

**DETERMINANTS OF SUCCESSFUL IMPLEMENTATION OF WATER AND
SANITATION PROJECTS IN KENYA: A CASE OF INFORMAL SETTLEMENT IN
MOMBASA COUNTY, KENYA**

BY

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**A RESEARCH PROJECT REPORT SUBMITTED IN PARTIAL FULFILMENT OF
THE REQUIREMENTS FOR THE AWARD OF MASTER OF ARTS DEGREE IN
PROJECT PLANNING AND MANAGEMENT OF THE UNIVERSITY OF NAIROBI**

2016

DECLARATION

This research project report is my original work and has not been submitted for examination in any other university.

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This research project report has been submitted for examination with my approval as the university Supervisor.

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ACKNOWLEDGMENT

I want to sincerely thank my supervisor, Dr Moses M. Otieno, for his invaluable guidance. I want to thank him for his patience, useful advice and ideas. His willingness to meet me at short notice is highly appreciated. Special thanks go to members of staff at the extra-Mural studies Mombasa for their co-operation during this course. Also, my sincere gratitude is to family for their endless support through this course. Finally, my gratitude to the Almighty God for the gift of life and strength.

DEDICATION

To my beloved husband Victor Festus Ambeva for his patience and support through my education.

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ABBREVIATIONS AND ACRONYMS

MOWASSCO	Mombasa Water Supply and Sanitation Company
NAWASSCO	Nakuru Water Supply and Sanitation Company
NGO	Non Governmental organization
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNEP	United Nations Environmental program
UNICEF	United Nations Children’s Fund
UNDP	United Nations Development Program
WSP	Water and Sanitation Projects
WSS	Water and Sanitation Services
WASSIP	Water Supply and Sanitation Program
WHO	World health organization

ABSTRACT

This study aimed at examining the factors influencing the implementation of sustainable water and sanitation projects in Kenya: a case of informal settlement in Mombasa County, and was guided by the following objectives: To find out the influence of financial resources on the implementation of sustainable water and sanitation projects in informal settlements; To examine the influence of monitoring and evaluation on the implementation of sustainable water and sanitation projects in informal settlements; To examine the influence of politics on the implementation of sustainable water and sanitation projects in informal settlements; and, To establish the extent to which rate of returns influence the implementation of sustainable water and sanitation projects in informal settlements. The research design adopted for this study was a descriptive survey design. Target population was 436 respondents. The sampling size was calculated using the table below by Krejcie & Morgan (1970) to determine the sample size of 205. From the results, over 95% of the employees of MOWASCO felt that financial resources are closely linked to the supply of water to the slums and the implementation of the WS projects in areas like Likoni, Kisauni, Kisumu Ndogo, Bangladeshi/Uhuru Owinyo and many more. This was however overtaken by the issue of rates of returns whereby over 97.5% of the respondents felt that the theft cases, illegal connections, unpaid bills etc. have kept various companies and organizations away from applying for licenses to offer WSS to the people in the slums. Politics scored an average influence since the politicians formulate rules, policies, control resources, allocate resources, mobilize resources and influence the people they lead. This was followed by M&E that seemed not to be welcomed with the respondents. Based on the findings of the study, the researcher recommended that: there should be sufficient funds allocated to the projects by the donors, national government, county government and other stakeholders; there should be an integrated M&E process with set policies and regulations to take care of the whole process of the implementation of WS projects; the politicians to have a positive perception about the slum dwellers and give them priorities in passing laws, allocating finances and allocating major projects on these areas that aim at addressing the WS issue; and finally the researcher recommends that, the companies operating in providing the WSS in the slums should not only focus on the profits they make but also should consider the welfare of the locals.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

One of the most important natural resource is water. It is the essence of life on earth. The availability of safe water is critical not just for health reasons, but also for social and economic development (WHO and UNICEF, 2015). The development agenda highlighted water supply and sanitation as a result of the UN conference in 1977 in Argentina. The International drinking Water supply and sanitation Decade was declared in the 1980s with the aim of ensuring every person has access to safe water, of adequate quantity and basic sanitary facilities, by 1990 (World Water Assessment Programme, 2013). Despite this, one billion people in the world today are without access to improved sources of water, and access to consistent safe drinking water not withstanding water being at the center of economic and social development; (World Bank, 2015).

The quality of life of people is threatened globally, it is approximated that 1.4 million people die from unavailable, clean drinking water; and 3.6 million people die each year from water-borne diseases. Of that number, children constitute 84% and 98% are living in the developing world. The crisis is real for those living in the developing world. The water crisis has become a major issue that needs to be addressed in order to save the lives of poor people that are dying from preventable ailments. According to the United Nations Human Development Report, the crisis is claiming more lives in the developed world than war claims through weapons (Water Facts, 2013a).

When the issue of Sanitation arises it is clear that in most urban centres in Africa, Asia and Latin America less than one third of the population in each country has what is referred to as “good quality sanitation”. It is approximated that more than 100 million urban dwellers world-wide are forced to defecate in the open, into waste paper and plastic bags because public toilets are not available or are too distant and expensive (WHO and UNICEF, 2013). These settlements lack systems for disposal of sewage, excreta, silage and solid wastes, which may cause health and environmental dangers. Specifically, Human waste disposal is a major problem, which renders informal settlements an unhygienic living place for the residents (WHO and UNICEF, 2014).

Informal settlements are areas where inhabitants have no land security land for where they dwell. The Residents are deemed as squatters and live in a setup where the rental for housing is informal. The areas normally have no access to the basic services and infrastructure. Housing mostly do not normally comply with the planning and building regulations, and often they are situated in areas that are geographically and environmentally dangerous (UN HABITAT, 2013). Residents in these areas are not officially recognised by the government, and more so do not possess birth certificates or national identification cards. It can be concluded that they do not even exist in the country for their records are scarce (Sclar and Mary, 2003).

Sclar and Mary (2003) note that there are several trends that can be observed. These settlements house a large portion of the world's population. One out of every six people in the world live in urban informal settlements. According to the Millennium Development Goals Report (2008) 62% of urban households in sub-Saharan Africa live in informal settlements, this is a significant proof that informal settlements carries a very significant portion of the world's population. Field and Michael (2006) have established that more and more people are migrating to informal settlements. What is clear is that the problem of access to safe drinking water in these informal settlements is not going away, but it is getting worse as the demand for water and sanitation services is strained.

Globally, Indonesia is one country that has seen its population grow uncontrollably with very little advances in maintaining constant water supply, waste check and management. According to the World Bank report (2013), In Indonesia the WSS scenario is characterized challenges in the access and low quality of service. It is approximated that Over 40 million people lack access to improved water source, of the 240 million people, 110 million have no access to improved sanitation, with only 2% having access to sewerage, makes it one of the lowest among the middle-income countries (WHO, 2010). A study by UNICEF (2013) shows that, implementing projects that could give relief to the residents in the slums has proved difficult due to challenges like; poor community participation, poor security, low rates of return, political sideshows, poor infrastructure, poor urban planning and land ownership among others.

In Africa, water shortage is related to both under-development of potentially available water resources and their uneven distribution. This is coupled up with an unrelenting population growth rate of 3 % per year, which is a major factor in on-going water and sanitation

problems. Water supply services in Zambia's peri-urban areas vary widely from one settlement to another even within the same town. Water supply systems have been poorly maintained in the last 20 years because local authorities and ministry departments as providers have absconded their capacity and professionalism to operate and sustain these services efficiently and effectively (Nwasco, 2015). This is similar to other countries like Zimbabwe, Nigeria, Angola, DRC etc. In Zimbabwe for example, the governments operation Murambatsvina led to rural-urban migration, leading to growth of these settlements since 2000. A major challenge in these settlements is the lack of access to adequate water, which is contrary to the formal settlements, which have access to water and sanitation, serviced by the local authorities (World Bank 2014). The water challenge can be attributed to poor political representation, lack of budgetary allocation from the central overn, poor management and poorly developed infrastructure.

Regionally, Tanzania is one country in East Africa that can be said to be having a population structure that has almost a pure peri-urban settlement. This is evident in towns like Dar es Salaam, Tanga, Dodoma and Mwanza (Stacey et al. 2015). According to AfDB (2014) ,in April 2013 discussions with staff from Dar es Salaam's water utility, Dar es Salaam Urban Water and Sewerage Authority (DAWASA), it was noted that Dar es Salaam residents with connections now have "rationing" where supply is only available for short periods. This was attributed in part to minimal investment over the last 40 years, though AfDB funding of the Dar es Salaam Water Supply and Sanitation Project (DWSSP) is enabling systematic rehabilitation of the existing infrastructure. Stacey et al. (2015) add that, in this country where its annual water resources are at present average 2700 Cubic meters of water per year, the situation is worse in informal settlements in urban areas like Arusha, Tanga, Mwanza and Dar es salaam where, between one third of the urban population live without complete access to piped water and organized waste control and management. According to Theodory (2009) for example, it is only about 40% of the population in the slums of Arusha that is said have to access to reliable water supply and very poor sanitation.

Kenya annual informal settlements growth is believed to the highest at 5% and will double in the next 30 years if measures are not put into place (UNDP, 2006). The infrastructure in these residents are not sufficient to cater for the huge number of residents, which leaves many of them without access to safe drinking water and adequate sanitation and all forms of pollution (UNEP, 2011). A publication on Amnesty international (2010) shows that,in Kenya there are

8.5 million people that live in low income settlements and the population will increase rapidly at 6% per year. In Nairobi alone around 100 unplanned settlements with a population of 1.75 million exist (around 50% of Nairobi's population) and the number of areas and population are increasing.

Thus with these issues in mind today more than ever, the development of a systematic understanding of the role of water and sanitation systems and the identification of the elements composing the complex nexus of challenges and opportunities for water and sanitation in cities become critical activities for policy makers, professionals and sector specialists (WHO / UNICEF, 2015). As the world progresses into the urban century, water and adequate sanitation for life in the household, and water for livelihoods, production and economic activities will continue to be foundational elements for a city's development especially in informal settlements (WASREB, 2016).

Despite the importance that should be attached to water and sanitation, Kenya has scored poorly in almost all the MDGs meeting, more specifically in providing water to its slum dwellers. The largest slum in the world for example-Kibera- has only 10% of the population connected to water from the Nairobi county government and has a rationing rate of 67% being experienced and this rises to about 83% in dry seasons. The sanitation situation is wanting in that, the people have resulted into using what is commonly known as 'flying toilets' (Water Services Regulatory Board, 2014). Factors said to have led to this poor state of events includes: poorly planned housing that leaves no room for pipes lay down, no budgetary allocations from the national government to such slums, political negligence due to oppositions nature of the area MP for long (Hon. Raila Odinga), insecurity that has seen illegal metre connects and many more.

According to Kahariri (2014), Huruma, that has experienced rapid residential developments in Nairobi, faces inadequate water supply and sanitation as a major challenge. Being in Nairobi, it majorly receives its water from Ndakaini Dam Sasumua Dam and Ruiru dam. These dams' ability to supply water continues to face great challenges due to the ever-increasing demands. The sewerage system in the estate is in a dying state as it's already overstretched to its limits. The residents of this area are therefore in dire need of safe, clean and consistent supply of water and adequate sanitation facilities. Wafula (2010) notes that, leadership; institutional capacity, management of finances, coordination and governance in

general are essential ingredients of a functioning urban areas and therefore sustainable water and sanitation projects implementation. However, in Kenya today the project outcomes have been disappointing. What is needed is improved governance, financial and skills enhancement for the urban poor which is proving a key challenge.

According to the statement given by Hon. Charity Ngilu while serving as the Minister for Water in 2009, the country has only five water towers, which are faced with severe degradation. These water towers need to be Conserved and Preserved, without which the country water problems will continue to have a negative effect on the economic development of Kenyans. The minister in a statement indicated that the urban slums like Korogocho, Kibira, Mathare phase 1 & 2, Mkurukwa Njenga, Kianduti, Kisumu Ndogo in Mombasa, Likoni in Mombasa, Uhuru Owinyo in Mombasa, Nyamasaria slums in Kisumu among others faced 88% water shortage while sanitation was at a critical and questionable state (GoK, 2012)

According to the World Bank (2012), Kenya has almost forgotten its peri-urban poor in terms of WSS provision and has concentrated on a few citizens living in big towns like Kisumu, Nakuru, Embu, Nairobi, and Mombasa among others. This has left the slum dwellers with 80% lack of proper WSS. In Mombasa and Kitui for example, up to 76% of the slum population has neither access to neither clean drinking water nor pit latrines. This has led to the frequent outbreaks of cholera, typhoid, and dysentery among others in these areas (WHO, 2012).The major challenges cited by the GoK that have contributed to this include; Poor infrastructural development in these areas, Lack of financial resources due to the strained national budget, Low rates of returns to the government and other bodies in charge of WSS provision, Poor/un-coordinated physical planning making investments difficult. The report indicated that in places where water infrastructure is available, most of the times the taps went dry, some experienced low flow pressures, while others were totally vandalized by people who sell them as scrape metals.

1.2 Statement of the Problem

One of the most critical challenges is providing safe drinking water and sanitation over the next decade. Water supply and sanitation are instrumental in development (Bendahmane 1993). The water and sanitation situation creates a gloomy picture for the urban poor, looking globally, a number of project performances continue to fall below their targets when it comes

to water and sanitation, targeting the poor is important .A lot of invested funds in these projects have gone down the drain with no tangible outcomes or results.

WHO & UNICEF (2013) notes that, safe and clean water is essential for the satisfaction of life .despite this, majority of the Kenya's population-more specifically those in the slums- are without access to improved water supply or sanitation services. Human beings cannot survive without water. Unfortunately, water is scarce in Kenya, despite having acces to reliable water sources and rainfall (WHO/ UNICEF, 2011). This becomes worst as almost 80% of the peri-urban people in Kenya lack these basic commodities. A number of private and government sponsored organisations have tried to invest in water and sanitation providence to the slum dwellers for example since 1992 (UNICEF, 2011) but have faced challenges that include: poor financial support from both the national and local governments, poor infrastructure, poor community perceptions and participation, poor training on the importance of such projects, poor rates of returns to the firms involved in WSS among other challenges.

A number of studies have been done to access and bring out the situation of the WSS in the slums and other marginalised regions in the country. Kahariri (2014) in a study on the assessment of the challenges of water supply and sanitation in uncontrolled residential developments of Huruma estate, Nairobi County. In this study, he found out that factors like political goodwill, community training/involvement/participation, infrastructure, security, skewed nepotism among others were challenges. Njuguna (2014) did a study on factors influencing sustainability of donor funded projects: the case of water and sanitation projects in Laikipia east district, Laikipia County, Kenya. He found out issues like M&E, project planning, human resources and capital resources affected sustainability of donor funded projects. Mulwa (2013) did a study on factors influencing sustainability of water supply projects in central division, Machakos district of Machakos county, Kenya. In his study, besides the above researchers' findings, he added the idea of rate of return on the WSS.

From these studies and many more not mentioned, it is evident that WSS in Kenya have a number of factors influencing their success. Also, it is evident that such a study has not been done in Mombasa County; where this study focused on. This study therefore aimed at examining the factors influencing the implementation of sustainable water and sanitation projects in Kenya: a case of informal settlement in Mombasa County, Kenya

1.3 The Purpose of the Study

This study aimed at examining the factors influencing the implementation of sustainable water and sanitation projects in Kenya: a case of informal settlement in Mombasa County, Kenya

1.4 Objectives of the Study

This study was guided by the following objectives:

- i. To establish the extent to which financial resources influences the implementation of successful water and sanitation projects in informal settlements.
- ii. To determine the influence of monitoring and evaluation on the implementation of successful water and sanitation projects in informal settlements.
- iii. To establish the extent to which politics influences the implementation of successful water and sanitation projects in informal settlements.
- iv. To establish the extent to which rate of returns influence the implementation of successful water and sanitation projects in informal settlements.

1.5 Research Questions

The study was guided by the following questions:

- i. What is the influence of financial resources on the implementation of successful water and sanitation projects in informal settlements?
- ii. What is the influence of monitoring and evaluation on the implementation of successful water and sanitation projects in informal settlements?
- iii. What is the influence of politics on the implementation of successful water and sanitation projects in informal settlements?
- iv. To what extent does the rate of returns influence the implementation of successful water and sanitation projects in informal settlements?

1.6 Research Hypothesis

The study was guided by the following research hypothesis:

- i. H₁: financial resources have an influence on the implementation of successful water and sanitation projects in informal settlements.
- ii. H₁: monitoring and evaluation has an influence in the implementation of successful water and sanitation projects in informal settlements.

- iii. H₁: politics influences the implementation of successful water and sanitation projects in informal settlements.
- iv. H₁: rate of returns influences the implementation of successful water and sanitation projects in informal settlements.

1.7 Significance of the Study

- i) The information obtained in this study will be significant to the policy makers/ministry of water and local authorities as it would give a rational evaluation of implementation of water supply and sanitation projects and bridge the gaps that are there during the implantation of water and sanitation projects in informal settlements. The study will assist policy and decision makers adopt sustainable strategies towards during project implementation
- ii) The study sort to identify gaps and opportunities all geared towards implementation of successful water supply and sanitation projects that address the needs of the slum dwellers in all aspects and that ensure funds received are utilized in the best ways to promote welfare in informal settlements.
- iii) The findings in this study will add great value to the field of knowledge and the upcoming researchers may use it as a basis for further researcher

1.8 Limitations of the Study

Time was a limitation facing the study. Time for classroom work, research, that at work, that for the family and that of linkage between the supervisor and the respondents was a big issue. Owing to the nature of the researcher's work, the time of the research and guidance by the supervisor at the campus was in high competition. The researcher works in an organization that never allows day time communication thus limiting the study times in most occasions. However the researcher took a leave and created personal time to link the supervisor and the respondents during the research time.

1.9 Delimitation of the Study

The study delimited itself to by concentrating on the factors influencing the implementation of sustainable water and sanitation informal settlement in Mombasa County. Another way, the study limits itself is the fact that water and sanitation projects in Bangladesh have been handled by Parastatals and NGO'S for the last 5 years and quality information will be received from them.

1.10 Basic Assumptions of the Study

The study assumed that there are a number of factors influencing implementation of sustainable water and sanitation projects in informal settlement that can also be used to represent other informal settlements across the country.

The study also assumed that the respondents being drawn for well-established and professional bodies could available for the research and that they possessed relevant knowledge that helped the researcher to make accurate conclusion; a fact that held.

Finally the research had the assumption that the respondents could give information without any bias and subjectivity; an assumption that held.

1.11 Definitions of Significant Terms Used in the Study

Governance – It refers to a set of regulations, Policies, Processes, Functions and responsibilities that define the establishment, management and control of projects, programmes and portfolios

Funding - Is the provision of financial resources, in monetary form, or other means like time or effort, to finance a program or project, by an organization or government.

Sanitation - Sanitation literally means measures necessary for improving and protecting health and well-being of the people. Sanitation is any system that promotes proper disposal of human and animal wastes, proper use of toilet and avoiding open space defecation.

Implementation – It is the process that turns strategies, plans and actions that accomplish objectives (pride and Ferrell, 2003).

Technical expertise - Skills and experiences in technical work of the project team.

1.12 Organization of the Study

This research project report is organized in four chapters. Chapter one is the introduction it includes the background of the study, statement of the problem, purpose of the study, objectives of the study, research questions, research hypothesis, significance of the study, delimitations of the study, basic assumptions and the definition of significant terms. Chapter two of the study consists of the literature review with information from other articles which are relevant to the researcher. The third chapter will include the research design, population and sample, data collection procedures, data analysis procedures and the test for reliability and validity. Chapter four will present the analyzed data and a summary of the data thematically according to the objectives. Chapter five will present the summary of the findings, discussions, conclusions and recommendation.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews and critically analyses available literature on factors influencing the implementation of sustainable water and sanitation in informal settlements in the world, Africa, Kenya and Mombasa.

2.2 Sustainability of Water Projects

According to Abrams, 1998 defines the word sustainability, as the ability of anything to function over a given period in time. However, Sugden (2003) argues that the term sustainability has been abused when it comes to coining the word development..Hodgkin, 1994 defined sustainability as the ability of a development project to maintain or expand the flow of benefits at a specified level long after project inputs have ceased. This definition appears to be more operational and more scholars have even given definitions which appear to be narrow and specific.

A study was conducted in three African countries in a bid to define the word sustainability, it was concluded that the outputs that were generated not less than two years after project completion, is what could define the word, Bossert (1989). In a another study done in five countries in Africa and Central America (1990), the word sustainability was defined in terms of the outputs not less than three years after project Completion. Honadle and Van Sant (1985), did a study on sustainability of integrated rural development projects, they defined the word sustainability in terms of project percentage initiated and goods and services delivered not less than five years after resources which have been donated by the donors have seized.

According to African Development Bank (2013), notes that the fresh water resources are scarce. They point out that importance of maintain population growth in order to achieve stability in water demand. The key strategy is therefore to manage population growth by lowering it, and ensuring a balanced distribution of the populations. For these strategies to be successful, it entails raising of awareness , sensitizing the communities, educating masses and training to lower the population growth (WHO and UNICEF, 2015).

There is need to carry out an analysis on the linkage between water resources and human settlement and a thorough examination on ownership of land and use of land in rural and urban areas. There is need to create awareness as well as educate the population on using water resources hygienically and how to sustainably manage water resources in order to improve the health of people. It is important to have programs in place that focus on health and education that target to improve operation and hygiene of domestic water facilities, storage and use of water supplies. (UNDP, 2016).

Mulwa (2013) did a study on factors influencing sustainability of water supply projects in Central Division, Machakos District of Machakos County, and Kenya. He has mentioned of the importance of culture, perceptions and behavior. He has linked these three aspects to sustainable water use, water projects and WSS management in various parts of the world. According to his study, he noted the influence of culture and tradition on peoples behavior towards water as a socio- economic good. He realized that there are certain aspects of tradition and cultures that maybe the cause an imbalance in the rational allocation and the use of water resources or preservation of quality of water. In the slums of Mombasa like Likoni, Kisumu Ndogo, Uhuru Owino and Kisauni, the population growth is high, which has high has contributed to degradation of land due to the increased pressure for availability of land for building and the supply of energy supply. On the other hand poor soil conditions, lack of water for crop production and domestic use, poor planning of the slums and overcrowding on limited productive areas has caused a decrease in food availability, poor infrastructure development and poverty in general in the urban areas.

A report by the NICEF (2015) shows a direct link between water, human life, human health, the health of other plants and animals; what could otherwise save the lives of the current and future generation; what is referred to a sustainability. USAID KENYA (2014) adds that because of water management, there is a significant effect on the health of the population. This is due to contamination of drinking and bathing water, wastewater, solid waste, air pollution etc. Because of this effect on the health, Human capital is adversely affected.

A report prepared for Global Programs, Field Support and Research identified several factors affecting sustainability of community managed water supplies (WHO / UNICEF, 2014a) these Factors range from :Institutional factors comprising national, regional, community organizations and private sector entities), and Development processes which include design, participation, operation and maintenance and M&E. Technological factors such as Suitability,

acceptability, responsiveness, servicing needs, standards and costs. Contextual factors and forces which include factors beyond the control of institutions involved to change. They include environmental, demographic, socio-cultural, political, economic and technological. Other factors include project organization and processes including administrative and budgeting entities. This pertains to capacity of local and regional institutions to continue development processes that have been initiated and apply skills that have been taught. There are also donor related sustainability issues including control, collaboration, standardization, coordination, flexibility and commitment- (long term).

WHO and UNICEF (2014b) notes that, water is a social good, community participation is therefore very vital in the management of these water resources in order to ensure maximum social benefits to communities. The challenge facing most African countries is establishing the networks for adequate the assessment of water resources, monitoring of the quality of water that is harvested at the water resources, and addressing the vital socio-cultural issues associated with the management of sustainable water resources, more specifically for the population in slums.

The ideas above have also been echoed by a number of studies. For example, a study of community operated and managed water supplies in Yatta Division of Kenya found that there was a strong relationship between projects in the community that are sustainable and technology, managerial skills of the committee members and community participation (Mwamati, 2007). The study further suggested that there was a significant relationship between government support and legislation and sustainability of community water projects. Other studies found a significant relationship between community contribution and sustainability of community managed water projects in Nyando district of Kenya (Odie, 2012). In an analysis of UNICEF supported projects in Nyando district, the study further suggested high levels of community contribution to project costs influenced sustainability of the water projects. The study further concluded that where project management committees were effective, the community-managed projects were sustainable.

2.3 The Concept of Water and Sanitation in Informal Settlements

There have been numerous programs and activities in the last 30 years by local, national and donor communities, in developing worlds, with the aim of upgrading the informal settlements. Different agencies like World bank and USAID incited projects in the 1970s and 1980s, in order to improve service in the urban areas, enhance Security of tenure and facilitated the development of low-cost housing with appropriate standards. The World Bank, supported 55 countries which had 116 sites with service schemes and complementary upgrading initiatives. (1994). There was additional support from subsequent donors, such as UN Center for Human settlement, which supported the upgrading of informal settlements during the 1990's (World Bank, 2012).

Informal settlements keep growing, the problem of housing in these settlements and the service provision for poor have sparked more interest in upgrading of the informal settlements. Depending on how one defines informal settlements, it's estimated that 40% to 70% of urban dwellers in the developing world live in these settlements (Wambua and Sammy, 2010).

Generally, Providing water for people, has proved to be challenging for governments. With the increase in population growth and the subsequent socio-economic pursuits, the demand for water has increased steadily. If correct measures are not put into place, the growing needs of the increasing population and the demand for water may soon surpass the supply. The consequences of this maybe felt supply of the very limited available fresh water as well on the degradation of the water resources (Kenya, 2006b). Kenya, which is considered as a water scarce country with only 647 m³ of renewable fresh water per capita, therefore, faces serious challenges with regard to water services(UN HABITAT, 2013).

According to Owuor and Foeken (2009), the consequences of the lack of water are therefore most visible in the poorest regions, where there is no decent water supply system and probably no money available to put such a provisional system in place. When it comes to Africa, the water problems are severe in both rural and urban areas. Urban areas are often densely populated and the consequences of the lack of water and sanitation services lead to economic, health and social problems. In areas where there is a piped water infrastructure available, services might be lacking. Many of the water utility systems in Kenya are characterized by high water losses, lack of sufficient revenue for operation costs, insufficient,

poor infrastructure, lack of investments, low collecting and billing efficiency, shortage of water, failure to meet the existing demand and corruption. This paints a very gloomy picture for the urban poor in sub-Saharan Africa.

2.4 Financial Resources and the Implementation of Successful water and sanitation projects

Every year Government and donor agencies invest Millions of dollars in project implementation. Studies indicate that, despite increasing attempts to tackle the problem, many projects are failing to maintain the flow of expected long time benefits of about over 15 to 20 years (Ochelle, 2012). Studies by a number of scholars have shown that, for WSS to be successful in the slums there are a number of financial elements that need to be considered. This includes: the sources of finances, the amount of finances allocated, financial management and many more.

Binder (2008) and Odhiambo (2010) argue that, the financing process is critical for the sustainability of WSP both in the rural and urban dwellings. According to the documented literature, insufficient funding is one of the factors which cause poor maintenance of the project outputs and at last project failure. Financial issues need to be addressed because they are an obstacle in achieving water supply and sanitation in over 70% of the countries. Usually, there is a very significant underfunding including basic costs of operating and repairing facilities for the cases of operating projects. Worst hit are the slum areas, where affordability is lower while the cost of water services is higher. The tariffs rarely cover maintenance, operation, repair and replacement. This leaves a gap for attracting private sector investment, which is normally expensive and difficult. In addition, the cost estimates always don't reflect actual costs for on going programs, capital maintenance expenditures, and indirect support costs.

Kahariri (2014) did a study in Huruma estate, Nairobi County. Findings from the study indicated that, sustainability would increase with investment in specific areas. This includes investment in capacity building and institution to operate and maintain the system. This could also extend to the development of mechanism which support cost recovery, and provision of incentives which gear towards investments locally. This indicates that it is necessary to consider the level of investment that will be required during the operation and maintenance of the project. In addition, this ties itself to the sources of funding. In the slums for example, it has been found that, neither the national governments nor county governments are ready to

fund the various WSS projects, since they felt that the rates of return are very low. The few private individuals funding some initiatives or the non-governmental bodies are not doing enough since the demands for WSS are more than what they fund.

According to African Development Fund (2015), despite the fact that government and the international community are the major donors who should allocate funds into WSS projects and the slums, financing all expenditure of the project in the slums should not be pegged entirely on the government or donors. It is the role of the government however to establish proper regulatory and institutional frameworks. It is essential to address its post-construction sustainability after the completion of a project. This is to ensure that funds collected, institutions, and expertise available are kept to ensure that water supply systems are viable and functional. In this case, the systems are said to be sustainable, if all the foregoing processes are in place.

In his work, Keli (2015) has given a positive relationship between financial management and sustainability of WS projects implementation. According to him, financial management is very important as far as operation and maintenance of donor projects is concerned. The aspect of financial management also entails setting of water tariffs. Many donor projects fail to be sustainable for a long period due to high tariffs introduced by management committee or poor financial management skills. Fast tracking transparency on expenditure and income, accounting and book keeping are essential aspects in sustainability of projects (Bolt and Fonseca, 2001). This particular aspects of financial management has led to most donor projects for example in the slums like Mjini in Kitui, Majengo in Nairobi, Nyarenda in Kisumu and Dandora in Nairobi to collapse due to underhand techniques used by water committees.

2.5 Monitoring and Evaluation, and the Implementation of Successful Water and Sanitation Projects

UNICEF (2012) conducted a study on Progress on drinking water and sanitation in Sri Lanka, Philippines, India and Indonesia in 2011/2012. It found out that there should be a link on water sector policies and sustainability of these the water projects. In these countries where almost a half of their populations live under slum like conditions, for sustainable WSS in the peri-urbans, there needs to be well trained personnel for the continuous and monitoring of the projects' success, there should be continuous timely evaluations and reporting, there should be enough finances allocated for the M&E and there should be well defined policies that make M&E exercise be part of the operations of the projects. According to World Bank (2010), no matter how much is invested in water projects in the slums, without proper M&E, there seems to be a risk of most of these projects fail. In 2009 alone for example, 45% of the WS projects in east parts of Manila failed due to poor monitoring and evaluation; despite the enormous amounts of funding form the local and international community.

WHO (2012) did a study on the sustainability of WSS projects in Angola. According to the study, the sustainability of the goal that target clean water and safe environment for all was not attainable by 2015. This is due to poor mechanism of monitoring and evaluating the various water projects in the rural area and the peri-urban slums. The study continues to show that, effective, participatory and regular monitoring of SDP can improve management, participation, accountability, learning, trust and development (Görgens, Nkwazi&Govindaraj, 2005). M &E is a vital tool of development and management in any project, and should start at the planning stage of the project (Khan, 2003). It is important for any project aimed at addressing development issues to have an effective M & E system to ensure efficient services delivery with long term intention of sustainability of the project benefits, and policy implementation (Water Services Regulatory Board, 2014).

In their study on Upscaling Access to Sustainable Sanitation, Gakubia, Pokorski&Onyango (2010) argue that, much money is wasted every year on thousands of WSS around the world that become abandoned, break, and prove to be unsustainable at the long run. In their study that focused in the situation of the projects in the slums of Tanzania, Ethiopia, Kenya and Uganda, water and sanitation has been the second most un-provided for service by both the national and local governments to the slum dweller. This is slightly behind the security. The major challenges facing the breakdown of proper providence of the WSS to the slum dwellers

includes: poor M&E, poor planning (projects planning and urban planning), poor political perceptions, poor funding and many more. In the case of M&E, most people confused it with witch-hunting, some confused it with continuous supervision, while countries like Kenya did not have a specific budget for WSS projects M&E, did not well laid down standards, policies, expertise etc.

Njuguna(2014) did a study in Laikipia east district, Laikipia County, Kenya. In his study, he has tried to show how M&E can help water projects like any other projects to be sustainable. According to him, in management of projects, monitoring can be used to improve the way governments and private organizations achieve results and ensure project sustainability. This can be ensured through investing in and strengthening a national system in place for M & E . Investing in M&E is vital, as it will eventually help to ensure resources are saved (WB, 2014). Global Fund (2012) notes that, M&E could help save resources which could otherwise be used in areas such as inefficient programs or overlapping activities which are supported by partners that are different. According to IFAD (2012), a sustained M&E system is very useful as it could help an organization achieve its goals and objectives (IFAD, 2012).

Studies by various scholars have shown that, M&E systems are designed and structured in a manner that they aim at informing project management of whether projects implementation is going as planned or it has deviated from its initial plans and thus calling for corrective action. A M&E system that is well-designed therefore, provides relevant data to the management and project implementers on projects progress and whether the projects are meeting objectives (World Bank, 2012).If this is espoused by the various projects being run in the Kenyan slums by various bodies like the MOWASCO, the rates of success of WSS in the country could rise by 24% per-annum. This is depicted in the research which was conducted in Lakes region of Kenya (western parts of and the southern parts of Nyanza) by World Bank that helped in development of basic approach towards an effective implementation of community based monitoring and evaluation system (World Bank, 2013).

It includes a system for its use and the operational tools to use in facilitating to its sustainability (World Bank, 2014). The findings were intended for trainers and development workers with aim of introducing of monitoring and evaluation system in their projects and programs for their sustainability (World Bank, 2013). The World Bank suggested that project monitoring would be of little or no use if it is not consistently supported by all the stakeholders towards addressing the sustainability issues of the projects (World Bank, 2014).

The donors, project managers, and staff must all actively participate in the implementation of a monitoring and evaluation system for its effectiveness and sustainability (Dyason, 2010).

2.6 Politics and the Implementation of Successful Water and Sanitation Projects in Informal Settlements

A number of scholars have always intertwined the concept of community projects with leadership, governance, politics etc. In a number of studies, politics has been closely related to leadership due to the fact that in countries like Kenya, most policies that are linked to community projects are made by politicians. In Kenya this can be indicated by several researches done. For example, in his study ,Abdikarim (2012) shows that, Politics and sustainability of water projects can be traced to 1992 and 1999 when the then leadership of President Moi made a number of amendments to its county and national laws to give water and better sanitation to the then faster growing urban population.

Abdikarim (2012) continues to show that, in 1999, Kenya embarked on a radical water sector reform in order to improve the dire states of the water services and water resource management. Kenya's water sector reform paved way for the Sector Wide Approach (SWAp). This led to the enactment of an act in parliament that was known as the Water Act of 2002 as passed by politicians in parliament. Currently the water sector in Kenya is regulated by the Water Act of 2002 and it is the main legislative piece for the water sector. For example, all regulations and bylaws ,policies, directives and administrative actions from the ministry of water, strategic plans and all activities by institutions in the water sector must be carried out in accordance with the provisions from the Water Act 200 .

According to UNDP (2014), the governance concept and politics applies at both country and Sectoral levels. UNDP (2014) adds that, public institutions are in fact one category of actors with a stakes in national governance. Civil society, also play an important role in ensuring sustainable WSS are implemented at all levels. Governance analysis therefore must focus on all the actors and structures put in place. This will enable it to make and implement the decisions that shape, better, improve and regulate the lives of citizens in all levels; including the slums. This can act well as opposed to the focus on the politicians only, a phenomena witnessed in most parts of the country.

Njeru(2015) did a study in Maara Sub County, Tharaka-Nithi County, Kenya. In his study, he outlined the importance of leadership/politics in the success of projects. In his study that involved 123 employees of the TAWASCO, he found a strong correlation value between what politics did in terms of projects site decision, funds allocation, funds mobilization, funds embezzlement, human resources distribution, etc and the success of the projects.

In a similar study with similar results, Ngayu (2014) in her findings argues that, one significant function performed by politicians or leaders in Kenya is making and executing decisions. This involves deliberate efforts by a leader to encourage and facilitate participation by others in making relevant decisions. Studies indicate that in organization sit is often necessary to involve other stakeholders in the process of decision making, to enable easy decisions approval and implementation. Ngayu (2014) makes a conclusion by arguing that, politics in Kenya and the rest of developing countries in Africa doesn't only guide group members, mobilises them to participate actively in the group projects support.

However, UNDP (2016) shows that, in Kenya, public works that sees some of its basic action roles being influenced by politicians are complicated and disorganized. WSS projects for example are left in the hands of the civil servants, under the control of the politicians and other interested parties who are out to make quick riches by looting and embezzling public funds any time an opportunity shows itself up. World Bank (2014) adds that, urban utilities in urban centres in Kenya are not strong organizations. Besides they do not provide good services in general to the citizens. For example, in the country, efficient public works companies do exist, but many are beset by government interference, lack of autonomy, poor leadership and management, and a very poor policy environment that hinders their development. Ineffective governance for long in Kenya's urban settlements can be said to be evidently having an impact on prohibiting water infrastructure investment. Governments have failed or have done very little in meeting the needs of the communities in slums in Kenya. This is due to basic vices like corrupt and inefficient water and public works companies in the slums(World Bank, 2010).

According to Global Fund, (2012) in its study called, Sustainability of water and sanitation programme in upgraded urban centers in Africa, better leadership, governance and politics are prerequisites for, steps towards sustainability of WSS across all the slums in Africa; Kibera included. For sustainability of WSS projects to be achieved, other requirements include: means of internalizing external costs and ensuring integration of policy

considerations, evaluation of options and dealing with trade-offs. It is worth noting that good governance and politics emphasizes the role of institutions as entities that are largely viewed as being 'up there' and at least currently, insufficiently within the reach of ordinary citizens.

2.7 Rates of Returns and the Implementation of Successful Water and Sanitation Projects in Informal Settlements

Ngayu (2014) has borrowed the concept of traditional economic analysis theory in projects management and argues that the aim of any project just like any firm is to make a profit or have positive returns. The theory looks at the inputs in a project while focusing on the gains/outputs. Water and sanitation project in Kenya today is an investment that is required to generate its own revenue to run its daily activities besides remitting some tax to the government; although it was initially being taken as the responsibility of the government to provide safe, clean water and proper sanitation to her citizens up to the 1990s before the introduction of the water act in 2002 when the decentralization of water was introduced by the Ministry of Water and Irrigation in Kenya.

History indicates that, this decentralization saw the entry of private firms besides the government in the provision of WSS (Institute of Economic Affairs, 2015). The Institute of Economic Affairs (2015) continues to show that, the country was then divided into drainage basins that were five. In providing their services, the firms operating in these basins experienced expenses which they had to device methods of recovering at the end of the day. The expenses were found to be escalating in the Nairobi and Mombasa towns where the populations were increasing much higher than the other towns due to urbanisation and rural-urban migration to seek for better services and employment (UNICEF, 2012).

The costs incurred when providing the WSS include: cost of WSS infrastructure maintenance like replacement of pipes and other appurtenances, staff wages and salaries, legal licenses fees, Water abstraction levies, cost of treatment, huge power/pumping bills and many more. This makes most firms dig deep into their plans before providing their services because the rate of returns on their investments should be capable of taking care of the costs incurred in the water production process, delivery and disposal as they operate on regulated tariffs which are NOT full cost recovery (Niyi & Felix, 2012).

A study by UNICEF in Kenya, India and Indonesia has indicated that in the slums WSS production has not been put into consideration as it is in the case of bossy estates. UNICEF (2012) continues to show that, Kenya just like India is at 51% Economic efficiency disadvantaged. This means that about 51% losses occur in Kenya due to either water losses, non-billed water, stolen water or unpaid billed and many more. The report continues to say that, despite the fact that countries like Bangladesh, India, Pakistan, etc. having formulated policies and programs aiming ensuring all the people with access to safe WSS at affordable cost, poor population of this countries in the peri-urban has no capability of effectively paying for the services rendered; leaving most firms with no option except that of withdrawing their services.

Keli (2015) notes that, in slums like Bangladeshi in Mombasa, Mjini in kitui, Mathare in Nairobi and Kianduthu slums in Thika, in every 95 families, almost 63 families don't have access to clean water while 75 families lack basic sanitation (toilets, latrines and garbage dumping sites). This is due to the fact that most companies dealing with water and sanitation services providence are not ready to work in these slums. Reasons behind this include: the security threats where pumps and other valuables are stolen by the slum gangs, the unpaid bills, illegal connections of the water, busting of the pipes illegally to access water, the poorly planned infrastructure making it difficult to lay down water and sanitation equipment like pipes and collection points. According to Najjar(2011), in the year 2010, about 53 families among the 95 families interviewed in the peri-urban Kisauni, Likoni, Garissa and Nakuru lacked access to proper WSS due to the fact that they could not pay for the services; forcing the 56% firms to withdraw their services leaving the people to the hands of the local water vendors and waste collectors.

WASREB (2012) did a publication on the important indicators of economic efficiency that are considered by firms before offering WSS. These includes: the level of non-revenue water, metering ratios, collection efficiency, and labour productivity. However, almost 67% of the WSS providers in Kenyan do not meet the benchmarks the above said dimensions. For example, in the year 2013–2014 most WSSPs in Kenyan recorded fairly satisfactory revenue collection efficiencies. On average, the collection rate of water bills was approximately 76% against a sector set benchmark of 95%. However, there were a number of worst hit WSSPs providers which recovered too low beyond their expectations. This was blamed on unbilled water supply due to water theft, corruption or leakage.

2.8 The Theoretical Framework

The study was guided by the community management model. This model is sometimes known as 'Village Level Operation and Maintenance' (VLOM). The model is based on the principle of empowering the local communities and encouraging ownership. The model also advocates for shifting of the responsibility for on-going OM (Operation & Maintenance), leading to sustainability of services from facility-provider to end user.

People living in the slums can be seen as a community with special characteristics and adaptations. For example, it has been found that in most of the occasions, they share common language, harsh and hardship conditions, common culture etc. if these people are treated as one community/village, the resources shared when they are equally involved and the decisions made when all their present and past environments considered, a pure support of various projects can be achieved. Community 'mobilization' or sensitization' is designed to bring a sense of responsibility and ownership (Harvey and Reed, 2007).

The model in Sub Sahara Africa is the most common approach. In this model, the governments (be it county or national governments) act as enablers and they are responsible for monitoring, regulation and facilitation of sector stakeholders. In this model, the term facilitation refers to the provision of an environment in which stakeholders (NGOs, locals, Government agencies etc) are able to operate with fewer barriers. This may involve information provision, follow-up training and technical support. Actual O&M activities may be conducted by the private sector, such as Area Pump Mechanics (APMs) or community volunteers (Harvey and Reed, 2004).

According to Harvey and Reed (2004), community management models require dynamic management and leadership at all levels and it is important that government recognizes the need for effective facilitation and on-going support. The underlying principle of the model is to encourage local communities to take responsibility for the sustainable management of water supply schemes. This helps in limiting external interventions to provision of regulatory framework, technical support and institutional support (Harvey and Reed, 2007). Therefore, this theory fits the study since the slums have had the leaders incite the local poor to reject the various development projects brought to them due to fear of empowering of these local people and getting challenged.

2.9 The Conceptual Framework

Orodho(2005) argues that a conceptual framework narrative of the relationship of the study variables network, where the independent variables interact with moderating, intervening and extraneous variables and the outcome/output is the dependent variable .This is shown in Figure 1.

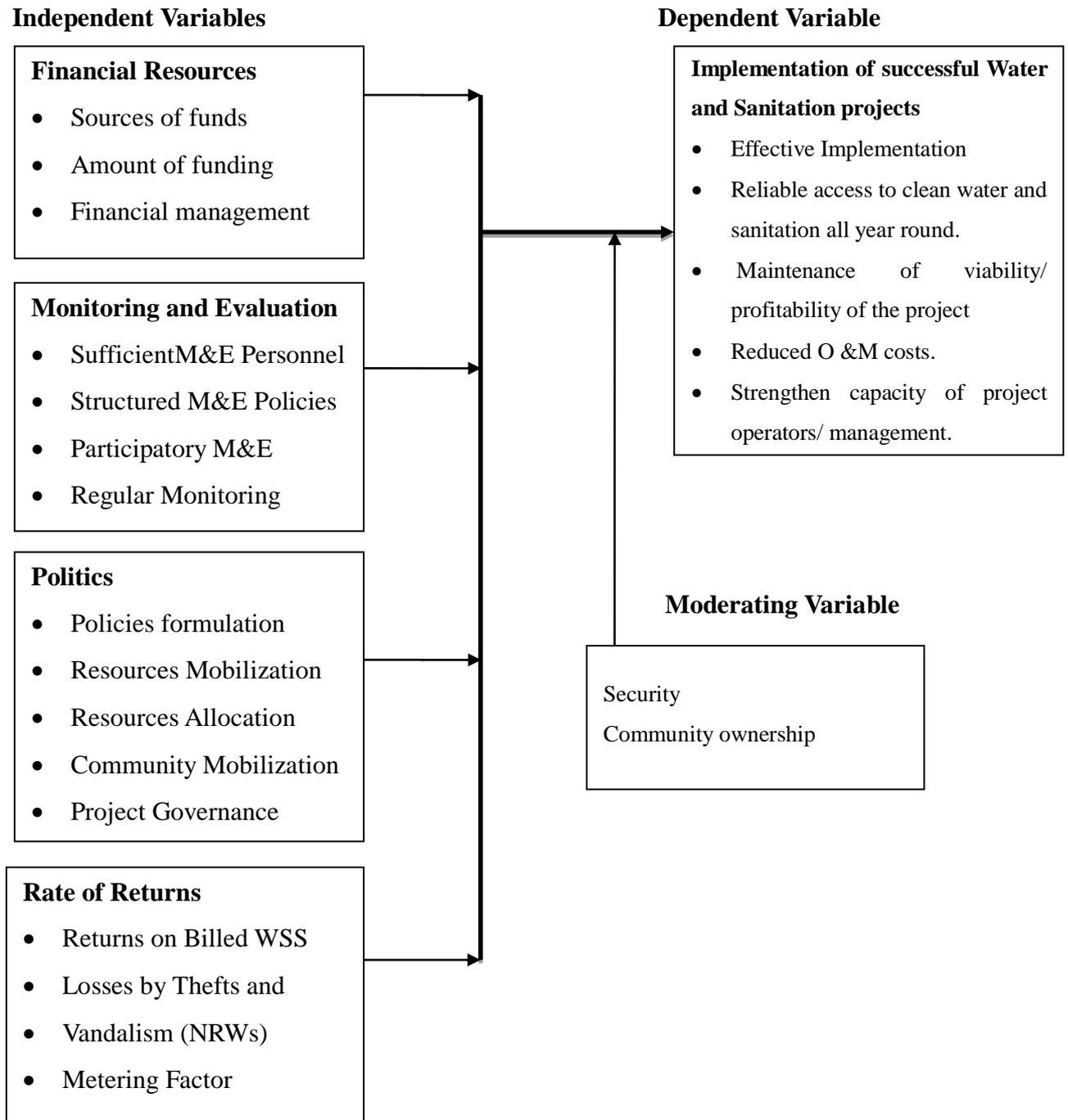


Figure 1: Conceptual Framework

From the literature review, the conceptual framework has underlined a number of issues surrounding the sustainability of WWS programmes in informal settlements in Mombasa County and the rest of the world. On the left side have four variables that are called independent variables since they don't change but interact to change the dependent variable on the right side. The independent variables include: financial resources, rates of return, Monitoring and Evaluation and politics/leadership/governance. The dependents variable is the implementation of sustainable water and sanitation projects in the informal settlements. This is also influenced by the variables called moderating variables but due to time, limited resources and nature of the literature available, these variables have just been indicated without literature being made about them.

2.10 Literature Review Summary

From the literature, the concept of sustainable projects is gaining popularity very fast in Africa and the rest of the world. This has been followed by the concept of water and sanitation in the peri-urbans that has been dominated by numerous challenges including lack of enough firms ready to invest in these areas due to security, poor infrastructure, poor rates of returns etc. The literature has shown that financial resources (sources, amounts and frequency of finances) have an influence on the implementation of sustainable WSS projects in the slums, politics, M&E, rates of returns etc. have been an influence to a greater extent on the sustainability of these projects.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the methodology that will be used to conduct the study, focusing on research design, target population, sampling procedures and sample size, research instruments, questionnaires, pilot study, reliability, validity, data collection procedure, methods of data analysis, ethical consideration and Operationalization of the variables.

3.2 Research Design

The research design adopted for this study was a descriptive survey design. The research employed a mixed strategy of both qualitative and quantitative methods. Surveys are capable of obtaining information from large samples of the population over a short period of time thus very suitable for this study since the scope is large. This design is also suitable as it brought out information on attitudes that could be difficult to measure using observational techniques.

3.3 Target Population

In Mombasa County, MOWASCO is the sole company that is charged with the task of implementing the WSS. The researcher therefore targeted the respondents from the company. From the information available in the MOWASCO Human Resource department, there are 55 employees in the human capital and administration department, 135 in the engineering and strategy department, 226 in the business and customer care and finally 20 in finance. This made a total population of 436 respondents. Since all these employees play an important role in water and sanitation services in the county, they made the targeted population.

3.4 Sample Procedure and Size

Sample of respondents was drawn from the employees of MOWASCO where the water and sanitation projects in informal settlement in Mombasa County originate from; and the information was better gotten from the employees of the Mombasa water and sewerage company. The sampling size was calculated using the table by Krejcie & Morgan (1970) table (see appendix 3) to determine the sample size. From the table by Krejcie & Morgan, The population Size which is (N) will be 436 therefore making the sample size (S) 205 respondents. In this view the study used an ideal sample size of 205 respondents in MOWASCO and used simple random sampling technique to locate the respondents. This

method was convenient for this study since the population was well defined with an accurate census available from the MOWASCO. Comprehensive enumeration maps showing all the areas in which the employees serve was used and each respondent was assigned a number on the mapping sequence. All the resultant numbers of each employee were then written down each on a piece of paper and the resultant folded pieces were placed in a container and shuffled. Random sampling technique was employed. The researcher blindly picked an item one at a time until the required sample size was obtained. The researcher pin pointed the exact location on the initial spatial map of all selected households within the settlement and was able to administer one questionnaire to a subject in each selected category.

3.5 Research Instruments

Questionnaire was used for data collection. The questionnaire helped the researcher to collect data on opinions, attitudes as well as knowledge of respondents towards the factors influencing successful implementation of WSP in Mombasa's informal settlement. The questionnaire was suited for this study because it was used to collect data from a large number of people within a short time practical and it is relatively cost effective. The questionnaires was used to collect data from the MOWASCO employees who are directly involved in the WS projects in the slums. The questionnaire was administered by the researcher and selected enumerators. Both closed ended and open ended questions were used for this study.

3.5.1 Validity and Reliability

Validity is a measure of how well a test measures what it is supposed to measure. It is the degree to which results obtained actually represent the phenomenon under investigation. Reliability is the measure of the degree to which a research instrument yields consistent results after a repeated trial.

3.5.2 Validity of the Research Instrument

In this research, content validity was used as a measure of the degree to which the data collected using the questionnaire represented the objectives of the study. The instrument was verified by the supervisor, other two senior lecturers in the University of Nairobi, and, one research experts from NGOs that deal with Water and sanitation projects in Mombasa County (MajinaUfanisi).

3.5.3 Reliability of the Research Instrument

In this study, reliability was determined by a test-retest administered to 10 subjects not included in the sample. This was achieved in that, the first set of 10 questionnaires was administered to 10 respondents, and later on the same repeated in one week. Then an average response were scored out of the issued questionnaires; in what is known what is known as known as Cronbach's alpha calculation. When a value of 0.7 was achieved, it was considered Input from invaluable sources was obtained during the study that was useful in modifying the questionnaire before a final set of questions were produced.

3.6 Data Analysis Techniques

The questionnaires that were completed ,were edited to ensure they had been completed and were consistent. The quantitative collected, was analyzed by the use of descriptive statistics using SPSS version 20 and was presented through percentages, means, frequencies, and cross tabulation. The information was then displayed by using of frequency tables. This was done by tallying up responses, computing percentages of variations in response as well as describing and interpreting the data in line with the study objectives and assumptions through use of SPSS. Content analysis was used to test data that is qualitative in nature or aspect of the data collected from the open ended questions. According to Baulcomb, (2003), content analysis uses a set of categorization for making valid and replicable inferences from data to their context. The data was broken down into the different aspects of determinants of sustainable WSS projects in Mombasa's informal settlements. This offered a quantitative and qualitative description of the objectives of the study.

3.7 Ethical Considerations

Before the study begun, permission was sought by getting a letter of recognition from the University and the authorities in the area were also be informed of the study in order to ensure the study follow principles. The five principles guiding ethics in research were observed, these are scientific merit, equitable selection of subjects, seeking informed consent, confidentiality and avoidance of coercion. Prior to collecting information from the respondents, the researcher explained to the respondents the objectives of the study, and how the findings could them and the country at large.

3.8 Operationalization of the variables

Table 3.1 Operationalization Table

Objective	Independent Variable	Indicators	Scale	Types of analysis
To find out the influence of financial resources on the implementation of successful water and sanitation projects in informal settlements.	Financial Resources	<ul style="list-style-type: none"> • Sources of funds • Amount of funding • Financial management 	Ordinal Scale	Descriptive
To examine the influence of monitoring and evaluation on the implementation of successful water and sanitation projects in informal settlements.	Monitoring & Evaluation	<ul style="list-style-type: none"> • Sufficient M&E Personnel • Structured M&E Policies • Participatory M&E • Regular Monitoring 	Ordinal Scale	Descriptive
To examine the influence of politics on the implementation of successful water and sanitation projects in informal settlements.	Politics	<ul style="list-style-type: none"> • Policies formulation • Resources Mobilization • Resources Allocation • Community Mobilization • Project Governance 	Ordinal Scale	Descriptive
To establish the extent to which rate of returns influence the implementation of successful water and sanitation projects in informal settlements.	Rate of Returns	<ul style="list-style-type: none"> • Returns on Billed WSS • Losses by Thefts and Vandalism (NRWs) • Metering Factor 	Ordinal scale	Descriptive

CHAPTER FOUR

DATA PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter presents results arising from the analysis of data collected using questionnaires. The data collected was analyzed using descriptive and inferential statistical methods for each variable and the findings presented in tabular summaries, and their implications discussed. The data capitalized on the use of the central tendency measure of the mean that equated the responses to 1-1.4 as strongly disagree, 1.5- 2.4 as disagree, 2.5-3.4 as weakly agree/neutral/not sure, 3.5-4.4 as agree while the remaining lot of scores between 4.5-5.0 equated to strongly agree.

4.2 Response Rate

Out of the 205 questionnaires issued to the respondents, 190 were returned and were useful for the study as shown in table 4.1.

Table 4.1: Response Rate

No. of questionnaires Returned	Target No. of respondents	Response Rate (%)
190	205	92.68%

The high questionnaire response rate (92.68%) shown in Table 4.1 resulted from the method of administration of the instrument, which was in this case researcher administered. This was acceptable according to Mugenda and Mugenda (2003). This method also ensured that the respondents' queries concerning clarity were addressed at the point of data collection. However, caution was exercised so as not to introduce bias in the process it also reduced the effects of language barrier, hence, ensuring a high instrument response and scoring rate. According to Mugenda and Mugenda's recommendation, this can be equated to excellent.

4.3 Characteristics of Respondents

This section discusses the demographic characteristics of the respondents in the study .These include , distribution of respondents by their gender, age, level of education and the results are presented in terms of the study objectives.

Table 4.2 Basic Information

Response	Frequency	Percentage
Gender	Female 60	31.5 %
	Male 130	68.5 %
Academic qualifications	Secondary certificate 45	23.6%
	Diploma/certificate 70	36.8%
	Bachelors' degree 60	31.6 %
	Masters 15	8%
	Doctorate 0	0%
Work Experience	Below 1 year 36	18.9%
	2-4years 50	26.3%
	5-9 Years 57	30%
	10 - 14 years 20	10.5%
	Over- 15 years 27	14.3%
Average Total	190	100%

Field report indicated that, 31.5 % of the respondents were women while the remaining 130 respondents who represented 68.5 % were men. This is in line with the true figures in Kenya's coast region where most of the economic activities are dominated by men.

In relation to academic qualifications of the respondents, 45 attracted secondary certificates who made 23.6%, diploma attracted 70 respondents who made 36.8%, and bachelors attracted 60 respondents who made 31.6 %. The remaining 15 who made 8% had a master's degree.

Finally, responses on work experience showed that, all the respondents who answered the questions had some form of formal employment in one way or the other since all the 90 respondents had some work experience though dominated with those with between 2 to 9 years. From the responses, 18.9% of the respondents were of less than 1 year experience, 26.3% were for between 2-4 years, 30% were of 5-9 years, and 10.5% were for 10 to 14 years

while the remaining 14.3% were for over 15 years of work experience.

4.4 Financial Resources and WS Projects Implementation

The respondents were asked a number of questions in relation to the influence of financial resources on the implementation of water and sanitation projects in Mombasa County’s slums and the results recorded. The questions were asked and discussed as shown in the tables 4.3 and 4.4

4.4.1 Response on Financial Resources and Water and Sanitation Projects Implementation

Respondents were asked whether financial resources (money for various activities) have been an issue in implementing water and sanitation projects in slums in Mombasa County. Respondents were required to answer with a yes or no answer; Results were as follows:

Table 4.3 Response on Financial Resources and Water and Sanitation Projects Implementation

Response	Frequency	Percentage
No	10	5.3%
Yes	180	94.7%
Total	190	100%

5.3% of the respondents did not support the idea that financial resources have an influence in the implementation of WS projects in the county’s slums while the magnificent majority who made 94.7% argued for the idea that financial resources shave a significant influence in the implementation of WS projects in the slums. This is an obvious assumption that can be attributed to due to the various functions of financial resources like operations, maintenance, technical expertise acquirement etc.

4.4.2 Rating of Financial Resources and Water & Sanitation Projects Implementation

In this question, respondents were asked to indicate the extent to which they agreed or disagreed with the following statements in relation to financial resources and WS Projects implementation in the slums in Mombasa County. Scale of use was 1-5; where 1= **strongly disagree**, 2= **Disagree**, 3= **Uncertain**, 4=**strongly agree**, 5= **Agree**

Table 4.4 Financial Resources and Water & Sanitation Projects Implementation

Statement	Mean
Sources of funds influence the implementation of SW projects	4.41
Amount of funding influence the implementation of SW projects	4.51
Financial management influence the implementation of SW projects	3.98
Average score	4.3

On average, the respondents agreed with the statement that financial resources have an influence in the implementation of WS projects in Mombasa County's informal settlement. This was equated to a value of 4.3 that fell in the bracket of 3.5 to 4.4 that represents agree. An average percentage equated to this is 86% as shown in the table above.

4.5 The Influence of Monitoring and Evaluation on the Implementation of Water and Sanitation Projects

The second objective that sought to assess the extent to which Monitoring and Evaluation influenced the implementation of WS projects in the slums and the responses were as follows.

4.5 .1 Monitoring and Evaluation

Respondents were asked whether they supported the idea that Monitoring and Evaluation has an influence in the implementation of WS projects in the slums in Mombasa County and the responses were as shown on table 4.5

Table 4.5 Monitoring and Evaluation

Response	Frequency	Percentage
No	39	20.5%
Yes	151	79.5%
Total	190	100%

79.5% of the respondents supported the idea that monitoring and evaluation has a significant influence in the implementation of WS projects in the slums of Mombasa County. However,

from the responses, 20.5% of the respondents felt that M&E has no significant influence in the implementation of the WS projects in the county. In an open ended question at the end of the questionnaire, this group felt that M&E has little effect since much of the effects lie with fiancés, politics, rates of return, security, planning etc.

4.5.2 Rating of Monitoring and Evaluation’s Influence on the Implementation of Water & Sanitation

Respondents were asked the extent to which they agreed or disagreed with the following statements in relation to Monitoring and Evaluation’s Influence on the Implementation of WS using a scale of 1-5. Where; 1= strongly disagree, 2=Disagree, 3= Uncertain, 4= agree, 5= strongly Agree and results were as discussed in the table 4.6 below.

Table 4.6 Rating of Monitoring and Evaluation’s Influence on the Implementation of Water & Sanitation

Statement	Mean
Sufficient M&E Personnel is a challenge facing WS Projects implementation.	3.78
Structured M&E Policies is a challenge facing WS Projects implementation.	3.99
Participatory M&E is a challenge towards WS implementation.	4.1
Regular Monitoring is an issue influencing WS projects Implementation.	4.32
Average score	4.0475

On average, 80.95% of the respondents agreed with the idea that M&E influences the implementation of WS projects in the slums in Mombasa County. This had a mean score of 4.0475 with Regular Monitoring is an issue influencing WS projects Implementation scoring the highest with a value of 4.32 while Sufficient M&E Personnel is a challenge facing WS projects implementation scored the least with 3.78. However all these scores had an agree equivalency.

4.6 Politics and Water and Sanitation Projects Implementation

This objective required respondents to rate the extent to which politics influenced the implementation of water and sanitation resources.

4.6.1 Rating of Politics' Influence Water and Sanitation Projects Implementation

Respondents were asked to indicate how they agreed or disagreed with the following statements in relation to Politics and Water and Sanitation Projects Implementation; where 1= strongly disagree; 2 = disagree; 3 =uncertain; 4 =agree; 5 = strongly agree.

Table 4.7 Rating of Politics' Influence Water and Sanitation Projects Implementation

Statement	Mean
Policies formulation by politicians influence the implementation of WS projects in Mombasa county's informal settlements.	3.87
Resources Mobilization by politicians influence the implementation of WS projects in Mombasa county's informal settlements.	3.6
Resources Allocation by politicians influence the implementation of WS projects in Mombasa county's informal settlements.	4.5
Community Mobilization by politicians influence the implementation of WS projects in Mombasa county's informal settlements.	3.8
Project Governance by politicians influence the implementation of WS projects in Mombasa county's informal settlements.	3.55
Total average	3.864

On average, 77.28% of the respondents argued for the idea that politics influences the implementation of WS projects in the informal settlements in Mombasa County. This had a score of 3.864 which is equated to agree; though not as strong at the previous objectives. In the trend, resources allocation by politicians influences the implementation of WS projects in Mombasa County's informal settlements statement scored the highest value of 4.5 which is

equated to strongly agree while project governance by politicians influence the implementation of WS projects in Mombasa County’s informal settlements statement scored the least with a mean of 3.55.

4.7 Item on Rate of Returns and Implementation of Water and Sanitation Projects

A question asked in this category was specifically meant to inquire on a likert scale the extent of rating of the various issues related to rates of return and the implementation of WS projects.

4.7.1 Rate of Returns and Implementation of Water and Sanitation Projects

Respondents were asked to rate the extent to which they agreed or disagreed with the following statements. Scale of use: 1-5, where, **1= strongly disagree; 2 = disagree; 3 =weakly agree; 4 =agree; 5 = strongly agree.**

Table 4.8 Rate of Returns and Implementation of Water and Sanitation Projects

Statement	Mean
Returns on Billed WSS influence the WS projects implementation In the slums.	4.6
Losses by Thefts and Vandalism (NRWs) influence the WS Projects implementation in the slums.	4.7
Metering Factor influence the WS projects implementation in the slums.	4.2
Overall mean	4.5

This objective and its ideas seemed to be the most recommended reason as to why firms shy away from investing in the slums in Mombasa in providing WSS. This area scored a mean of 4.5, equated to strongly agree. The idea that Losses by Thefts and Vandalism (NRWs) influence the WS projects implementation in the slums for example had 94% of the respondents agreeing with the idea. On average, over 90% of the respondents strongly agreed with the idea that rates of returns influence the implementation of WS projects in the slums of Mombasa.

Generally, in an open ended question that was asked, over 95% of the employees of MOWASCO felt that financial resources are closely linked to the supply of water to the slums and the implementation of the WS projects in areas like Likoni, Kisauni, Kisumu Ndogo, Bangladeshi/Uhuru Owinyo and many more. This was however overtaken by the issue of rates of returns whereby over 97.5% of the respondents felt that the theft cases, illegal connections, unpaid bills etc. have kept various companies and organizations away from applying for licenses to offer WSS to the people in the slums. Politics scored an average influence since the politicians formulate rules, policies, control resources, allocate resources, mobilize resources and influence the people they lead. This was followed by M&E that seemed not to be welcomed with the respondents.

4.8 Hypothesis Testing

The research sought to establish the relationship between the independent variables and the dependent by conducting the Chi-Square tests.

Table 4.9 Testing of the First Hypothesis in Relation to the First Objective

Statement of both the null and alternative hypothesis:

H₀: financial resources have no influence on the implementation of sustainable water and sanitation projects in informal settlements.

H₁: financial resources have an influence on the implementation of sustainable water and sanitation projects in informal settlements.

f	e	(f-e)=d	(d)²	(d)²/f
20	38	-18	324	8.5
24	38	-14	196	5.15
34	38	-4	16	0.42
80	38	42	1764	46.42
42	38	4	16	0.42
				$\sum (d)^2/f = 60.91$

$\chi^2_c = 60.91 > \chi^2_{0.05} = 9.488$ at 4 degrees of freedom and 5% level of confidence.

Since the calculated chi-square value of 60.91 is greater than the critical chi-square value at 5% level of confidence, we accept the alternative hypothesis. Thus, H₁: financial resources

have an influence on the implementation of sustainable water and sanitation projects in informal settlements.

Table 4.10 Testing of the Hypothesis in Relation to the Second Objective

Statement of the hypothesis:

H₀: monitoring and evaluation has no influence in the implementation of sustainable water and sanitation projects in informal settlements.

H₁: monitoring and evaluation has an influence in the implementation of sustainable water and sanitation projects in informal settlements.

f	e	(f-e)=d	(d)²	(d)²/f
18	38	-20	400	10.5
19	38	-19	361	9.5
29	38	-9	81	2.13
85	38	47	2209	58.13
38	38	0	00	00
				$\sum (d)^2/f = 138.39$

$\chi^2_{c=138.39} > \chi^2_{0.05} = 9.488$ at 4 degrees of freedom and 5% level of confidence.

Since the calculated chi-square value of 138.39 is greater than the critical chi-square value at 5% level of confidence, we accept the alternative hypothesis. Thus, H₁: monitoring and evaluation has an influence in the implementation of sustainable water and sanitation projects in informal settlements.

Table 4.11 Testing of the Hypothesis in Relation to the Third Objective

Statement of the hypothesis:

H₀: politics doesn't influence the implementation of sustainable water and sanitation projects in informal settlements.

H₁: politics influences the implementation of sustainable water and sanitation projects in informal settlement

f	e	(f-e)=d	(d)²	(d)²/f
28	38	-10	100	2.6
09	38	-9	81	2.1
52	38	-6	36	0.94
75	38	17	289	7.6
26	38	9	81	2.1
				$\sum (d)^2/f = 15.34$

$\chi^2_c = 15.34 > \chi^2_{\infty, 0.05} = 9.488$ at 4 degrees of freedom and 5% level of confidence.

Since the calculated chi-square value of 15.34 is greater than the critical chi-square value at 5% level of confidence, we accept the alternative hypothesis. Thus, H₁: politics influences the implementation of sustainable water and sanitation projects in informal settlements.

Table 4.12 Testing of the Hypothesis in Relation to the Fourth Objective

Statement of the hypothesis:

H₀: rate of returns doesn't influence the implementation of sustainable water and sanitation projects in informal settlements.

H₁: rate of returns influences the implementation of sustainable water and sanitation projects in informal settlements.

f	e	(f-e)=d	(d)²	(d)²/f
9	38	-9	81	2.13
16	38	-12	144	3.8
18	38	-20	400	10.5
81	38	43	1849	48.6
66	38	28	784	20.63
				$\sum (d)^2/f = 85.66$

$\chi^2_c = 85.66 > \chi^2_{\infty, 0.05} = 9.488$ at 4 degrees of freedom and 5% level of confidence.

Since the calculated chi-square value of 85.66 is greater than the critical chi-square value at

5% level of confidence, we accept the alternative hypothesis. Thus, H_1 : rate of returns influences the implementation of sustainable water and sanitation projects in informal settlements.

CHAPTER FIVE

SUMMARY OF FINDINGS, DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of the study findings, discussions, conclusions and recommendation of the research. The chapter also contains suggestions for further studies.

5.2 Summary of Findings

This study aimed at examining the factors influencing the implementation of successful water and sanitation projects in Kenya: a case of informal settlement in Mombasa County, Kenya. In relation to the first objective that sought to find out the influence of financial resources on the implementation of sustainable water and sanitation projects in informal settlements, results were as follows: 5.3% of the respondents did not support the idea that financial resources have an influence in the implementation of WS projects in the county's slums while the magnificent majority who made 94.7% argued for the idea that financial resources have a significant influence in the implementation of WS projects in the slums. On a rating scale, on average, the respondents agreed with the statement that financial resources have an influence in the implementation of WS projects in Mombasa County's informal settlement. This was equated to a value of 4.3 that fell in the bracket of 3.5 to 4.4 that represents agree.

In relation to the second objective which sought to examine the influence of monitoring and evaluation on the implementation of successful water and sanitation projects in informal settlements, 79.5% of the respondents supported the idea that monitoring and evaluation has a significant influence in the implementation of WS projects in the slums of Mombasa County. On average, 80.95% of the respondents agreed with the idea that M&E influences the implementation of WS projects in the slums in Mombasa County. This had a mean score of 4.0475

In relation to the third objective that sought to examine the influence of politics on the implementation of successful water and sanitation projects in informal settlements, 77.28% of the respondents argued for the idea that politics influences the implementation of WS projects in the informal settlements in Mombasa County. This had a score of 3.864 which is equated to agree; though not as strong at the previous objectives. In the trend, resources allocation by

politicians influences the implementation of WS projects in Mombasa County's informal settlements statement scored the highest value of 4.5 which is equated to strongly agree.

In relation to the final objective that sought to establish the extent to which rate of returns influence the implementation of successful water and sanitation projects in informal settlements, this area scored a mean of 4.5, equated to strongly agree. The idea that Losses by Thefts and Vandalism (NRWs) influence the WS projects implementation in the slums for example had 94% of the respondents agreeing with the idea. On average, over 90% of the respondents strongly agreed with the idea that rates of returns influence the implementation of WS projects in the slums of Mombasa.

5.3 Discussion of Findings

In relation to the first objective, 5.3% of the respondents did not support the idea that financial resources have an influence in the implementation of WS projects in the county's slums while the magnificent majority who made 94.7% argued for the idea that financial resources shave a significant influence in the implementation of WS projects in the slums. According to Binder (2008) and Odhiambo (2010), the financing process which involves raising and maintaining adequate funding for water facilities is of critical importance for sustainability. Insufficient financing is a major factor for poor maintenance, which is often cited as the main reason for failure. Failure to address financial issues is a main obstacle to achieving water supply and sanitation goals in many countries. There is usually a significant underfunding even for basic costs of operating and repairing facilities in operation. Particular problems exist in slum areas, where the cost of water services is higher while affordability is lower as tariffs rarely cover operation, maintenance, repair and replacement, and attracting small-scale private sector investment is often difficult. Additionally, cost estimates do not always accurately reflect all capital maintenance expenditures, on-going support costs and indirect support costs.

In relation to the second objective which sought to examine the influence of monitoring and evaluation on the implementation of successful water and sanitation projects in informal settlements, on average, 80.95% of the respondents agreed with the idea that M&E influences the implementation of WS projects in the slums in Mombasa County with a mean score of 4.0475. In agreement to this is Njuguna (2014). He did a study on factors influencing sustainability of donor funded projects: the case of water and sanitation projects in Laikipia east district, Laikipia County, Kenya. In his study, he has tried to show how M&E can help

water projects like any other projects to be sustainable. According to him, in management of projects, monitoring can be used to improve the way governments and private organizations achieve results and ensure project sustainability. This can be ensured through investing in strengthening a national monitoring and evaluation system is important as it will eventually save resources that may otherwise be spent in inefficient programs or overlapping activities supported by different partners (Global Fund, 2012). A mature and sustained monitoring and evaluation system has the potential to lead the organization towards meeting its responsibilities and achieving its goals, even when faced with socio-political crises that mar the development sector so often (IFAD, 2012).

In relation to the third objective, 77.28% of the respondents argued for the idea that politics influences the implementation of WS projects in the informal settlements in Mombasa County. This had a score of 3.864 which is equated to agree. In the trend, resources allocation by politicians influences the implementation of WS projects in Mombasa County's informal settlements statement scored the highest value of 4.5 which is equated to strongly agree. According to Abdikarim (2012), in Kenya, Politics and sustainability of water projects can be traced to 1992 and 1999 when the then leadership of President Moi made a number of amendments to its county and national laws to give water and better sanitation to the then faster growing urban population. Abdikarim (2012) continues to show that, in 1999, Kenya embarked on a radical water sector reform in order to improve the dire states of the water services and water resource management. Kenya's intention to reform in light of the problems faced and the lessons learnt paved the way for the Sector Wide Approach (SWAP). This later led to the enactment of the Water Act of 2002 in parliament by the politicians. The Water Act of 2002 is currently the main piece of legislation for the regulation of the water sector in Kenya. All policies, regulations and bylaws, directives and administration actions from the water ministry and strategic plans and all activities by water sector institutions must be carried out in accordance with its provisions.

In relation to the final objective that sought to establish the extent to which rate of returns influence the implementation of successful water and sanitation projects in informal settlements, it scored a mean of 4.5, equated to strongly agree. On average, over 90% of the respondents strongly agreed with the idea that rates of returns influence the implementation of WS projects in the slums of Mombasa. Keli (2015) notes that, in slums like Bangladeshi in Mombasa, Mjini in kitui, Mathare in Nairobi and Kianduthu slums in Thika, in every 95 families, almost 63 families don't have access to clean water while 75 families lack basic

sanitation (toilets, latrines and garbage dumping sites). This is due to the fact that most companies dealing with water and sanitation services providers are not ready to work in these slums. Reasons behind this include: the security threats where pumps and other valuables are stolen by the slum gangs, the unpaid bills, illegal connections of the water, busting of the pipes illegally to access water, the poorly planned infrastructure making it difficult to lay down water and sanitation equipment like pipes and collection points.

5.4 Conclusions of Findings

Based on the findings of the study, the researcher concludes that, the sources of financial resources, the amounts of funding, the financial management aspect, the inflow rate of finances into various firms offering the WSS influence the implementation of sustainable WS projects in Mombasa County's slums.

M&E has a significant influence in the implementation of WS projects in Mombasa County's slums. However, the M&E exercise has not been well integrated in the whole process just like other factors have been emphasized.

Politics is another factor that is central in the implementation of successful water and sanitation projects in the slums. The sources of resources, the amount of resources, the location of the projects, CP mobilization and governance are all tied to politics and this influences the implementation of these projects.

Finally, the research concludes that the rate of returns has completely made the firms providing the WS to the slums shy away since it is not directly proportional to the services they are offering.

5.5 Recommendations of Findings

Based on the findings of the study, the researcher recommends that, for effective, successful and sustainable implementation of WS projects in the slums in Mombasa County just like any other slums in the world:

First, there should be sufficient funds allocated to the projects by both the donors, national government, county government and other stakeholders. There should be identified and known sources of financial resources like defined national budgets, county budgets, external funding and many more set aside to address the situation in the

Secondly, the study recommend for an integrate M&E process with set policies and regulations to take care of the whole process of the implementation of WS projects. This should be integrated in the process since the planning stage, all through to the implementation and hand over stages.

Third, the researcher recommends for the politicians to have a positive perception about the slum dwellers and give them priorities in passing laws, allocating finances and allocating major projects o these areas that aim at addressing the WS issue.

Finally, the researcher recommends that, the companies operating in providing the WSS in the slums should not only focus on the profits they make but also should consider the welfare of the locals. They can also partner with other organizations, local groups and international donors to supplement their budgets.

5.7 Suggestions for Further Research

A study can be done to examine the influence of M&E on the implementation of sustainable WS projects in slums in Mombasa County.

A study can also be done to examine the influence of information technology on the sustainability of WS projects in the informal settlements in Mombasa County.

A study can also be done to examine the influence of politics in the implementation of WS projects in Kenya's informal settlements.

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APPENDIX I: letter of transmittal

INTRODUCTION

My name is Kathleen Mbeyu Kikivi; I am a Masters if arts student in Project Planning and Management at the University of Nairobi, School of continuing and distance learning. I am interviewing respondents here in MOWASCO in order to investigate the determinants of WSS projects in informal settlement in the county.

CONFIDENTIALITY AND CONSENT

You have been selected to participate in the study. Consequently, with your consent, you will respond to this questionnaire. I would like to assure you that the information you share with me will be treated with high confidentiality. Your name will not be written on this form, and will never be used in connection with any of the information you will fill. You do not have to answer any question that you do not want to answer, and you may stop filling the questionnaire at any time you want to. However, your honest answerers to these questions will help us understand better the topic under research and will be highly appreciated.

Would you like to participate?

Yes..... No.....

APPENDIX 2:

RESEARCH QUESTIONNAIRE

A. Bio-Data (Tick where appropriate (√))

1. Your gender

() Male () Female

2. Level of education

() K.C.S.E () Diploma () Bachelor’s Degree () Masters Degree () Doctorate

3. Working experience

2-4years, 5-9 Years, 10 - 14 years, Over- 15 years

SECTION B:

Financial Resources and WS Projects Implementation

4. Financial resources (money for various activities) have been an issue in implementing water and sanitation projects in slums in Mombasa County?

Yes () No ()

5. Indicate the degree to which you agree or disagree with the following statements in relation to financial resources and WS Projects implementation in the slums in Mombasa County. Use a scale of 1-5; where 1= **strongly disagree**, 2= **Disagree**, 3= **Uncertain**, 4=**Strongly agree**, 5= **Agree**

Statement	1	2	3	4	5
Sources of funds influence the implementation of SW projects					
Amount of funding influence the implementation of SW projects					
Financial management influence the implementation of SW projects					

SECTION C:

Monitoring and Evaluation

6. Do you support the idea that Monitoring and Evaluation has an influence in the implementation of WS projects in the slums in Mombasa County?

Yes () No ()

7. Indicate the degree to which you agree or disagree with the following statements.

1= strongly disagree, 2=Disagree, 3= Uncertain, 4= agree, 5= strongly Agree

Statement	1	2	3	4	5
Sufficient M&E Personnel is a challenge facing WS projects implementation.					
Structured M&E Policies is a challenge facing WS projects implementation.					
Participatory M&E is a challenge towards WS implementation.					
Regular Monitoring is an issue influencing WS projects Implementation.					

SECTION D:

Politics and Water and Sanitation Projects Implementation

8. Indicate the degree to which you agree or disagree with the following statements.

1= strongly disagree, 2=Disagree, 3= Uncertain, 4= agree, 5= strongly Agree

Statement	1	2	3	4	5
Policies formulation by politicians influence the implementation of WS projects in Mombasa county's informal settlements.					
Resources Mobilization by politicians influence the implementation of WS projects in Mombasa county's informal settlements.					
Resources Allocation by politicians influence the implementation of WS projects in Mombasa county's informal settlements.					
Community Mobilization by politicians influence the implementation of WS projects in Mombasa county's informal settlements.					
Project Governance by politicians influence the implementation					

of WS projects in Mombasa county's informal settlements.	
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SECTION E:

Item on Rate of Returns and Implementation of WS Projects

9. Indicate how you agree or disagree with the following statements in relation to the following statements and the influence of Rate of Returns on the Implementation of WS Projects

Use a scale of 1-5 where: **1= Strongly Disagree 2= Disagree 3= Weakly Agree 4= Agree 5= Strongly Agree**

Statement	1	2	3	4	5
Returns on Billed WSS influence the WS projects implementation in the slums.					
Losses by Thefts and Vandalism (NRWs) influence the WS projects implementation in the slums.					
Metering Factor influence the WS projects implementation in the slums.					

SECTION F:

Open ended question

10. In your own opinion, just comment on how you feel the factors of financial resources, politics, monitoring and evaluation, and, rates of returns influence the implementation of WS projects in the slums in Mombasa County.

Factor:	Influence
Financial Resources	
Monitoring and evaluation	
Politics	
Rates of returns	

**APPENDIX 3:
KREJCIE AND MORGAN TABLE**

<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	100000	384

Note.—*N* is population size. *S* is sample size.

Source: Krejcie & Morgan, 1970