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# Moderating Influence of Government Water Policy on the Relationship between PM&E Approach and Implementation of Water Projects in Machakos County of Kenya

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**Abstract**

**Purpose:** The purpose of this study was to establish moderating influence of Government water policy on the relationship between PM&E Approach and Implementation of water projects in Machakos County of Kenya.

**Materials and Method:** The study was anchored on Pragmatic paradigm and used descriptive survey research design. The target population for this study was Machakos County water representatives both staff and Community water representatives. Research sample comprised of; Water Resources Users Association officials, Water Resource Management Authority, County Ministry of Water and Irrigation, Water Services Trust Fund and Tana Athi Water Services Agency, giving a total target population of 572 individuals. The sample size of the study was derived from the various strata's by using Krejcie and Morgan Table for sample size determination which gave a sample size of 226 participants. The research instruments used included: questionnaires; Key informant Interviews, Focus Group discussions, observation, documents review and Interview guides. SPSS version 24 was used to analyze the data using descriptive statistics and inferential statistics. Quantitative data was analysed using frequencies, percentages, mean, standard deviation, composite mean and standard deviation. Qualitative data was analysed by content analysis.

**Findings:** Findings of the study were presented using tables. The study was pegged on theory of change. This study is significant to policy makers, students and primary stakeholders. The study established that there is a relationship between PM&E Approach and Implementation of water projects. It was concluded that government water policy has significant moderating relationship between participatory monitoring and evaluation process and implementation of water projects.

**Implications to Theory, Practice and Policy:** The study recommends that all departments both in county and national government to work in cooperation to ensure that security in the area is maintained so that vandalism of water resources is eliminated.

**Keywords:** *Government Water Policy, Water Projects, Participatory Monitoring, Evaluation Process, Project Implementation*

## 1.0 INTRODUCTION

A Government water policy is a declaration of a Government's plans and intentions. Government policies are used to guide a process of carrying out an activity. The Water Act 2016 is an Act of Parliament which provides for management, regulation, and development of water resources, water and sewerage services, (Bours, McGinn and Pringle, 2014). The Country also developed a water policy called Kenya Environmental Sanitation and Hygiene Strategic Framework (KESSF) which is the National guide for state and non-state actors at both national and county levels on water, sanitation and hygiene. The policy indicates that the public should be allowed to be part of the monitoring and evaluation process. This is because the implementation of projects will affect them and thus, they should be involved (Bours et al., 2014). The framework provides for operational planning for multi-sectorial interventions and equitable delivery of sanitation services throughout Kenya. It is important to have a Government water policy because it provides a uniform platform upon which the different activities by the government or organizations will have to be based, (Andersen and Reis, 2015). The different ministries and departments in a government are guided using a government policy that are used to govern the different activities to be carried out.

Policies are prepared with an end in mind (Rydqvist, Spizman and Strebulaev, 2014). This is because each country or government will formulate a policy that will help them achieve a certain desired goal. The Government water policy has a dynamic impact on the quality of a project. This is because it directs that the local beneficiaries of the projects should be involved in the implementation process and thus their participation in the monitoring and evaluation is crucial. In the process of implementing the government policy, it will be easy to determine the end goal of a project in terms of benefit it should offer to the target group. While implementing different projects, organizations should focus on the Government policy because it will be the pillar upon which all activities are based. Failure to adhere to the policy will be a way of neglecting the focus of the government in terms of what should be achieved (Lin et al., 2016).

Machakos County, located in Kenya, has been grappling with significant challenges related to water availability and management. The county experiences periodic droughts and water scarcity, exacerbated by erratic rainfall patterns and limited access to reliable water sources. In response to these challenges, the government has implemented various water policies aimed at improving access to clean water and enhancing water resource management in the county. One notable aspect of the government's water policy in Machakos County is its emphasis on participatory approaches to water management and environmental conservation. The government recognizes the importance of involving local communities and stakeholders in decision-making processes related to water projects. This participatory approach aligns with the principles of Public Participation, Monitoring, and Evaluation (PM&E), which emphasize engaging stakeholders in project planning, implementation, and monitoring to ensure accountability and sustainability (Lin et al., 2016).

### Statement of the Problem

The water sector is faced by different challenges including inadequate communication and information management systems within the sector. There is a rapidly growing demand for water for multi-sectorial use, diminution of natural storage capacity and lack of development of artificial storage capacity to meet demand. Sharing of lakes, rivers and aquifers with

neighboring counties also complicates management of water resources with implications on development and regional security, (UNESCO, 2018).

There is also a problem of floods that have led to disasters particularly in low-lying areas in Kenya. These problems are just indicators of the challenges the water sector is going through. However, they have continued to be persistent due to the lack of involvement of the stakeholders in the monitoring and evaluation approaches while carrying out water projects. The study used participatory monitoring and evaluation approach to assess how it influences implementation of water projects and challenges. Participatory monitoring and evaluation approaches are hailed as landmark aspects in successful projects (Abdisalan, 2012).

The Government water policy and the Implementation should be used to harmonize the kind of quality of work that is carried out in projects (Otoo, Agapitova and Behrens, 2015). The Government water policy states that primary stakeholders should be involved and a Government policy should be adhered to. There has been a documented gap between theory and practice in the water sector. This study focused on finding out the practice, gaps and challenges facing water implementation in Machakos County, Kenya.

**Theoretical Review**

This section provides a discussion on the relevant theories on the research subject area. Specifically, this study embarked on theory of change.

**Theory of Change**

The hypothesis that was made famous by Weiss (1995) postulates that one of the primary reasons behind why complicated projects are so difficult to evaluate is that the presumptions which underlie them are not enunciated clearly. This theory was popularized by Weiss (1995). Monitoring is concerned with determining how different aspects of the project and the environment which was taken into account over the course of the interventions are affected by the project's activities. It is also known as the program logic model or the outcomes chain (TOC, 2015). The Theory of Change is either included into the planning, monitoring, and monitoring phases of the project cycle or it is implemented at other stages. These phases include scoping and strategic analysis during the pre-planning stages, design and planning during the planning stages, and implementation across all stages (Ika, 2009).

The use of a theory of change improves one's comprehension of the stakes as well as one's ability to think through the usage of M&E data and boost awareness of the consequences. Tracking progress in relation to objectives, milestones and anticipated outcomes is an essential part of monitoring. The theory of change also adopts a more holistic approach by taking a look at the issue that the water program is attempting to solve, its broader context and changes which have occurred in the relationships between the process indicators and outcomes were not intended. In order to determine whether or not these changes are valid, it is essential to revisit the assumptions which were made at the beginning of the project. The research suggests that if a participation strategy consisting of joint decision making, co-ownership, democratic processes and Community empowerment is implemented, the construction of a theory of change would assist all participants in thinking in a logical flow in order to decide the conclusion which will facilitate surveillance. This would be the case if a participatory approach consisting of government policy was used.

### Conceptual Framework

A conceptual framework is a model that gives further details on the relationship and structure of study variables. Fig. 1 below not only offers a guidance framework for the interconnections between variables but also allows the researcher to achieve the research goal mentioned.

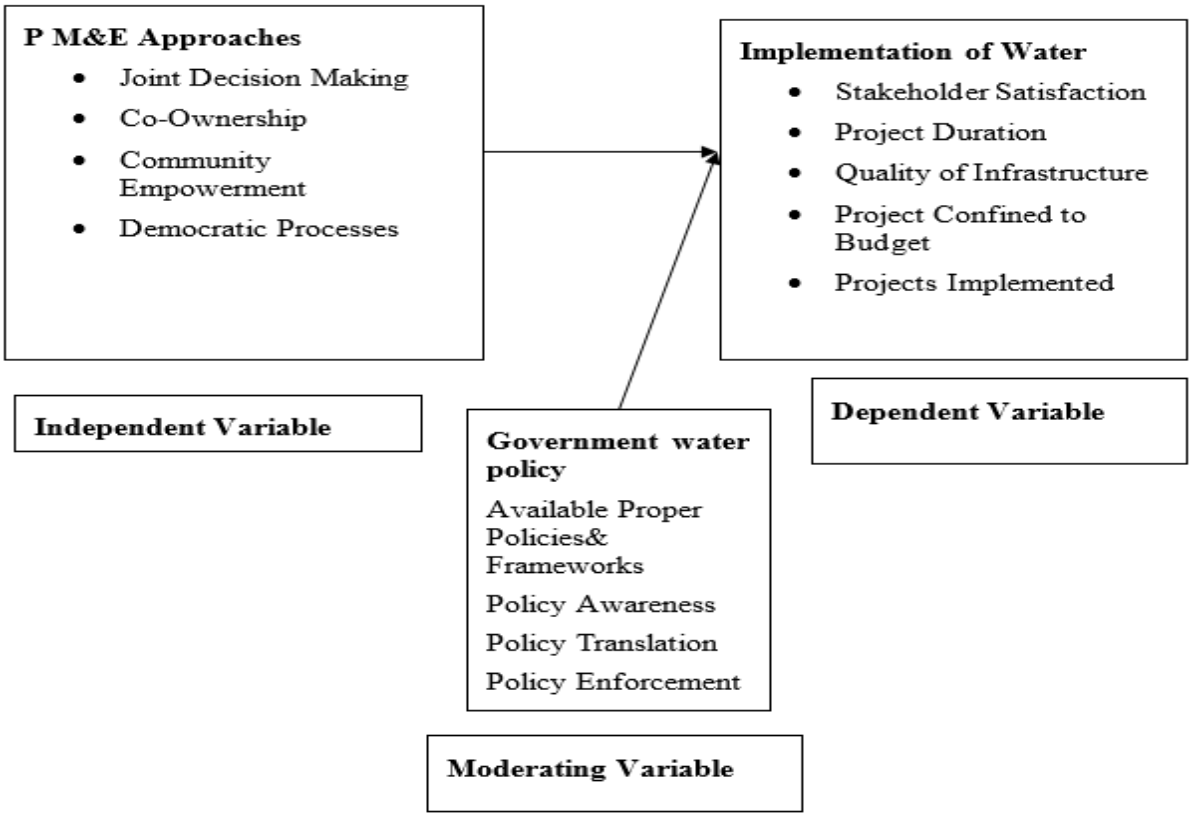


*Figure 1: Conceptual Framework*

## 2.0 METHODOLOGY

### Research Design

The design used in the research was a descriptive survey design, the study was able to characterize occurrences on both a qualitative and quantitative levels using the descriptive survey. According to Bryman and Bell (2015), the purpose of a descriptive research is to determine the link between different variables as well as the frequency with which they occur. This study design is appropriate for evaluating how the participatory monitoring and evaluation strategy, as well as the water policy of the Kenyan Government impacts the execution of water projects in Kenya. Finding out the "what," "why," "where," and "how" of a phenomenon is a primary focus of the design. According to Bryman and Bell (2003), one of the components of a descriptive research is identifying the frequency with which something happens. According to Zikmund (2003), descriptive surveys provide a fast and reliable method of evaluating information, creating data that is holistic, contextual, and abundant in specifics, which may be used to test hypotheses or answer questions about the present state of the topic of the research. Because it is a self-report study, (Mugenda and Mugenda, 2003), it involves the gathering of

quantitative information from the sample using correlations and stepwise regression modeling. It was also beneficial in uncovering predictive linkages related to the hypothesis.

**Population of the Study**

The target population of the study was Machakos County water staff and community representatives. The county have the following nine constituencies, Kalama, Masinga, Yatta, Kangundo, Matungulu, Kathiani, Mavoko, Machakos and Mwala Constituencies. The unit of analysis in this study were: County Ministry of water and Staff, Tana-Athi Water Services Board Members, Water Resources Users Association (WRUA) Officials, Water Resources Authority (WRA) Staff, Water Services Trust Fund (WSFT) Staff, WASREB Staff, Projects Committee Members and Water Service Providers Staff. The Ministry's role is policy formulation, implementation and monitoring; while the other water Companies representing different stakeholders, interests are charged with the detailed regulation of the parastatal bodies.

The research employed the multi-stage sampling methodology because the respondents in the study context were located in a variety of different settings and worked in different organisations. The organizations are complicated on account of the several Departments they have and the functions they fulfill within the water industry. This technique consisted of three stages of sampling and gave respondents more reliable and equal chances of being selected in a stepwise procedure. The procedure began with the selection of organizations involved in the water implementation at the first stage, followed by the selection of implementation employees at the second stage and finally the selection of water Committee members from the Constituencies. According to Huber (2004), the multi-stage sampling approach would be the most favorable sampling strategy for big Companies with numerous Departments in research settings where it is intended for every Sub-population to be portrayed in the sample. This is because the multi-stage sampling technique allows for more accurate representation of the whole population in the sample. According to Sekaran (2003), it is necessary to sample at least 30 percent of a Subpopulation in order to do statistical analysis using sampling techniques. In the first round of the sampling technique for this research, 30% of the Constituencies located within Machakos County were selected.

In order to choose the 30% of the constituencies that were subjected to the research, the 9 Constituencies were first put in alphabetical order and then every even-numbered Constituency was chosen. In the second part of the method for selecting samples, water Committees from the previously selected Constituencies were chosen at random in order to participate in the research. The sampling was carried out in such a manner that each of the several wards which make up the Constituency were given an equal chance of being chosen. At the third and final stage of the sampling procedure, individual respondents were sampled from the selected WRUA Committees. This was done purposefully where the study focused on the officials, who comprised Chairman, Vice Chairman, Secretary, Treasurer, and Member representative of the group because selecting respondents from each strata resulted in a sample which was more representative of the population. (Kothari, 2002) described how the stratified sampling approach uses a random selection from all of the different strata in order to create the sample. This method of population sampling may also provide a weighted mean, which compares to the arithmetic mean of a simple random sample which was taken from the complete population,

demonstrates a lower degree of variability (Larry, 2013). The Officers in charge of implementation in all the water organizations which were interviewed.

**Data Collection Instruments**

The researcher first obtained authority letter from NACOSTI in order to undertake research. An introductory letter by the University was delivered to NACOSTI together with the questionnaires for the respondents. The Researcher with the help of Research Assistants administered the questionnaires to the participants of the study. For the respondents who were further out of reach, they were reached through targeting them during local water barazas. Utmost care and control were observed to ensure all questionnaires issued to the respondents were filled in and returned.

**Data Analysis**

The data collected was checked for completeness, accuracy and usability. The data was then explored for normality, Multicollinearity, heteroscedasticity and stationary test to decide on the probable statistics. Data analysis was done using SPSS version 24. Descriptive and inferential statistics were then used to analyse the data. The analysed data was interpreted and inferences were made by use of descriptive and inferential statistics. Data was presented using tables

The quantitative data which was gathered by se of the questionnaires was examined in order to ensure that they were accurate, comprehensive, and usable. After that, both descriptive and inferential statistical methods were used on the data to analyze it. The use of central tendency measures (including mean, mode, and median), frequencies, proportions, standard deviation, and variance were all components of descriptive statistics.

For qualitative data, Content analysis was used in the study. According to Neundorf (2013), content analysis is an empirical scientific technique which is used to make conclusions on the content of various forms of communication, such as interviews and observation procedures. This type of qualitative social research is also known as content analysis or text analysis. According to Krippendorff (2004), even when the substance of a book is converted into numbers by counting the act of reading remains qualitative. Textual data was given in the form of an essay which included a mixture of replies from raw data and published sources. The data from the study was interpreted in order to answer the research questions.

**Inferential Statistics**

Inferential statistics was used to test the hypothesis that Government water policy significantly moderates the relationship between combined participatory monitoring and evaluation approaches and implementation of water projects in Machakos County of Kenya. The null hypothesis was stated as follows:

$H_{01}$: There is no significant moderating influence of Government water policy on the relationship between participatory monitoring and evaluation approaches and implementation of water projects in Machakos County of Kenya.

## 3.0 FINDINGS

### Demographic Characteristics of the Respondents

It was necessary to determine how the respondents were distributed with regard to various characteristics of their demographics. This would guarantee that the viewpoints of a sufficient number of varied stakeholders are represented adequately in the research project. The background and demographic information were captured and analyzed and includes; role of the respondents in public water sector, participating organizations, gender, age bracket, level of education, duration worked in the project, role of the respondents in the project, main sources of water and number of water projects the respondents are involved in. The results are presented in Table 1.

**Table 1: Demographic Characteristics of the Respondents**

| **Role in Public Water Sector** | **Frequency** | **CF** | **Percentage** |
|---|---|---|---|
| Staff | 39 | 39 | 20.3 |
| Community Rep | 153 | 192 | 79.7 |
| **Total** | **192** | | **100.0** |
| **Participating Organizations** | **Frequency** | **CF** | **Percentage** |
| County Ministry of water Employees | 18 | 18 | 9.4 |
| Tana-Athi Water Services Agency staff | 4 | 22 | 2.1 |
| (WRUA) Committee Members | 90 | 112 | 46.9 |
| (WRA) Employees | 7 | 119 | 3.6 |
| (WSFT) Employees | 5 | 124 | 2.6 |
| WASREB Staff | 4 | 128 | 2.1 |
| Projects Committee Members | 49 | 177 | 25.5 |
| Water Service Providers Staff | 15 | 192 | 7.8 |
| **Total** | **192** | | **100.0** |
| **Gender** | **Frequency** | **CF** | **Percentage** |
| Male | 133 | 133 | 69.3 |
| Female | 59 | 192 | 30.7 |
| **Total** | **192** | | **100.0** |
| **Age Bracket** | **Frequency** | **CF** | **Percentage** |
| Below 30 years | 24 | 24 | 12.5 |
| 30-39 years | 55 | 79 | 28.6 |
| 40-49 years | 50 | 129 | 26.0 |
| 50 years and more | 63 | 192 | 32.8 |
| **Total** | **192** | | **100.0** |
| **Education** | **Frequency** | **CF** | **Percentage** |
| Class eight | 34 | 34 | 17.7 |
| Form 4 | 31 | 65 | 16.1 |
| Degree | 49 | 114 | 25.5 |
| Certificate | 44 | 158 | 22.9 |
| Diploma | 30 | 188 | 15.6 |
| Masters | 3 | 191 | 1.6 |
| PHD | 1 | 192 | 0.5 |
| **Total** | **192** | | **100.0** |
| **Duration worked in the project** | **Frequency** | **CF** | **Percentage** |
| Less than a year | 21 | 21 | 10.9 |
| 1-3 years | 35 | 56 | 18.2 |
| 4- 5 years | 47 | 103 | 24.5 |
| More than 5 years | 89 | 192 | 46.4 |
| **Total** | **192** | | **100.0** |
| **Role in the project** | **Frequency** | **CF** | **Percentage** |
| Support service | 47 | 47 | 24.5 |
| Technical | 25 | 72 | 13.0 |
| ICT- based | 14 | 86 | 7.3 |
| Managerial | 24 | 110 | 12.5 |
| Community | 82 | 192 | 42.7 |
| **Total** | **192** | | **100.0** |
| **Main Sources of Water** | **Frequency** | **CF** | **Percentage** |
| Borehole | 93 | 93 | 48.4 |
| Water Pan | 24 | 117 | 12.5 |
| River | 55 | 172 | 28.6 |
| Rain water harvesting | 20 | 192 | 10.4 |
| **Total** | **192** | | **100.0** |
| **No. of water projects involved** | **Frequency** | **CF** | **Percentage** |
| Less than 5 | 139 | 139 | 72.4 |
| 16-20 | 17 | 156 | 8.9 |
| 5-10 | 19 | 175 | 9.9 |
| More than 20 | 8 | 183 | 4.2 |
| 11-15 | 9 | 192 | 4.7 |
| **Total** | **192** | | **100.0** |

Table 1 shows that, in terms of respondents' role in Public water sector in Machakos County, majority of the respondents 79.7% were Community representatives while 20.3% were staffs. Thus, it was possible to obtain representative views from the participating respondents in order

to draw of conclusions. The Community are the main users and beneficiary of water projects; their participation was important for the study. This would help to determine the relationship between farmers and the beneficiaries in order to ensure sustainability of the project.

**Descriptive Analysis Statistics**

**Government Water Policy and Implementation of Water Projects**

The study sought to establish the extent to which Government water policy influence implementation of water projects in Machakos County of Kenya. Consequently, data to measure Government water policy was obtained and modeled in order to ascertain the association between using regression and correlation statistical analysis. Subsequent themes present the outcome.

**Table 2: Government Water Policy and Implementation of Water Project**

| | Statements | SD | D | N | A | SA | Mean | SD |
|---|---|---|---|---|---|---|---|---|
| 1 | There are Government Water policies and legal frameworks on public water projects | 11<br>5.7% | 17<br>8.9% | 21<br>10.9% | 114<br>59.4% | 29<br>15.1% | 3.69 | 1.02 |
| 2 | The Available Government water policies are clear and comprehensive | 12<br>6.3% | 24<br>12.5% | 38<br>19.8% | 103<br>53.6% | 15<br>7.8% | 3.44 | 1.02 |
| 3 | Community members know about the Government water policies and Legal Frameworks | 17<br>8.9% | 38<br>19.8% | 21<br>10.9% | 94<br>49% | 22<br>11.5% | 3.34 | 1.18 |
| 4 | There are awareness forums held to create Government water policies awareness | 11<br>5.7% | 29<br>15.1% | 21<br>10.9% | 108<br>56.3% | 23<br>12% | 3.54 | 1.07 |
| 5 | Because of Government Water Policy community members have been involved in water projects | 6<br>3.1% | 21<br>10.9% | 16<br>8.3% | 115<br>59.9% | 34<br>17.7% | 3.78 | 0.97 |
| 6 | Communities demand their rights to be involved in Water projects as per the water policy | 6<br>3.1% | 22<br>11.5% | 25<br>13% | 105<br>54.7% | 34<br>17.7% | 3.72 | 0.99 |
| 7 | There is participatory policy enforcement in water Projects | 11<br>5.7% | 39<br>20.3% | 27<br>14.1% | 78<br>40.6% | 37<br>19.3% | 3.47 | 1.18 |
| 8 | The Policy enforcement happens at all stages of the project cycle | 12<br>6.3% | 27<br>14.1% | 18<br>9.4% | 101<br>52.6% | 34<br>17.7% | 3.61 | 1.12 |
| 9 | There is policy review on Government water policies to fit community needs | 11<br>5.7% | 15<br>7.8% | 29<br>15.1% | 103<br>53.6% | 34<br>17.7% | 3.70 | 1.03 |
| 10 | It's important to undertake policy review on Government water projects. | 0 | 6<br>3.1% | 5<br>2.6% | 130<br>67.7% | 51<br>26.6% | 4.18 | 0.62 |
| | **Composite Mean and Standard Deviation** | | | | | | **3.65** | **1.02** |

Results on the statement that *"*There are Government Water policies and legal frameworks on public water projects" shows that 11(5.7%) of respondents strongly disagreed, 17(8.9%) disagreed, 21(10.9%) were neutral, 114(59.4%) agreed while 29(15.1%) strongly agreed. The (Mean=3.69, SD=1.02) was significantly greater than the composite value (Mean= 3.65, SD=1.02) meaning that there are Government water policies and legal frameworks on public water projects. The standard deviation is equal with the composite value which imply that opinion among respondents is similar. In his study, Olsen (2005) reported that bureaucracy in tendering of water projects construction contracts was the major hindrance to the implementation of water projects by Municipal Governments in the Netherlands.

The findings on the statement that *"The Available Government water policies are clear and comprehensive*" show that 12(6.3%) of participants strongly disagreed, 24(12.5%) disagreed, 38(19.8%) were neutral, 103(53.6%) agreed while 15(7.8%) strongly agreed. The (Mean=3.44, SD=1.02) was significantly lower than the composite value (Mean= 3.65, SD=1.02) meaning that the available Government water policies are not clear and comprehensive. The standard deviation is equal with the composite value which imply that opinion among respondents is similar. The findings are similar to those reported by Wilson (2009) who observed that Party politics in Italy and Spain did derail the commencement of water projects at municipal level. This was characterized by political sabotage, patronage and the enactment of laws which created high levels of bureaucracy in the water projects contactors tendering process negatively influencing access to water.

The results on the statement that *"Community members know about the Government water policies and Legal Frameworks*" show that 17(8.9%) of respondents strongly disagreed, 38(19.8%) disagreed, 21(10.9%) were neutral, 94(49%) agreed while 22(11.5%) strongly agreed. The (Mean=3.34, SD=1.18) was significantly greater than the composite value (Mean= 3.65, SD=1.02) meaning that community members do not know about the Government water policies and legal frameworks. The standard deviation is greater than the composite value which imply that the opinions of the respondents were divergent. -Reino and Alcalde (2011) reported that politics was the main determinant on how funds to implement public social services projects in Regional Governments in Spain were allocated.

Findings on the statement that *"There are awareness forums held to create Government water policies awareness*" show that 11(5.7%) of participants strongly disagreed, 29(15.1%) disagreed, 21(10.9%) were neutral, 108(56.3%) agreed while 23(12%) strongly agreed. The (Mean=3.54, SD=1.07) was significantly less than the composite value (Mean= 3.65, SD=1.02) meaning that there are no awareness forums which were held in order to create Government water policies awareness. The standard deviation is greater than the composite value which imply that the opinions of the respondents were divergent. Simon-Cosno, Lago-Penas and Vaquero (2012) observed that political goodwill factors influence the budget allocations for water projects in decentralized units in Spain.

The findings on the statement that *"Because of Government Water Policy community members have been involved in water projects*" indicate that 6(3.1%) of respondents strongly disagreed, 21(10.9%) disagreed, 16(8.3%) were neutral, 115(59.9%) agreed while 34(17.7%) strongly agreed. The (Mean=3.78, SD=0.97) was significantly greater than the composite value (Mean= 3.65, SD=1.02) meaning that because of Government water policy Community members have been involved in water projects. The standard deviation is lower than the composite value which imply that there is convergence opinion among respondents. McAteer and Bennett (2005) observed that devolution did mitigate bureaucracy in the tendering of public service projects improving the enactment of favourable water laws leading to the successful implementation of water projects by different local Governments in Scotland.

The results on the statement that *"Communities demand their rights to be involved in Water projects as per the water policy*" indicate that 6(3.1) of respondents strongly disagreed, 22(11.5%) disagreed, 25(13%) were neutral, 105(54.7%) agreed while 34(17.7%) strongly agreed. The (Mean=3.72, SD=0.99) was significantly greater than the composite value (Mean=

3.65, SD=1.02) meaning that communities demand their rights to be involved in Water projects as per the water policy. The standard deviation is lower than the composite value which imply that there is convergence opinion among respondents. Harsono (2003) observed that the implementation of water projects under devolved Governments suffered from political interference which was perpetuated by local political establishments in Indonesia.

The findings on the statement that *"There is participatory policy enforcement in water Projects*" show that 11(5.7%) of participant strongly disagreed, 39(20.3%) disagreed, 27(14.1%) were neutral, 78(40.6%) agreed while 37(19.3%) strongly agreed. The (Mean=3.47, SD=1.18) was significantly lower than the composite value (Mean= 3.65, SD=1.02) meaning that there is no participatory policy enforcement in water Projects. The standard deviation is greater than the composite value which imply that the opinions of the respondents were divergent. Shaw and Eichbaum (2011) report that less bureaucratic processes and patronage has a positive relationship with the successful implementation of water projects by Regional Governments in New Zealand.

The findings on the statement that *"The Policy enforcement happens at all stages of the project cycle"* indicate that 12(6.3%) of participants strongly disagreed, 27(14.1%) disagreed, 18(9.4%) were neutral, 101(52.6%) agreed while 34(17.7%) strongly agreed. The (Mean=3.61, SD=1.12) was significantly greater than the composite value (Mean= 3.65, SD=1.02) meaning that the policy enforcement does not happen at all stages of the project cycle. The standard deviation is greater than the composite value which imply that the opinions of the respondents were divergent.

The results on the statement that *"There is policy review on Government water policies to fit community needs*" show that 11(5.7%) of respondents strongly disagreed, 15(7.8%) disagreed, 29(15.1%) were neutral, 103(53.6%) agreed while 34(17.7%) strongly agreed. The (Mean=3.70, SD=1.03) was significantly greater than the composite value (Mean= 3.65, SD=1.02) meaning that there is a policy review on Government water policies in order to fit Community needs. The standard deviation is greater than the composite value which imply that the opinions of the respondents were divergent.

The findings on the statement that *"It's important to undertake policy review on Government water projects*" indicate that 6(3.1%) of respondents disagreed, 5(2.6%) were neutral, 130(67.7%) agreed while 51(26.6%) strongly agreed. The (Mean=4.18, SD=0.62) was significantly greater than the composite value (Mean= 3.65, SD=1.02) meaning that it's important to undertake policy review on Government water projects. The standard deviation is lower than the composite value which indicate that there is convergence opinion among respondents. Similarly, Gusfield, (2015) observed that monitoring and evaluation (M&E) is an extremely complex, multidisciplinary and skill-intensive endeavor. Government-wide M&E is even more so because it requires detailed knowledge both across and within sectors, and as well as of interactions among planning, budgeting, and implementation functions in the public sector. The situation is complicated even further when the machinery of Government is decentralized, with powers and functions distributed across three spheres of Government. It is precisely this kind of complex intergovernmental structure, with diffuse powers and functions, which requires strong M&E systems to promote coordination and prevent fragmentation. The Government can implement a policy that changes the social behavior in the project

implementation process environment. For example, the Government can levy taxes on the use of carbon-based fuels and grant subsidies for businesses which use renewable energy. The Government can underwrite the development of new Technology which brings the necessary change and impose on a particular sector more taxes or duties than are necessary will make the investors lose interest in that sector (Gusfield, 2015).

The issue becomes much more troublesome when the machinery of Government is decentralized, which means that authority and functions are distributed among all three levels of Government. Key informants said that this makes the situation even worse. It is precisely this kind of complex intergovernmental organization that requires powerful M&E systems in order to prevent fragmentation and improve coordination. Such an organization has scattered authorities and functions, and it is structured in a way that makes coordination difficult. The Government has the capacity to establish a policy that will result in a change in the social behavior that is present in the environments that are surrounding the process of putting the project into action. For instance, the Government may opt to levy taxes on the use of fuels based on carbon and provide subsidies to commercial firms that make use of renewable energy sources. In addition, the Government may decide to create new regulations on carbon emissions. The Government is in a position to fund the development of breakthrough technologies that will bring about the necessary change in order to meet the requirements.

**Inferential Statistics**

The study investigated the moderating influence of Government water policy on the relationship between PM&E Approach and implementation of water projects in Machakos County of Kenya. Government water policy was taken as the moderator of the interaction between predictor and outcome. In particular, the study undertook to establish the moderating influence of Government water policy on the effect of PM&E Approach on implementation of water projects.

This subsection tested the hypothesis that Government water policy significantly moderates the relationship between combined participatory monitoring and evaluation approaches and implementation of water projects in Machakos County of Kenya. The null hypothesis was stated as follows:

$H_{01}$: There is no significant moderating influence of Government water policy on the relationship between participatory monitoring and evaluation approaches and implementation of water projects in Machakos County of Kenya.

Hypothesis seven was tested by using multiple regression model. In this operation, influence of combined participatory monitoring and evaluation process (joint decision-making, co-ownership, community empowerment and democratic processes) on implementation of water projects was tested in step one, after which moderating variable (Government water policy) was introduced in step two. If the effect of the interaction between the independent variable and the moderating variable is considerable, then this implies that moderations will take place. As described by Baron and Kenny (1986) a moderator is any qualitative and quantitative variable which alters the intensity and direction of the interaction between independent and dependent variable.

**Step 1: Influence of Combined Participatory Monitoring and Evaluation Process on Implementation of Water Projects**

In this step, participatory monitoring and evaluation process was regressed on implementation of water projects. The results are presented in Table 3.

**Table 3: Model Summary of Regression Analysis for Combined Participatory Monitoring and Evaluation Approaches and Implementation of Water Projects**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| | 0.964[a] | 0.929 | 0.912 | 1.0355 |

**ANOVA[a]**

| Model | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Regression | 98.848 | 4 | 24.712 | 21.580 | 0.000[b] |
| Residual | 214.134 | 187 | 1.1451 | | |
| **Total** | **312.982** | **191** | | | |

**Coefficients[a]**

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| (Constant) | 3.936 | 0.765 | | 5.145 | 0.0000 |
| Joint decision-making | 0.741 | 0.236 | 0.646 | 3.140 | 0.0032 |
| Co-ownership | 0.667 | 0.215 | 0.526 | 3.102 | 0.0035 |
| Community empowerment | 0.737 | 0.123 | 0.645 | 5.992 | 0.0000 |
| Democratic processes | 0.549 | 0.2654 | 0.442 | 2.069 | 0.0452 |

a. Dependent Variable: Implementation of water projects

b. Predictors: (Constant), Joint decision-making, Co-ownership, Community empowerment, Democratic processes

The model summary of regression analysis shows that the combined participatory monitoring and evaluation approaches (joint decision-making, co-ownership, community empowerment and democratic processes) account for 92.9% ($R^2$ = 0.929, p <.001) of discrepancy in the outcome (implementation of water projects). The ANOVA results show that regression was significant for modeling with F (4, 187) =21.580 which is being significant statistically (p <0.05).

Further, on evaluating the variables' coefficients, the constant term (B = 3.936, p <.001), joint decision-making (B = 0.741, p =0.0032), co-ownership (B = 0.667, p = 0035), community empowerment (B = 0.737, p <.001) and democratic processes (B = 0.549, p =0452), were found to be statistically significantly predict implementation of water projects. Messah, B. and Mucai M. (2011). Factors affecting the implementation of strategic plans in government tertiary institutions: A survey of selected technical training institutes.

Finkelstein, S., Barnes, T., Wartell, Z., and Suma, E. A. (2013). Evaluation of the exertion and motivation factors of a virtual reality exercise game for children with autism. In *2013 1st workshop on virtual and augmented assistive technology (VAAT)* (pp. 11-16). IEEE. Gusfield,

P. (2015). Public private partnerships for urban water utilities: A review of experiences in developing countries.

Mintzberg, H. (2015). *Rebalancing society: Radical renewal beyond left, right, and center*. Berrett-Koehler Publishers. The findings are in agreement with the study findings reported by Messah and Mucai (2011) in their paper, Factors Affecting the Implementation of Strategic Plans in Government Tertiary Institutions: A Survey of Selected Technical Training Institutes, as cited by (Finkelstein, 2013). The author reported four circumstances in which strategic planning for monitoring and evaluation of community-based projects failure is most likely to occur. These include launching new ventures, promoting innovation and change, managing mergers and acquisitions and responding to new environmental pressures (Gusfield, 2015). Strategic planning models for monitoring and evaluation of community-based projects ultimately fail because they do not distinguish between strategic planning and strategic thinking in monitoring and evaluation of Community-based projects, (Mintzberg, 2014). Monitoring-Evaluation systems are not meeting their obligatory requirements as decision making tool; instead, their activities are viewed as controlling by a bureaucratic management. There is glaring gap which is over emphasis on the physical infrastructure rather than methodological and conceptual training of stakeholders

**Step 2: Influence of Combined Participatory Monitoring and Evaluation Process on Implementation of Water Projects**

In step two the influence of moderator (Government water policy) was introduced on the relationship between participatory monitoring and evaluation process and implementation of water projects. The results are presented in Table 4.

**Table 4: Model Summary for Moderating Influence of Government Water Policy on the Relationship between Participatory M&E Process and Implementation of Water Projects**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | 0.754[a] | 0.568 | 0.561 | 0.57027 | 0.568 | 72.453 | 4 | 187 | 0.000 |
| 2 | 0.868[b] | 0.755 | 0.745 | 0.43481 | 0.186 | 34.005 | 5 | 182 | 0.000 |

Model: {F (4,187) =72.453, p=000<0.05}

a. Predictors: (Constant), Joint decision-making, Co-ownership, Community empowerment, Democratic processes

b. Predictors: (Constant), Joint decision-making, Co-ownership, Community empowerment, Democratic processes, Government water policy.

c. Dependent variable: implementation of water projects

The results in Table 4 show that in step one, the combined participatory M&E approaches (Adjusted R Square 0.561) explained 56.1% of implementation of water projects. This implies that Government water policy significantly influences the relationship between participatory Monitoring and Evaluation process and implementation of water projects. In step two, the

adjusted R squared 0.745 explained 74.5% whereby the remaining 25.5% is influenced by other factors which are not explained in this model. Therefore, since step 2 has the highest adjusted R, this implies that Government water policy can only moderate the relationship between participatory Monitoring and Evaluation process and of implementation of water projects up to 74.5% while the other factors are catered with the remaining percentage.

**Table 5: ANOVA Model Summary for Moderating Influence of Government Water Policy on the Relationship between Participatory M&E Process and Implementation of Water Projects**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 117.812 | 4 | 23.562 | 72.453 | 0.000[b] |
| | Residual | 89.433 | 187 | 0.325 | | |
| | **Total** | **207.245** | **191** | | | |
| 2 | Regression | 156.387 | 9 | 14.217 | 75.197 | 0.000[c] |
| | Residual | 50.858 | 182 | 0.189 | | |
| | **Total** | **207.245** | **191** | | | |

a. Dependent Variable: implementation of water projects

b. Predictors: (Constant), Joint decision-making, Co-ownership, Community empowerment, Democratic processes

c. Predictors: (Constant), Joint decision-making, Co-ownership, Community empowerment, Democratic processes, Government water policy

From Table 5, it is evident that, in step one (1), the F value was statistically significant with (F = 72.453, P=0.000<0.05. In step two (2), the F = 75.197, P=0.000<0.05) indicates that the model summary was fit. The Anova Table was used in the study in order to for establish the model's significance or the model goodness of fit. In both steps the results show that the calculated F were 75.197 and 72.453 were both statistically significant and this implied that the model was significant.

**Table 6: Model Coefficients for Moderating Influence of Government Water Policy on the Relationship between Participatory M&E Process and Implementation of Water Projects**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 0.154 | 0.034 | | 4.447 | 0.000 |
| | Joint decision-making | 0.215 | 0.050 | 0.238 | 4.326 | 0.000 |
| | Co-ownership | 0.212 | 0.049 | 0.174 | 4.367 | 0.000 |
| | Community empowerment | 0.175 | 0.051 | 0.198 | 3.368 | 0.001 |
| | Democratic processes | 0.127 | 0.053 | 0.179 | 2.526 | 0.019 |
| 2 | (Constant) | 0.309 | 0.031 | | 10.108 | 0.000 |
| | Joint decision-making | 0.171 | 0.038 | 0.238 | 4.452 | 0.000 |
| | Co-ownership | 0.126 | 0.039 | 0.174 | 3.245 | 0.001 |
| | Community empowerment | 0.144 | 0.040 | 0.198 | 3.619 | 0.000 |
| | Democratic processes | 0.136 | 0.041 | 0.179 | 3.299 | 0.001 |
| | Government water policy | 0.281 | 0.029 | 0.375 | 9.725 | 0.000 |

a. Dependent Variable: Implementation of water projects

Using the statistical findings which are presented in Table 6, the regression model of coefficient in step one can be substituted as follows:

$Y= \beta_0 + \beta_1 X_I + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$

$Y=0.154+0.238X_1+0.174X_2+0.198X_3+0.179X_4+\varepsilon$

Where y= Implementation of water projects

X1= Joint decision-making

X2= Capacity building

X3= Community empowerment

X4= Democratic processes

In step 2, the influence of moderating variable (Government water policy) was introduced on the relationship between participatory M&E process and implementation of water projects.

The results in Table 6 show that upon introduction of the moderating variable (Government water policy) in the second model (2), the value of adjusted $R^2$ increased by 0.745. This implies that participatory M&E process and Government water policy (together) explain 74.5% of implementation of water projects. The F-value was still statistically significant whereby the critical value obtained was 1.831 less than the F-value of 75.197 {F (9,182) = 1.931 <75.197, p=0.000<0.05}.

Y=Using the statistical findings in step two (Table 6), the following regression equation was obtained:

$Y= \beta_0+ \beta_1X_I+ \beta_2X_2+ \beta_3X_3+ \beta_4X_4+ \beta_5X_5+ \beta_6M + \beta_7 m (X_1.X_2.X_3.X_4) + \varepsilon$

$Y=0.309+0.238X_1+0.174X_2+0.198X_3+0.179X_4+0.375X_5 + \varepsilon$

Where y= Implementation of water projects

$X_1$= Joint decision-making

$X_2$= Capacity building

$X_3$= Community empowerment

$X_4$= Democratic processes

$X_5$= Government water policy

According to the study of the moderating model equation, none of the variables reach the significance threshold of 5%. If the P-value is less than 0.05, then it is significant. This indicates that there is a significant moderating relationship between the participatory monitoring and evaluation process and the implementation of water projects. As a consequence of this, it was concluded that the null hypothesis ($H_0$), which stated that the influence of Government water policy does not significantly moderate the relationship between participatory monitoring and evaluation process and implementation of water projects, is false. Therefore, the conclusion is that the Government's water policy determines the strength of the link between the participatory monitoring and evaluation process and the execution of water projects. So, then we employ the alternative hypothesis (Ha) to state: Government water policy strongly moderates the link between participatory monitoring and evaluation process and execution of water projects.

## 4.0 CONCLUSION AND RECOMMENDATIONS

### Conclusion

It was concluded that there are Government water policies and legal frameworks on public water projects because of government water policy Community members have been involved in water projects, communities demand their rights to be involved in Water projects as per the water policy. However, in spite of the community involvement, community empowerment in terms of capacity building and financial power is important for adequate influence on implementation and it seemed to be lacking in most of the groups. There is a policy of review on Government water policies in order to fit community needs and it's important to undertake policy review on Government water projects as well as align policies in various sectors to match. Lastly, it was concluded that the strength of relationship between participatory monitoring and evaluation process and implementation of water projects depends on Government water policy.

### Recommendations

The study recommends that all departments both in county and national government to work in cooperation to ensure that security in the area is maintained so that vandalism of water resources and pumps is minimized. The county government to put structures in place to ensure that there is equity in the distribution of water in the sub county. Development of water and governance policy to guide management; Co-creation in development of coherent and robust

policy framework operationalization roadmap. Water policy instruments are key to creating an enabling environment for water governance and overall effectiveness and sustainable Common Pool Resources services delivery

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