. Every study that is mentioned in this chapter revealed the gap in knowledge in one way or another that made further research necessary. Consequently, the theoretical and conceptual framework is presented in this chapter. In addition, it introduces water service charter strategies, concept of customer perceptions, expectations and the gap in service delivery.

2.2 Theoretical Literature

This study focused on theories that are geared towards achieving quality service delivery including the Service Quality Gap model by Parasuraman, Zeithaml, and Berry of 1985, the Customer Service Theory as presented by Dorling in 2015 and the Performance Theory of Schechner in 2003 among others.

2.2.1 Theory of Quality Service delivery

Gap theory or the Service Quality Gap model (Parasuraman *et al*., 1985)

Gap theory states that the expectations of the customer must be met by the service provider. According to Parasuraman *et al.* (1985), service quality can be defined as an overall judgment towards the service provided and the resultant customer satisfaction. In this regard, service quality is the ability of the organization to meet or exceed customer expectations (Zeithaml & Bitner, 1996). The perceptions on quality service results from comparisons by customers on expectations against the service delivered by the suppliers (Zeithaml *et al.*, 1990). As the saying goes, disappointment is the gap between expectations and the reality. This is the gap that many organizations work hard to eliminate.

It is pertinent to note that, the service industry plays a crucial role in the economy of many countries, Kenya included. Therefore, a strategy on achieving excellence in service delivery is essential for success and survival in the public sector (Parasuraman *et al.*, 1985). In this regard, the public sector where Kikuyu Water Company falls has come under increasing pressure to deliver quality services and improve efficiency. This is compounded by the

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constantly changing needs, expectations and the increasing awareness of customer's rights. All over the world, expectations are changing when it comes to governmental services and their quality requirements by the citizens.

In accordance with this theory, service providers need to know what customers care about. This is a major concern to service providers in their attempt to beat their competitors and maintain a competitive edge. A lot of emphasis is placed on quality service, affordable price and to a minor degree, product quality. Customers care most about service quality. After extensive research, Parasuraman *et al* (1985) came up with five dimensions that customers use to evaluate service quality. They named their survey instrument SERVQUAL describing it as the ultimate strategy that would win customers loyalty due to the envisioned excellence in service delivery. SERVQUAL was coined from the words service quality.
The SERVQUAL comprise of five dimensions

Reliability and responsiveness

Reliability is the ability to perform the promised service dependably and accurately. In a nut shell, this is making the stated operational. Consequently, this practice has the effect of winning confidence from the customers who are eager to count on their service providers all the time. In accordance with Gap theory, the service provider's first and best efforts must be to ensure that services are reliable. Incidentally, reliability is one parameter that is expected to bring about loyalty from the customers in a commendable manner. Providers also yearn to find out what their clients value most in the products or services provided, so as to maintain their position and reputation in the market. According to this theory, it is more important to be reliable than to have shiny new equipment or flashy uniforms. However, the service provider must prioritize so that service reliability is accorded priority. This must be the norm in all operations.

Responsiveness comprises of willingness to help customers in times of need or when called upon and to provide prompt services. Customers are not ready to wait for a day to have a call returned or a mail responded to. Even if customers may sometimes be chronically slow in getting back to providers, prompt responsiveness is crucial to customers and that is what they

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expect all the time, after all a customer is the King. Service providers take up the challenge by establishing strategies for things like returning phone calls, emails on time and immediate response to all issues raised. Whether this is done within a prescribed period or not, it is important for customers to feel that providers are responsive to their concerns as a routine. Some service providers also provide call centres for tracking caller wait times for purposes of performance improvement.

Assurance

Knowledge and courtesy of employees and their ability to convey trust and confidence all the time, gives customers assurance. It is crucial for service providers to be the experts of the service they are offering. SERVQUAL research shows it is important to communicate that expertise to customers. If a service provider is highly skilled, but customers fail to appreciate the skill, their confidence with the service provider will be lowered. Consequently, their assessment of that provider's service quality will be lower. It is important for the intentions and actions of the service provider to rhyme for effectiveness in service delivery.

It is also pertinent for service providers to communicate their expertise and competencies to their customers as they carry out their activities. This can be achieved in many ways to the satisfaction of customers and customer's confidence with the service provider will rise. In addition, display of badges or donning dust coats by employees, will suffice. Further, display of certifications, newsletters and handouts in and outside the office will be an added advantage. By a display of competencies, service providers can help manage customer expectations and build customers confidence. This will ultimately influence their service quality assessment from their customers.

Empathy

Empathy is realized when the service provider pays close attention to the needs of customers. Being there for them through challenging situations, will develop trust from the customers along the way. Services can be delivered as specified, but customers may not feel like the service providers care about them during delivery. This may be detrimental to the customers' assessments of providers' quality of service. A friendly manner comprising of a smile, eye contact or even asking the customer if there is anything else that could be done after offering

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the requisite service for them, would suffice. Consequently, this will make the customer feel cared for and important to the service provider resulting in enhanced loyalty from the customer.

Empathy takes care of individualized attention given to customers which is very important to customers, but at varying degrees. Therefore, it is the responsibility of the service providers to establish parameters that are most dear to customers to avoid majoring in minors. At the same time, a strategy must be put in place to ensure that the service provider does not focus on only one dimension and let the others suffer. In this regard, balancing in all areas that are dear to customers is of essence.

Quality Service Delivery

Service delivery is as important as how it is administered. Employees in charge of service provision need to undergo continuous training on how to interact with customers in accordance with the changing environment. A brief session during initial orientation can make a big difference. This would be the initial introduction and incorporation into the philosophy of the organization. Training on areas that would help employees understand their role on customers' assessment of service quality is very crucial. Customers' assessments include expectations and perceptions across all five SERVQUAL dimensions. Service providers need to work on all five, but emphasize them in order of importance depending on the expectations of the customers. This is why carrying out customer satisfaction survey periodically is of essence.

Tangibles

Tangibles**,** refers to the appearance or physical facilities of the product, equipment, personnel, and communication strategies. Even though this may be considered as the least important dimension, it matters just as much as the other dimensions. You will never get a second chance to make a first impression (Ziglar, 2003). Besides, image is everything. Service providers also need to ensure that their employee's appearance, uniforms, equipment, and everything about them give the intended impression because they are the image of the organization. However, there is the danger for service providers to make everything look sharp and impressive, then fall short on reliability or responsiveness.

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Customer Service Theory (Dorling, 2015)

The Customer Service Theory as discussed by Dorling (2015) focuses on customer service and is based on identifying and satisfying the needs of the customers and exceeding their expectations. In this regard, total commitment is of essence as it seeks to ensure delivery of consistently high standards of service with the aim of retaining customer loyalty. Consequently, all employees must be trained into providing what the customer wants. Giving customers first class treatment can help build success. Customer satisfaction and loyalty are inextricably linked to the quality of customer service offered and ultimately to the company's profitability (Hickman, 2010).

This also forms the backbone of the mission statement of Kikuyu Water Company. In accordance with this theory, KIWACO is fully committed to delivering consistently high standards of service to gain and retain customer loyalty. This is embedded in the company's customer service charter so that it becomes a constant reminder of their obligations to the customers. In this regard, for continuity of excellent services, KIWACO needs to keep on scanning the environment so as to keep track of the changing needs of their customers (Wagenheim & Reurink, 1991). This will enable them to remain relevant and competitive.

The Customer Service Theory envisions a situation where all members of staff, from top management all the way down, are committed to the satisfaction of the customers. Therefore, they must create a customer service culture within the organization so as to remain competitive (Mourier & Smith, 2001). Customer satisfaction and loyalty are inextricably linked to the quality of customer service and, ultimately, to the company's profitability (George & Jones, 1991). The changing needs of the customer must be continuously met, otherwise the competitors will win them over and profits will start to decline.

Build a Customer Service Culture

New employees must be socialized into the philosophy of the organizations (Bourne, 2009). Training needs assessments will need to be carried out so that the requisite training can be budgeted for and carried out. The management must emphasize to their fellow employees, how providing excellent customer service is the cornerstone of the organizations (George &

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Jones, 1991). It is also pertinent to ensure that, all employees especially the front office team has interpersonal skills and are committed in their duties.

In addition, they must be personable, friendly and knowledgeable. Employees need to be empowered to make decisions that lead to customer satisfaction. Rewarding outstanding employee performance with recognition in the company newsletter, celebratory dinners, prizes and other perks should be the norm not the exception. It is the workforce that produces results and improves on service delivery thus maintaining a competitive edge against their rivals (Cooper, 2000).

Know Your Customer

It is important for service providers to know their customers by getting their contact details. This information can be gotten directly from them, through customer comment cards or surveys at the place of business and on the website. In any business, it is possible to distribute membership cards that customers scan when they make purchases (Mourier & Smith, 2001). This is what a service provider by the name Safaricom calls "Bonga Points" in Kenya. In addition to demographic details, it is important for service providers to learn what the customers prefer, and how their products or services directly benefit them (Sharma & Sarel, 1995).

It is therefore important to consider the weight the customer gives to quality and hours of service. In addition, service providers can gain perspective by reversing roles; taking time to think about what they would expect of a transaction if they were the customers, and what they would think of the product or service they are being offered. Knowing the taste of their customers and scanning the environment to keep with the changing needs of the customer, will put them on top of the situation.

Set Customer Expectations and Customer Service Tips

It is important to set realistic expectations for customers about hours of service in the event that a rationing programme is in place and to adhere to it. In this regard, it is crucial for the product or service provider to accurately meet customer expectations (Hickman, 2010). Delivery on every promise made to the customer must be observed so as to win customer loyalty (Wagenheim & Reurink, 1991). When customers are happy, they will advertise

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products and services on behalf of the provider (George & Jones, 1991). This will raise levels of customer satisfaction and earn the service provider respect and profits. The service providers should also look out for ways of improving their services and the overall customer satisfaction. Carrying out customer satisfaction surveys and implementing the findings will suffice. It is also crucial to keep in touch with the changing technology so that one does not loose contact with the reality on the ground.

Service providers should build continuous relationships with the customers by listening carefully to their needs and consider this as an improvement channel (Wanna, Butcher & Freyens, 2009). This aspect will enable providers to pay attention to the changing needs of customers, and introduce new products and services based on customer feedback gathered from the satisfaction surveys that needs to be carried out periodically (Gilmore, 2003). By continually exploring new ways to keep your customers satisfied, new customers will eventually be brought in the fold. It is therefore crucial to ensure that the employees are socialized to meet the changing needs of the customers and this makes human resource a very crucial component of any organization (Mourier & Smith, 2001). It is the workforce that produces results and improves on service delivery thus maintaining a competitive edge against their rivals.

2.2.2 Staff Empowerment Strategy

The Performance Theory on staff empowerment (Schechner, 2003)

The Performance Theory (Schechner, 2003) develops and relates concepts forming a framework that can be used to explain performance and how to improve on the same. This forms the basis of staff empowerment. Any service provision is based on employee's performance. This makes staff empowerment a very crucial component of any organization. It is the workforce that produces results and improves on service delivery thus maintaining a competitive edge against their rivals. The theory of Performance outlines development and the relationship of six foundational concepts which form a framework that explains performance improvement (Schechner, 2003).

Improving service provision is a process involving teamwork in terms of system thinking and inspiration to all members. This is where customer care strategies are developed and

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implemented in terms of improving service delivery. In this regard, as a manager advances in performances as these strategies are put in place, he is able to organize employees and resources more effectively and achieve higher quality results in shorter timelines. Through adherence to customer service charter strategies, a leader transforms his followers into a workforce that is able to meet and exceed the expectations of their customers.

This kind of performance will result into high quality output in terms of products and services that meet and or exceed the expectations of the customers. As efficiency increases, cost decreases and the amount of waste goes down; consequently, profits increase. Performance is directly proportional to the enthusiasm invested (Ziglar, 2003). One way of motivating employees is through simple appreciation when employees do well in their line of duty. People may forget what you said, but they will never forget how you made them feel (Buehner, 2003). Change in peoples world view towards their customers increases the ability to tackle more challenging tasks. The knowledge that is acquired by doing, increases problem solving skills which increase the ability to set goals, tenacity, and maintaining a positive outlook even in very challenging environments.

According to Schechner (2003), to perform is to produce valued results. A performer can be an individual or a group of people engaging in a collaborative effort. Developing performance is a journey and level of performance describes locations in the journey. Current level of performance depends holistically on six components: context, level of knowledge, levels of skills, level of identity, personal factors and fixed factors. Three axioms are proposed for effective performance improvements. These involve: a performer's mindset, immersion in an enriching environment, and engagement in reflective practice (Schechner, 2003).

Performer's Mindset.

Performer's mindset includes actions that engage positive emotions. Examples include setting challenging goals, allowing failure as a natural part of attaining high performance, and providing conditions in which the performer feels a right amount of safety. At the back of the employees mind, failure must remain a situation, not a person and it must be viewed as an opportunity for excellence.

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Inspiration

Inspiration in a physical, social, and intellectual environment can elevate performance and stimulate personal as well as professional development. Components of inspiration motivation include an inspiring and a compelling vision. In addition, elements of inspiration or immersion include social interactions, disciplinary knowledge, active learning, emotions and spiritual alignment.

Reflective Practice

Insightful practice involves actions that help people pay attention to experience and learn from it. Examples include observing the present level of performance, noting accomplishments, analyzing strengths and areas for improvements. In addition, it looks at analyzing and developing identity and improving levels of knowledge. Continuous involvement in complex challenges and supportive experience rouses interest and has the potential of improving performance.

2.2.3 Communication strategy

Communication is the heart and soul of management at every level. Without communication skills, one can't hope to express his or her thoughts, convince others or negotiate. With good communication skills, one can expect to win arguments, make sales, mediate, educate, inform and even inspire others (Shipside, 2007). A communication strategy is a single, coherent account that describes a communications solution to a problem or problems. It is designed for the organisation to communicate effectively and meet core organisational objectives in accordance with its mandate (Brundel, R. 2004)

A communication strategy will address statement of purpose in terms of helping in achieving overall organisational objectives and engaging stakeholders effectively. It will also demonstrate the success of work, ensure people understand what the organization does and change the worldview of the stakeholders. A communication strategy is more than a business buzzword. It is a well-designed strategic asset; meant to boost value, enhance relationships with customers and partners. In addition, it builds the reputation of the organization while reducing inefficient public relations and spending in communications (Brundel, 2004).

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Successful decision making requires that managers have access to as much relevant information as possible (Saleemi, 2008). Formulating appropriate organizational strategy is a process of analyzing critical questions which must be communicated effectively. This involves answering some basic questions which includes the purpose and objectives of the organization. In addition, effective communication must bring out the current position of the organization thus informing managers if indeed the organization is achieving the set goals and if the level of such progress is satisfactory. The communication document needs also to address both internal and external environments and articulate very well the strategy of the organization. It is pertinent to note that the key management rules of planning, prioritizing, coordinating and controlling depends upon access to information (Saleemi, 2008)

Formal communication networks are systems designed by management to dictate who should talk to whom to get a job done (Adler & Elmhorst, 2008). The organizational chart describes a formal communication network very well where the downward, upward and horizontal communications are made clear at a glance. This is the norm in many organizations, Kikuyu Water Company included. Displaying the chart in an open space is one way of informing employees and the general public who is in charge of what department. Alongside the formal networks, every organization also has informal communication networks. These are patterns of interactions based on friendships, shared personal interests and proximity (Adler & Elmhorst, 2008). The following information is crucial in a communication strategy.

Situation analysis

It is pertinent to take time to draw a comprehensive picture focussing on how and why your organization was created (Brundel, R. 2004). This will help in making clear why things have been done the way they have, and alert the owners or the employees on the potential obstacles that may arise during implementation of the organization's communication plan. This helps in developing a shared organizational history as well as shedding light on how the organization got itself in the current situation (Shipside, 2007). In the process, information will be collected, that will allow for a realistic assessment of historic limitations and strengths which could have a major impact on the organizational goals, communication

objectives, strategies and tactics (Shipside, 2007). The introductory part of the communications strategy briefly outlines what the organisation does, its main functions and its area of operation. It must define the current situation because when an organization knows where it stands, it can make adjustments. The following tools can be used to help analyse the organisation's current situation.

PESTEL Analysis

This involves listing and analyzing the effects of the Political, Economic, Social, Technological, Environmental and Legal factors that could affect the organisation's work (Shipside, 2007). These could affect the organization positively or negatively depending on the action that will be taken. The resultant impact will have an effect on how your organisation operates. The effect of each factor needs to be clearly indicated and the resultant remedial measure formulated and implemented complete with key performance indicators (Brundel, R. 2004). A PESTEL analysis is a tool or framework for marketers whose aim is to assess how the external factors influence business performance. This helps in making decisions much easier.

The six mentioned factors are interdependent. It is also important to be aware of the communication environment in which you will be delivering your messages. Undertaking the work required to understand your organization's external environment will provide you with a snapshot of your current positioning within the local and broad communications environment (Brundel, R. 2004). Many of these pieces of information can be gathered by an individual in advance of any meeting or broader discussion you may lead with staff or volunteers. It is crucial for the most strategic and knowledgeable stakeholders in the organization to add their thoughts to this analysis, and that it is available and summarized before embarking on the audience and strategy sections of the communication planning process (Saleemi, 2008).

SWOT Analysis

SWOT Analysis is a useful technique for understanding the Strengths and Weaknesses as well as for identifying both the Opportunities open and the Threats that an organization faces. In a business context, it can help an organization to carve a sustainable niche in the market

(Saleemi, 2008). This is a powerful tool that can help an organization uncover opportunities that you are strategically placed for exploitation. It is pertinent to note that by understanding the weaknesses of the business, the owners can manage and eliminate threats that would otherwise result in challenges. More than this, by examining the organization and the competitors using the SWOT framework, one can craft a strategy that would distinguish an organization from its competitors so as to create a niche in the market (Saleemi, 2008).

More often than not, strengths and weaknesses are internal to the organization, while opportunities and threats generally relate to external factors. It is crucial to have in mind what this means in terms of communications priorities with a view of turning threats into opportunities through effective communication (Saleemi, 2008). It is important to be aware of the external threats and opportunities that potentially affect your organization, including those groups or individuals who may be opposed to or supportive of, either the work you do or to the way in which you do it (Adler & Elmhorst, 2008). This information will help you identify threats and opportunities that may impact the effectiveness of your communication efforts.

Competitor Analysis

This is another tool that is useful when assessing the organization's current situation against its competitors. This can be a relatively simple exercise where you identify your main competitors and rank them against certain criteria. Competitor Analysis is basically identifying your competitors and evaluating their strategies to determine their strengths and weaknesses relative to those of your own product or services (Saleemi, 2008). Armed with this knowledge, an organization can establish what makes its products or services unique or not. Consequently, it will determine what needs to be changed so as to tap into the larger market (Adler & Elmhorst, 2008). Competitors are evaluated by placing them in strategic groups according to their ability to compete directly for the same customers. In this regard, it is important to know the competitor's products or services, its profitability, growth pattern, marketing objectives and assumptions, current and past strategies, organizational and cost structure, strengths and weaknesses, and sale volumes (Adler & Elmhorst, 2008).

Organizational Objectives and Communications Objectives

Any communications strategy should closely reflect the overall organisational plan or strategic plan (Saleemi, 2008). In this regard, it should examine the organisation's overall vision, mission and core values and objectives. Consequently, it must comprise of a blue print of achieving the envisioned goals in a manner that is understood by the employees who are the implementing agency (Adler & Elmhorst, 2008). The objectives outlined therein must be SMART (Specific, Measurable, Achievable, Realistic and Time bound). It is important that the communications objectives are seen to contribute to the achievement of the overall objectives of the organisation by all including the stakeholders (Brundel, R. 2004). Consequently, they will be recognised as fundamental objectives to achieving the organisation's overall mission.

Identifying stakeholders

In this section, a detailed description of KIWACO'S stakeholders, both external and internal was provided. They included members of staff, the general public, customers, suppliers, politicians, service users and the government of Kenya. They also include all the bodies formed under the Water Act 2002 like Water Services Regulatory Authority which is given the responsibility of regulating tariffs among other roles. Listed among stakeholders are non – governmental institutions that KIWACO is keen to connect with.

Messages

Any message must comprise of content, elements, treatment, structure and the code (Nyambuga *et al,* 2015). In terms of content, the message comprises of everything that the source wishes to communicate with the receiver. It is the backbone of the communication. The use of elements is important in clarifying the message and in keeping the receiver interested and attentive. Elements include spoken and body language (Nyambuga *et al,* 2015).. Treatment refers to the presentation of the message and the resultant tone in the message. Structure is how the message is structured into various parts for purposes of effectiveness. The code of the message is the form in which it was sent. Your body movements, language, gestures must be accurate for correct interpretation of the message (Nyambuga *et al,* 2015). In addition, the right audience must be identified and the messages

broken down for their consumption so that they can be relevant and appropriate to them. But it is very important that there is continuity across the messages.

Evaluating Success

The communications strategy will not be complete without a section on performance and evaluation with key performance indicators. The aim is to monitor and take corrective measure on time so as to avoid losses that would be too expensive to contain (Griffin E 2012). As the saying goes, a stitch in time saves nine. The tools for checking the achievements against the set standards must be very clear in the communication document.

2.2.4 Metering strategy

Installation of New connections.

The new connection process starts with information disclosure to the parties involved so that the customers know what they are getting themselves into. In this regard, processing of new connection agreements is an excellent way to flush out and make transparent all aspects of the service arrangement. Trading and supply agreements commonly known as contracts, come in different formats but fundamentally they contain the obligation of both parties. The most pertinent part of the contract is what it contains, and how the contents are worded. For any new connection to be effected, the customers express interest in the service by applying for the connection from the service provider (Mogaka et al., 2005).

The applicant has the right to all information regarding the service and the conditions therein (Laurence, 1975). The requisite application form provides the service provider with all the required information for the customer and the customer also gets to know what kind of service to expect (Kirkpatrick, Parker & Zhang, 2006). The time taken to process an application for a new water connection depends on the type of connection, whether domestic, commercial, irrigation or for other purposes. This is necessitated by the fact that some connections require additional manpower and complex equipment depending on the prevailing water pressure and the diameter of the pipe at the point of connection. It also depends on the time taken by the customer to pay the requisite fees once the contract is fully signed.

For most connections some service providers will demand the application fee to be paid in full at least three days prior to the connection date. This is in line with good planning and to ensure the connection is completed at the date required for the benefit of both parties. It is then the responsibility of the service provider to ensure that the services signed for in the contract are provided at the location the customer needs it and when needed (Maddaus, Gleason & Darmody, 1996). This is crucial because once the contract is signed, it becomes a legal document with resultant penalties in case of default from either side (Stoltman & Wardley, 1996). The service provider must know that customers will expect nothing short of what they have signed and paid for.

The time stipulated in the contract, for the requisite survey work must be observed by the service provider (Adler, 2002). In addition, the time taken for the service to be realized by the customer is very important for the retention of the customer due to stiff competition in the market (Laurence, 1975). In this regard, the customer service charter becomes the constitution governing the customer and the service provider. KIWACO stipulates that once the new connection has been approved and paid for, the applicant will need to engage the services of a registered plumber for plumbing services in his premises up to the location of the meter. Then, an artisan from the company will install the connection from the main lines.

The water service provider must inform the applicant in writing in case of any change in the connection schedule and the reasons thereof (Okun, 1987). Such unforeseen changes may occur due to power failure, or a major burst due to system failure in the pressure regulating valves or other human activities. It is in the interest of the water service provider to effect the water connection the soonest possible since they are in business. The applicable tariffs, maintenance and monthly meter charges and any other applicable tariff must be clearly stated in the customer supply contract (Laurence, 1975).

Reconnection of Disconnected Accounts

Reconnection is the process of turning on the water supply after a disconnection. A disconnection is the action taken by the service provider to deny customers water due to breach of contract. Some of this information on the contract will be appearing on the bill every month. This Information includes the resultant bill and the date when payment is due. After that date, the bill is considered past due and service may be discontinued on the stated

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date without further refrence to the customer. The rules and procedures that govern service disconnections are also clearly stipulated in the customer service charter and the subsequent bill to the customer.

The contract signed between the applicant and the service provider contains the terms and conditions that govern access to the water meter and use of the service (Laurence, 1975). Such agreements become effective, immediately both parties append their signatures on the requisite document (Laurence, 1975). A customer is disconnected from the service by failing to adhere to the conditions in the contract signed between themselves and the service provider. Reasons for disconnections may include debt accumulation, meter tempering, illegal reconnection, and bypass or for their own request (Laurence, 1975).

A reconnection will take place after payment of the outstanding bills or penalties as articulated in reconnection procedure (Maddaus et al., 1996). In this regard, a reconnection slip will be prepared by customer service assistant, approved and signed by a customer relation officer or in accordance with the policies and procedures of the organization. After being approved, reconnection slip will be sent to the reconnection unit for reconnection. For a customer who has been disconnected for debt accumulation, he or she has to pay all or part of the debt plus reconnection fee for resumption of the water service. This must be in accordance with the water supply contract (Maddaus et al., 1996). A customer, who has been disconnected for meter tempering, has to pay a penalty and any other charge as may be stipulated in the contract for the reconnection to be effected.

Rural - urban migration has brought many development opportunities for urban residents in developing countries but besides this opportunity, numerous social problems have been observed (Satterthwate, 2003). Uncontrolled urban physical expansion has consequently created a crisis on the existing poor social services. The high density development needs efficient public service delivery because high concentration of people leads to a public health risk (Burke, 1970). Rapid urbanization has outstripped the provision of basic services such as water, sanitation and refuse disposal (Foster and Chilton, 2003). Urbanization has resulted in the explosion of the number of people living in poverty. The basic service such as water has been strained due to the explosive demand growth and increasing population densities (Vairavamoorthy et al., 2008).

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Scheduled Meter Reading and Billing

Water service provision contracts require that meter reading and billing be carried out at certain time every month to avoid inconvenience to both the service provider and the customer (Maddaus et al., 1996). This is achieved by a predetermined billing cycle, complete with the requisite dates and must be made clear in the service contract (Maddaus et al., 1996). In this regard, the billing plan can comprise of items that specify the meter reading date, the billing date and the days for delivery of bills and the expected day of payment (Laurence, 1975). Consequently, as each billing item becomes due, it is included automatically in the billing list.

Distributors are responsible for reading meters and sending the data to the retailer, who manages a customer's account and issues bills (Laurence, 1975). They are also responsible for bills distribution in accordance with the prescribed method in the contract. Laurence (1975) argues that they are also responsible for testing and replacing faulty meters. If the meter reader is not able to access the meter due to a locked gate or a fierce dog in the homestead or any unforeseen barrier, the distributor will provide the retailer with an estimated bill based on the customer's past usage (Maddaus et al., 1996). The distributor can estimate any period of up to four months before the meter was last read. In this regard, the service provider must advise the customer that the bill provided has been estimated and give them the opportunity to pay the estimated bill or pay an amount determined by the service provider after obtaining access to the meter (Maddaus et al., 1996).

When the service provider issues a bill to the customer based on estimates, the fact that it is estimated must be very clear on the invoice (Laurence, 1975). However, regulations need to be put in place to ensure that the bills are based on actual meter readings every six months. Where access is an ongoing problem; in the event that the customer is away most of the time, the service provider may require a customer to make provisions for a special meter read every month (Maddaus et al., 1996). In this regard, a meter reading fee may be charged to the customer to cater for the inconvenience. In the event that there is deliberate failure to provide access to the meter, the service provider has the right to discontinue supplying premises with the service (Laurence, 1975). After a customer receives a bill based on an estimated reading,

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the service provider may agree to accept a customer's reading of their own meter. This will be considered an actual reading.

If a customer is concerned that their bill is high because their meter reading is incorrect, they can ask their service provider for a special meter reading. In this regard, the customer will be charged a special meter reading fee for the exercise (Laurence, 1975). This fee will on most cases be waived if the meter reading is found to be incorrect thus validating the customers concerns. In this regard, the bill will be issued depending on the terms and conditions of their contract.

Meter servicing and replacement

It is pertinent to flush out the pipeline and service water meters after a leakage or a burst has been identified and repaired. This involves opening the water meter and cleaning the orifices therein to ensure a smooth flow of water. This is followed by flushing the pipeline to ensure any dirt therein is removed; then the water meter is reinstalled immediately, to avoid any inconvenience to the customers. Meters are also serviced and calibrated periodically to ensure compliance with the specifications that are provided by the manufactures (Maddaus et al., 1996).

The servicing can be carried out every six months, yearly or on a need basis. In addition, strategies are put in place for systematic meter replacement, commonly after three to five years or as the manufacturer of the water meters may advise. This is dependent on the lifespan of the meter (Maddaus et al., 1996). However, this is an expensive affair but necessary for purposes of effectiveness and efficiency in quality water service delivery. Periodically, ultrasonic meters are used to test the accuracy of the consumer meters. Meter servicing is carried out in the presence of the customers.

2.3 Empirical literature

Empirical literature comprises of studies that relate to or argue positively with the study that is carried out in terms of the hypothesis and variables. It also includes systematic identification, and analysis of information related to the problem that was being investigated. This information can be published or unpublished. Empirical literature therefore includes

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investigations, and careful evaluation of these documents in relation to the research that was being carried out.

2.3.1 Water service delivery

Water service delivery focuses on access to a sufficient supply of potable domestic water to consumers by the respective water service providers. The need for a sufficient and a safe supply of water was also recognized as a human right by the United Nations General Assembly in 2010. Kenya also adopted the same in Chapter four of the Constitution that was passed in 2010. Consequently, quality water service delivery informs policy and planning for the national government and the County governments. Benefits from access to a sufficient supply of safe domestic water include good health and economic development (Maddaus et al., 1996). When people have reliable tap water in their houses, the time taken fetching water is used for other development activities.

> "In 2010 a United Nations General Assembly resolution recognized that a sufficient and safe supply of water is a human right and is essential for the realization of many other human rights. A similar logic influenced the inclusion of access to sustainable, safe drinking water in the Millennium Development Goal (MDG) target seven" (Kayser et al, 2010)

The whole world is affected by water scarcity with almost one-fifth of the world's population, about 2 billion people living in areas of physical scarcity, and about five hundred million people are approaching this situation (UNDP Human Development Report, 2006). In addition, another 1.6 billion people, or almost a quarter of the world's population, face economic water shortage (UNDP Human Development Report, 2006). The affected countries lack the necessary infrastructure to exploit the resource from rivers and aquifers. Water scarcity is among the main problems to be faced by many societies and the World in the 21st century (UNDP Human Development Report, 2006). Water use has been growing in accordance with growth in population. In this regard, an increasing number of countries are chronically short of water due to natural and a human-made phenomenon (Calas & Martinon, 2010).

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Different counties have different ways of managing the resource. Kenya is guided by the Water Act 2002 which is currently under review courtesy of the constitution of Kenya 2010. Lack of proper management of water among other resources can lead to poverty. Poverty can also be the result of political instability, ethnic conflicts, climate change and other man-made causes. But one of the greatest causes of poverty in Africa is also the most overlooked; the lack of access to clean domestic water (Mogaka, Gichere & Davis, 2005).

Management of resources in Kenya could account for some of the reasons of the water crisis in the country. Effective service delivery is about striking the right balance between the needs of people, task and goals in a given situation hence a management issue. Giving the envisioned results priority, will result in improved service delivery since the results oriented leader becomes a behavioural model to his followers (Njogu, 2013). Most countries in the world have embarked on transformation of their structures in governance, culture and the public service delivery, so is Kenya. This informed Kenya's ambition to plan for Vision 2030 which aims to make Kenya an industrialized country by the year 2030. In this regard, government institutions including the public sector are embarking on achieving results in terms of delivering good services to its citizens by taking maximum advantage of new technology and creating open accountability in service provision.

Without water there can be no life. Lack of a clean water supply or complete lack of water, creates a relatively huge burden on health within the community (Munala & Kainz, 2012). It impedes agricultural development in the affected area and keeps millions of children out of school. In addition, consumers who are mostly women, spend valuable time fetching water instead of using such time for other development activities (Wanna, Butcher & Freyens, 2009). The financial costs associated with the lack of water are mind boggling. For example in the Sub-Saharan Africa the losses were about 5% of their GDP; with poor people sustaining most of these losses (UNDP, 2006). Water-related diseases have killed more people than all post-World War II conflicts (Hemson, 2008) and unless action is taken, 135 million people will die from preventable water-related diseases by 2020 (Gleick, 2002).

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More and more countries are individually recognizing the right to water even though the right to water does not equal the right to free water (WaterAid -UK., 2008). The right to water takes care of the tariffs, so as to make domestic water affordable to all. Several studies have found that the poor pay the highest price for water (Kulindwa, 2005; UNDP, 2006; Kulindwa & Lein, 2008). This could be explained by the fact that richer households have easier access to piped water services both in terms of development of neighborhoods and ability to pay for the same. In Kenya the gazette price for a 20 liter jerican is Kshs. 2.00.00 However due to scarcity of water; most vendors sell the same for Kshs. 5.00.

The role of politics in water service provision has not received sufficient attention. It has been overshadowed by the focus on the perennial water shortage. However, water scarcity is a much more widespread phenomenon than what is recorded. Africa, a continent struggling to secure enough water for its people, has more water per capita than Europe (Kulindwa & Lein, 2008). According to Kulindwa and Lein (2008), the management of resources and consumption patterns are crucial factors in sharing the scarce water resources.

The water situation is internationally presented by dividing the population into those with access to an improved and unimproved water sources (Mogaka, Gichere & Davis, 2005). The distinction between an "improved" and" unimproved" water source is deeply misleading, because it does not guarantee provision of portable water. In addition, the physical presence of an "improved" source, does not guarantee access to water services. This is due to the fact that informal settlements are not considered and infrastructural decay and unreliability are not accounted for in statistics (UNDP, 2006). In Nairobi, over 90% of the population has access to "improved" water and sanitation (UNDP, 2006).

2.3.2 Reliable water supply

A reliable water supply is crucial for winning the confidence of the customers whether the water provision is under rationing or not. This will enable the WSP and the customers to plan their activities appropriately. Managing water in developing countries like Kenya is a challenging affair, because of the scarcity of water against the many purposes it serves,

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including recreation activities (Maddaus et al., 1996). In addition, the infrastructure in many Counties like Kiambu is dilapidated due to non renewal in accordance with the design.

Indeed water is life as the saying goes; and it is crucial for economic development. Water enhances the living conditions of the consumers and the country at large by providing cleanliness and food in all aspects of life. Water is also fundamental for the preservation and sustainability of the environment (Mogaka, Gichere & Davis, 2005). In recent years rapid population growth especially in urban areas, has increased the pressure tremendously on water resources and the environment. To serve the increasing needs, water management must be responsive and relevant to the changing environment (Mogaka, Gichere & Davis, 2005). This will allow the people of to meet current and future water requirements.

The water supplied to consumers must meet the required standards by the World Health Organization or the safety standards set by the relevant Counties (Sharma & Sarel, 1995). This is important for health of human beings; since a healthy nation is equated to development (Kirkpatrick et al., 2006). Reliable water supply makes planning easy for the water service providers and the customers. Quality water service delivery is achieved by controlling the quality from the sources and during transmission to the customer's points (Mogaka et al., 2005). To ensure reliable water supply, the water authorities or water service providers need to develop local resources such as groundwater, recycled water, seawater desalination, and conservation (Mogaka et al., 2005)

2.3.3 Improving Infrastructure

Improving infrastructure by developing new water sources, storage capacity and reticulation systems is crucial for sustainability (Kirkpatrick et al., 2006). This must be in tandem with the water demand so that the meagre resources are used optimally. It is the water demand and the water availability that determines the diameter of the pipe and the storage capacity. The water pressure in the system determines the class of pipes (Wagenheim & Reurink, 1991). Putting up infrastructure for water is a very costly affair due to the high cost of galvanized pipes which are necessary in some cases. In this regard, funding for infrastructure improvement must be sourced before the start of the implementation to ensure completion.

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2.3.4 Promoting Conservation

In addition to developing new water supplies, plans need to be put in place to use existing water resources as efficiently as possible. That's why conservation has been a key component of supply diversification strategy in the world (Adler, 2002). This brings out the need for partnership with other agencies and other partners to offer programs that improve efficiency in usage of water for residential, commercial and agricultural users, and promote conservation as a way of life (Koppen et al., 2007). In addition, other sources must be well protected to avoid encroachment and any other human activity that would impact negatively on the quality of water (Adler, 2002). All water sources need to be surrounded by a compact drainage system rigid enough to ensure that storm water does not pollute the sources.

2.3.5 Water services delivery and vested interests.

Supplying water in developing countries is highly challenging due to several factors affecting the service, one being corruption (Koppen *et al*., 2007). This is the most persistent problem facing the public service in developing countries, including Kenya. Although corruption is a serious issue, the focus by governments is largely on policy reforms, while efforts necessary at the institutional level receive insufficient attention (Davis, 2004). The Global Corruption Report 2008 by Transparency International (TI) provides a comprehensive examination of the links between corruption and service provision. An examination of domestic water and sanitation services revealed that corruption can be found along the entire water delivery chain: from the design of policies down through to the connection and billing activities. Ultimately, this increases the cost of doing business.

Large-scale investments are exposed to corruption due to their lucrative and complex nature. These systems offer multiple entry points for high level corruption, with groundwater sources being particularly hard to regulate (Transparency International, 2008). In addition, water governance is largely viewed as a technical issue where social and political factors influencing water distribution and infrastructure are often ignored (George & Jones, 1991). Water is particularly vulnerable to corruption since it defies legislative boundaries, thereby diffusing responsibilities, creating loopholes and coordination challenges (Mourier, 2001).

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The problem is likely to grow, as water becomes more scarce and private investments in water increases in countries with a high risk of corruption (Transparency International, 2008). Aid also contributes to the large influx of money, and larger expensive projects are more profitable to corrupt officials, which was the suspected reason behind the perceived preference for large expensive dams over a cheaper groundwater source (Wright, 2008).

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2.4. Conceptual Framework

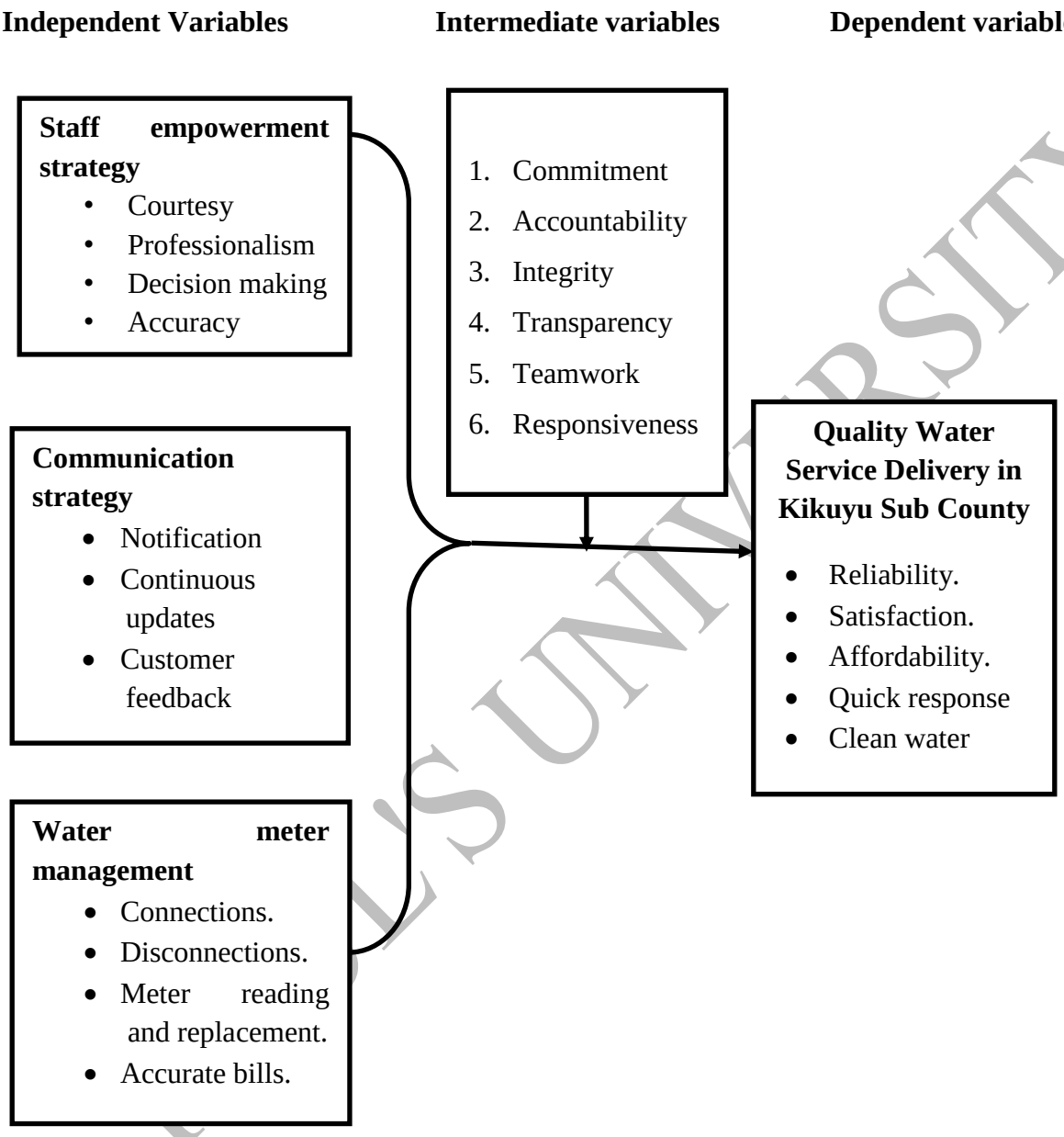


Figure 1: The relationship between water service strategies and water service delivery.

As shown in Figure 1, quality water service delivery is dependent on three aspects of water service strategies which were the independent variables of this study. The strategies comprise of staff empowerment, communication, and water meters management. Quality water service delivery on the other hand ensured loyalty from customers, continuity and sustainability of the water service provider. In addition, the conceptual framework had the

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intervening variables composing of commitment, aaccountability, integrity, ttransparency, tteamwork and responsiveness which brought out the relationship between the dependent and independent variables in the study.

It is through commitment and accountability that curtsey to customers and professionalism are exhibited. This will result in the desires of the customers being met in terms of reliability and satisfaction in service delivery. Responsiveness and transparency will enhance continuous updates and notification of any rationing that may arise outside the programmed rationing. Integrity will ensure that disconnection and reconnections are carried in accordance with the policies governing the water service provider and not for personal reasons. In addition, professionalism will enhance provision of clean water to the residents at an affordable tariff.

2.5 Research Gap

A research Gap is the missing element in the existing research literature. In another words, it indicates a finding from a research in which a key question has not been answered. The issue of attitude is not addressed by both the theoretical and empirical literature. Yet attitude of the Service Provides and the customers is very pertinent in quality service delivery. Scanning the environment and putting in place mitigation measures does not come out, neither does putting in place contingency plans to address unforeseen challenges. In addition, the role of politics is left out in the study. Further research to improve on the findings would suffice.

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CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the research methodology used in this study and provides a general framework for the research. It presents details of the research design, target population, sample and sampling procedures, research instruments, validity and reliability of instruments, data collection procedures, data analysis techniques and ethical considerations while conducting the study.

3.2 Research Design.

The research adopted the descriptive design so as to come up with the state of affairs as they exist (Kombo & Tromp, 2006). Kerlinger (1969) as quoted by Kombo points out that descriptive studies are not only restricted to fact findings, but they may also result in the formulation of important principles of knowledge and solutions to significant problems. This assertion informed this study. In addition, the target population for the study was also quite large. Descriptive design enabled the researcher to take in the sentiments of the large population that were involved in the study through a sample for the purpose of data collection and analysis (Ogula, 2005). In addition, it involved measurement, classification, analysis, comparison and interpretation of data (Kombo & Tromp, 2006).

3.3 Study Area –Kikuyu Sub County

The study was conducted in Kikuyu Sub County which is one of the twelve sub counties that constitute Kiambu County. Kikuyu Sub County is adjacent to the northern border of Nairobi County and the Nairobi Limuru duo - carriage way passes through the sub county. Kikuyu Sub County has six wards. Although Kikuyu Sub County was predominantly rural, it has recently witnessed an increase in its urban population due to the rapid growth in major towns including Thogoto town, Kinoo, Kidfarmaco and the nearby Nairobi County.

Kikuyu townships and other commercial centres like Wangige, have quickly become the main residence areas for most of the people working in Nairobi and therefore creating need for better and improved water service provision to all residents. High rise buildings are evident within Kikuyu town and environs.

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3.4 Target Population

This research targeted 1,845 residents with active water connections under the jurisdiction of Kikuyu Water Company. It was observed by default that most of the respondents were women comprising of about 62% and they were very passionate on water related issues. The number of years lived in Kikuyu Sub County was crucial to the researcher for effectivenss in responding to the questioinair. The informal sector was another strata that was very responsive.

The residents were selected because they are the beneficiaries of the water service charter strategies that KIWACO has put in place for their benefit. Consequently, they are suitable in giving a fair assessment of the effectiveness of the strategies put in place for quality water service delivery by Kikuyu Water Company. Population is defined as an entire group of individuals, events or objects having a common observable characteristic (Mugenda & Mugenda, 2003).

It was still difficult for the researcher to study the entire target population. Considering that customers who have direct water connections to their premises comprise of 1,845 people. In this regard, there was need to identify an accessible population and establish a sampling frame from which a sample was drawn for the study. According to Mugenda and Mugenda (2011) a sampling frame is a physical representation of the target population that contains all the relevant units to be included in the sample.

Table 1: Water Service Provider for Kikuyu Sub County.

	Water Service Provider	**Sub – County Served.**
1	Kikuyu Water Company Ltd.	Kikuyu – Sub – County.

3.5 Sample design and procedure

Stratified random sampling was used in the research. It involved dividing the population into homogenous sub groups and taking a proportionate sample in each sub group (Kombo & Trump, 2006). The sample was selected in such a way as to ensure that sub groups in the population were represented in the sample proportion to their number in population (Kombo & Trump, 2006). Mugenda and Mugenda (1999) define a sample as a smaller group taken

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from the targeted population and argues that it must be enough to represent the salient characteristics of the target population. Gay cited in Mugenda and Mugenda (1999) suggests that for descriptive studies, at least 10% of the accessible population is enough for the sample. Below is a table showing the water zones or estates as provided by KIWACO from where the sample was drawn.

Table 2: Kikuyu Water Company LTD Active Water Connections per Zone

	Estate (Zone)	Number of individual water connections	10% of the individual water connections.
1	Kikuyu town	167	17
2	Kidfarmaco North	139	14
3	Kidfarmaco South	210	21
4	Kidfarmaco Island	100	10
5	Mutego	26	3
6	Thogoto	635	64
7	Gikambura	239	24
8	Mai – a Ihii	208	21
9	Wangige	121	13
	Total.	**1,845**	**187**

3.5 Data collection instruments and Procedures

The main data collection instrument used in this study is a questionnaire which was used for collecting primary data. The researcher employed two methods in data collection. A self administered questionnaire where the respondents completed the questionnaire by themselves. This was done where the respondents are literate. The other method used, was the researcher administered questionnaire. This was done to respondents who had difficulties

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in understanding the questions. The questionnaire method was used because it has the potential for reaching out to a large number of respondents within a relatively short time. Through the questionnaire, the respondents were given adequate time to respond to the questions. The questionnaire also offered a sense of confidentiality to the respondent.

Validity and Reliability

A pilot study was carried out in Limuru Sub County to enhance the validity and reliability of data collected using the questionnaire. The content validity of the questionnaire was evaluated through the actual administration of the pilot group (Kaila, Ravishankar & Mishra, 2009). The researcher sought and was given authority by Limuru Water & Sewerage Company to carry out a pilot study within an area in Limuru town comprising of one hundred consumers. The researcher then selected ten consumers under the jurisdiction of Limuru Water and Sewerage Company to test the reliability and validity of the research instrument. Their area was divided into four zones through the existing streets.

The researcher put their account numbers of the one hundred customers in a plastic container and thoroughly mixed them. Ten were picked at random and the questionnaires administered to them. All the ten responded positively and they raised concerns which necessitated some changes in the questionnaire including addition of a space in the questionnaires for the names and account numbers of the respondents. Kombo (2006) argues that a pilot study would offer an opportunity to correct inconsistencies that may arise from the instrument. Mugenda and Mugenda (2003) define reliability as a measure of the degree of consistency in a research instrument to yield trusted results after an accepted number of repeat trials. Validity is defined as the degree to which data collected in the study accurately represents the variable being measured in terms of accuracy and truthfulness.

3.6 Data Analysis and presentation

Collected data and identified information was sorted out, classified and categorized under the objectives of the study: evaluation of water service charter strategies on quality water service delivery in Kikuyu Sub County. A coding system based on samples of collected data was developed. Completed questionnaires were edited for completeness and consistency before the responses were processed. The collected data was analyzed using a combination of

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thematic and content analysis techniques. Under thematic approach, major concepts or themes were identified.

Under content analysis, examination of the intensity with which certain words were used was carried out. Consequently, a classification system was developed to record the information. The findings were presented using graphical presentation and tabular form. Tables and figures were used to summarize responses for further analysis and facilitate comparison. The results were then interpreted in order to arrive at conclusions and recommendations.

3.7 Ethical considerations

The researcher contacted the respondents and explained clearly the purpose of the study to them and sought their consent before administering the questionnaires. The researcher maintained privacy and confidentiality of the information gathered by not mentioning the respondents by name. However, the respondents were given the option of indicating their names and water connection numbers. In addition, the researchers very carefully observed and respected individual values and opinions and also tried to learn and behave in a way that did not belittle the respondents by acknowledging their contributions and opinions. The researcher also chose appropriate terms to use and explain the value of his research so as to protect himself, his supervisors and university from public criticism or possible litigation.

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CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.0 Introduction

This chapter presents the findings of the data collected from the sampled population under the jurisdiction of Kikuyu Water Company. The purpose of this study was to carry out an evaluation of water service charter strategies on quality water service delivery in Kikuyu Sub County. The collected data was analyzed using a combination of thematic and content analysis techniques. The subsequent findings of the study are presented in form of tables and pie charts.

4.1 Questionnaire's Response Rate

The study targeted 187 respondents, out of which 156 fully participated in the study. This represented 83.4% of the sample population. In this regard, the researcher felt enough information was gathered to enable him and his assistants continue with the study. Lack of interest was evident in 31 customers who were issued with the questionnaires. Six respondents out of them returned the questionnaires blank while the remaining 25, failed to return them at all despite promising to do so.

4.2 Demographics

The researcher wanted to find out the number of years the respondents had lived in Kikuyu Sub County.

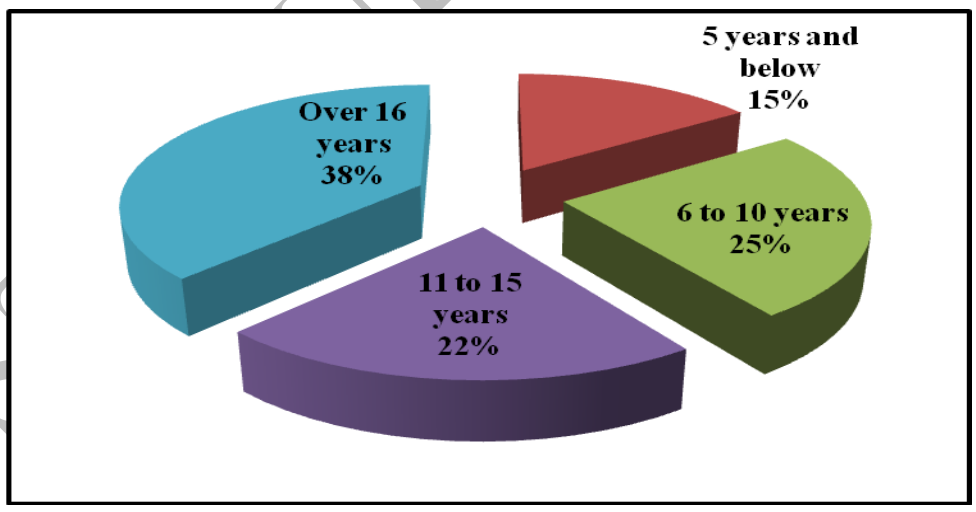


Figure 2: showing the number of years lived in the study area

Source: Researcher

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As indicated in the chart above, 85% of the repondents have lived in the study area for over six years. This qualified them to respond objectively to the effectiveness of water service charter strategies on quality water service delivery in Kikuyu Sub County.

4.3 Quality Water Service Delivery

The researcher sought to find out the quality of water service delivery in Kikuyu Sub County in terms of reliability, satisfaction, affordability, quick response to issues raised and perception of the quality of the services provided. Parameters for this variable included the frequency and the volume of the water supplied, taste as well as the prevailing tariffs.

4.3.1. Reliability of The Water Services Provided

The researcher sought to find out the reliability of water service delivery to the residents of Kikuyu Sub County.

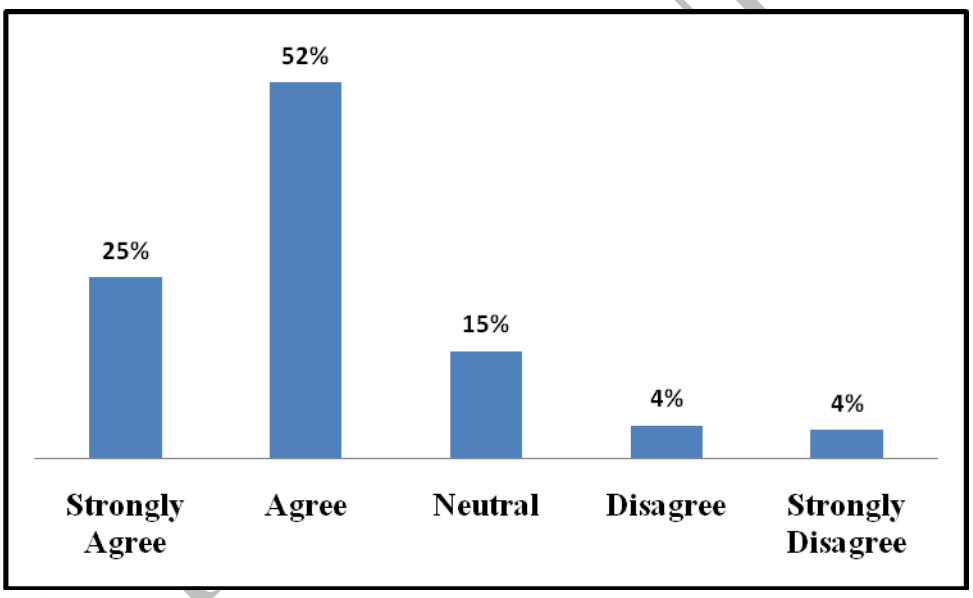


Figure 3: Reliability of water supply

Source: Researcher

As indicated in the figure above, 77% of the study sample agreed that the water supply was reliable. That is it met their expectations in terms of reliability. Meanwhile 15% of the respondents gave a neutral position and 8% disagreed with the parameter. The implication is

that about a quarter of the respondents were not satisfied with the quality of water service delivery.

4.3.2 Volume of Water Supplied

The researcher sought to find out the level of satisfaction with the volume of water supplied because he realized that water could be reliable in terms of frequency, but unreliable in terms of volume. This was informed from the filed reports in KIWACO's occurrence book (OB) where complaints on water services are received and recorded. The findings as indicated in the chart below show that 60% of the respondents were satisfied by the volume of the water supplied. The implication thereof, is slightly less than half or 40% were not satisfied with the volume of water provided. This rhymes with the recommendation for addition of boreholes and an increase in the number of hours of supply per week, by the respondents.

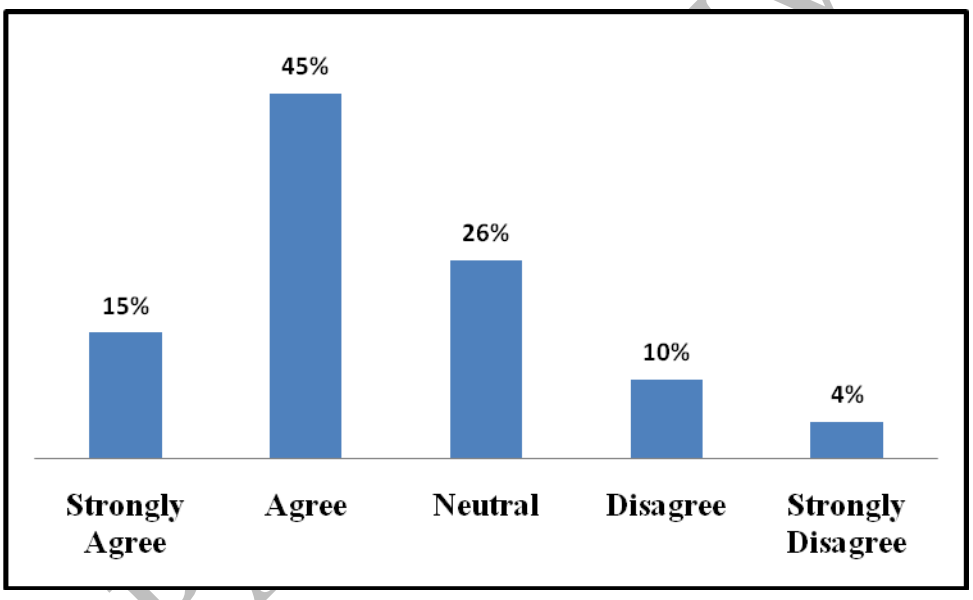


Figure 4: Level of satisfaction with the volume of water supplied

Source: The researcher

4.3.3 Responses On The Tariffs

For this parameter, 60% were comfortable with the tariffs. The remaining respondents were divided; 24% maintained a neutral position and the other 16% expressing dissatisfaction with the tariffs. This implies that slightly less than half of the customers (40%) have concerns on tariffs which the company needs to look into as a matter of urgency; for purposes of

continuity in operations and maintaining a competitive edge. Issues to do with finances are taken with a lot of seriousness in Kiambu County where Kikuyu Sub – County lies. It is important to note that the local politicians can take advantage of any dissatisfaction with the tariffs and cause havoc in the company as they try to maximize on votes. The responses on tariffs are shown by the figure below

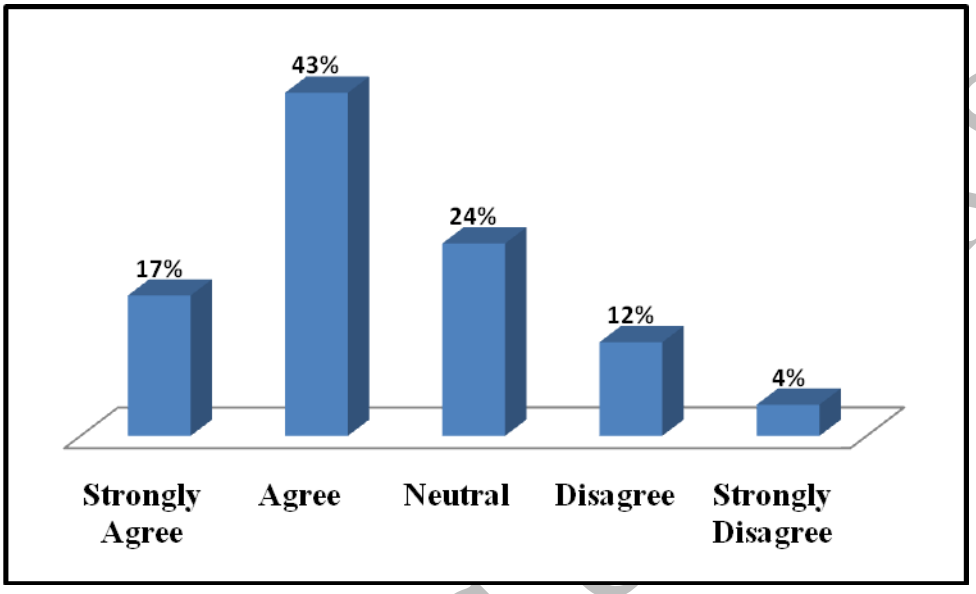


Figure 5: Responses to the query on water tariffs

Source: Researcher

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4.3.4 Rate of Response To Issues Raised By Customers.

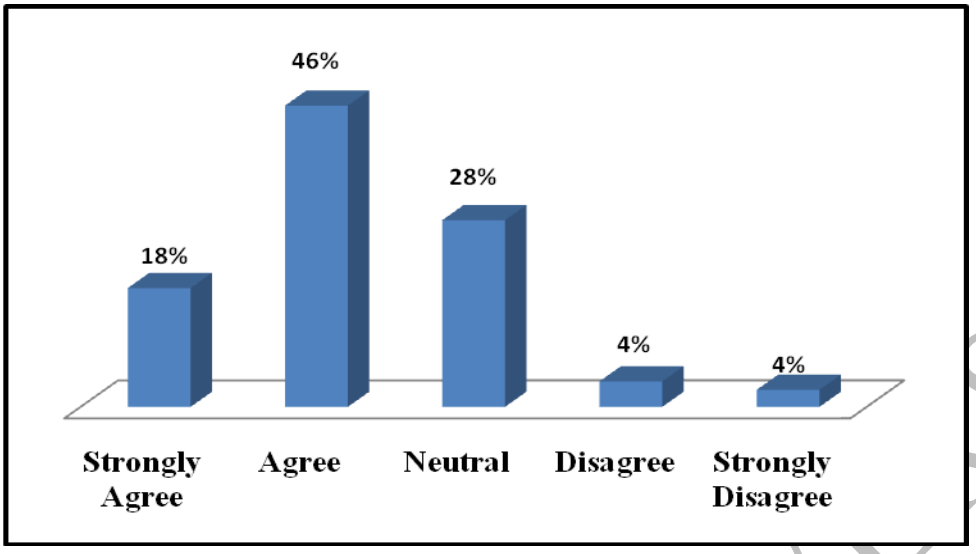


Figure 6: Customers perception on handling of their issues

Source: Researcher

Under this parameter, 64% of the respondents were comfortable with the time taken to respond to their issues as raised. The remaining respondents were divided with the biggest percentage of 29% giving a neutral position and the remaining 7% expressing dissatisfaction with this parameter. This implies that 36% or a third of the respondents were not satisfied with the time the company takes to respond to their issues.

4.3.5 Quality of The Water Supplied

From the figure below, 88% of the respondents were of the view that the water supplied is clean and has no taste. Only 9% of the respondents maintained a neutral position while 3% expressed dissatisfaction with the quality of water supplied. This could be interpreted to mean that there is a general satisfaction with the quality of the water supplied.

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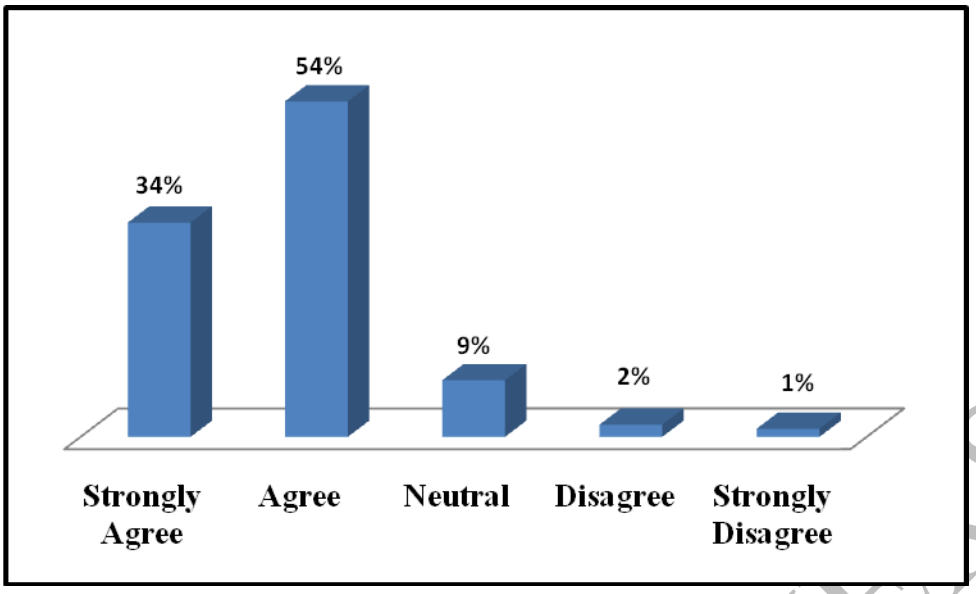


Figure 7: perception on the quality of water supply

Source: Researcher

4.4 Staff Empowerment Strategy

4.4.1 Curtsey from members of staff

From the table below, the researcher observed that a total of 89% of respondents appreciated the curtsey that was exhibited by members of staff. Only 9% of the respondents maintained a neutral position while the remaining 2% disagreed with the statement.

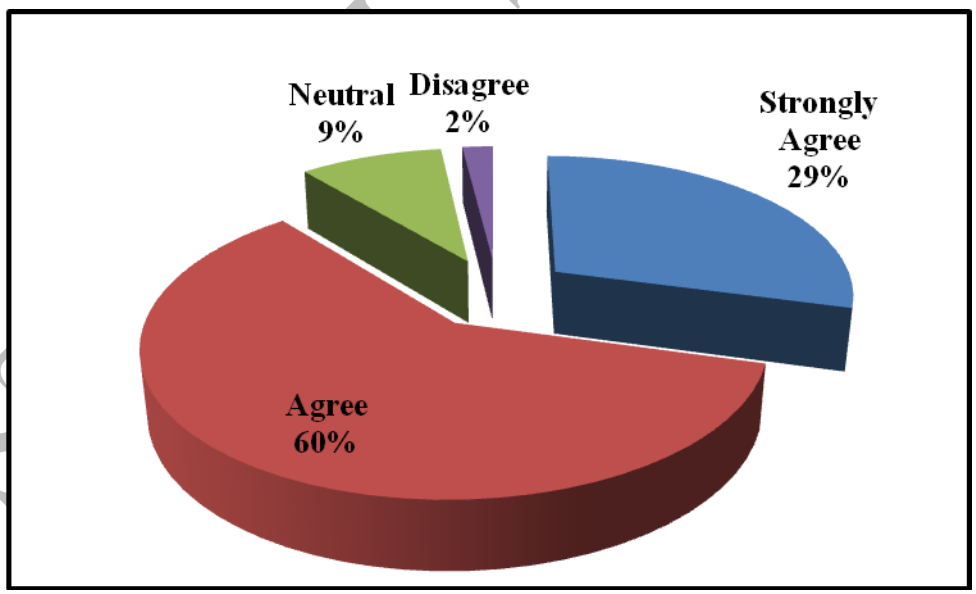


Figure 8: Responses on curtsey exhibited by members of staff

Source: Researcher

4.4.2 Quality of Work By Members of Staff

The researcher sought to find out the perception on quality of work by members of staff. In this parameter, 78% were comfortable with the quality of work. The remaining respondents were divided with a percentage of 18% maintaining a neutral position and the other 1% expressing dissatisfaction with this parameter. This implies a general satisfaction with the quality of work from members of staff.

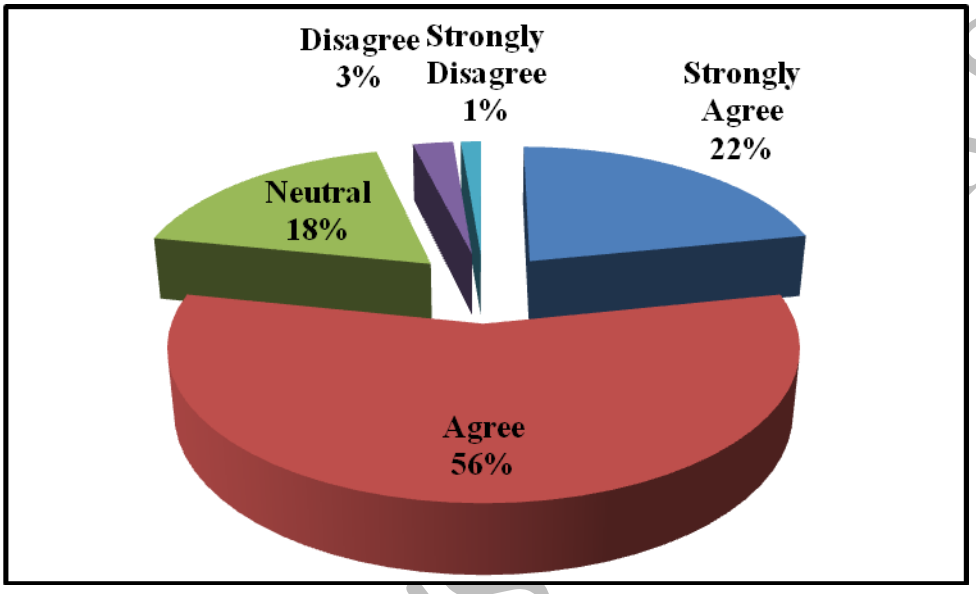


Figure 9: Perception on the quality of work by members of staff

Source: Researcher

4.4.3 Decisions by Members of Staff

From this study, 42% were comfortable with the decisions made my members of staff. The remaining respondents were divided with the biggest percentage of 29% maintaining a neutral position and the other 28% expressing dissatisfaction with this parameter. This implies more than half are not satisfied by this parameter.

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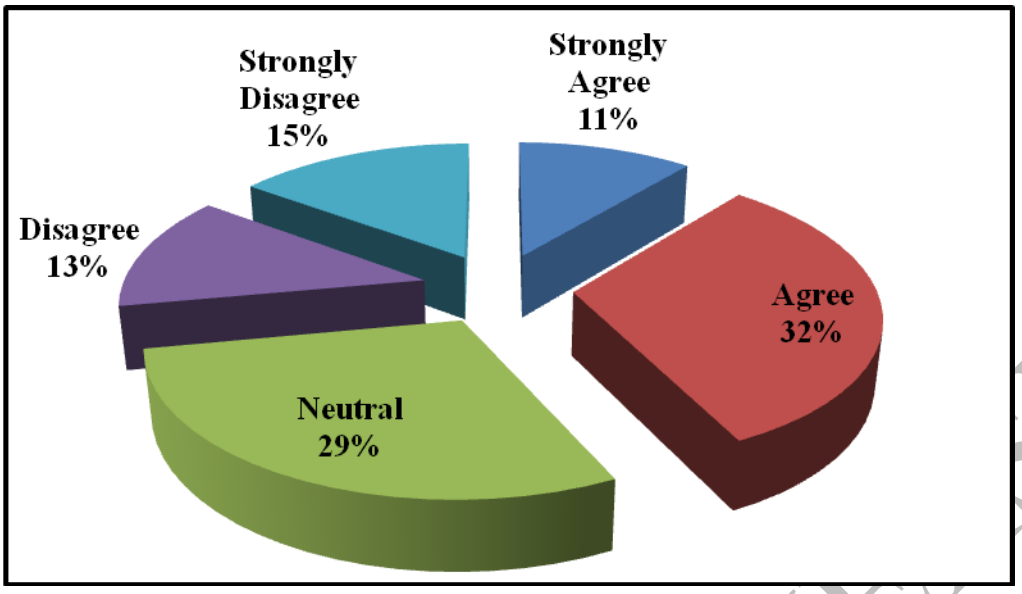


Figure 10: Responses on prompt decisions by members of staff

Source: Researcher

4.4.4 Advice Given By Field Staff

From the figure below, 76% of the respondents were of the view that members of staff provided good advice. However, 24 % maintained a neutral position while 4% disagreed with the statement. This could be interpreted to mean that consumers are generaly satisfied by the advice given by staff members.

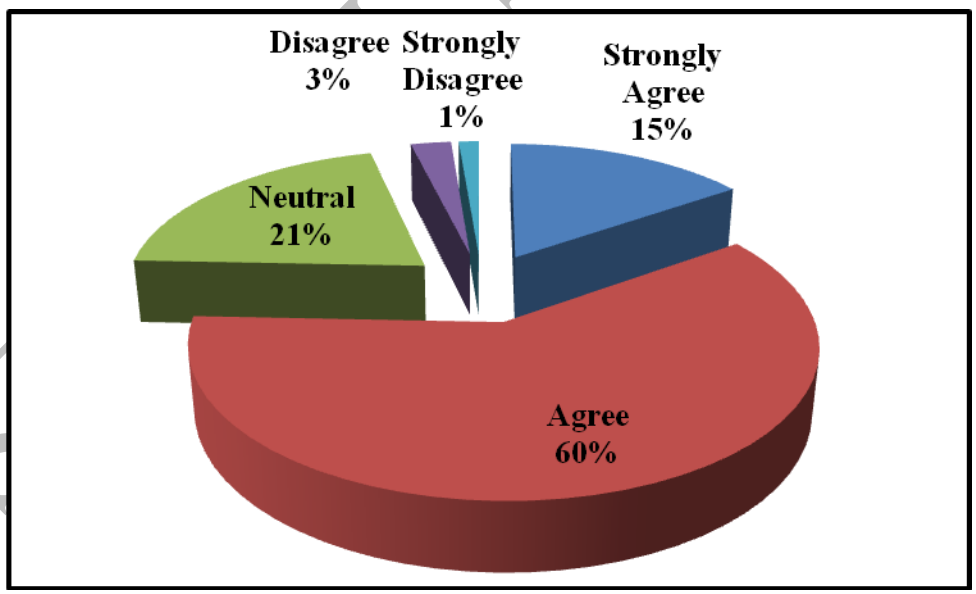


Figure 11: Perception on advice given by members of staff

Source: Researcher

4.4.5 Perception on integrity among members of staff

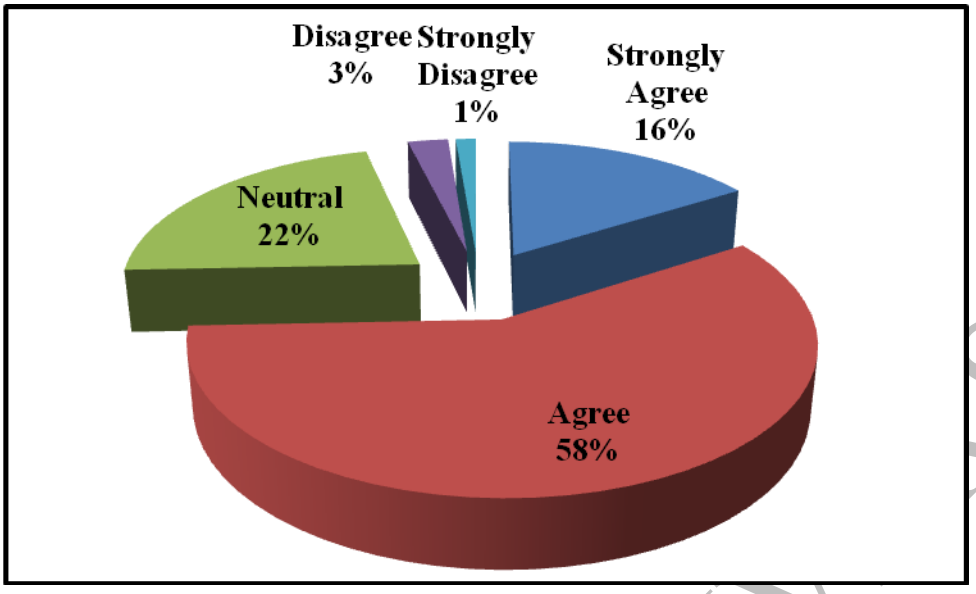


Figure 12: Responses on honesty and transparency by members of staff

Source: Researcher

As indicated above, 74% of the respondents were comfortable with the honesty and transparency exhibited by members of staff in the line of duty. The remaining 40 of the respondents were divided with a percentage of 22% maintaining a neutral position while the other 4% expressing dissatisfaction with this parameter. This implies that 26% or a quarter of the respondents was not satisfied with the integrity of some members of staff; and this may affect their loyalty to KIWACO.

4.5 Communication Strategy

4.5.1 Notification on water rationing

From the figure below, 51% of the respondents were of the view that advance notification on water rationing is carried out as appropriate. However, 49% feel otherwise with 20% of the remaining holding a neutral position while 29% disagreed with the statement. This could be interpreted to mean that the company needs to go back to the drawing board on this parameter.

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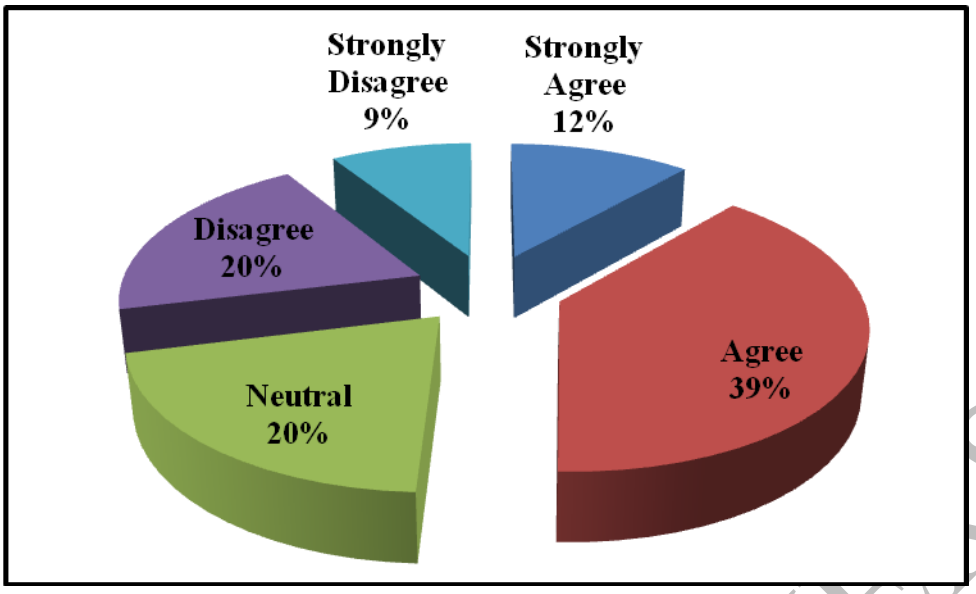


Figure 13: Responses to advance notification on water rationing

Source: Researcher

4.5.2 Updates On Water Related Issues.

As indicated in the figure below, this study established that, 36% of the respondents were of the view that continuous updates on water related issues was carried out as appropriate. However more than half (63%) expressed dissatisfaction with this parameter, with 36% retaining a neutral position while 34% disagreed with the statement. This could be interpreted to mean that customers are experiencing challenges in the way updates on water related issues is being carried out.

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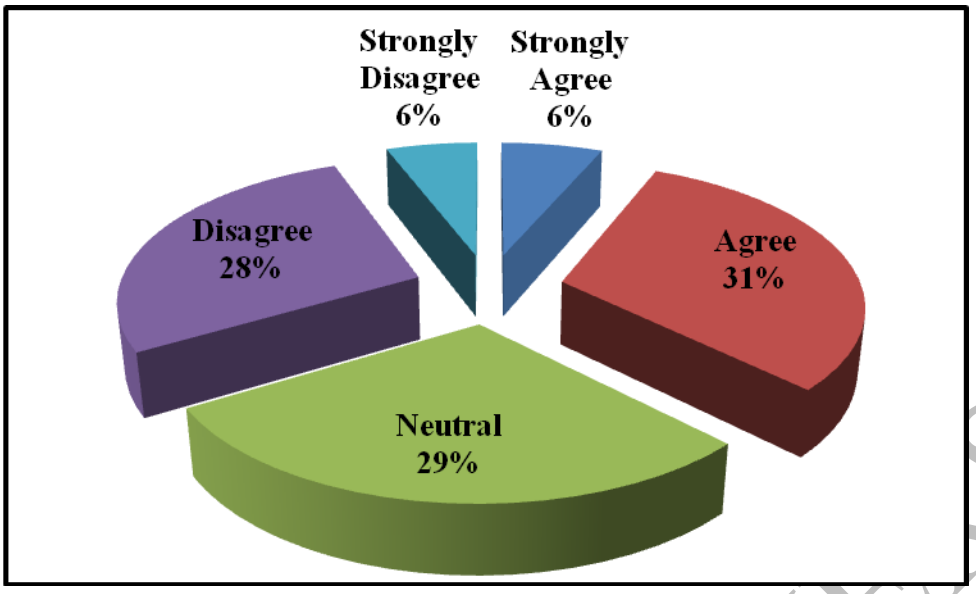


Figure 14: Responses on updates on water related issues

Source: Researcher

4.5.3 Customer Satisfaction Survey

The researcher sought to find out if customer satisfaction survey was being carried out every year. Figure 15 shows that, 31% of the respondents representing about a third of the sampled population indicated that customer satisfaction survey was not carried out every year. Meanwhile, 23% of the respondents depicted a neutral position while 46% disagreed with the statement. This could be interpreted to mean that the company has not been persistent in carrying out this exercise.

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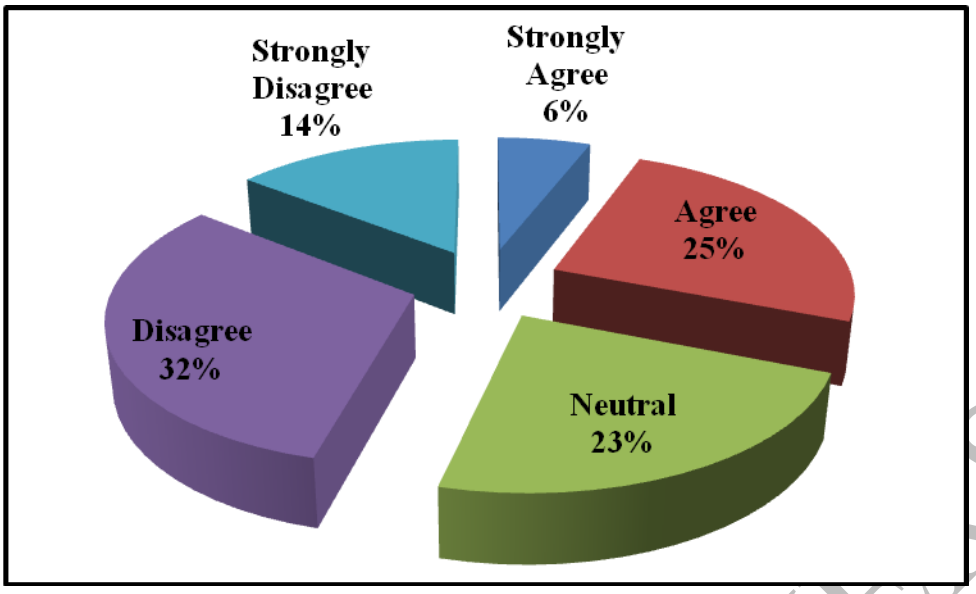


Figure 15: Satisfaction on customer satisfaction survey

Source: Researcher

4.5.4 Response to phone calls and letters

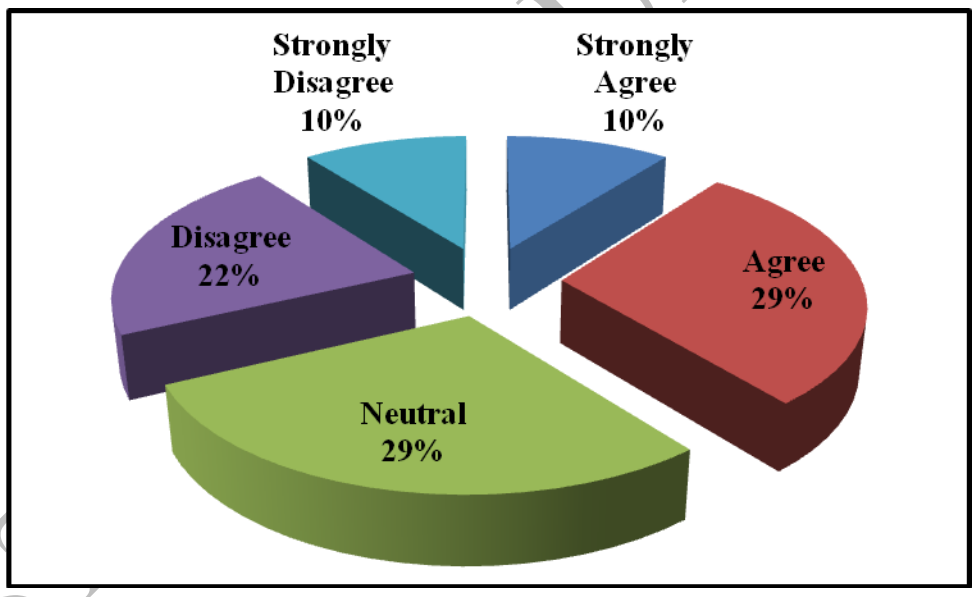


Figure 16: Satisfaction levels on response to phone calls and letters

Source: Researcher

On the above parameter, the figure 16 indicates that, 39% of the respondents were of the view that there was a quick response to phone calls, letters and queries. However 29% of the

respondents were neutral while 32% disagreed with the statement. This could be interpreted to mean disatisfaction in this parameter. In this regard, the company needs to go back to the drawing board on this parameter.

4.5.5 Status and Accessibility of Website

From the analysis, the figure below indicates that, 28% of the respondents disagreed with the statement that KIWASCO'S website is updated frequently and easily accessible. Meanwhile, 22% of the respondents were neutral while 50% disagreed with the statement. This could be a challenge to the company as a means of communication because 50% is a sizable number.

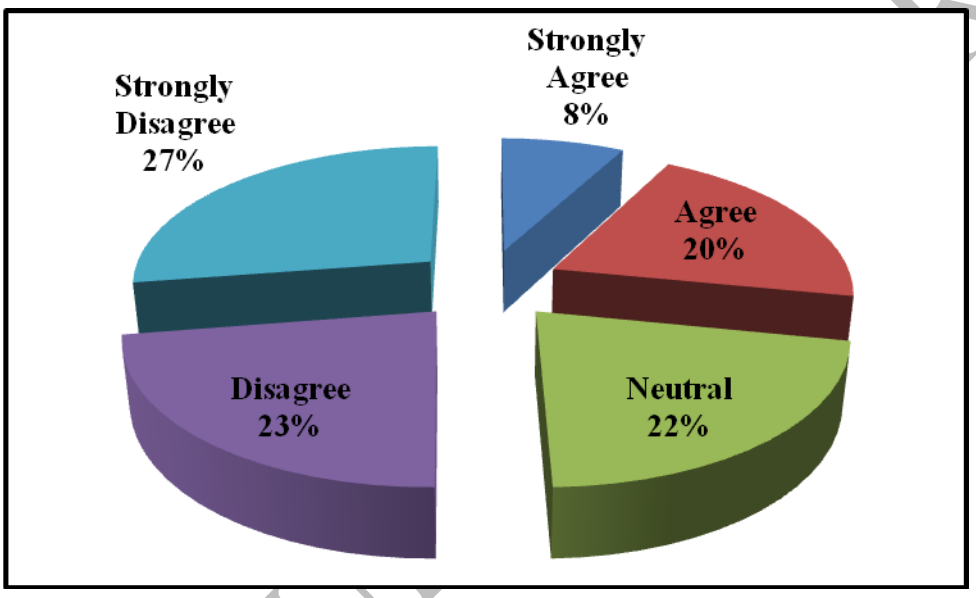


Figure 17: Responses to updating and accessibility of KIWACO's website

Source: Researcher

4.6 Metering strategy

4.6.1 Installation of new connections

This study as indicated on Figure 18 established that, 66% of the respondents were of the view that, the time taken to install new connections is satisfactory. However, 34% expressed dissatisfaction with this parameter with 29% giving a neutral position while 5% disagreed with the statement. This could be interpreted to mean this strategy needs to be examined afresh with a view of increasing the satisfaction index.

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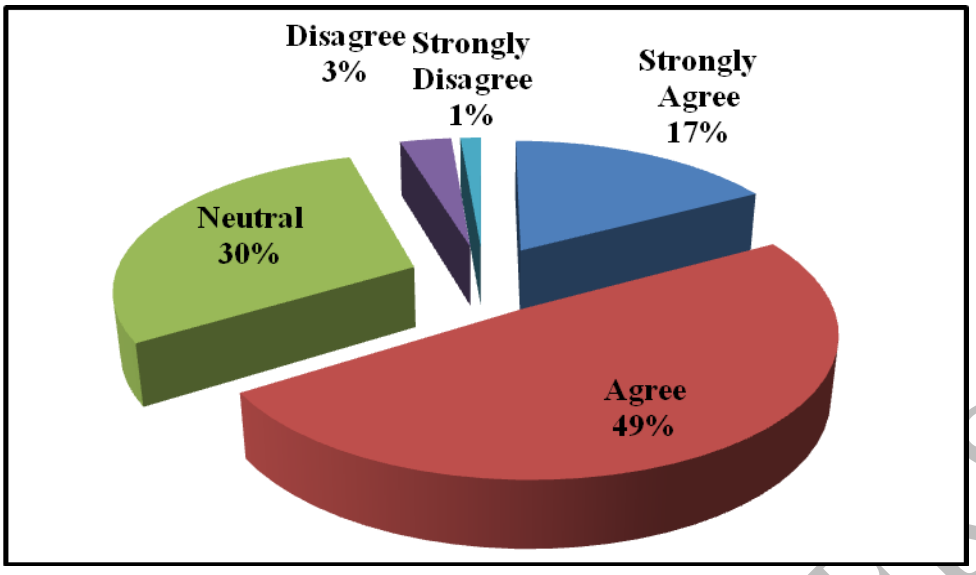


Figure 18: Responses on time taken to install new connections

Source: Researcher

4.6.2 Unjustified Disconnections.

In this parameter as shown in the figure below, 50% of the respondents were of the view disconnections were justified. However 25% of the respondents were neutral while the remaining 25% disagreed with the statement. This could be interpreted to mean this strategy needs to be examined afresh with a view of addressings the reasons that brought about the nutral and disatisfaction among the 50%. This is a number that cannot be ignored.

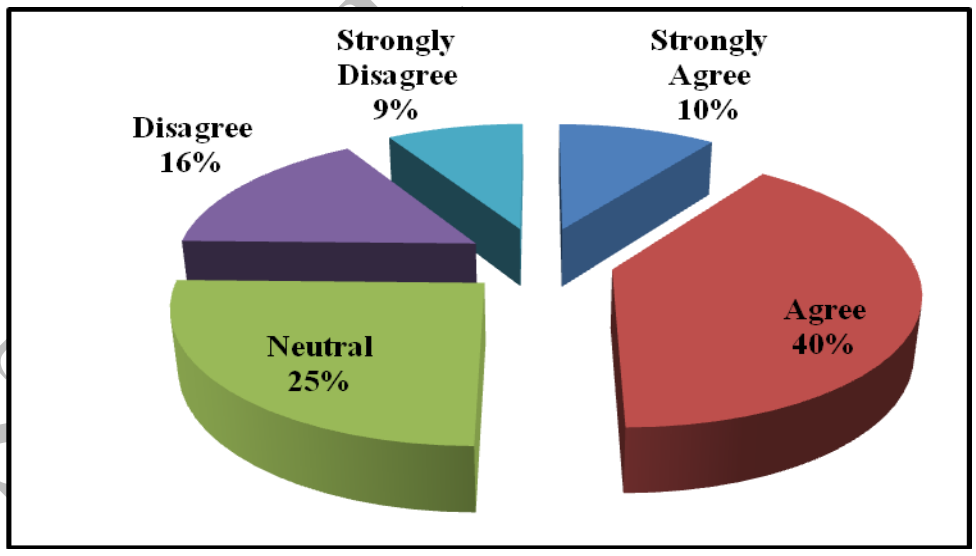


Figure 19: Responses on unjustified disconnections

Source: Researcher

4.6.3 Reading of Water Meters

The figure below indicates that, 79% of the respondents agreed with the statement that meters are read every month. The study indicates that 16% of the respondents were neutral while 5% disagreed with the statement. This implies a general satisfaction with this parameter.

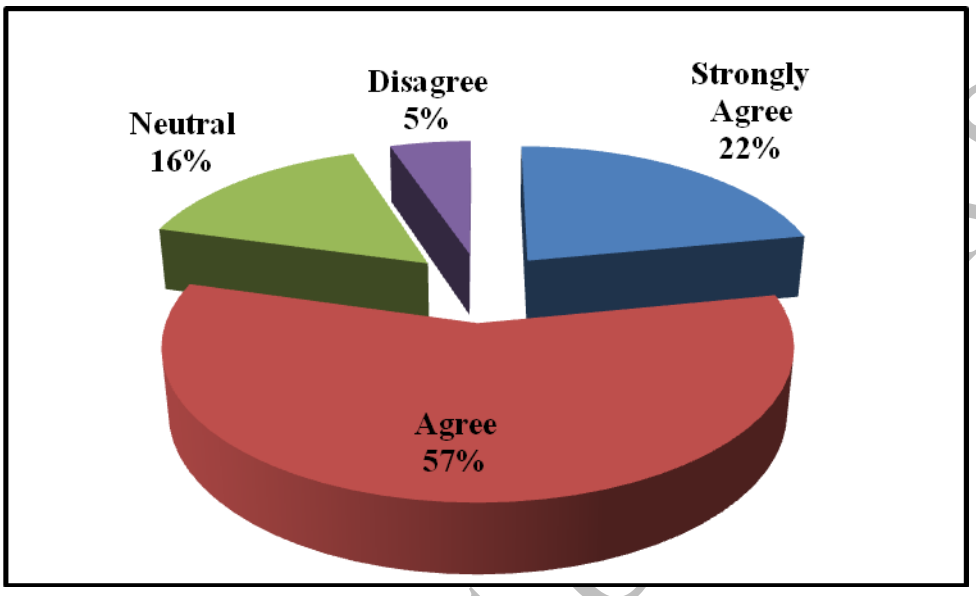


Figure 20: Responses on reading of water meters

Source: Researcher

4.6.4 Meter Servicing and Replacement of Faulty Meters

This question was meant to find out if meter servicing and replacement of faulty meters was carried out periodically. As indicated in the figure, 53% of the respondents agreed that they were. However, 28% gave a neutral position while 19% disagreed with the statement. The company needs to examine the meter servicing and replacement strategy because it is critical in billing and the subsequent revenue collection.

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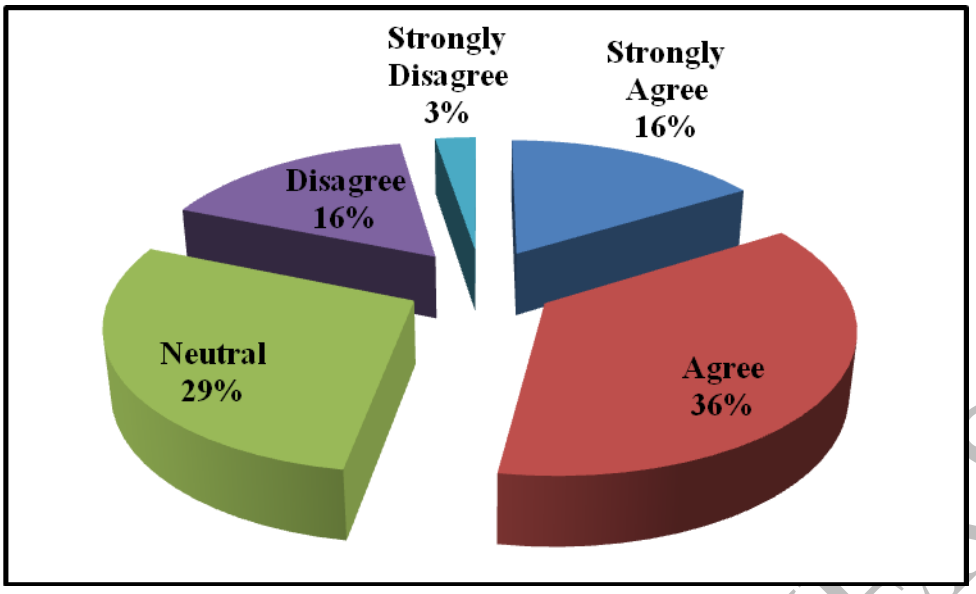


Figure 21: Perception on meter servicing and replacement of faulty meters

Source: Researcher

4.6.5 Accuracy and Timely Delivery of Water Bills.

This question was meant to get responses on the accuracy and timely delivery of water bills. As indicated in the figure below, 66% of the respondents agreed that they were. However, 21% gave a neutral position while 13% disagreed with the statement. The results indicate that improvement in this parameter is of essence.

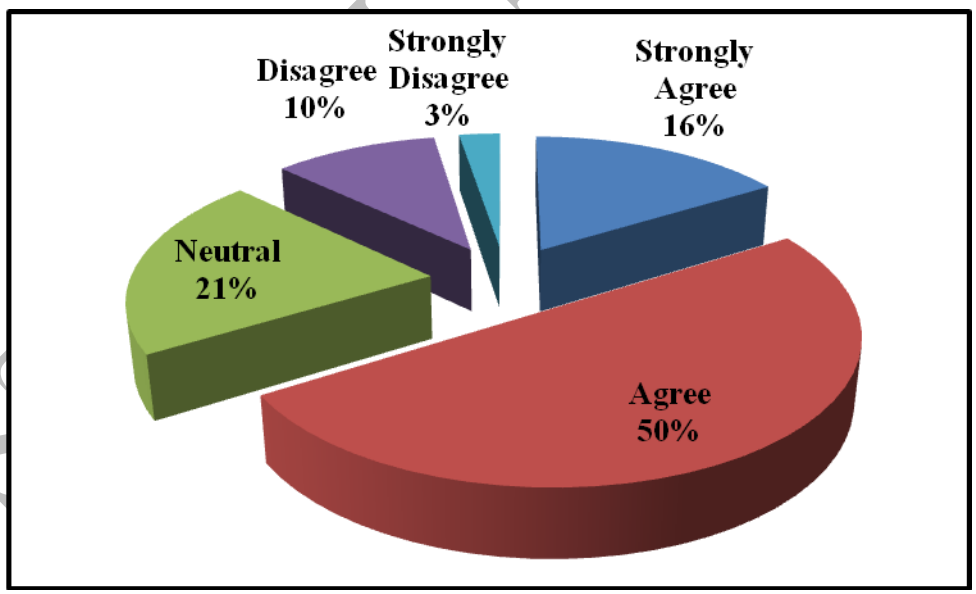


Figure 22: Responses on the accuracy and timely delivery of water bills

Source: Researcher

4.7 Discussion on The Findings

Most respondents were happy with the quality of water service delivery. For instance, in terms of reliability, affordability and quality. However, the study indicated need for improvement in all parameters. For instance, there is need to increase the hours of water supply to the consumers. A reasonable number of consumers requested for sinking of additional boreholes while others requested for increase in water supply every day. It was noted that the relationship between members of staff and consumers was generally good. The residents stated that in most cases, members of staff exhibited curtsey and professionalism in their line of duty.

However, issues of wearing badges and not attending to bursts and leakages promptly were a concern to many consumers. An increase in mobility was recommended as a remedy by the respondents. The communication strategy needs to be examined afresh especially on the area of continuous updates on water related issues, carrying out customer satisfaction survey periodically, updating of the company's website and accessibility of the same. The short message strategy through cell phones, announcement through churches came out a preferred strategy by many residents. The water meter strategy is working well but there is a need for improvement especially in the area of meter servicing and replacement.

4.8 Conclusion

The strategies put in place by the company, courtsey of the Water Sector reforms and in accordance with the Water Act 2002, are bearing fruits. It is the recommendation of the researcher that they should be supported by all. However, there is need for improvement in all parameters. This conclusion is made from the analysis of the collected data which focused on evaluating water service charter strategies and the resultant quality of water services provided by Kikuyu Water Company to their consumers.

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CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The purpose of this study was to carry out an evaluation of water service charter strategies on provision of quality water services in Kikuyu Sub County. This was carried out among consumers who have active water connections from Kikuyu Water Company most of whom have lived in Kikuyu Sub County for six years and above. The study was based on four specific thematic areas which included: the quality of water service delivery to the customers, the relationship between staff empowerment and quality water service delivery, the role of communication strategies on quality water service delivery; and the effect of water meter management on water service delivery. This chapter presents a summary of the study and findings. It outlines the specific findings in relation to the research objectives. The researcher draws conclusions from the findings and further provides recommendations based on the conclusions.

5.2 Summary of Findings

This study revealed that the water service charter strategies put in place by Kikuyu Water Company are bearing fruit as envisioned by the Water Sector reforms. However, a varying degree of improvement is of essence in all the strategies that have been put in place. For instance, a lot of improvement is required on the communication strategy.

5.2.1 Quality of water services provided

Most respondents were generally happy with the quality of water service provision in terms of reliability, volume and quality. In terms of reliability, 75% of the consumers agreed that the water supply was reliable in as far as the frequency of supply is concerned while 20% of the consumers were not satisfied with the frequency. In terms of volume, 60% of the consumers were satisfied by the volume of the water supplied. This means 40% were not satisfied with the volume. Indeed, this rhymes with the recommendation for addition of boreholes originating from the respondents.

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The additional boreholes are envisioned to increase the number of supply hours to the residents. The responses on tariffs indicated that 60% were comfortable with the water charges while the remaining 40% were either dissatisfied or opted to remain neutral. From the study, 88% were of the view that the water supplied is clean and has no taste with 10% expressing a dissenting view. This could be interpreted to mean that there is a general satisfaction with the quality of the water supplied. However as indicated by the study, there is room for improvement.

5.2.2 Staff Empowerment Strategy

The study revealed that this strategy is working well as evidenced by responses from the five parameters that include the relationship between members of staff and the water consumers. The consumers felt that members of staff exhibited courtesy and professionalism in their line of duty. This was indeed a humbling experience to the researcher. The study observed that 89% of respondents appreciated the courtesy that was exhibited by members of staff. However, 11% expressed dissatisfaction or remained neutral in this parameter. This is indeed a commendable area from the researcher's point of view. From the analysis, 78% of the customers were comfortable with the quality of work by members of staff. However, 20% of the customers gave a neutral position with 1% expressed dissatisfaction with this parameter.

From the research analysis, 42% were comfortable with the promptness of the decisions made my members of staff in the line of duty. Meanwhile 29% gave a neutral position in this parameter. 28% expressed dissatisfaction with this parameter. This implies 57% were not satisfied. Majority of the respondents comprising of 76% were of the view that members of staff provide good advice. However, 24% maintained a neutral position while 4% disagreed with the statement. This could be interpreted to mean that most consumers respect the advice given by staff members. Majority of the sampled residents comprising of 74% were comfortable with the honesty and transparency exhibited by members of staff in the line of their duty. The remaining respondents were divided with the biggest percentage comprising of 22% maintaining a neutral position whereby the remaining 4% expressing dissatisfaction with this parameter. However, issues of wearing badges and not attending to bursts and leakages were raised by about 40% of the consumers.

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5.2.3 Communication Strategy

About half of the customers or 51% feel that advance notification on water rationing was being carried out appropriately. However, 20% gave a neutral position while 29% expressed dissatisfaction. In this regard, the company needs to go back to the drawing board on this parameter. In addition, 63% expressed dissatisfaction with the way updates on water related issues were carried out with only 38% in support of the current strategy. This could be interpreted to mean that customers are experiencing challenges in this area. There is need to go back to the drawing board on this parameter.

On customer satisfaction survey, the results indicated that the company has not been persistent in carrying out this exercise every year. In this parameter, 31% indicated that it was carried out every year. On the same, 23% depicted a neutral position while 46% disagreed with the parameter. 39% of the respondents were satisfied with response to phone calls and letters. However 29% of the respondents were neutral while 32% disagreed with the statement. This could be interpreted to mean that the company needs to go back to the drawing board on this parameter as a matter of urgency to avoid a disconnect with their customers.

Most customers were not comfortable with the current updating and accessibility of KIWACO's website with only a third of the customers supporting the current strategy. A quarter of the sampled residents was neutral while half expressed dissatisfaction. This could be a challenge to the company as a communication strategy because disatisfaction from more than three quarters of the sampled residents comprising of both the nutral and disatisfied customers, is a percentage that cannot be ignored or taken lightly.

5.2.4 Metering strategy

The water meter strategy is working well but there is a need for improvement especially in the category of meter servicing and replacement. On new connections installation, 66% were of the view that the time taken for meter installation is satisfactory. However 34% expressed dissatisfaction with this parameter, with 29% giving a neutral position while 5% were dissatisfied. This could be interpreted to mean this strategy needs to be examined afresh with

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a view of increasing the satisfaction index. Under unjustified disconnections parameter, 50% of the customers were of the view that disconnections were justified. However 34% were neutral while the remaining 16% expressed dissatisfaction with this parameter. In this regard, this strategy needs to be examined afresh with a view of addressing the reasons that brought about the nutral position and disatisfaction among the 50%. This is a number is too big to be ignored.

There was a general satisfaction with reading of the water meters every month. 79% were satisfied with 16% being neutral while 5% expressed dissatisfaction. On periodic meter servicing and replacement, this study established that 53% were satisfied. However, 28% gave a neutral position while 19% were not satisfied with this parameter. The company needs to examine a fresh this parameter, as it is critical in billing and the subsequent revenue collection. Two thirds of the customers (66%) were satisfied with the accuracy and timely delivery of water bills. However, 21% gave a neutral position while 13% were dissatisfied. The results indicate that a general improvement is of essence in this parameter.

5.3 Conclusion

A general satisfaction with the quality of water service delivery was evident from this study; with the majority confirming that the water supplied is clean and has no taste. However, there is room for improvement; so that the quarter of the population who expressed dissatisfaction with the reliability of water, in terms of frequency can be pacified. In addition slightly less than half were unsatisfied with the volume provided. This rhymes with the recommendation from the residents for addition of boreholes for purposes of increasing the number of service hours. The issues raised herein, can be addressed by scanning the environment and making the requisite changes as the unfolding scenario would demand. This would probably include keeping in touch with the changing technology.

The staff empowerment strategy is bearing the envisioned fruits as confirmed by the customers. However, there is room for improvement in all the parameters especially on the area of promptness in making decisions by members of staff. From the study, more than half of the customers were not satisfied by this category but were satisfied with the advice given by staff members. They are also comfortable with the honesty and transparency exhibited by

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members of staff in the line of duty. The issue of failure to don badges and repair bursts and leakages on time was a concern to 40% of the consumers. Indeed from the study, there is room for improvement. About half of the customers expressed dissatisfaction with notification on water rationing. In addition, about two thirds of the population, expressed dissatisfaction with the way updates on water related issues was carried out. Dissatisfaction was also expressed on carrying out of periodic customer satisfaction surveys.

The time taken to respond to issues raised through phone calls and letters needs to be examined afresh with a view of shortening it. This could be interpreted to mean that the company needs to go back to the drawing board on this parameter. Further updating and accessibility of KIWACO's website was a major concern with only a quarter of the population supporting the current strategy. In this regard, the company needs to rethink on this parameter. Improvement is of essence in the water meter strategy though it is generally working well. A lot of effort is needed in the category of meter servicing and replacement. In addition, shortening the time taken to install new connections is required. This could be interpreted to mean this strategy needs to be examined afresh with a view of increasing the satisfaction index.

About half of the customers feel that all disconnections were justified. In this regard, this strategy needs to be re-examined afresh with a view of addressing the reasons that the remaining customers are dissatisfied with this strategy. There was a general satisfaction with scheduled reading of the water meters every month. Further, half of the population was satisfied with periodic servicing and replacement of faulty water meters, while two thirds were satisfied with the accuracy and timely delivery of water bills. The company needs to examine this strategy afresh with a view of making improvements.

5.4 Recommendations

Staff Empowerment Strategy

Though the study revealed that this strategy is working well, the researcher recommends periodic training on customer care service so that the employees keep in touch with the changing environment. As the saying goes, the solutions for today's challenges may be irrelevant for the challenges tomorrow. In addition when formulating or renewing the

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strategic plan for the company, all members of staff should be given a chance to contribute as their input would be crucial to the company due to their experience in different fields. Besides, this would make them own the document. The stakeholders should also be involved in one way or another on the same. All new employees will also need to be taken through the culture and the philosophy of the company so that they fit in like gloves. A reward system should also be put in place for rewarding exemplary work.

Communication Strategy

The company needs to go back on the drawing board on this strategy. It is the recommendation of the researcher that the preferred mode of communication as recommended by the customers during this study would guide the process. Any water interruption needs to be communicated to the customers in advance. In the case of unplanned interruption, customers need to be notified immediately and the requisite repairs carried out the soonest possible. The company needs to carry out customer satisfaction survey every year or even twice a year and the results be implemented. In addition, the company needs to engage the customers more effectively. Most customers were not comfortable with the current updating and accessibility of KIWACO's website with only a third of the customers supporting the current strategy. A quarter was neutral while half expressed dissatisfaction.

Water meter management

The study recommends training on meter management strategies; including meter installation, servicing, calibration and replacement. This needs to be undertaken on a regular basis for purposes of increasing effectiveness and efficiency in the operations. Meters working properly will enhance revenue collection which the company cannot do without. Observing the meter reading schedule will suffice. In addition, there is need for KIWACO to educate their customers on the responsibilities of each party towards the actualization of the water service charter strategies. Both the employees and the customers need to know their responsibilities and adhere to them in accordance with signed water service contracts. This should include enhancing the right attitude of members of staff towards their customers. In addition, holding public meetings with customers and frequent field visits by all members of staff would suffice.

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5.5 Limitations of the study

Getting authority to carry out the research from the requisite government office took more time than was anticipated. A certificate on the same was issued after countless phone calls and visits to the NACOSTI office in Nairobi. In addition getting authority to carry out the pilot test in Limuru Sub County and the actual data collection in Kikuyu Sub County took more time than was anticipated but in the end, they were very supportive. Filling the questionnaires took more time than was anticipated. The researchers overcame this by patiently waiting for the questionnaires to be filled and assisting the respondents when the need arose. There was a challenge with some respondents who promised to return the forms after filling them, but failed to do so by the agreed time. In some instances, the questionnaires were not filled in full.

5.6 Suggestions for Further Research

The researcher recommends further research be carried out on the impact of business oriented self - help water projects on water service provision in Kikuyu Sub County. The role of politicians on water tariffs needs to be investigated since some politicians will initiate populist solutions on reduction on tariffs to the vulnerable customers for immediate political gains. In addition, further research needs to be carried out on the issue of way leaves where pipelines pass through. Further research can be carried on the possibility of residents owning and running the water services through master meters under the direction of the company.

There is also need to evaluate the effect of various levies charged by the myriad bodies that were introduced by the Water Sector reforms in relation to tariffs and their effectiveness in water service delivery. Further, the need to use prepaid water meters for purposes of minimizing losses in revenue collection for services provided should be investigated. Investigating gravitational water sources as an alternative source to boreholes needs to be investigated as a matter of urgency. If this option is found viable and implemented, there would be savings in electricity charges, necessitating a reduction in tariffs on water services.

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APPENDICES

Appendix I: Letter Of Introduction

James Mbugua,

P.O Box 409 – 00900,

KIAMBU.

Email address: mdsnrb528113@spu.ac.ke

27th January 2016

Dear customer,

RE: RESEARCH QUESTIONAIRES.

I am a post graduate student at St Paul's University, Department of Social Studies.

I am currently carrying out a research on water service delivery in the area served by Kikuyu Water Company Limited (KIWACO). You are kindly requested, to take part in the study by filling the attached questionnaire.

All information given will be confidential.

Thank you for your cooperation.

Yours faithfully,

James Mbugua.

0722 – 862813

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Appendix II: Study questionnaire.

Introduction

The researcher is undertaking a field study on water service delivery in the area served by Kikuyu Water Company in Kikuyu Sub County. You are kindly requested to participate in the research by filling the attached questionnaire. Kindly note, you have been chosen because you have a water connection with Kikuyu Water Company Ltd (KIWACO).

It is optional to include your name and account number. Please note it will take about fifteen minutes to fill the questionnaire.

Name: ..... Water Account No.....

PART A

Instructions: Please tick as appropriate.

1. How long have you lived in Kikuyu sub – County?
   - ( ) 5 years and below?
   - ( ) 6 to 10 years?
   - ( ) 11 to 15 years?
   - ( ) over 16 years?

Kindly use a tick (√) to mark the appropriate box in the following questions.

These are the ratings,

Strongly Agree – 5 points,
Agree – 4 points,
Neutral – 3 points,
Disagree – 2 points
Strongly Disagree – 1 point.

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PART B

Water service delivery

		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
6.	The water supply is reliable i.e. in terms of frequency.					
7.	The water supply is satisfactory i.e. in terms of volume.					
8.	The water tariff (charges) is fair.					
9	The issues raised are quickly addressed (by KIWACO).					
10	The water supplied is clean and has no taste.					

11. In what other area would you request improvement?

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PART C

About members of staff

Use a tick (√) to mark the appropriate answer.

		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
12.	Members of staff are respectful.					
13.	Members of staff are good in their work.					
14.	Members of staff make decisions on the spot without consulting their seniors.					
15.	The field officers provide good (correct) advice.					
16	Members of staff are honest and transparent in their work.					

17. Any other addition information you would wish to provide?

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PART D

Communication

Use a tick (√) to mark the appropriate answer.

		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
18.	Notification of water rationing is carried out in advance.					
19.	There are continuous updates on water related issues.					
20.	Customer satisfaction survey is carried out every year.					
21.	Phone calls and letters are promptly answered.					
22.	KIWACO's website is updated frequently and always accessible.					

23. Suggest other ways in which you would wish to be notified on water issues?

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PART E

Water meters.

Use a tick (√) to mark the appropriate answer.

		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
24.	The time taken to install new connections is satisfactory.					
25.	There are no unjustified disconnections.					
26.	The water meters are read every month.					
27.	There is periodic meter servicing and replacement when meters become faulty.					
28.	The water bills are accurate and delivered on time.					

29. Any improvement you would recommend?

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30. Any information you would wish to add?

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Thank you very much for your time and for your cooperation. May God bless you abundantly.

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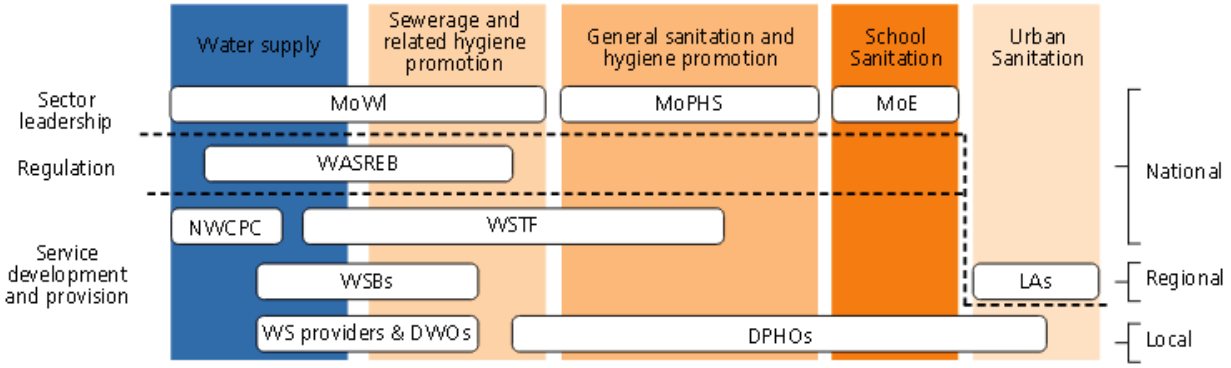
Appendix III: Millenium Development Goals (MDG) Targets of Access to Water and Sanitation in Kenya

		Historical Data		Targets		
		Base Year	Reference	Intermediate Monitoring		MDG
		1990	2000	2005	2010	2015
Access to safe drinking water	urban		89.7		91	96
	rural	31	43.5		53.1	66
Access to improved sanitation	urban		95		85.2	96
	rural		81		81.8	89
Population (Millions)		21.4	30.2	33.4	39.5	40

Source: Ministry of Water and Irrigation (MoWI, 2015)

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Appendix IV: Institutional Roles and Relationships in the Water Supply and Sanitation Sector



MoWI: Ministry of Water and Irrigation. Policy lead on water supply, oversight of WSBs and water services providers (including their sanitation activities); limited service provision through DWOs.
MoPHS: Ministry of Physical Health and Sanitation. Policy lead on Environmental Sanitation and Hygiene (ESH).
MoE: Ministry of Education. Supervision of ESH in schools.
LAs: Local authorities. Supervision of urban sanitation.
WASREB: Water Services Regulatory Board. Technical standards and tariffs, issues licenses and tariff guidelines.
NWCPC: National Water Conservation and Pipeline Corporation. Bulk supply development.
WSTF: Water Services Trust Fund. Provides grants for capital investment in underserved areas.

WSBs: Water Services Boards. Ownership of assets previously belonging to central government, MoWI or parastatals; may also 'acquire… use of assets' belonging to local authorities. Can operate as Water Service Providers (below) or bulk service providers. Provide hygiene promotion associated with sewerage.
WS providers: Water service providers. Operation and management. Can include local authority owned companies, NGOs and CBOs.
DWOs: District Water Officers, local MoWI officials.
DPHOs: District Public Health Officers, local MoPHS officials.
Additional bodies: Kenya Water Institute (capacity development); Water Appeal Board (dispute resolution).

Source: Country Status Overviews (CSO2), 2011

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Appendix V. Performance indicators, sector benchmarks and scoring regime

	INDICATORS		Sector Benchmarks			Scoring Regime	
			Good	Acceptable	NotAcceptable	Performance	Score
1	**Water Coverage**		>90%	80-90%	<80%	≥90%	30
						≤50%	0
2	**Sanitation Coverage**		>90%	80-90%	<80%	≥90%	15
						≤50%	0
3	**Drinking Water Quality**	No. of tests - Residual Chlorine	>95%	90-95%	<90%	≥95%	10
						≤90%	0
		Compliance - Residual Chlorine	>95%	90-95%	<90%	≥95%	5
						≤90%	0
		No. of tests - Bacteriological Quality	>95%	90-95%	<90%	≥95%	10
						≤90%	0
		Compliance - Bacteriological Quality	>95%	90-95%	<90%	≥95%	5
						≤90%	0
4	**Hours of Supply**	Population >100,000	21-24	16-20	<16	≥20	20
						≤10	0
		Population <100,000	17-24	12-16	<12	≥16	20
						≤6	0
5	**Non-Revenue Water**		<20%	20-25%	>25%	≤20%	25
						≥40%	0
6	**O+M Cost Coverage**		≥150%	100-149%	≤99%	≥150%	25
						≤90%	0
7	**Collection Efficiency**		>95%	95-85%	<85%	≥95%	20
						≤85%	0
8	**Staff Productivity (Staff per 1000 Connections)**	Large & Very Large Companies	<5	5-8	>8	≤5	20
						≥8	0
		Medium & Small (less than 3 towns)	<7	7-11	>11	≤7	20
						≥11	0
		Medium & Small (3 or more towns)	<9	9-14	>14	≤9	20
						≥14	0
9	**Metering Ratio**		100%	95-99%	<95%	100%	15
						≤80%	0
	Total Maximum Score						200
10	**Personnel Expenditure as Percentage of O&M Costs**	Large and Very Large Companies	<20%	20-30%	>30%	N/A	N/A
		Medium Companies	<30%	30-40%	>40%		
		Small Companies	<40%	40-45%	>45%		

Source: WASREB "Impact" issue No. 8/2015 of 2015

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