

Influence of Water Resources Policies on Successful Implementation of Water Projects in Devolved Units in Kenya: Case of Vihiga County

Winnie Mmbone Essendi¹, Dr. Clive Mukanzi²

¹Student, department of entrepreneurship and procurement Jomo kenyatta university of agriculture and technology Kenya

²Chair, department of entrepreneurship and procurement Jomo kenyatta university of agriculture and technology Kenya

Corresponding Author: Winnie Mmbone Essendi

Abstract: The purpose of this study was to identify the influence of water resources policies on successful implementation of water projects in devolved units in Kenya. Water is very important for life on earth and hence one of the most important natural resource. The provision of safe water is critical not just for health reasons, but also for social and economic development. Governments, Non-governmental organizations, local and international organizations from all over the world have implemented water projects to promote safe water supply and sanitation. Although 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, by 1990 one billion people today are still without access to improved access to consistent safe drinking water. This study aimed at identifying water policies influence the successful implementation of water projects in Kenya, specifically Vihiga County. The study was based on community participation theory, complexity theory and theory of constraints. These theories try to explain the competing factors in project implementation and how these factors can be integrated and applied to effectively achieve desired outcomes. To study the relationship between these factors and their influence on successful implementation of water projects, a descriptive research design was adopted. The population for the study included all management level employees in Vihiga County water sector who totaled to 80. A census sampling technique was used to sample respondents who participated. The main method of data collection was use of a questionnaire which was piloted on the management staff of Kisumu Water and Sewerage Company. Before data was collected, permission was sought from authorities of the organizations. The data that was collected was analyzed using descriptive and inferential statistics through the statistical package for social sciences (SPSS). Percentages and frequencies were obtained for descriptive analysis. Correlation and regression coefficients as well as Chi-square tests were obtained for inferential statistics. These statistics have been used to make the conclusion that water policies determine successful implementation of water projects in devolved units in Kenya and therefore it is always critical to consider this factor when devolved units seek to implement water projects. For authenticity of the results of this study more studies should be carried out on this factor in other counties in Kenya and the world at large.

Date of Submission: 01-03-2019

Date of acceptance:18-03-2019

I. Background to the Study

Water is the essence of life on earth and hence one of the most important natural resource (WHO & UNICEF, 2015). The availability of safe water is critical not just for health reasons, but also for social and economic development (WHO, 2012)). Water is a natural resource that is necessary for sustenance of life, ecological systems and a key resource to social and economic development (Kikuvi, 2016). Governments, Non-governmental organizations, local and international organizations from all over the world have implemented water projects to promote safe water supply and sanitation over the years (African Development Fund, 2015). However, World Bank (2012) confirms that one billion people in the world today are without access to improved sources of water, and access to consistent safe drinking water. For example in Indonesia with uncontrollable population grow there is very little advances in maintaining constant water supply with low access to quality water services and approximately over 40 million people with lack of access to improved water source.

In Africa, water shortage is related to both under-development of potentially available water resources and their uneven distribution (Wambua& Sammy, 2010). 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 (WASREB, 2016). In Kenya for example, an estimated 41 per cent of the population live without access to safe drinking water and rely on unprotected wells, springs or informal water providers (WHO & UNICEF, 2015). This has threatened the quality of life of people with an approximated 1.4 million people dying from unavailable, clean drinking water; and 3.6 million people dying from water-borne diseases (Kikuvi, 2016) and others from preventable water related ailments (Odhiambo, 2010). A study by UNICEF (2013) shows that challenges like poor community participation, poor security; low rates of return, political sideshows, poor infrastructure, poor urban planning and land ownership among others are factors which inhibit successful implementation of water projects that could give relief to large populations.

Quinn (2010) states that many nations in Sub-Saharan Africa are supported by donors whose efforts have increased rural water supply programmes within the last few decades. However, these programmes suffer a range of challenges and problems such as lack of effective Monitoring and Evaluation frameworks and are constrained by political and institutional level policies (Ong'wen, 2014). The Government of Kenya (2006) agrees that the major challenges which have contributed to poor implementation of water projects include lack of financial resources, low rates of returns to the government and other bodies in charge Water provision, and Poor or un-coordinated physical planning. The enactment of the Constitution of Kenya (2010) which vests the mandate for water service provision with county governments could have heightened these challenges. Cheema and Rondinelli (2007), notes that, many governments have adopted the devolution of water functions with belief of improving efficient service delivery.

But as confirmed by Calmai (2009) devolution has had a mixture of results in terms of implementation of water projects even in Europe such as financial challenges with disparities in financial disbursement. Weak fiscal decentralization structures in Asia countries did adversely influence the implementation of public service projects such as water (Malik, 2008). Similarly poor funding of most local governments by the national governments and failure to embrace community participation derailed implementation of water projects due to resistance by the community in Mexico (Gonzalez-Rivas, 2012). Ahmad and Mercedes (2007) on the other hand confirm that poor fiscal management under devolution adversely influenced implementation of water projects in Peru.

Although county governments have allocated massive resources in water projects, access to safe water is still a challenge in Kenya (Munene, 2017). Kikuvi (2016) agrees that 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 people. WASREB (2016) notes that 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 development hence the importance of understanding factors that determine of successful implementation of water projects in Kenya.

Kenya like other countries in Sub-Saharan Africa has its socio-economic development goals highly dependent on the availability of clean water (Water and Sanitation Programme, 2010). The Kenya government has always had a long-term objective to ensure that all Kenyans have access to portable water and that water is available in adequate quantities for domestic use and other key economic activities like agriculture, irrigation and industrial use (Kwena & Moronge, 2015). According to GOK (2004) the government recognizes that for the country to meet its poverty-reduction strategies and achieve the Millennium Development Goals (MDGs), water has to be made available, accessible and affordable, especially to the poor.

Like other African countries, Kenya is water-scarce with its renewable water per capita at 1990 m³ just slightly above the United Nations recommended minimum of 1,000 m³ (Kenya Vision 2030). To enable achieve the long term goal of halving the proportion of people living without adequate water, the government identified a number of flagship projects and initiatives and establishment eight Water Service Boards (WSBs in the year 2002 in order to increase the national water coverage (WASREB, 2016). The WSBs are directly responsible for planning and developing water and sewerage infrastructure in order to increase water and sewerage coverage in their areas of jurisdiction and hence responsible for water project implementation (Ndungu, 2014). Unfortunately, WSBs have not been able to discharge their mandate effectively mainly due to their failure to develop investment plans that are sufficiently detailed to enable further development and financing plans. The water sector has been receiving substantial funding. For example, in 2010/11 development budget increased allocation water to KSh 32.8 billion from KSh 23.3 billion allocated in 2009/10, accounting for 85% of the total approved sector budget. Of the total development budget, KSh 25.4 billion was allocated to water supply and sanitation (MWI, Annual Water Sector Review Report 2012).

Though the government has made various other efforts towards extending water and sanitation services to all since the beginning of water sector reforms in the year 2002, the sector's progress in achieving Vision 2030 Medium Term Plan goals for 2012 has been rather slow (Kwena & Moronge, 2015). On access to safe water, WASREB (2016) for example acknowledges that the total urban population with access to safe water in 2011/12 was 60 % which was below the target of 72% envisaged in the vision 2030 goal for 2012 with only

45% of the rural population having access to safe water which fell below the target of 59% as per the vision 2030 flagship projects. Ministry of Water and Irrigation (2012) cited inexperienced project managers, inadequate monitoring of ongoing projects, inefficient resource utilization, and delayed disbursement of project development funds as some of the key challenges which have hampered the progressive improvement in water supply coverage and implementation of water projects.

Following the enactment of the Constitution of Kenya (2010), the mandate for water service provision was vested in county governments with the national government having a duty to support them. In regard to this many county governments formulated programmes to ensure access to water by residents of various counties. In quest to ensure Vihiga County become water secure county, the water department developed a strategic plan (2014-2017) the first CIDP, the then Millennium Development goals, the Vision 2030 and the Water sector reforms which had been initiated by the national government in the year 2003. The strategic plan intended to provide a framework on which the county needed to focus in order to benefit from the available water resources. According to this strategic plan (2015-2019), it was confirmed that the county was water insecure yet it fell in a rain sufficient region. It was also found that 57% of residents were served through safe water sources but only 16% had access to piped water through a rationing programme. Thus, the county government undertook all the necessary plans to initiate programmes and projects towards ensuring the basic rights of its residents were met in regard to water accessibility.

1.2 Statement of the Problem

Delays in completion of projects during implementation continue to pose great challenges to developing countries (Sabasvan & Soon, 2007). Though the Kenya Government has invested heavily in development of projects (Kikuvi, 2016), especially towards extending water and sanitation services to all, the progress in achieving this objectives have been rather slow (Kwena & Moronge, 2015). On access to safe water, WASREB (2016) acknowledges that the total urban population with access to safe water in 2011/12 was 60 % which was below the target of 72% envisaged in the vision 2030 for 2012 with only 45% of the rural population having access which fell below the target of 59% of vision 2030 flagship projects. Despite the huge financial resources committed to projects, the intended benefits are partly or never realized (Odhiambo, 2010). According to WSB (2013) 57% of projects initiated by the board were completed late while 86% ongoing projects were behind schedule. Annual Water Sector Review Report (2012) confirms that poor site management and supervision of projects, lack of elaborate monitoring system, financing challenges and contract variations are key contributory factors to this phenomenon. The purpose of this study was to identify the influence of water resources policies on successful implementation of water projects in devolved units, the case of Vihiga County.

1.3 Objectives of the Study

The objective of this study was to identify the influence water policies on the successful implementation of water projects in devolved units in Kenya.

1.4 The Research Hypothesis

This study set to test the hypothesis that Water resources policies do not significantly influence successful implementation of water projects in devolved units in Kenya.

1.5 Significance of the Study

This study was significant because its findings have provided useful information to the government and the development partners on the importance role played by water policies on the successful implementation of water projects in the country and therefore help in formulating correct policies. County governments, NGOs, donors, community members and other interested stakeholders will benefit as they will have good water resources policies which will enhance successful implementation and sustainability of water projects. The findings will also add to the existing body of knowledge on the role of water policies on implementation of projects.

1.6 Scope of the Study

This study focused on the influence of financial resources, monitoring and evaluation, community participation, and water policies on the successful implementation of water projects in Vihiga County in Kenya. The study was carried on both completed and ongoing water supply projects undertaken by Vihiga County, national government and donors within the last five years in Vihiga County. The area of study was Vihiga County which was easily accessible to the researcher for faster collection of data and hence timely completion of the research project. The study targeted all management staff of LVNWSB, Amatsi Water Company, Vihiga County government water officers, and heads of department of water and natural resources at national government. The study took a period of six months.

II. Literature Review

Water policy formulation in Kenya started with the enactment of the water Act (1974). Among the aims of this Act was to ensure availability of potable water within a reasonable distance to all households by the year 2000. Despite this objective, today 30% of the urban population in Kenya's cities and towns remains unconnected to the existing water supply systems and up to 52% of the rural population is not connected to any water supply system (Ogendi & Ong'oa, 2009). It is because of these failure that Water Act (1974), as the main policy framework of the time, underwent major revisions in 1999 and 2002, with the main focus being on the decentralization of water services and separating water policy formulation from regulation and services provision (Government of Kenya, 2002).

The National Water Policy (2002) defined the government's role as being that of regulatory and delegated water service provision to the private sector, municipalities and communities. This Act or policy framework implied that provision and management of water resources was now not a central government mandate but a delegated function to the bodies named. In spite of this decentralization and separation, the roles of the different actors (e.g., communities, non-governmental organizations, and private sector, users, managers, suppliers, conservationists) involved in the water sector remain a challenge to the realization of the goal of Kenya's water policy because they are ambiguous and often conflicting.

Ogendi and Ong'oa (2009) traces the Kenya water policy from independence in 1963 which placed a lot of emphasis on the participation of all stakeholders, including the Department of Water, the private sector, non-governmental organizations (NGOs), and the local people through self-help projects through the spirit of Harambee. The policy gave control of the water resources, including water development projects, to the local communities with minimal input or control from the government during initiation, implementation and management of the projects. The focus of water management in the country at this time was solely on the provision of water for domestic, industrial and agricultural uses (World Bank, 2004). Brent (2005) contents that although the intention of the water policy was good, it achieved little, owing in part to limited financial resources, lack of skilled manpower on the part of the local communities, the country's weak and flawed environmental and land policies, poor governance and limited investment in new water projects.

After this failure the National Water Master Plan was launched with the primary aim of ensuring the availability of potable water to all households by the year 2000. This was to be done by providing for and developing water supply systems, sinking boreholes, constructing catchment dams and providing the conveyance infrastructure in the form of pipes and furrows (Ngigi & Macharia, 2006). The policy required the governemnt, a part from making financial and manpower investments in water development and supply to its people, play a key role in policymaking and regulation in the use of water resources countrywide.

Republic of Kenya (2006) confirms that, through this master-plan the Kenyan government upgraded the Department of Water Development (DWD) of the Ministry of Agriculture into a full ministry called Ministry of Water and Irrigation which embarked on an ambitious water supply development program. But as Ngigi and Macharia (2006) observes, due to increased and haphazard human settlements, agriculture, and forest and wetland destruction, surface-and ground-water quality and quantity deteriorated drastically and the government realised that it could not deliver water to all Kenyans by the year 2000 by acting alone. This led to the revision of the water policy and this led to the establishment of the National Policy on Water Resources Management and Development in 1999 after its adoption by Parliament as Sessional Paper No. I of 1999 (UNESCO, 2006).

This policy not only addressed development and management of water resources but also water conservation across the country and emphasized on increased participation of local actors and the private sector in the development and management of water resources to benefit all Kenyans (Kenya Ministry of Water Resources, 1999). However as Business Daily (2008) confirms, this policy was to lead to privatization of water development and supply which would favor consumers with purchasing power over the economically poor in Kenya, the majority. This was opposed and a new master plan, Strategic Plan 2005-2009 was necessary to effectively address issues of water resource development and management for the people of Kenya (Republic of Kenya , 2006).

The Water Act 2002 was development to address the rising concern over declining quantity and quality of water as well as low coverage of water services (UNESCO, 2006). The Act emphasized the role and active participation of local communities and provided for the creation of Catchment Advisory Committees (CAC) to oversee the use, control, development, protection and conservation of water resources within each catchment area (Republic of Kenya, 2007). The act advocted for full participate of local communities who were deemed to be well-informed of their unique water issues, and could contribute immensely to decision-making and implementation of water projects. By allowing community members as active participants in the decision-making process ment that community members were going to embrace the water projects as their own, and thus make them willing to go an extra-mile to ensure success. Among other important aspects of the Act was the requirement that local authorities form autonomous Water and Sewerage Companies (WSC) with independent

Water Boards of Directors to provide services and reinvest water financial returns in service delivery improvement (Olum, 2009). However, the Act did not vest water ownership into water companies but with the Regional Water Service Boards (Water Services Regulatory Board, 2012) where the RWSBs are charged with licensing water service providers and determining standards for the provision of water to consumers.

This Water Act (2007) also empowered the RWSBs to promote conservation and management of water resources according to the National Water Services Strategy. The Act further created the Water Resources Management Association (WRMA) with the main responsibility being to liaise with all stakeholders, including the civil society, for better regulation and management of water resources (Olum, 2009). This new Water Act therefore emphasized on a bottom-up-approach as opposed to the previous top-down approach that ignored input from the local people. The top down approach disenfranchised the ordinary person who then resented all government regulations and measures that ironically were meant to improve water management and conservation (Munene, 2017). With the established of the Water Appeals Board (WAB) whose responsibility was to arbitrate over disputes that could arise from the implementation of the Act, such as those involving the allocation, utilization, management and conservation of Lakes, the Water Act 2002 has provided an adequate framework for effective implementation of water projects in the country.



3.1 Research Methodology

This study adopted a descriptive survey research design. Descriptive survey research design is used to describe characteristics of a population or phenomenon being studied and describe what exists with respect to variables or conditions under study (Kothari, 2014). Descriptive survey research design allows study of large numbers of people and describes their characteristics by the selection of unbiased sample using methods of data collection and analysis that can be used to make generalizations about the population. Descriptive surveys provide the best methods for collecting information that will demonstrate relationships (Shields & Rangarjan, 2013). This design was chosen because of its ability to allow the use of both qualitative and quantitative approaches to enhance comprehensive data collection and analysis (Saunders, 2016).

The study targeted all 80 members of the management in the water sector in Vihiga County distributed in Lake Victoria North Water Service Board (10); Amatsi Water Company (30), Department of Water in Vihiga County (30) Government and National Government Ministry of water personnel in the County (10). These employees head various departments in the organizations under study. The sample frame from which these managers were selected was a list of all the heads of department in the service board, Water Company and National Government, and chief officers in the County Government involved in the water sector. These employees are responsible for coordination, supervision tasks and financial management. The Management team in most water Companies is made up of the board of directors, who are responsible for the overall management of the company, the Managing Director, who provides strategic leadership and has overall responsibility for the performance of the entire organization in co-operation with heads of departments that make up the management team. In government, both at national and county levels, the management team is made up of departmental heads, County Executive Members, chief officers, directors and general Administrators. The choice of the sampling frame was guided by the fact that it is this cadre of managers who are mandated to lead in strategic planning and execution of strategic decisions in order to help achieve the strategic objectives of their respective organizations.

Considering the size of total population for this study, which was only 80 employees, the study was set as a census. According Creswell (2010) the rule of thumb can be applied when determining sample size where population size is larger than 30 and less than 500, such that the sample selected depicts a good representation of the population under study. Therefore the target population being as it was all members of the management level employees were selected to participate in the study using a census sampling technique. Cooper & Schindler, (2014) notes that a census study is a deliberate strategy of collecting and putting in record the data of population elements. Creswell (2010) agrees with this view stating that a census sampling technique is an examination of each individual unit or element within a specified population, a complete count of the population elements and provides a benchmark for studies, since collected and recorded data may be used for future research. Census sampling technique is good because it helps a study to eliminate sampling error and facilitate the representation

of all sub-branches of the population, ensuring that the results could be applied comprehensively to the organization (O’Gorman & MacIntosh, 2014)

This study collected both primary and secondary data. Primary data was collected using a questionnaire on the variables associated in the study. The questionnaire was structured as all statements were presented with exactly the same wording and in the same order to all respondents (Kothari, 2014). Similarly all respondents replied to the same set of questions. The questionnaire was measured using a four-point Likert scale (Mugenda & Mugenda, 2014). Secondary data was gathered from existing theoretical and empirical sources that were found to be credible in literature review. The secondary collected comprised of materials that are current, accurate, sufficient and relevant. These materials were collected from Library textbooks, internet/e-resources, magazines and personnel files in the organization.

A pilot test was done to determine the reliability and validity of the data to be collected. A sample of 10% of the total sample was selected from employees of Kisumu Water and Sewerage Company in Kisumu County. The Pilot study helped to detect the weakness in design and instrumentation and provided accurate data for sample selection (Gujarati & Porter, 2010). Piloting was needed in order to identify and eliminate errors in the questionnaire (Mugenda & Mugenda, 2014). This sample for pilot test was randomly selected in order to give each subject an equal chance of participating in the pilot study and remove bias. The data collected from the pilot study was analyzed using quantitative techniques such as measures of frequencies, percentages and other measures of central tendency. Respondents used in the pilot study were not allowed to participate in the final study sample. The data which was collected in the final study was analysed was both quantitative and qualitative methods. Quantitative data was analyzed using descriptive statistics and inferential analysis via the Statistical Package for Social Sciences (SPSS). From descriptive analysis technique simple summaries have been obtained and presented quantitatively in a manageable form (Mugenda & Mugenda, 2014). The descriptive statistics obtained were based on frequencies and percentages and presented in tables. Pearson correlation and multiple linear regression analysis have been conducted to establish the strength and coefficients of relationship between the independent and dependent variables (Gujarati & Porter, 2010). The reason for doing correlations was to allow this study to make a prediction on whether independent variables had an association with dependent variables and the nature of the relationship. The following regression equation was set to be tested.

III. Results, Findings and Discussion

The results from the pilot test indicated a validity factor analysis index of 0.780 with a reliability Cronbach’s alpha of 0.805 for water policies and 0.926 for successful implementation of projects. Out of a total of 80 questionnaires which were administered 76 fully filled questionnaires were collected. This constituted 95% response rate. The results on demographic information indicated that 33(43%) were women while 43(57%); on education 2(3%) had o-level education, 11(14%) had certificate, 11(14%) had diplomas, 40(53%) had bachelor degree while 12(16%) had post graduate qualification. On work experience 7(9%) had worked for less than one year, 31(41%) had worked for 2-5 years, 31(41%) had worked for between 6-9 years while 7(9%) had worked for over ten years. For the organization the respondents were working for, 14(18%) come from Lake Victoria North Water Service Board, 26(34%) come from Amatsi water service company, 28(36%) worked for the County government of Vihiga while 8(10%) were national government employees at the County government.

To determine the influence of water policies on successful implementation, the respondents were given five statements. The respondents were asked to rate the statement provided based of water projects in Vihiga County. Influence of water policies was measured on a Likert scale ranging from 1-strongly disagrees to 5-strongly agree. Respondents were asked to whether ‘adequate water policy enhances project implementation,’ 50(66%) agreed, while 26(34%) disagreed. On the statement, ‘good policy for inter-governmental relations enhances implementation,’ 29(37%) disagreed, while 47(62%) agreed. On the statement, ‘Policy for community participation improves implementation,’ 47(63%) agreed, while 29(37%) disagreed. On average this resulted in 38(51%) respondents agreeing to the statements while 37(49%) disagreeing. This indicated that there was a mixed reaction on water policies in Kenya. From the results there are no adequate policies for inter-governmental relationship on water projects, community participation and the role of water policies on project implementation.

To determine whether water projects implementation in Vihiga County have been successful the study conceptualized successful implementation of projects using seven statements which were rated on a five-point Likert scale ranging from 1-strongly disagree to 5- strongly agree. On the statement, ‘implemented projects earn adequate revenue, 16(21%) agreed, while 60(79%) disagreed. On the statement, ‘the cost of water is manageable to the community, 29(38%) agreed, 12(27%), while 47(61%) disagreed. On the statement ‘the community participate in maintenance of the projects,’ 33(43%) agreed, while 43(57%) disagreed. On average 24(32%) agreed while 52(68). This was an indication that water projects have not been successful in Vihiga County. Correlation analysis was also done to determine whether there the independent variable, water policies,

had any relationship with the dependent variable, water project implementation. From this results the independent and dependent variable were found to have very significant positive relationship at $r=.762$, $p=.000$. This study found Sector policy as an important factor for achieving success in implementation of water projects in Vihiga County. Policy on community participation was found to be very important as enhancing community participation could lead to sustainability of rural water supplies. More importantly the study shows project implementation is a multi-sector issue requiring interdependent actions of many stakeholders at all levels including national and regional governments, the private sector, development partners and the community itself. Communities on their own cannot be expected to achieve successful implementation of projects without an enabling environment. The successful implementation of water projects require deliberate steps such as putting in place policy frameworks needed to achieve it.

IV. Summary, Conclusions and Recommendations

From the findings of the study it is noted that water policies are an important factor to implementation of water projects in devolved units in Kenya. This is because descriptive results indicate that majority of the respondents agreed with most statements which were presented to them to a great extent. There was also a significant positive correlation between water policies and successful implementation of water projects. The correlation between water policy and successful implementation was very high, indicating that successful implementation is highly dependent on water policies. This study therefore concludes that water policies provide direction for proper implementation of water projects in given area hence are very critical factors.

5.5 Recommendations From Findings

Based on the findings of the study, the researcher recommends that, for effective, successful and sustainable implementation of water projects in Vihiga County, there is need for good policy framework in place which would be able to recognize the community input in passing laws, allocating finances and allocating major projects to their respective areas since they are the beneficiaries of the water projects in the long run. Finally, the researcher recommends that, the companies operating in providing the WSS in Vihiga County should not only focus on the profits they make but also consider the welfare of the locals. They can also partner with other organizations, local groups and international donors to supplement their budgets.

5.6 Suggestions for Future Studies

This study has found positive relationship between water policies and successful implementation of water projects in devolved units in Kenya, specifically Vihiga County. However this study would wish to recommend future studies to be conducted to identify the best policies which can lead to successful implementation of projects. This area of the effect of water policy on the successful implementation is still not well researched and therefore there is need for similar studies to be conducted in other counties to confirm or reject the results for this study. Since the variance explained by water policies on successful implementation of water projects is about 70%, there is need to identify other factors which account for the remaining 30%.

Acknowledgement

I extend my sincere gratitude to the staff of Jomo Kenyatta University of Agriculture and Technology for granting me the opportunity to further my studies and for their support as well as the information they provided me in order to finalize this study. My sincere and special appreciation also goes to my supervisor Dr. Clive Mukanzi for his invaluable advice and input and Mr. John Chegenye for his counsel at most critical moments. I am also grateful to Jomo Kenyatta University Project Management Class for their support and knowledge sharing. Last but not least, I thank the JKUAT library staff for allowing me to use the facility while undertaking my studies.

References

- [1]. Calmai, L. (2009). The link between devolution and regional disparities: Evidence from the Italian regions. *Environment and Planning*, 41(1), 1129-1151.
- [2]. GOK. (2004). *National Policy For The Sustainable Development of Arid And Semi Arid Lands of*. Nairobi: Government Printer.
- [3]. Government of Kenya. (2006). *Kenya National Water Development Report: A Report Prepared for the UN World Water Development Report II*. Nairobi:
- [4]. Gonzalez-Rivas, M. (2012). Why do indigenous municipalities in Mexico have worse piped water coverage. *Development in practice* 22(1), 31-43.
- [5]. Gujarati, D. N., & Porter, D. C. (2010). *Essentials of Econometrics*, 4th edition. New York: McGraw-Hill Irwin.
- [6]. Kikuvi, K. M. (2016). *Determinants of successful implementation of Water Sanitation Projects in Kenya; A case of Informal Settlement in Mombasa County, Kenya*. Nairobi: University of Nairobi.
- [7]. Kwena, R., & Moronge, M. (2015). Determinants of Sustainability of Rural Water Projects In Kenya: A Case Study of the Netherlands Development Organisation (SNV) Supported Water Schemes in Kajiado County. *The Strategic Journal of Business and Change Management*, 2(2), 2025-2077.
- [8]. Kothari, R. C. (2014). *Research Methodology; Methods and techniques*. New Delhi: New age international publishers.

- [9]. Ministry of Water and Irrigation. (2012). *Summary Report on the annual performance of the Water Sector*. Nairobi: Ministry of Water and Irrigation.
- [10]. Munene, M. Z. (2017). *Factors Influencing the Implementation of Water Projects Under the Devolved System of Government in Kenya: A Case of Meru County Government*. Nairobi: University of Nairobi.
- [11]. Mugenda, O. M., & Mugenda, G. A. (2014). *Research Methods: Qualitative and Quantitative Approaches*. Nairobi: ACTS Press.
- [12]. Odhiambo, O. V. (2010). Factors influencing sustainability of community water projects initiated by Non-Government Organizations in Asego Division of Homa Bay District, Kenya. Nairobi: University of Nairobi.
- [13]. Sabasvan, M., & Soon, W. Y. (2007). Causes and Effects of Delays in Malaysian Construction Industry. *International Journal of Project Management* 8(2), 50-65.
- [14]. Wambua, D., & Sammy, W. (2010). *Water Privatization in Kenya*. Nairobi: WASREB.
- [15]. WASREB. (2016). *Water and Sanitation Coverage Water*. Nairobi: WASREB.
- [16]. Water and Sanitation Programme. (2010). *Sustainable Management of Small Water Supply Systems in Africa. Practitioner's Workshop Report*.
- [17]. Water Services Regulatory Board. (2012). *Impact: A Performance Report of Kenya's Water Services Sub-Sector, Issue No. 5*. Nairobi, Kenya.: WSRB.
- [18]. WHO. (2012). *Millennium Development Goals (MDGs)*. Retrieved September 23, 2018, from World Health Organization web site: <http://www.who.int>
- [19]. WHO, & UNICEF. (2015). *Joint Monitoring Programme (JMP) for Water and Sanitation*,. Retrieved September 23, 2018, from http://www.wssinfo.org/fileadmin/user_upload/resources/JMP
- [20]. World Bank. ((2013). *Sri Lanka Impact Evaluation Study. Community Water Supply and Sanitation Project*. Washington DC: World Bank.
- [21]. World Bank. (2010). *The Africa Utility Performance Assessment*. Washington DC: World Bank .
- [22]. World Bank. (2012). *World Development Indicators*. Washington, DC: The World Bank.

IOSR Journal of Business and Management (IOSR-JBM) is UGC approved Journal with SI. No. 4481, Journal no. 46879.

Winnie Mmbone Essendi " Influence of Water Resources Policies on Successful Implementation of Water Projects in Devolved Units in Kenya: Case of Vihiga County". IOSR Journal of Business and Management (IOSR-JBM), Vol. 21, No. 3, 2019, pp. -.83-90