

DETERMINANTS OF SUCCESSFUL COMPLETION OF WATER PROJECTS: A CASE OF MOMBASA COUNTY, KENYA

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Abstract: Critical infrastructure is of great importance for the functioning of a society at large. Despite the amount of resources employed to it, projects are never brought to completion on schedule. Regrettably this has a negative effect because delayed completion of projects causes time overrun, high costs, conflicts, litigations and abandonment of key projects. There is need to ensure that these projects are successfully implemented and completed, and the factors that have the greatest influence identified to ensure they are taken into consideration in project execution. It was therefore the aim of this study to investigate the determinants of the completion of water projects in Mombasa County. The study objectives were to assess whether stakeholder Participation, Policy Frameworks, monitoring and evaluation and availability of resources have an influence in the completion of water projects in Mombasa County. The study employed descriptive survey research method to obtain the data. In collecting data from the respondents, a self-administered questionnaire was given and analysis done using descriptive and inferential statistics. The finding from the research indicated that there is a strong and significant association between the four independent variables and the dependent variable as from analysis of the chi- square tests. Stakeholder Participation has an influence in the successful completion of water projects in Mombasa County (calculated p value of 9.49 was less than 15.38 ($p < 15.38$), 4 degrees of freedom and 5% confidence level; Availability of resources has an influence in the completion of water projects in Mombasa County (calculated p value of 9.49 was less than 35.91 ($p < 35.91$), at 4 degrees of freedom and 5% confidence level; Monitoring and evaluation has an influence in the completion of water projects in Mombasa County (calculated p value of 9.49 was less than 35.62 ($p < 35.62$), at 4 degrees of freedom and 5% confidence level, Policy Frameworks influences the successful completion of water projects in Mombasa County, calculated p value of 9.49 was less than 23.31 ($p < 23.31$), at 4 degrees of freedom and 5% level. From the findings, the researcher concluded that, the successful completion of water projects is dependent on a number of factors which include Stakeholder Participation which influence completion of water project (mean of 3.26), availability of resources influences completion of water project (mean of 3.53), Monitoring and evaluation influences completion of water project (mean of 3.6) and Policy Frameworks which influences completion of water project (mean 3.42). The researcher recommends that project implementers must take into considerations that all the government policies are in place and comply with all of them to ensure that the project activities are carried out in line with regulations and select the best option for each community, adequate funding for water project should be maintained and financial management skill should be given to all stakeholders handling county finances that are meant for water development and expand already existing communication platforms to care and reach each stakeholder.

Keywords: Completion of water projects, Stakeholder participation, monitoring and evaluation, Policy frameworks and Availability of resources.

1. BACKGROUND OF THE STUDY

Infrastructure is noticeably a vital constituent of national competence and social welfare. Both the already developed and the second and third world countries aspire to plan and build up infrastructure systems which really play part in progress and expansion in their entire series of existence UN (2012). The way to get hygienic, harmless and safe resources of water is a vital precondition for the public to thrive. While the accessibility to clean water and hygiene is frequently ignored in under-developed nations, clean water is inaccessible by so many people worldwide daily.

Expansion of infrastructure is looked at as a major venture in boosting safety of water within the continent of Africa. Remarkable improvement has been done in the endeavor to meet Sustainable Development Goals. There are astounding figures concerning the segment of population which has no access to cleanliness (hygiene) and secure water to drink. This setback is still among the biggest issues in human life. Good management is mandatory at all ranks to put into practice the reforms: domestically, in towns (counties) as well as in national governments. The answer to providing clean water and hygiene differ given the existing resources, numbers of the members of the public as well as the degree of the anticipated step up (advancement) DESA (2018).

According to Gok (2010), decentralization under the new 2010 government of Kenya established precedents has extensive repercussion in the water fraternity. The law identifies that having protected and adequate water is indeed a fundamental human being right. Likewise the law gives task for supply of water and provision of hygiene to the forty seven (47) recently created counties. This communication examines the relevant challenges and alternatives both for the state government and the county headship to realize maintainable distribution of better water services in the current government system.

In Peru, participatory development according to Brinkerhoff (2007) in all the 25 regional governments did significantly influence the implementation of water projects initiated by regional governments and access to water. However, poor fiscal management according to Ahmad and Mercedes (2007) under devolution did adversely influence the implementation of water projects in Peru. In Nicaragua, community involvement by 9 out of the 15 departmental governments was an important factor in the implementation of water projects consequently improving access Bay (2011). Further, in Bolivia poor access to water according to Inchauste (2008) emanated from high debts incurred by the 9 departmental governments which had negatively influenced availability of financial resources adversely influencing the implementation of water projects in the country.

A report by the World Bank on Indonesia argued that water projects are left at the appraisal and due diligence stages due to delayed disbursement of project funds negatively influencing access to water (World Bank, 2007). However, community participation according to Widianingsih (2005) did significantly influence the implementation of water projects under devolution and consequently access to water in Indonesia. In Cambodia, failure to effectively involve communities and delayed financial disbursements derailed the implementation of water projects by Commune Councils adversely influencing access to water meant for irrigation and domestic use in the country (Pak, 2011). Budgetary reforms undertaken by the 20 provincial governments operating under devolution positively influenced the implementation of water projects consequently improving access to clean drinking water in Papua New Guinea Kua (2006).

In Tanzania, access to clean water according to Liviga (2011) had gradually improved under devolution this emanating from the successful implementation of water projects in rural areas attributed to: embracing of community participation, timely transfer of projects funds from the central government and cordial intergovernmental relations. In Kenya, it is the aspiration of the citizen access to water would improve under the devolved system of governance Burugu (2010). Bad management of resources as well as insufficient financial fuel and duty regulations, incompetent machinery, poor management of demand, unsuccessful control of water sheds, indefensible water use as well as land use procedures, rule of law plus organizations, and feeble practices of allocation of water have played part in bringing about shortage of resources of water. In Mombasa County, the stock of basic facilities of water is aged and rundown, yet it is still in place. Surprisingly, those systems are still providing water to date regardless of multiple issues related to their safeguarding. Considerable injection of finances is necessary in the endeavor to cater to the deficit in the water and sewerage services supply in Coast Province. The government needs to seek for financial support in order to put

into practice a number of schemes especially in this particular part of the country and find more as well as alternative plans, required to sort out existing needs as well as the needs to come.

2. STATEMENT OF THE PROBLEM

Water infrastructure is fundamental to a nation's economic health. Water sustains families and communities and supports economic productivity. It also provides a valuable service to recreational industries that depend on a nation's waterways. In the US, recreational boating and fishing industry alone was responsible for \$70 billion revenue in a year and employed over 150,000 people (EPA 2012) and Water infrastructure had played an instrumental role in reducing the incidence of water-borne illness in the country. It has been estimated that the cost of a single disease outbreak associated with inadequately treated water exceeds \$100 million in medical costs (Corso 2003).

Estimates from the Joint Monitoring Programme for Water Supply and Sanitation (JMP) show that 58% of Kenyans (83% in urban areas and 50% in rural areas) had access to at least basic drinking water sources in 2015. 22% of Kenyans (45% in urban areas and 14% in rural areas) are reported as having access to piped water through a house or yard connection. According to the JMP estimates, access to improved water sources in urban areas decreased from 92% in 1990 to 82% in 2015. In rural areas, however, access increased from 33% to 57% during the same period. The total number of people lacking access to "at least basic" water in 2015 was 19 million people.

In developing countries governance in the water sector has been in state of confusion with little accountability to its citizens Tropp (2005). It is argued that the confusion was caused by the inefficiency delivery of public services that has been impeded by the highly centralized bureaucracies in the government Mwabu (2001). Njoki (2013) while studying construction projects in Kenya notes that public infrastructure projects have taken a slow pace since independence. Arrow smith (1998) noted that disconnect in communication, lack of familiarity of the scheme by managers, delayed purchase of paraphernalia, under-trained managers of projects as well as dragging selection techniques, as the chief reasons behind collapse of infrastructure projects. Alajoutsijarvi, (2006), who carried out a study on time and overruns of cost in power projects in Kenya noted that delayed pay to the service providers, customer delay in payout, finances by sponsors for plan authorization were some of the aspects to blame for the collapse of projects.

Njuguna (2014) carried 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. Similarly, Miruka (2016) observed that failure to adopt community participation did adversely influence the implementation of water projects under a county government in Kenya. This study therefore aimed to investigate the determining factors of successful completion of water projects in County of Mombasa.

3. PURPOSE OF THE STUDY

The purpose of this study was to investigate the determining factors of successful completion of water projects in County of Mombasa.

3.1 Objectives of study

This study was guided by the following four objectives:

- i. To examine the extent to which stakeholder Participation influence successful completion of water projects in Mombasa County.
- ii. To determine how Policy Framework influences the successful completion of water projects in Mombasa County.
- iii. To establish the extent to which monitoring, and evaluation influences the successful completion of water projects in Mombasa County.
- iv. To assess the extent at which resources availability influences the successful completion of water projects in Mombasa County.

3.2 Research Hypothesis

The study tests the following research hypothesis at 95% level of significance.

H₀; Stakeholder Participation has no effect on the successful completion of water projects in Mombasa County.

H₁; Stakeholder Participation has a significant effect on the successful completion of water projects in Mombasa County.

H₀; Policy Frameworks has no effect on the successful completion of water projects in Mombasa

H₁; Policy Frameworks has a significant effect on successful completion of water projects in Mombasa

H₀; Monitoring and evaluation have no effect on the successful completion of water projects in Mombasa County.

H₁; Monitoring and evaluation have a significant effect on the successful completion of water projects in Mombasa County.

H₀; Availability of resources has no influence on the successful completion of water projects in Mombasa County

H₁; Availability of resources has a significant effect on the successful completion of water projects in Mombasa County

4. LITERATURE REVIEW

4.1 The influence of stakeholder Participation in completion of water projects

User Participation is the behavioral actions that users carry out in the course of systems expansion process Barki and Hartwick (1989). Liu and Chen (2011) propose that important constituents of stakeholder Participation can offer additional knowledge which positively influences quality planning process. In any organization, the management and executives appreciate the anticipated outcome and are aware of the benefits of user participation. Stakeholder participation in projects is celebrated by different scholars: González Rivas (2014); Koppen, Cossio Rojas, and Skielboe (2012) and Kiogora (2013) as an important aspect that positively influences the implementation of infrastructure projects because it creates avenues for the community to provide labor, raw materials and also demand for transparency in funds management. In a study, McNeill (2008) revealed that water projects implemented by regional councils that involved local communities exhibited high rates of completion and sustainability because the communities own the projects and therefore provide raw materials and labour for the projects McNeill (2008).

There is similar evidence by Lennox, Proctor and Russell (2011) who observed that stakeholder involvement by regional councils in the implementation of water projects expedites the implementation process. They argued that because involving the community does reduce project's costs as the beneficiary or host community does provide the resources needed at low prices and provides cheap labour and at times give voluntary services Lennox (2011). Further this is supported by Esonu and Kavanamur (2011) that stakeholders participation did positively influence the successful implementation of water projects implemented in Morobe provincial government in Papua New Guinea. In Europe, community participation was found to be an important factor in the successful implementation of water projects, Juuti, Katako and Rajala (2005) observed that regional governments were aware that failure to involve the beneficiary communities in water supply projects, had adverse effect on the implementation water projects. This resulted to project team inaccessibility to locally available resources and the host community end up charging high labor wages due to the non-existence of community consultation from the initial stages of project formulation Jutiet (2005).

In a study, Whittington (2009) observed that local governments that embraced community participation in water projects experienced high rate of successful completion. The importance of community participation for successful implementation of water projects under devolution is to achieve positive results Bow (2002). Similarly a study conducted by Arriens and Alejandiro (2003) found that, regional governments and municipalities that embraced community involvement reported successful identification and implementation of water projects in the Philippines. Similar evidence by Sharma (2005) postulates that community participation was an important factor in the successful implementation of water projects in rural Philippines.

Studies from Eastern Africa reveal the need for community participation in the execution of water projects. In his study, Mwakila (2008) found that, regional governments that engaged the beneficiaries in the execution of water projects, enhanced project ownership which led to successful implementation of water as the community provided raw materials,

security and cheap labour. However, in another study, Mukakalisa and Mukasine (2009) observed that failure to involve locals in the design execution of water programs under devolved governance in rural Rwanda resulted to derailed implementation of water supply projects.

4.1.1 Policy Frameworks influence in completion of water projects

Formulations of strategy as well as execution are vital components of the tactical process of planning, whilst completion is a straight result of the decisions of the productivity of policy creation. Intensification of water maintenance is multi-fold, varying from learning, development of technical know-how, the compilation, examination, and utilization of information. Prior to 2002, the performance of the water and sanitation sector in Kenya faced various challenges. Sectoral Water reforms were initiated to overcome these challenges and their implementation started in 2001 and enforced through enactment of the Water Act 2002. The Water Act 2002 separated management of water resources, services provision, policy and regulating bodies, and decentralized service provision with greater autonomy to the water sector institutions.

In the New dispensation of Constitution (CoK 2010), water and sanitation services are part of the devolved functions of the 47 County Governments. Thus, Water Act 2002 has been reviewed into a new legislation, as Water Act 2016, to be in accordance to the new constitution. Putting into practice, the water-related goals will call nations to turn universal objectives into tangible actions on several water topics: access to drinking water and hygiene; leadership in water resources; quality of water; waste water treatment; and catastrophes related to the resource. Nonetheless, to attain the desired results put up by the SDG up to 2030, nations ought to attend to several leadership gaps regarding water policy plan, control and execution.

Improvement of leadership acts as a precondition that strides to project maintainability. As per Kemp, Parto and Gibson (2005), improved leadership comprises of honesty and contribution, answerability, successful unity, competence and improved understanding of the context that is assured by subsidiary. The scholars additionally point to leadership for maintainability has some important aspects and constituents that consists incorporation of policies, communal maintainability goals, decisive factors, trade-off regulations and pointers, data and inducements for sensible execution of projects.

United Nations Economic and Social Council, Economic Commission for Africa (2005), observed that particular measures that monitor water and sanitation leadership, general health, and protection of the environmental in applying established standards. The government should ensure fair competition in issuing contracts and improved procurement guidelines, policy on tax and systems, inclusion of social policy measures for protecting the rights of disadvantaged groups of consumers should be developed. Further, accountable government units like parliament, government ministries and state-owned corporations should ensure that infrastructure policy, funding and implementation reflect longer term objective. A draft for new Infrastructure Policy once developed should focus on efficient utilization of existing assets and optimal allocation of more resources, services payment, fair contractual designs, open procurement process, fair regulatory and institutional framework, government incentives and concessions.

4.1.2 Monitoring and evaluation and how it influences completion of water projects

Monitoring and evaluation (M&E) has become an increasingly important tool in global perspective realizing environmental, economic and social sustainability by means of check and balance machinery in the process of implementation of projects and programs OECD (2012). In realization of the importance of M&E in project process, a number of organizations and bodies adopted the process in the early years as the only deliverable that can see their projects and programs succeed to the next point of life. In China for example, every project has an intertwined process and program Monitoring and evaluation World Bank (2013), in African countries like Libya, Ghana and Angola, M&E has been introduced in the education sector to accelerate the performance of the projects while other countries like Kenya and east Africa counter parts have adopted the idea Mwangi and Kimenyi (2011).

Stakeholders provide valuable opinions on priority ranking and appropriate steps to be taken in the design phase of any endeavor and participate fully in some areas of the implementation and M&E of projects activities. The most valuable role is to include participatory process during implementation by introducing participatory baseline survey, local impact assessment or annual reviews which increases local ownership of the project. According to UNDP (2009), the central factor in the success of the M&E process in infrastructural projects is the availability of budget for M&E that is tied to

numerous accomplishments. For example, money is always required to hire staff, train staff, and acquire M&E resources, reward or work as incentives to those who have achieved the targets of the project and many more. On the issue of human capital for example, World Bank (2011) argues that human capital, with proper recruitment and scrutiny, training and experience, proper working environment influences successful implementation of project.

Bartle (2007) emphasize that, monitoring and evaluation should be done at all levels of the project. International Finance Corporation (2006) also sees monitoring and evaluation to be the part of design of programs as it ensures systematic reporting; communicates results; measures accountability and provides information for improved decision making. Without these mechanisms in place, decision-makers are free to allocate these resources with impunity. According to Harvey (2004), Monitoring and evaluation is the mortar that holds the other factors of sustainability and the post-project management phases together, providing for their proper integration and interlocking. In addition, water sector M&E systems are essential tools for ensuring equitable access to water resources and WSS services, a key characteristic of good water governance. Monitoring tools such as Water Point Mapping which provides a geo-referenced map of water points with essential information on water point location, functionality and distribution.

4.1.3 Availability of resources and completion of water projects

The World Bank (2009) report indicates that finances and capital resources forms the epicenter of success or failure of any project in the world; be it infrastructural, educational, and religious or charity project. The finances give rise to projects quality through accessing qualified personnel, relevant technology, proper materials and winning the community support. However, devolved units like county governments have comparatively limited resources and greater difficulty in accessing funding sources and are much dependent on support from the central government. All around the globe, Studies from continental and local levels have been done focusing on the role of financial resources in implementation of projects. Toor and Ogunlana (2008) examined the problems causing delays and failures in major construction projects in Thailand and came to a conclusion that lack of resources; poor contractor management and shortage of labour were top rated. Other factors, such as design delays, planning and scheduling deficiencies, change orders and a contractor's financial difficulties were also significant, causing project failures.

4.1.3.1 Human Capital Resources in completion of water Projects

According to Ebeid (2009), a shortage of professional and inadequate skilled personnel at all levels of management and field operations amongst clients, contractors and consultants in the construction industry were identified as a cause of project failures. The reported shortages in the supply of engineers, surveyors, equipment operators, and other skilled workers hamper the ability of project stakeholders to undertake large volumes of work with acceptable standards of quality workmanship Datta (2000). David (2013) did a study on secrets behind successful management of infrastructure projects in Columbia, the findings outlined various ways in which technical resources can be applied in running various business projects to enhance management and improve productivity. According to Graham and Mohamed (2013), agricultural projects in Kenya were characterized by low levels of technology, inappropriate technology and inadequate institutional capacity to support adaptation and absorption of modern technological skills.

Odeyinka and Yusuf (2014) study on the causes and effects of delays in infrastructure projects noted that infrastructure projects' performance could be improved significantly through use of modern equipment. The Chinese construction companies have greatly made successes in their operations after realizing the role of qualified and dedicated personnel in their projects De Kadt (2009) and how financial resources have played a major role in hiring the real men for the real job in the ground, that has led to the present completion of State of the Art buildings and roads Harch (2010). Kaliba (2009) argue that most governments related projects fail because the government hires its personnel at meager pay and little money which in most cases discourages the employees, gets the wrong men for the job and at times limits the project success. In both Central Gambia and Central Kenya for example, government projects recorded success in the years 2004-2010 because the governments in place allocated the regions much needed resources that improved technical personnel and management, leading to an influx of success in the projects.

4.1.3.2 Financial Resources and completion of water Projects

Financial resources have been stressed by the work of Stockholm Environment Institute (2014) as the most important factors for implementation of water projects. The process of financing, like raising and maintaining adequate funding for

water project 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. Funding processes is vital in the implementation of the public infrastructure projects in Kenya and any process that is not clearly defined within the structure of the funding agency may well interfere with the implementation of projects that are scheduled to be executed Njoki (2013).Macharia and Ngugi (2014) also assert that the funding process in any public infrastructure project is usually hampered by the contractors who do not have adequate funds for the project.

Hainz and Kleimeier (2006), project funding in public infrastructure projects plays an important role in the implementation process. Financing must be made a part of a participatory and inclusive decision-making process. Consultations with all stakeholders, including civil society and the private sector, will enable governments and policymakers to better appreciate the diverse needs and concerns of people in the formulation and implementation of sustainable development policies at all levels. In this regard, gender equality and the inclusion of marginalized groups, such as indigenous peoples and persons with disabilities must be ensured. In a study, Smoke (2001) observed that low budgetary allocations and late disbursement to the local departmental sections derailed the implementation of water projects. This was as a result of failure by departmental governments to meet their financial obligations in the project implementation process adversely influencing the completion of water projects and consequently access to water at these devolved levels of governance Smoke (2001). Similar evidence by Faguet (2004) notes that low budgetary allocations and untimely disbursements negatively influenced the implementation of water projects by the local governments negatively influencing water access.

4.2 Theoretical Review

4.2.1 Systems Theory

The systems theory is a method of organizing the interaction between component parts of a larger organism, the theory seeks to organize information rather than explain observations Boulding (2004).A system is an organized whole consisting of various components that interact in a way distinct from their interaction with other entities and which lasts over a given period of time Anderson, Lowe and Carter (1999).According Brandell (2010) systems theory enables us to understand the components and dynamics of client systems in order to interpret problems and develop balanced intervention strategies so that the “goodness to fit” be-tween individuals and their environments is maintained.

According to Tao and Tan (2013) the behavior of specific complex systems relies on how the components interact and how they relate to each other. This helps in understanding fundamental structure of various systems applying similar underlying is-sues. In projects the fundamental factors are similar for project managers, project teams, funding agencies, consumers, time, budgets and communication practice. The way in which these factors re-late with each other are what makes a project special and unique with its own dynamics. Kishore, Abraham and Sinfield (2011) state that the individuals who have taken part in projects appreciate those impacts take longer time to be clearly noted and mostly small causes can have great influence on the people and project itself. Human is-sues such as the motivation of project members and the clients’ satisfaction are all vital factors in this phenomenon. Insufficient communication can lead to disagreements and slow collapse of the project. Even though great weight is laid on controlling technical hitches in projects, the actual causes of the project malfunctions are mostly as a result of human and information issues. Considering general complex projects, it is clear that most of the rules that describe any complex system are also relevant to projects Kishore (2011).

Haslett and Sankaran (2009) state that project managers are dealing with complex systems de-fined by different stakeholders, unanticipated changes in the project scope, dismissal of important project members or withdrawal of project funding arrangements, there is many interdependent relationships between project team, stakeholders, clients, contractors and suppliers. The feedback systems in place are rework cycles, progress updates and performance reviews, and this is a case which hold true in the sector of water infrastructure development as it entails all processes in achieving the results.

4.2.2 Program theory

Program Theory is the assumption that your program’s design, activities, and execution will lead to the achievement of the outcomes you intend for your clients. A clear and concise Program Theory lays out a logical description of why the activities you provide will lead to the results or benefits you intend. The primary stage to program development is the conceptual foundation. Once this has been established, the program theory can be used to develop outcome and

intermediate goals. According to Prosavac and Carey (1997), this sequence of planning stages increases the chance of program success. Therefore, a program theory should be developed prior to the commencement of the program Bickman (1987). It is highly recommended to design a program before the start of any project. But at some instances when the program is underway, it is very crucial for a program theory to be developed. Therefore, program theories can be developed during the operation of the program, Rogers (2000) or before evaluating a program Bickman (1987). The development of a program theory is necessary when hoping to determine why a program is succeeding or failing and if and where program improvement should be focused.

According to Reynolds (1998), Program theory modeling utilizes three components to define the program: program inputs, intended outcomes, and means through which the intended outcomes are achieved. An explanation of the essential inputs describe the program components, explains how these components are achieved, outlines the strength needed for better results. The processes involved ensure participation in the project activities and in the long run contribute to attain the desired results. The overview of this program details out all the information about the crucial phases of the expected change process as well as the execution issues. The outcome should specify the kind, required timing, challenges, and the change relationships.

The program theory adds value to all stakeholders in utilizing the borrowed funds and ensures that are accountable on how they have been spent. The theory also motivates program investors to stay focused on particular targets, rather than putting the resources wastage. The program theory clarifies the perspective of the program, on which an evaluation of the program's quality can be based Bickman (1990). A clear program theory which has undergone evaluation process and seen successful will help policymakers the opportunity to execute similar endeavors. This information is important if put into practice for project development, and shall measure the progress of the whole project.

5. CONCEPTUAL FRAMEWORK

Independent Variables

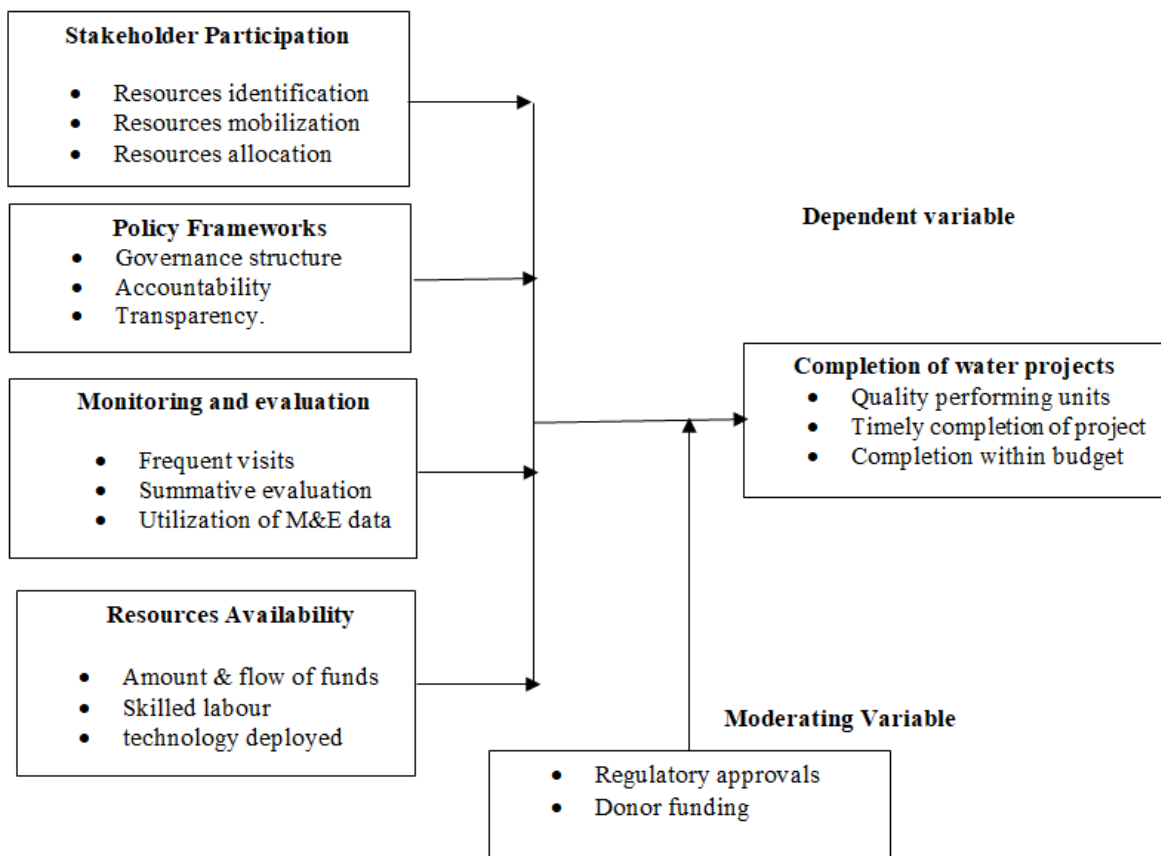


Figure 1: Conceptual Framework

6. RESEARCH METHODOLOGY

6.1 Research design

The descriptive survey method was adopted in this study. Kasomo (2006) asserts that descriptive research design enables researchers to describe the events as they are or they appear at the same time providing an opportunity of investigation of why they occur. Orodho (2009) says that the survey report in research deals with incidence distribution and interrelation of educational variables and that the purpose is to compare and describe their status and also determine the relationship that exist between particular events. The descriptive design was preferred as it explains the existing status of the four variables; it also enables one to generate information directly from the respondents Mugenda and Mugenda (2003).

6.2 Target Population

The target population is the entire population, or group, a researcher is interested in researching and analyzing. According to Mugenda and Mugenda (2003) a target population can be defined as the entire group of people or objects to which the researcher wishes to generate the study findings. From the information available in the Mombasa Water and Sewerage Services Corporation human resource department, there are 52 employees in the human resource and administration department, 132 in the maintenance and strategy department, 224 in the business department and 20 in finance department. This makes a total population of 428 respondents.

Table 1: Target Population

Population category	Total number	Percentage
Human resource	52	12.2%
Maintenance department	132	30.8
Business department	224	52.3%
Finance department	20	4.7%
Totals	428	100%

Source: MOWASCO HR Department (2018).

6.3 Sample size and Sampling Procedure

According to Orodho (2009), the probability of getting a representation of the target population is of great significance in any given study. The target population for this study was grouped into different categories, stratified random sampling was therefore used to ensure proper representation of the different respondents. This also enhanced representation of variables related to different respondents. Purposive sampling technique was employed in each stratum for the selection of respondents with relevant information for the study. Mugenda and Mugenda (2003) allege, in a research whose target population is less than 10,000, a sample of 10% can be considered for a study. However, other scholars like Cooper and Schindler (2008) argue that this can be increased to 20% or 30% so that it can take care of the non-respondents. In this relationship, our research used a sample calculated at 20% as shown below.

Table 2: Sample Size

Category	Human Resource	Maintenance	Business	Finance	Total
Population	52	132	224	20	428
Sample size (20)	10	26	45	4	85

6.4 Methods of Data Collection

The questionnaire was used to collect data from the field. Mugenda and Mugenda (2003) define a questionnaire as a tool used to collect data and allows a measurement for or against a specific opinion. He emphasizes that the tool has a capacity to collect a large amount of data in a reasonably quick timeframe. Structured questionnaire was used to collect Primary data which consisted closed and open-ended questions. The questionnaire was administered by the researcher through 'drop and pick later method' and it had two sections. Section A was to capture the respondents' background information and section B was collect data regarding to the objectives of this study.

6.5 Data Collection Procedure

A questionnaire was administered by the researcher since it was able to draw all the required information. The questionnaire was prepared on basing reviewed literature of implemented infrastructure projects in counties and globally. Pilot tests were done on data collection tools and suggestions arrived at before coming up with the final questionnaire. The questionnaire was divided into two categories, whereby, the first area sought to address the background information of the respondents and the second section addressed on the study objectives. For this study to have a purpose, permission was sought from relevant authorities and a letter granted to allow the researcher to carry out the research.

6.6 Methods of Data Analysis

The researcher examined what was collected from the field and made deductions and inferences. He tested any underlying assumptions; detected anomalies, underlying structures and exact variables. The findings of the researcher were analyzed using content analysis. This involved detailed explanation of all the items in the sample. In explaining the results, the rate at which an item occurs was interpreted as a measure of necessity. This information was analyzed quantitatively with the aid of the Statistical Package for Social Science (SPSS). The findings were reported both qualitatively and quantitatively using descriptive and inferential statistics.

7. DATA ANALYSIS, PRESENTATION AND INTERPRETATION

7.1 Influence of Stakeholder Participation on the successful completion of water projects

Respondents were asked on the role of Stakeholder Participation in relation to completion of water projects and the responses were presented on the table 3.

Table 3: Response on Stakeholder Participation in completion of water projects

Response	Frequency	Percentage
NO	11	16.2%
YES	57	83.8%
	68	100%

In regards to the question, 57 respondents who represented 83.8% felt that the stakeholders Participation have an influence in completion of water projects in Mombasa County. The remaining 11 respondents who represented 16.2% felt that stakeholders Participation have no effect in completion of water projects. When asked to give opinions on the open ended question, 83.8% of the respondents argued that with proper consultation and coordination of all the users, community, funders and government, projects are successfully completed in time.

Table 4: Degree of Stakeholder Participation in relation to completion of water projects.

Descriptive Statistics			
	N	Mean	Std. Deviation
The government has been in the fore front in designing and implementation of water projects in Mombasa County.	68	2.91	1.047
The community has been a major stakeholder in all initiated water projects in Mombasa County.	68	3.38	1.107
The community has been very active in participation and mobilizing resources for water projects in Mombasa County.	68	3.38	1.051
The contractors are effective participants in completion of water projects in Mombasa County.	68	3.38	1.197
Valid N (list wise)	68		
Average Mean Score		3.26	

The collected data was analyzed using 1 to 5 point likert scale with 1= strongly disagree; 2 = disagree; 3 =weakly agree; 4 =agree; 5 = strongly agree. The respondents were required to indicate their levels of agreement with Stakeholder Participation in completion of water projects. Each of the responses in relation to the statement under investigation was then coded into numerical value. From the study findings it is evident that majority of the respondents were of the opinion that the contractors are effective participants in completion of water projects, the community has been very active in participation and mobilizing resources for water projects and the community has been a major stakeholder in all initiated water projects all scoring a mean of 3.38 while the rest of the respondents felt that the government has been in the fore front in designing and implementation of water projects scoring a mean of 2.91. In general, the study found out that Stakeholder Participation is vital in the lifeline of a project and especially in the implementation process to ensure coherence and sequence of understanding in the procedures, policies, process, regulations and laws as they are applied in project implementation with an average score of 3.26.

7.1.1 Inferential statistics on the Relationship between Stakeholder Participation and the successful completion of water projects

H₀: stakeholder Participation has no influence in the successful completion of water projects in Mombasa County.

H₁: stakeholder Participation has an influence in the successful completion of water projects in Mombasa County.

Table 5: Chi-square test association between stakeholder participation and water projects completion

O	E	O-E	(O-E) 2	χ ² C (Chi-Square) value
2	13	-11	121	121/13
12	13	-1	1	1/13
18	13	5	25	25/13
20	13	7	44	44/13
16	13	3	9	9/13
				Σ [(O-E) 2/E] = 15.38

χ²C=15.38 > χ² = 9.49 at 4 degrees of freedom and 5% confidence interval.

Since the calculated chi-test value of 15.38 is more than the critical chi-square value at 5% confidence interval, we take the alternative hypothesis and reject the null hypothesis. Therefore, we secure the hypothesis that stakeholder Participation has an influence in the successful completion of water projects and reject the hypothesis that stakeholder Participation has no influence in the successful completion of water projects in Mombasa County.

7.2 Influence of Resources availability on the successful completion of water projects

Respondents were asked whether they thought availability of resources are essential and have a significant influence in the completion of water projects in the County of Mombasa and the results findings presented in table 6.

Table 6: Responses on resources availability in the successful completion of water projects

Response	Frequency	Percentage
NO	7	10.3%
YES	61	89.7%
	68	100%

From the responses in the field, 61 respondents who represented 89.7% strongly supported the idea that availability of resources determines successful completion of water projects in the County of Mombasa, the remaining portion of 7 with a percentage of 10.3 felt that availability of resources have no influence in the completion of water projects. When asked to give reasons for their answers, 61 of the respondents argued that human and financial resources could be used to equip skilled personnel, build new infrastructure, and change to modern technology for better water service delivery.

Table 7: Degree of availability of resources in relation to successful completion of water projects

Descriptive Statistics			
	N	Mean	Std. Deviation
Sufficient Finances have influence in the completion of water projects in Mombasa County?	68	3.54	1.202
Timely flow of funds has a big influence in the completion of water projects in Mombasa County?	68	3.47	1.152
Deployment of appropriate technology influences the completion of water projects in Mombasa County?	68	3.53	1.000
Availability of Skilled labour from the community is an influence in the completion of water projects in Mombasa County?	68	3.56	1.084
Valid N (list wise)	68		
Average Mean Score		3.53	

The collected data was analyzed using 1 to 5 point likert scale with 1= strongly disagree; 2 = disagree; 3 =weakly agree; 4 =agree; 5 = strongly agree. The respondents were required to indicate their levels of agreement with availability of resources in relation to successful completion of water projects. The scale was designed to allow the respondents express their level of agreement or disagreement with a particular statement under the variable in study. Each of the responses was then coded into numerical value used to measure their perceptive value under investigation. From the study findings it was evident that majority of the respondents were of the opinion that sufficient finances have an influence in the completion of water projects scoring 3.54; Timely flow of funds has a big influence in the completion of water projects scoring 3.47; Deployment of appropriate technology influences the completion of water projects scoring 3.53 and availability of skilled labour from the community influences the completion of water projects scoring 3.56.

7.2.1 Inferential statistics on the relationship between resources availability and completion of water projects

H₀: availability of resources has no influence in the completion of water projects in Mombasa County.

H₁: availability of resources has an influence in the completion of water projects in Mombasa County.

Table 8: Chi-Square test for association between availability of resource and completion of water projects

O	E	O-E	(O-E) 2	χ²C (Chi-Square) value
4	13	-9	81	81/13
7	13	-6	36	36/13
8	13	-5	25	25/13
19	13	6	36	36/13
30	13	17	289	289/13
				Σ [(O-E) 2/E] = 35.91

χ²C=35.91 > χ² = 9.49 at 4 degrees of freedom and 5% confidence interval.

Since the performed chi-square value of 35.91 is greater than the critical chi-square value at 5% confidence interval, we accept the alternative hypothesis and reject the null hypothesis. We conclude with the hypothesis that availability of resources has an influence in the completion of water projects in Mombasa County and negate the hypothesis that says, availability of resources has no influence in the completion of water projects in Mombasa County.

7.3 Influence of Monitoring and evaluation on the successful completion of water projects

Respondents were asked whether they thought Monitoring and evaluation is essential and has a significant influence in water projects and the results was presented in table 10

Table 9: Responses on Monitoring and evaluation in successful completion of water projects

Response	Frequency	Percentage
NO	12	17.6%
YES	56	82.3%
	68	100%

From feedback of 56 respondents who represented 82.3%, strongly supported the idea that Monitoring and evaluation is essential and has a significant influence in the completion of water projects in Mombasa County, the remaining portion of 12 with a percentage of 17.6 felt that Monitoring and evaluation has no influence in the completion of water projects. When the respondents were asked to give reasons for their answers, on average 82.3% of the respondents argued that, M&E is a way of checking whether the project is implemented as per the schedule and whether the objectives are being realized.

Table 10: Degree of Monitoring and evaluation in relation to successful completion of water projects

Descriptive Statistics			
	N	Mean	Std. Deviation
Frequent project monitoring is an issue influencing successful completion of water projects in Mombasa county	68	3.54	1.099
Formulated m & e Policies is an aspect which influences completion of water projects in Mombasa county	68	3.32	1.099
Utilization of m & e data is used in all phases of a project in completion water projects in Mombasa county	68	3.09	1.206
Timely dissemination and communication plan among the project team influences completion of water projects in Mombasa county.	68	3.38	1.146
Valid N (listwise)	68		
Average Mean Score		3.33	

The collected data was analyzed using 1 to 5 point likert scale with 1= strongly disagree; 2 = disagree; 3 =weakly agree; 4 =agree; 5 = strongly agree. The respondents were required to indicate their levels of agreement with monitoring and evaluation in relation to successful completion of water projects and expressed their level of agreement or disagreement with a particular statement under the variable in study and the responses coded into numerical value. From the study findings it was evident that majority of the respondents were of the opinion that Frequent project monitoring is an issue influencing successful completion of water projects. Scoring 3.54; Formulated m&e Policies is an aspect which influences completion of water projects getting a score of 3.32; Timely dissemination and communication plan among the project team influences completion of water projects scoring 3.09 and Utilization of m&e data is used in all phases of a project in completion water projects getting a score of 3.38.

7.3.1 Inferential statistics on the association between monitoring and evaluation and successful completion of water projects

H₀: monitoring and evaluation does not influence the completion of water projects in Mombasa County.
 H₁: monitoring and evaluation has an influence in the completion of water projects in Mombasa County.

Table 11: Chi-Square test on the association between monitoring and evaluation and completion of water projects

O	E	O-E	(O-E) 2	χ^2C (Chi-Square) value
2	13	-11	121	121/13
7	13	-6	36	36/13
9	13	-4	16	16/13
24	13	11	121	121/13
26	13	13	169	169/13
				$\Sigma [(O-E)^2/E] = 35.62$

$\chi^2C = 35.62 > \chi^2 = 9.49$ at 4 degrees of freedom and 5% confidence interval.

Considering the achieved chi-square value of 35.62 is greater than the critical chi-square value at 5% level of interval, we accept the alternative hypothesis and reject the null hypothesis. Therefore, we concur with the hypothesis that monitoring and evaluation has an influence in completion of water projects in the County of Mombasa and rejects the hypothesis that monitoring and evaluation has no influence in the completion of water projects in Mombasa County.

7.4 The influence Policy Frameworks on the successful completion of water projects

Respondents were asked whether they thought policy frameworks is essential and has a significant influence in the completion of water projects in Mombasa County and the following were the scores.

Table 12: Responses on Policy Frameworks on successful completion of water projects

Response	Frequency	Percentage
NO	09	13.2%
YES	59	86.8%
	68	100%

The feedback from 59 respondents who represented 86.8% strongly supported the idea that policy frameworks have an impact on successful completion of water projects in the County of Mombasa, the remaining portion of 9 with a percentage of 13.2 felt that policy frameworks have no influence in the completion of water projects. When asked to give reasons to support their answers, 59 of the respondents argued that policy frameworks regulate and have strong impact on project delivery.

Table 13: Rating of Policy Frameworks in relation to successful completion of water projects

Descriptive Statistics			
	N	Mean	Std. Deviation
The Policies formulated by the government influence the completion of water projects in Mombasa county.	68	3.26	1.141
Mobilization of resources by the government influences the completion of water projects in Mombasa county.	68	3.59	1.096
Project Governance structure influences the completion of water projects in Mombasa county.	68	3.44	1.177
Valid N (list wise)	68		
Average Mean Score		3.42	

The collected data was analyzed using 1 to 5 point likert scale with 1= strongly disagree; 2 = disagree; 3 =weakly agree; 4 =agree; 5 = strongly agree. The respondents were required to indicate their levels of agreement with how policy frameworks influence the successful completion of water projects. The scale was designed to allow the respondents express their level of agreement or disagreement with a particular statement investigation. From the study findings majority of the respondents were of the idea that project governance structure influences the completion of water project scoring 3.26; Mobilization of resources by the government influences the completion of water projects scored 3.59 and Policies formulated by the government influence the completion of water projects scored 3.44.

7.4.1 Inferential statistics on the Relationship between Policy Frameworks and the successful completion of water projects

H0: Policy Frameworks has no influence in successful completion of water projects in Mombasa County.

H1: Policy Frameworks influences the successful completion of water projects in Mombasa County.

Table 14: Chi-Square test on association between Policy Frameworks and successful completion of water projects

O	E	O-E	(O-E) 2	χ^2C (Chi-Square) value
4	13	-9	81	81/13
6	13	-7	49	49/13
15	13	2	4	4/13
18	13	5	25	25/13
25	13	12	144	144/13
				$\Sigma [(O-E)^2/E] = 23.31$

$\chi^2C=23.31 > \chi^2 = 9.49$ at 4 degrees of freedom and 5% confidence interval

In consideration to the performed chi-square value of 23.31 which is greater than the critical chi-square value of 9.49 at 5% level of confidence, we accept the alternative hypothesis and reject the null hypothesis. In conclusion, we accept the hypothesis that Policy Frameworks influences the successful completion of water projects in Mombasa County and reject the hypothesis that says, Policy Frameworks has no influence in the successful completion of water projects in Mombasa County.

8. DISCUSSION OF FINDINGS

From the findings in the field, summary of findings, the general trend is stakeholder Participation, availability of resources, monitoring and evaluation, Policy Frameworks influence the completion of water projects in Mombasa County.

In relation to the first objective that touched on stakeholder Participation 57 respondents who represented 83.8% felt that the stakeholders Participation have an influence in completion of water projects in Mombasa County. The study also found out that participative planning process is vital in the lifeline of a project and especially in the implementation process to ensure coherence and sequence of understanding in the procedures, policies, process, regulations and laws as it applies to the project until it is fully implemented. Reeves (2004) confirm these findings in his definition of participative planning process as one that encompasses the whole project actors and their sequence of activities that leads to fully implemented project.

In relation to the second objective which sought establish resources availability (funding) and how it influences completion of water projects in Mombasa County. 61 respondents who represented 89.7% strongly supported the idea that availability of resources determines successful completion of water projects in the County of Mombasa, the respondents argued that human and financial resources could be used to equip skilled personnel, build new infrastructure, and move to modern technology for better water service delivery. This is also supported by Kaiser and Ahlemann (2010) who argue that without a clear funding process in any public infrastructure implementation may lead to the project contractor applying poor materials and also leads to inefficient communication, unreliable suppliers, and late project deliveries. Further, this is supported by A Ebeid (2009), who argues deficiency of skilled labour in all fields in implementation of projects have been the major causes for a high failures in projects.

In relation to the third objective that sought to establish how monitoring and appraisal influence completion of water projects in the County of Mombasa, 56 respondents who represented 82.3% strongly supported the idea that Monitoring and evaluation is essential and has a significant influence in completion of water projects in Mombasa County. There are a number of findings supporting the influence of M&E in completion of water projects in Mombasa County. For example, according to Boakye and Nyieku (2010), projects can never move to other steps if they were never closely monitored and evaluated since this acted as the examination and marking point for progress. Formative, continuous and summative evaluation of the projects adds value for its future. Water projects are essential providers and they tend to have high completion and any completed for project gets depleted or consumed very fast. In this note, they for example argue that for the water projects in Ghana to survive for the next century, the final phases in developing any unit, there must be continuous monitoring for project effectiveness and promising results.

Finally, the final objective that sought to examine how completion of water projects in County of Mombasa is influenced by Policy Frameworks, 59 respondents strongly supported the idea that policy frameworks have an impact on successful completion of water projects in the County of Mombasa. When asked to give reasons to support their answers, 59 of the respondents argued that policy frameworks regulate and have strong impact on project delivery.

9. CONCLUSION AND RECOMMENDATIONS

9.1 Conclusions

From the findings of this study, it was concluded that, stakeholder involvement, project monitoring and evaluating of results, Policy Frameworks, availability of resources have an influence in the successful completion of water projects in Mombasa County. Embracing of community participation, timely transfer of projects funds from the central government and cordial intergovernmental relations contributes to successful completion of water sector programs.

9.2 Recommendations

From the findings, this study recommends the following for any water infrastructure implementation:

- (i) Project implementers must take into considerations that all the government policies are in place and comply with all of them to ensure that the project activities are carried out in line with regulations and select the best option for each community.
- (ii) To ensure that water projects are geared towards successful completion, adequate funding for water project should be maintained and financial management skill should be given to all stakeholders handling county finances that are meant for water development.
- (iii) To come with mechanism that ensures all those the project affects are involved in decision making and expand already existing communication platforms to care and reach each stakeholder.

Recommendations for policy

A dedicated advisory group is built under the management of water boards to challenge the project findings each year, with a special focus on water implementation, to communicate and disseminate the knowledge in carrying out project activities and give progress reports.

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International Journal of Novel Research in Civil Structural and Earth Sciences

Vol. 5, Issue 3, pp: (44-61), Month: September - December 2018, Available at: www.noveltyjournals.com

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